

Legitimacy in contested issue fields: How type-based validity cues, cue congruence, and personal values shape propriety

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Abstract

Contested business practices are often difficult to evaluate because they send multiple, often conflicting signals about their appropriateness. Some cues may suggest that a practice is useful, legal, or widely accepted, whereas others may suggest that it is risky, harmful, or socially opposed. Existing legitimacy research has typically examined validity cues through source-based classifications, namely, authorization and endorsement, and has more often considered such cues in isolation than as part of wider evaluative arrangements. This study shifts the analysis of validity cues from source-based to type-based classifications by focusing on cues corresponding to four major legitimacy types: normative, pragmatic, regulatory, and cognitive. It argues that when evaluators confront multiple validity cues simultaneously, propriety judgments depend not only on the presence of those cues but also on their relative weight, on whether they are consistent or contradictory, and on whether they align with evaluators' personal values. These dynamics are examined in the context of fracking through four heterogeneous cues: public opinion, economic impact, regulatory setting, and venture longevity. Using conjoint analysis in a novel application to microlevel legitimacy research, the study analyzes 3,952 evaluations by 247 participants in France and Spain. Findings show that evaluators assign different weights to type-based validity cues, with economic impact exerting the strongest influence, followed by public opinion and regulatory setting. We introduce cue congruence to legitimacy theory, defined as the extent to which multiple validity cues convey aligned evaluative signals about the legitimacy of a subject, and show that positively congruent combinations generate higher propriety judgments, negatively congruent ones generate lower judgments, and incongruent combinations generate more intermediate ones. Moreover, we introduce cue-value congruence, that is, whether cue combinations align with evaluators' personal values, and show that evaluators high in environmentalism are less influenced by cues that conflict with their values. The study therefore explains how legitimacy judgments emerge from multiple cues considered jointly and shows that conflicting cues generate intermediate propriety beliefs, consistent with a gray area between clear legitimacy and clear illegitimacy at the microlevel.

KEYWORDS

conjoint experiment, contested legitimacy, cue congruence, cue-value congruence, environmentalism, legitimacy, propriety, validity cues

INTRODUCTION

Contemporary societal debates increasingly unfold around contested issues, where competing interests, divergent worldviews, and ambiguous information make legitimacy evaluations especially challenging. In such contexts, individuals, including managers, policymakers, and citizens are confronted with multiple heterogeneous cues that differ in the type of legitimacy they signal and, in their valence, that is, whether they point toward approval or disapproval. For example, a regulatory agency may signal that a practice is legally acceptable (favorable valence), yet local communities may express opposition (unfavorable valence), economic actors may emphasize job creation, and the longevity of the firm involved in the practice may suggest familiarity or establishedness. These cues are heterogeneous because they invoke different underlying evaluative logics: regulatory compliance, normative approval, pragmatic benefit, and cognitive taken for grantedness (Deephouse & Suchman, 2008; Siraz et al., 2023). A central question thus arises: How do evaluators assess whether a contested practice is appropriate when they encounter multiple legitimacy-relevant cues simultaneously, and when these cues do not all point in the same direction? Do they respond mainly to the valence of individual cues, to whether different cues are aligned or conflicting, or to the relative weight they assign to particular cues?

Energy production provides a pertinent example. Rising energy prices, growing concerns about environmental sustainability, and shifting geopolitical dynamics have intensified debates about affordability, security, and environmental impact. One particularly controversial case is hydraulic fracturing, or fracking, which is advocated by some for its economic and energy benefits but opposed by others for its environmental and social risks. These competing narratives make fracking a prototypical case of contested legitimacy, where the appropriateness of the practice remains unsettled. In fracking debates, evaluators may simultaneously encounter favorable economic cues, unfavorable public opinion, regulatory approval, and questions about venture credibility.

Drawing on the legitimacy-as-perception perspective (e.g., Siraz et al., 2023; Suddaby et al., 2017), we examine how evaluators' individual legitimacy perceptions, which legitimacy research refers to as propriety beliefs, are affected when they encounter multiple, potentially conflicting cues. Propriety captures an evaluator's belief that a subject is appropriate, whereas validity refers to legitimacy at the collective level (Dornbusch & Scott, 1975; Walker et al., 1986). Although validity operates at the collective level, individuals encounter it through signals that function as validity cues. These cues offer mental shortcuts by providing evaluators with readily interpretable indications of prevailing societal legitimacy (Tost, 2011). Propriety beliefs matter because they shape behavioral responses that coalesce into collective outcomes,

influencing institutional continuity and change (Thaler et al., 2026; Tost, 2011).

There has been growing interest in the relationship between propriety and validity (Jacqueminet & Durand, 2020; Sievert et al., 2025; Thaler et al., 2026), as well as in its associated behavioral outcomes, such as practice implementation and protest behavior (Walker et al., 1986). Much of the empirical research still examines validity cues through source-based classifications, specifically authorization and endorsement, and treats them either in isolation or within relatively narrow cue repertoires (e.g., Jacqueminet & Durand, 2020; Johnson et al., 2006). Authorization refers to approval conveyed by formal authorities, whereas endorsement refers to approval conveyed by peers. Recent work shows that source-based cues alone do not fully explain propriety judgments, because evaluators may also rely on categorical fit as a distinct heuristic (Thaler et al., 2026). Source-based cues identify who conveys legitimacy-relevant signals, but they say less about whether those signals imply normative approval, pragmatic benefit, regulatory compliance, or cognitive taken for grantedness.

In polarized legitimacy contexts, such as fracking (Gond et al., 2016; Siraz et al., 2023), evaluators must navigate multiple validities (Bitektine & Haack, 2015) that often diverge sharply. Yet if legitimacy research continues to treat validity cues as isolated signals, it risks under-specifying how propriety varies under conditions of cue complexity. Evaluators do not simply respond to the presence or absence of a single cue but assess a broader environment in which cues based on different legitimacy types may support or contradict one another. It therefore remains unclear whether all cues matter equally and how their influence shifts when they align or conflict. Answering these questions requires attention to cue valence, cue congruence, and the relative weight evaluators assign to different cues.

Beyond alignment among cues themselves, a second form of alignment matters: whether cues resonate with evaluators' personal values. Legitimacy subjects, defined as "social entities, structures, actions, and ideas whose acceptability is being assessed" (Deephouse & Suchman, 2008, p. 54), are evaluated through multiple cues that may differ not only in valence but also in the weight evaluators attribute to each cue and in whether they align with evaluators' values. Because legitimacy reflects a relationship between evaluators and legitimacy subjects, identical cue combinations may not produce identical propriety beliefs across individuals. Despite this, empirical research has rarely incorporated individual-level characteristics into analyses of legitimacy assessments (Claes et al., 2025), leaving open the question of how personal values condition the influence of different validity cues, and why the same cues produce different evaluations across individuals.

Building on this relational perspective, we argue that a more comprehensive understanding of propriety

requires further attention to evaluators' personal values. Personal values are likely to affect how evaluators interpret and prioritize information, thereby influencing the effect that validity cues have on propriety (Finch et al., 2015; Schwartz et al., 2012). This argument connects our study to the broader microfoundations turn in institutional theory, which emphasizes that values are not merely individual preferences but constitutive elements of how actors navigate institutional complexity and competing claims (Demers & Gond, 2020; Kraatz et al., 2020; Risi et al., 2023). In the case of fracking, environmentalism is especially relevant because it informs evaluators' perceptions of ecological risk and the acceptability of energy technologies (Gond et al., 2016). Although conceptual work has highlighted the fundamental role of values in legitimacy (Bascle, 2016; Siraz et al., 2023) and empirical evidence is emerging (e.g., Claes et al., 2025; Finch et al., 2015), it remains unclear whether personal values shape the relative importance of different validity cues and whether alignment or misalignment between cue combinations and evaluators' values strengthens or weakens the influence of those cues on propriety.

Accordingly, we argue that propriety in contested issue fields depends on two related forms of alignment. The first is alignment among validity cues, which we term cue congruence. By cue congruence, we mean the extent to which multiple validity cues convey aligned evaluative signals about the legitimacy of a subject. When cues convey aligned signals, they are congruent; when they convey conflicting signals, they are incongruent. Cue congruence is therefore distinct from cue valence: Valence refers to whether a single cue is favorable or unfavorable to the legitimacy subject, whereas congruence refers to the relationship among multiple cue valences. The second form of alignment is between validity cues and evaluators' personal values, which we term cue-value congruence. Cue-value congruence captures whether cues resonate with or conflict with evaluators' personal values. This integrated alignment perspective allows us to examine why some cue combinations produce clearer propriety or impropriety, whereas others produce more intermediate propriety beliefs.

To examine these arguments, we shift the analysis of validity cues from source-based classifications to the cue framework introduced above, grounded in four major legitimacy types. This shift allows us to examine multiple heterogeneous cues jointly, assess their relative weight, and theorize how cue congruence and cue-value congruence shape propriety judgments in contested settings. Drawing on legitimacy-as-perception research and environmentalism (e.g., Claes et al., 2025; Dietz et al., 2005), we investigate how evaluators respond to four heterogeneous cues: public opinion, economic impact, regulatory setting, and venture longevity. We also examine how environmentalism affects the weight assigned to those cues. We conducted a full-profile conjoint experiment in which these four validity cues varied in valence and were

presented simultaneously, generating 3952 evaluations nested within 247 individuals. This well-established method, applied here in a novel application to microlevel legitimacy research, allows us to disentangle cue effects on propriety and estimate their relative weight.

Our findings show that evaluators assign unequal weight to validity cues corresponding to distinct legitimacy types: normative, pragmatic, regulatory, and cognitive. Economic impact exerts the strongest influence, followed by public opinion and regulatory setting, while venture longevity has a weaker yet still significant effect. The findings also show that cue congruence matters: Positively congruent cues are associated with higher propriety, negatively congruent cues with lower propriety, and incongruent cues with more intermediate propriety beliefs. In addition, personal values moderate the relationship between validity cues and propriety. Evaluators high in environmentalism are less influenced by cues that conflict with their environmental values, while cues that resonate with those values can carry greater weight.

We contribute to the legitimacy literature in three ways. First, we advance research on validity cues by shifting attention from source-based to type-based classifications. Prior research has often classified validity cues according to their source, especially authorization and endorsement. This distinction has clarified how legitimacy-relevant signals are conveyed by formal authorities or peers. We extend this work by examining cues according to the type of legitimacy they signal: normative, pragmatic, regulatory, and cognitive. This shift is theoretically important because it directs attention not only to who conveys a legitimacy-relevant signal but also to what evaluative logic the signal invokes. In our study, public opinion serves as a normative cue, economic impact as a pragmatic cue, regulatory setting as a regulatory cue, and venture longevity as a cognitive cue.

Second, we advance understanding of how multiple validity cues shape propriety when they are encountered simultaneously. Much empirical work has examined validity cues in isolation, but contested issue fields often expose evaluators to multiple heterogeneous cues that differ in valence and do not all point in the same direction. Our conjoint design allows us to estimate the relative weight evaluators assign to different cues when these cues are presented together. In doing so, we show that not all validity cues matter equally: Some cues carry greater weight than others in shaping propriety. We also introduce the concept of cue congruence to legitimacy theory, capturing whether multiple cues align or conflict in their evaluative direction. This clarifies why positively congruent cue combinations generate higher propriety, negatively congruent combinations generate lower propriety, and incongruent combinations generate more intermediate propriety beliefs.

Third, we advance legitimacy research by showing how personal values condition the influence of validity cues on propriety. Because legitimacy reflects a relationship

between evaluators and legitimacy subjects, the same cue combination may not produce the same propriety beliefs across evaluators. We introduce cue-value congruence to capture whether validity cues align or conflict with evaluators' personal values. In our context, environmentalism shapes the weight evaluators assign to different cues, weakening the influence of cues that conflict with environmental values and strengthening the influence of cues that resonate with those values. By bringing cue congruence and cue-value congruence together, we show that the gray area between legitimacy and illegitimacy (Siraz et al., 2023) extends to the microlevel: Incongruent cues, or cues that conflict with evaluators' values, can generate intermediate propriety beliefs rather than clear legitimacy or clear illegitimacy.

LEGITIMACY JUDGMENTS AT THE INDIVIDUAL LEVEL

In contested issue fields, evaluators rarely encounter a single, unambiguous indication that a practice is legitimate or illegitimate. Rather, they encounter multiple validity cues that may invoke different legitimacy types and underlying evaluative logics (Siraz et al., 2023). These cues may reinforce or contradict one another, and their effect on propriety may be further conditioned by whether they resonate with evaluators' personal values (Claes et al., 2025; Thaler et al., 2026). We theorize that propriety is shaped by two distinct alignment mechanisms: congruence among validity cues, which we term cue congruence, and congruence between validity cues and evaluators' values, which we term cue-value congruence. Together, these mechanisms explain not only how regulatory, normative, pragmatic, and cognitive cues operate jointly rather than in isolation in shaping propriety, but also how their influence varies with evaluators' personal values.

Validity cues, values, and propriety

Validity

Collective-level legitimacy, also known as validity, refers to the extent to which a subject (e.g., an organization, practice, or entity) is perceived as appropriate within a given social system of norms, values, and beliefs (Suchman, 1995; Tost, 2011). Validity is not a matter of personal preference but an institutionalized social fact, existing independently of any single evaluator's opinion. It serves as a socially shared reference point for evaluators and functions as a "validity cue" that shapes their beliefs about what is considered proper or acceptable. When evaluators perceive a focal subject of legitimacy, fracking in our case, as proper or appropriate, they

attribute propriety to it. Conversely, unfavorable evaluations are referred to as impropriety (Zelditch, 2006).

Validity cues

Validity cues provide informational shortcuts that help evaluators cast a legitimacy judgment when such assessments are time-consuming, complex, and difficult to make due to incomplete information or lack of expertise (Banerjee, 1992). These cues are conveyed to evaluators by a range of legitimacy-conferring actors, including professional associations, regulators, media outlets, and civil society (Deephouse et al., 2017). Cues signal whether the subject of legitimacy aligns with the norms, values, and institutional expectations of its broader social environment.

From source-based validity cues to type-based validity cues

Much of the current legitimacy-as-perception literature has organized validity cues according to their source, in particular authorization or endorsement (Bitektine & Haack, 2015; Haack et al., 2021). In this view, authorization cues reflect top-down approval from formal, hierarchical institutions such as state agencies, regulatory bodies, or experts. Endorsement cues, in contrast, signal bottom-up approval by peer audiences or social networks (Dornbusch & Scott, 1975; Johnson et al., 2006). This binary is rooted in the Stanford sociological traditions that anchored legitimacy within hierarchical organizations with institutionalized roles and status positions (Ford & Johnson, 1998; Johnson & Ford, 1996; Walker et al., 1986; Walker & Zelditch, 1993). Authorization is typically conferred by formal authorities through mandates and rules, while endorsement is bestowed by peers through shared acceptance or consent. The distinction between these two cue types has proven valuable in studies of organizational evaluation (Jacqueminet & Durand, 2020; Sievert et al., 2025; Thaler et al., 2026).

However, classifying validity cues based solely on their source limits developing a deeper insight into individuals' propriety beliefs in both theoretical and empirical terms. While the authorization/endorsement distinction identifies who provides or conveys the cue, an authority or a peer group, it does not capture the evaluative logic that makes the cue compelling to individual evaluators, that is, whether it signals legal conformity, normative alignment, practical utility, or cultural familiarity. Moreover, the source-based binary classification between authorization and endorsement does not fully capture how cues function in complex or contested real-world settings, where evaluators encounter multiple and oftentimes conflicting signals. In many cases, cues do not come from a single clear source (Deephouse et al., 2017). For example, media coverage

may reflect both formal regulatory positions and public opinion, while social media often mixes peer endorsement with emotional or normative framing. Evaluators interpret these signals in light of their own values, the context of the issue, and the salience of the information (Bitektine & Song, 2023; Claes et al., 2025; den Hond et al., 2014). Our aim is therefore not simply to examine a greater number of cues but to reconceptualize the basis on which validity cues are classified: from cues classified primarily by source to cues grounded in distinct legitimacy types and underlying evaluative logics.

Rather than organizing cues by source, we follow Deephouse & Suchman (2008), Siraz et al. (2023), and Tost (2011) and conceptualize validity cues by the type of legitimacy they signal. We term these type-based validity cues, defined as observable signals that evaluators interpret according to the underlying evaluative logic the cue invokes rather than the source from which it originates, namely, normative, pragmatic, regulatory, or cognitive legitimacy. Each legitimacy type is grounded in a distinct underlying evaluative logic (Siraz et al., 2023). Normative legitimacy reflects the extent to which a legitimacy subject aligns with shared moral values and social norms (Scott, 1995). Corresponding validity cues often take the form of public opinion or civil society feedback, typically reflecting forms of endorsement (Bitektine & Haack, 2015; van den Broek et al., 2023). Regulatory legitimacy embodies compliance with a given set of rules and regulations (Deephouse et al., 2017; Suchman, 1995). Corresponding cues typically reflect authorization, as they stem from institutions with the formal mandate to confer or withhold approval, and have a formal power to sanction deviation (Johnson et al., 2006; Tost, 2011). Pragmatic legitimacy reflects the self-interest or instrumental concerns of evaluators (Suchman, 1995; Tost, 2011). In this case, validity cues signal utility, such as economic gains or broader material benefits (Deephouse & Suchman, 2008). Cognitive legitimacy relates to whether a subject is familiar, taken for granted, or comprehensible (Aldrich & Fiol, 1994). Validity cues in this category highlight cultural or historical embeddedness or organizational longevity (Shepherd & Zacharakis, 2003; Siraz et al., 2023). This approach emphasizes why a cue is compelling and what type of legitimacy it invokes, offering a more comprehensive framework for analyzing individual-level legitimacy judgments. Type-based validity cues may also conflict. A practice may be legally authorized but normatively contested, economically beneficial but environmentally disputed, or cognitively familiar yet publicly opposed. Such conflicts can give rise to divergent or ambivalent propriety evaluations because evaluators may prioritize different legitimacy types when assessing the same subject. Siraz et al. (2023) theorize that conflicts among regulatory, normative, pragmatic, and cognitive legitimacy types can destabilize the issue-specific reference framework and move subjects of legitimacy away from clear legitimacy or illegitimacy. We extend this

argument to the individual level by examining how evaluators' propriety beliefs are shaped when the validity cues they encounter align or conflict across legitimacy types.

Public opinion

Public opinion provides information about the extent of public endorsement of a legitimacy subject (Elsbach, 1994). It serves as a validity cue for normative legitimacy, that is, the degree of alignment that the general public perceives between a subject of legitimacy and its broader social environment (Deephouse et al., 2017; Siraz et al., 2023). Because individuals tend to seek social approval and avoid disapproval, prevailing public sentiment exerts normative pressure on evaluators to align their judgments with perceived majority or peer views.

The media is a prevailing source of information for the general public, making it a key driver in influencing propriety (Deephouse et al., 2017). In contemporary contexts, this occurs through both traditional and social media platforms, where evaluators directly engage in producing and disseminating legitimacy-related content (Castelló et al., 2016; Etter et al., 2019). This amplifies visibility, emotional intensity, and peer endorsement signals (Illia et al., 2023; van den Broek et al., 2023). Public opinion therefore reflects normative legitimacy through endorsing prevailing social norms and communicating that endorsement to evaluators (Scott, 1995). Consequently, evaluators are likely to attribute higher propriety when public opinion toward the subject of legitimacy is favorable rather than unfavorable (Boudet et al., 2014).

Economic impact

In the legitimacy literature, pragmatic legitimacy refers to the extent to which a legitimacy subject is perceived to serve the evaluator's self-interest or instrumental goals (Suchman, 1995). We conceptualize economic impact as a validity cue that signals the utility of a business activity to the evaluator, including job creation, regional development, or cost savings. Evaluators often attribute propriety to initiatives that offer clear, tangible benefits either to themselves or to the communities they care about (Arnold & Neupane, 2017). Although classic neo-institutional theory emphasizes that legitimacy is analytically distinct from technical or economic efficiency (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), more recent work has shown that economic arguments can serve as indicators of legitimacy, particularly under pragmatic legitimacy (Finch et al., 2015; Jerolmack & Walker, 2018; Zimmerman & Zeitz, 2002). In this view, economic rationales operate as heuristics that affect propriety beliefs by providing an instrumental justification for support (Tost, 2011) without equating legitimacy with efficiency per se (Chen, 2023).

For many evaluators, economic outcomes are interpreted pragmatically as concrete material benefits that advance their personal or community interests (Finch et al., 2015). Even evaluators who oppose a practice on other grounds may acknowledge its economic benefits (e.g., lower energy prices, reduced taxes, and improved infrastructure). In Finch et al.'s (2015) study of the Canadian oil sands, economic impact cues triggered pragmatic propriety beliefs even when normative legitimacy was in conflict. Hence, when a legitimacy subject generates clear economic benefit, it is likely to be perceived as more appropriate insofar as it offers instrumental utility to the evaluator (Arnold & Neupane, 2017). These perceptions of self-interest alignment or community benefit constitute the basis of pragmatic legitimacy, that is, legitimacy grounded in the evaluator's perceptions of the subject's utility (Suchman, 1995).

Venture longevity

Evaluators' propriety beliefs about a subject of legitimacy, such as a venture, are affected by the past performance and behavior of that subject or by its cultural-historical embeddedness (Shepherd et al., 2021; Überbacher, 2014). Established ventures can draw on their track record (e.g., historical financials, reliability, size, reviews, and past successes) to acquire legitimacy and access resources (Singh et al., 1986), whereas new ventures lack this history and must first gain a degree of familiarity or taken-for-grantedness to be accepted by evaluators (Aldrich & Fiol, 1994; Zimmerman & Zeitz, 2002).

As ventures grow older and become established, they are more likely to be recognized by evaluating audiences and to have their actions endorsed by powerful collective actors, reflecting the notion that history and tradition constitute major sources of validity (Suddaby & Greenwood, 2005). We therefore define venture longevity as the degree to which a venture has overcome any liability of newness (Singh et al., 1986; Stinchcombe, 1965) and endured in the presence of ongoing scrutiny (DiMaggio & Powell, 1983), reflecting cognitive legitimacy (Aldrich & Fiol, 1994).

Regulatory setting

A legitimacy subject is attributed regulatory legitimacy when it complies with the rules and regulations of the context in which it is embedded. Regulatory legitimacy thus emerges from conformity with law or other forms of collective regulation, rather than from the degree to which the legitimacy subject is perceived to behave in line with the cultural expectations of that environment (Scott, 1995; Tost, 2011). The more transparently a legitimacy subject complies with an existing set of recognized rules, the easier it is for an evaluator to interpret its actions and behavior favorably (Hiatt & Park, 2013). For

example, while regulatory approval is relevant to virtually every sector, for regulated industries such as biotechnology, telecommunications, or the extraction of natural resources, including gas exploitation through fracking, explicit compliance with regulations is a particularly important benchmark for evaluators to attribute propriety (Davis, 2012). Once a legitimacy subject is regulated and sustains itself over time, it is perceived as having a license to operate, and its presence or actions in that environment will have gained a seal of legitimacy. This is also true for contested activities such as gambling, legal cannabis, or abortion clinics (Siraz et al., 2023).

When multiple validity cues point in the same direction, they are congruent and may reinforce each other, facilitating convergence around shared propriety beliefs. However, because these cues derive from different underlying logics, they may also conflict (Siraz et al., 2023): What is deemed legally permissible (regulatory legitimacy) may clash with what is socially acceptable (normative legitimacy), especially in contentious domains such as fracking, immigration, or mining (Gond et al., 2016; Webb et al., 2009). Dissonance between validity cues may increase the likelihood of legitimacy being perceived as ambiguous or contested (Claes et al., 2025; De Castro et al., 2014). Understanding how congruence among different validity cues affects propriety beliefs is therefore essential for unpacking how microlevel legitimacy emerges in complex evaluative environments. In line with this framework, our study examines the relative influence of four theoretically grounded validity cues: public opinion, economic impact, venture longevity, and regulatory setting, on propriety beliefs about fracking.

The influence of cue congruence

While the legitimacy literature provides frameworks for identifying and categorizing individual validity cues as discussed above, it has paid less attention to how these cues interact when encountered simultaneously. Yet, in real-world settings, evaluators are often exposed to multiple cues that may point in the same direction or convey conflicting indications, and it remains unclear how incongruent cue combinations produce intermediate propriety beliefs rather than clear legitimacy or illegitimacy.

Building on work showing that the valence of validity cues shapes propriety beliefs (Thaler et al., 2026), we introduce cue congruence to legitimacy theory as a distinct construct that captures the extent to which multiple validity cues convey aligned evaluative signals about the legitimacy of a subject. Cue valence refers to whether a single cue is favorable or unfavorable to the legitimacy subject. Cue congruence refers to the relationship among multiple cues, that is, whether their valences align or conflict. Cue congruence therefore builds on cue valence: It is an aggregate property of a cue combination, not a property of any individual cue.

The idea that a set of cues is interpreted differently depending on whether its elements agree has precedents in several literatures, yet cue congruence differs from each of these treatments. Cue consistency research in consumer behavior shows that multiple extrinsic cues exert a stronger influence on quality judgments when they corroborate one another than when they diverge (Miyazaki et al., 2005). There, however, each cue is evidence about the same unobservable property, namely, product quality. By contrast, the cues evaluators encounter in contested issue fields raise different kinds of claims. Congruence therefore concerns agreement across normative, pragmatic, regulatory, and cognitive grounds rather than across indicators of a single attribute. Information integration theory, in turn, holds that people combine multiple pieces of information into a single judgment by weighted averaging (Anderson, 2016). Mixed information thus yields judgments near the midpoint. Cue congruence, by contrast, concerns not only where a judgment falls, but how widely evaluators diverge from one another when cues conflict. Signaling theory, finally, treats consistency as a property of the signaler, namely, the perceived similarity across multiple signals sent by a single actor (Connelly et al., 2011). Cue congruence instead describes the evaluator's information environment. Because the four cues originate from uncoordinated sources, their alignment is a property of the cue combination the evaluator faces.

Cue congruence can take place in three primary forms: (1) *positive congruence*, where all cues are favorable to the legitimacy of the subject; (2) *negative congruence*, where all cues oppose it; and (3) *incongruence*, where cues convey mixed or contradictory signals. This construct advances legitimacy theory by offering a framework to understand variation in evaluative clarity. Cue congruence functions as a critical mechanism shaping legitimacy perceptions, particularly in contested or information-dense environments where judgments are difficult to make.

At the individual level, cue congruence matters because it affects how readily evaluators assess propriety. When cues point in the same direction, whether all favorable or all unfavorable, evaluators can more easily integrate them into a coherent evaluation: Favorable cues support an assessment of propriety, while unfavorable cues support an assessment of impropriety. By contrast, incongruent cues complicate evaluation because they provide competing grounds for approval and disapproval, making evaluation more ambiguous.

Although the co-occurrence of multiple and potentially conflicting validity cues is common in contested issue fields, legitimacy research is only beginning to examine how such cues jointly influence propriety (Bitektine & Song, 2023; Thaler et al., 2026). Understanding this joint influence is important because conflicting cues may lead evaluators to hesitate between acceptance and rejection and instead attribute conditional or partial propriety. In such cases, legitimacy subjects are more likely to fall into

the gray area between legitimacy and illegitimacy (Siraz et al., 2023).

This gap matters because individual propriety judgments can aggregate into broader legitimacy outcomes and influence behavior toward legitimacy subjects (Bitektine & Haack, 2015; Tost, 2011). For organizations, policy-makers, and activist groups seeking to shape such judgments, it is therefore important to understand not only whether validity cues matter, but also whether some cues carry more weight than others when they are considered together. Yet it remains unclear whether any cue dominates propriety judgments when cues are incongruent.

When evaluators are exposed to congruent cues, either all positive or negative, they can more easily integrate this information into a coherent judgment (Tost, 2011). This alignment in cues reduces informational complexity and uncertainty, leading to stronger beliefs (Baumeister et al., 2001). Positive congruence reinforces evaluators' perceptions that the legitimacy subject aligns with societal norms, collective interests, and institutionalized rules. Conversely, negative congruence emphasizes disapproval and decreases propriety. Therefore, we expect that propriety will be higher when multiple cues consistently support the legitimacy subject and lower when multiple cues consistently oppose it.

Hypothesis 1a. In the presence of multiple validity cues, evaluators attribute higher propriety under positive cue congruence and lower propriety under negative cue congruence.

When evaluators are exposed to incongruent cues, that is those that conflict in valence, they experience informational inconsistency that may induce cognitive dissonance (Festinger, 1962; Jerolmack & Walker, 2018) and information ambiguity (Cappellaro et al., 2021; Ellsberg, 1961). Such inconsistencies make it difficult for evaluators to integrate competing pieces of information into a coherent assessment. The resulting cognitive discomfort and ambiguity aversion motivate individuals to seek internal consistency, often by moderating their judgments or discounting one piece of information (Harmon-Jones et al., 2022). Consequently, propriety beliefs in the presence of conflicting cues are likely to fall between the extremes of positive and negative congruence, that is, evaluators perceive the legitimacy subject as neither fully legitimate nor illegitimate but situated in a gray area (Siraz et al., 2023). For instance, in the context of fracking, positive cues arising from the economic benefits of resource extraction may be countered by negative cues stemming from public opposition due to environmental concerns. Both cues influence propriety, but they work in opposing directions, creating interpretive tension and evaluative ambivalence (Jackson et al., 2014). This underscores the intricacy of propriety assessments in a context of complexity characterized by the simultaneous

presence of multiple cues differing in valence and source. This perspective also resonates with broader organizational theory emphasizing the importance of examining how multiple factors jointly shape outcomes, rather than considering each factor in isolation (Furnari et al., 2021). Therefore, we hypothesize that:

Hypothesis 1b. In the presence of multiple validity cues, evaluators attribute lower propriety under cue incongruence than under positive cue congruence, but higher propriety than under negative cue congruence.

Table 1 depicts various combinations of the four cues that may affect evaluators' propriety. It illustrates that the way propriety is affected is neither linear nor straightforward in complex information-rich environments. Public opinion can be favorable or unfavorable toward the legitimacy subject; economic impact can be high or low; the setting can be regulated or unregulated; and the venture can be established or new.

The relative weight of type-based validity cues

A type-based validity cue approach also raises the question of whether some evaluative logics carry more weight than others in shaping propriety. Prior research has often emphasized authorization and endorsement as central sources of validity (Dornbusch & Scott, 1975). However, if evaluators respond not only to the source of a cue but also to the evaluative logic it invokes, then regulatory and normative cues may not always dominate. Pragmatic and cognitive cues may also shape propriety, especially in

contexts where material consequences, uncertainty, or familiarity are salient. In contested issue fields such as fracking, regulatory cues may be more influential because environmental and safety risks make formal oversight important; normative cues because public opinion signals broader social approval or disapproval; pragmatic cues because contested practices are often defended through claims about economic benefits, employment, energy security, or collective utility; and cognitive cues because established ventures may be perceived as more familiar and less uncertain than new ventures. Examining these cues jointly, therefore, makes it possible to assess their relative weight in evaluators' propriety.

Among these cues, we expect regulatory setting to be especially influential. According to Tost (2011, p. 693), regulatory legitimacy emphasizes "conformity with law or other forms of collective regulation." It thus represents a form of authorization that has been theorized as a strong source of validity (Dornbusch & Scott, 1975; Tyler, 2006). Evaluators tend to regard legal and formal rules as binding, even when these are not fully congruent with their personal values (Johnson et al., 2006). Consequently, such evaluators may perceive authorities enforcing these rules as possessing a legitimate right to prescribe behavior.

The presence of an explicit regulatory framework is therefore a critical validity cue, particularly in stable democratic environments such as France and Spain, where regulations are perceived to originate from an authority that is just, moral, and procedurally legitimate (Tyler, 2006; Weber, 1947). Moreover, regulatory legitimacy becomes particularly salient in issue areas involving public safety, health, and environmental risk, such as fracking, where evaluators rely on legal and governmental oversight

TABLE 1 Cue combinations.

Scenario	Public opinion	Economic impact	Regulatory setting	Venture longevity	Cue congruence
1	Favorable	High	Regulated	Established	Consistently favorable (4+)
2	Favorable	High	Regulated	New	Mostly favorable (3+ and 1-)
3	Favorable	High	Unregulated	Established	
4	Favorable	Low	Regulated	Established	Conflicting (2+ and 2-)
5	Unfavorable	High	Regulated	Established	
6	Favorable	Low	Regulated	New	
7	Unfavorable	High	Regulated	New	
8	Favorable	High	Unregulated	New	Mostly unfavorable (1+ and 3-)
9	Unfavorable	High	Unregulated	Established	
10	Unfavorable	Low	Regulated	Established	
11	Favorable	Low	Unregulated	Established	
12	Favorable	Low	Unregulated	New	Consistently unfavorable (4-)
13	Unfavorable	High	Unregulated	New	
14	Unfavorable	Low	Regulated	New	Consistently unfavorable (4-)
15	Unfavorable	Low	Unregulated	Established	
16	Unfavorable	Low	Unregulated	New	

as a signal of institutional trustworthiness and risk mitigation (Whitmarsh et al., 2015). In such contested domains, the regulatory framework not only conveys legality but also reassures evaluators about competence and accountability, aspects that are central to legitimacy under uncertainty (Short & Toffel, 2010). Hence, we expect regulatory cues to carry a greater weight than other types of validity cues. Therefore, we hypothesize:

Hypothesis 2a. Across congruent and incongruent cue combinations, the regulatory setting cue will carry the greatest weight in evaluators' propriety beliefs.

The amplifying role of the regulatory setting

Regulatory setting may also matter not only as an individual cue but also as a cue that shapes how other cues are interpreted. Even in the absence of voluntary compliance, regulations are particularly powerful validity cues because regulators can impose sanctions for violations of the established rules (Deephhouse, 1996; Scott, 1995). Formal authorities hold the power of legitimate constraint to ensure that regulatory legitimacy is enforced using coercive means, if necessary, to deter behavior that threatens the established order. When a legitimacy subject has regulatory legitimacy, this signals that it is deemed proper and compliant with collective standards, even when evaluators know little about the substance and effectiveness of the rules (Zimmerman & Zeitz, 2002).

The presence of a regulatory setting may furthermore create a perception that the legitimacy subject is under institutional scrutiny and therefore less likely to engage in actions or practices that could harm society. As Kelman and Hamilton (1989, p. 16) observed, "when an authority is legitimate, the duty to obey superiors' order replaces personal morality, with people allowing legitimate authorities to define the boundaries of appropriate behavior in a given situation." In this sense, regulation conveys not only coercive control but also normative assurance (Hiatt & Park, 2013). Consequently, in the presence of a regulatory setting, evaluators may perceive other positive cues, such as public support, economic benefit, or venture longevity, as more credible and mutually reinforcing. We therefore argue that the presence of a regulatory validity cue is likely to magnify the influence of the other validity cues on propriety, leading us to hypothesize:

Hypothesis 2b. Across congruent and incongruent cue combinations, the effects of public opinion, economic impact, and venture longevity on propriety will be stronger in regulated settings than in unregulated settings.

Cue-value congruence: The role of personal values in propriety beliefs

Cue congruence explains how evaluators respond to alignment or conflict among validity cues. However, propriety is not shaped solely by validity cues. Evaluators also interpret cues through their own personal values. Values are among the most enduring determinants of individual attitudes and evaluations (Schwartz et al., 2012). Rokeach (1973, p. 5) defines a value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence." As such, values serve as guiding principles for evaluating a subject of legitimacy (Schwartz et al., 2012; Shepherd et al., 2009). Because values are acquired early and remain relatively stable over time, they often anchor individual cognition when cues are inconsistent or ambiguous (Schwartz et al., 2012; Shepherd et al., 2013). This role is especially important in contested issue fields, where evaluators face competing claims that cannot be resolved by validity cues alone.

While validity cues provide essential signals that a legitimacy subject may be appropriate, evaluators are unlikely to interpret these signals uniformly. For example, in the case of leather products such as shoes or handbags, some evaluators may reject products made of animal leather and prefer alternative materials, such as vegan leather, because of personal values related to animal welfare or environmental protection, even when other cues are favorable to the use of leather. This illustrates cue-value incongruence: Favorable validity cues may lose influence when they conflict with evaluators' personal values. Conversely, the same favorable cues may carry more weight for evaluators whose values do not conflict with the use of leather.

We introduce cue-value congruence to capture the extent to which validity cues align with evaluators' personal values. Cue-value congruence constitutes a second alignment mechanism in propriety judgments. Whereas cue congruence concerns the relationship between validity cues, cue-value congruence concerns alignment between validity cues and the evaluator's own value system. The same cue may therefore carry different weight depending on whether it resonates with or conflicts with evaluators' personal values.

This mechanism also connects cue-value congruence to institutional microfoundations. Recent scholarship emphasizes that values form a critical component of the microfoundations of institutional theory (Bitektine & Song, 2023; Demers & Gond, 2020; Kraatz et al., 2020), particularly when individuals are confronted with institutional complexity or legitimacy conflicts (Claes et al., 2025; Siraz et al., 2023). Values are part of the interpretive lens through which evaluators make sense of validity

cues and assess the appropriateness of a legitimacy subject. They shape which cues are noticed, which cues are considered credible, and which cues are discounted when institutional signals are ambiguous or conflicting (Claes et al., 2025; Leavitt et al., 2016; Reynolds et al., 2010). Personal values thus shape what counts as valid and how competing cues are weighted.

By foregrounding the role of personal values, our approach helps explain heterogeneity in propriety beliefs even when evaluators are presented with identical validity cues. It also clarifies why certain cues may become salient or diminished depending on their resonance with the evaluator's personal priorities and experiences. Given the controversial and value-laden nature of fracking, we focus on environmentalism as a particularly relevant value.

Environmentalism

Environmentalism, which corresponds to the universalism-nature value identified by Schwartz et al. (2012) in their refined theory of basic individual values, captures the importance that individuals attribute to protecting nature and ecosystems (Shepherd et al., 2013). Environmentalism is an altruistic, prosocial value concerned with what is good for society, and is therefore likely to shape propriety evaluations in contexts involving environmental risk (Finch et al., 2015). Its influence extends beyond environmental domains, shaping broader judgments and attitudes (Bréchon & Gonthier, 2017). Environmentalism affects how evaluators perceive entities and actions that either harm or preserve the environment (Schwartz et al., 2012). Prior research has documented the negative environmental consequences of resource extraction, including fracking, such as local air and water quality deterioration (Gond et al., 2016). Energy companies have been criticized by public and nonprofit organizations for violations with detrimental impacts on local communities. Challenges to the legitimacy of energy exploitation are visible in public protests, media coverage, and regulatory hearings (Finch et al., 2015; Mazur, 2016).

When evaluators with higher environmentalism encounter validity cues about fracking, they are likely to interpret those cues through the lens of environmental protection. This does not mean that validity cues become irrelevant. Rather, cues that conflict with environmental values may be discounted, reinterpreted, or given less weight. For example, high economic impact may not strongly increase propriety if evaluators believe that economic benefits come at environmental cost (Raimi & Leary, 2014). Similarly, regulatory approval may be discounted if evaluators believe that formal rules are insufficient to prevent ecological harm. Venture longevity is similarly double-edged: It may signal competence and experience, but also entrenchment in an environmentally

harmful industry. By contrast, evaluators with lower environmentalism may rely more heavily on validity cues themselves, interpreting economic impact, regulatory setting, and venture longevity as evidence that fracking is useful, institutionally controlled, and operationally sound. Therefore, we posit:

Hypothesis 3a. Across congruent and incongruent cue combinations, the influence of validity cues on propriety will be weaker for evaluators with higher environmentalism than for those with lower environmentalism.

Cue-value congruence further suggests that the influence of a cue depends on whether it aligns or conflicts with environmental values. Among evaluators with higher environmental values, cues that resonate with environmental protection should exert a stronger influence on propriety, while those that conflict with it should exert a weaker influence. For example, unfavorable public opinion toward fracking may resonate with environmental values if evaluators interpret public opposition as reflecting ecological concern. Conversely, high economic impact may conflict with environmentalism if evaluators associate economic gains from fracking with environmental degradation. However, it is not always clear a priori which cues will resonate positively or negatively with environmentalism. For instance, a regulated setting may be perceived as reassuring if evaluators believe regulation effectively limits environmental harm or as insufficient if they believe formal rules merely legitimize a practice they consider environmentally damaging. This ambiguity makes it important to examine how environmentalism conditions the influence of each validity cue. Thus,

Hypothesis 3b. The influence of validity cues on propriety will be weaker when those cues conflict with evaluators' environmental values.

By examining environmentalism as a moderator, this study clarifies how personal values shape the effects of multiple, potentially conflicting validity cues on propriety. This allows us to identify not only whether environmentalism weakens reliance on validity cues overall but also which type-based cues evaluators treat as aligned or misaligned with their environmental values.

DATA AND METHOD

Context

Fracking provides a compelling empirical context for examining how multiple, often conflicting, validity cues shape propriety and how personal values, such as environmentalism, influence this process. As a highly

contested practice, fracking embodies a legitimacy issue, often characterized by polarization and divergent institutional cues (Claes et al., 2025; Siraz et al., 2023). Supporters emphasize its economic and social benefits, including energy independence, job creation, and community development, while critics highlight environmental and health risks such as groundwater contamination, air pollution, and induced seismic activity. This mix of positive and negative cues from diverse actors creates an ideal setting to investigate how multiple and conflicting validity cues affect propriety judgments.

Our empirical setting is France and Spain, two neighboring countries that share cultural similarities in terms of values and freedoms (Bréchon & Gonthier, 2017). Both have witnessed intense political, economic, and environmental debates about fracking, marked by the coexistence of multiple and conflicting validity cues (Costa et al., 2017; Weile, 2014). France adopted a precautionary stance, banning fracking due to insufficient evidence in assessing its risks, whereas in Spain, several regional governments have prohibited fracking projects on environmental grounds even though the national government, which retains authority over energy policy, continues to allow exploration.

At the same time, research and policy initiatives at the European Union level promote technological innovation aimed at mitigating environmental and seismic risks associated with fracking.¹ Emerging technologies, such as the Octopus Drilling² (CORDIS, 2016), illustrate ongoing efforts to make shale gas extraction more efficient and environmentally responsible. The debate around these technologies reflects broader questions of energy independence, sustainability, and economic competitiveness in Europe. Together, these dynamics render France and Spain an ideal setting to examine how evaluators interpret and reconcile multiple and often conflicting validity cues when assessing the propriety of fracking.

Experimental design and sample

Due to the complex nature of legitimacy perceptions, empirical research has often been difficult to conduct. Prior studies have examined legitimacy from media (e.g., Castelló et al., 2016), regulations (e.g., Hiatt & Park, 2013), IPO signals (e.g., Khoury et al., 2013), and general public perceptions, employing methods such as archival data analysis, content analysis, interviews, and surveys (e.g., Elsbach, 1994). However, only recently have scholars begun to empirically examine microlevel legitimacy despite its recognized importance in management research (Siraz, 2019; Thaler et al., 2026).

To explore how multiple validity cues influence propriety, we employed a full-profile conjoint experimental design (Louviere, 1988; Shepherd & Zacharakis, 2018). This method captures the simultaneous influence of congruent and incongruent cues on evaluators' propriety beliefs and allows examination of how environmentalism moderates these effects. We used a new fracking technology as the evaluation context. Because cue consistency increases the likelihood of attributing legitimacy, this method helps identify which cues evaluators naturally prioritize. Conjoint analysis is a well-established method for decomposing complex evaluation criteria (Green & Srinivasan, 1990) and has been applied to study legitimization and environmental issues (Claes et al., 2025; Shepherd et al., 2013; Siraz et al., 2019).

Each vignette (profile) included four attributes, corresponding to theoretically grounded validity cues: public opinion (normative legitimacy), economic impact (pragmatic legitimacy), venture longevity (cognitive legitimacy), and regulatory setting (regulatory legitimacy). Each attribute was operationalized at one of two levels: favorable/unfavorable (public opinion), high/low (economic impact), established/new (venture longevity), and regulated/unregulated (regulatory setting) (see Appendix A). Each participant evaluated the full set of $2^4 = 16$ orthogonal profiles generated by crossing the four two-level attributes (Hahn & Shapiro, 1966), together with eight replicated profiles used to assess test-retest reliability and one practice profile. This design allowed estimation of all main effects and two-way interactions while keeping the task manageable.

To minimize bias, cues were presented in a balanced and consistent way, appearing equally in favorable and unfavorable scenarios. We also implemented a comprehensive randomization strategy: Both the order of profile presentation and the order of attributes within each profile were randomized. Four versions of the instrument, each with different randomized attribute and profile orders, were created. These procedures mitigated anchoring, learning, and fatigue effects. Post hoc hierarchical linear modeling (HLM) tests revealed no significant order effects ($p > 0.05$), supporting the effectiveness of the randomization strategy (see Appendix B).

Prior to the main study, we conducted a pilot test with participants in both countries (two scholars and five public participants per country). Feedback confirmed that the vignettes were realistic, comprehensible, and interpretable. Based on this feedback, we made minor wording adjustments to enhance clarity and remove ambiguity. This step ensured both external realism in capturing a plausible evaluation context and internal validity by confirming that evaluators interpreted the profiles and attributes as intended. These steps followed best practices in conjoint vignette development (Bansak et al., 2021; Green et al., 2001; Hainmueller et al., 2015; Shepherd & Zacharakis, 2018).

Using a within-person design, we captured evaluators' propriety across profiles, immediately followed by a post-

¹For example, Horizon 2020 EU Industrial Leadership funding aimed at accelerating SMEs' research into nano- and other technologies.

²Octopus is a drilling technology that creates 400 microlateral wells in hours, leaving the main bore intact. This allows for future access, boosts long-term productivity, and reduces environmental risks like tremors.

experimental questionnaire to measure participants' personal values and other control variables. This design allowed us to disentangle how evaluators' propriety was affected by multiple cues and personal values.

The resulting data were nested (repeated evaluations within individuals). Accordingly, we analyzed the data using HLM, which is ideal for nested data structures. HLM controls for autocorrelation and heteroskedasticity and allows us to model both cue-level effects and between-individual moderators (Raudenbush & Bryk, 2002). Analyses were conducted using HLM 8.2 software.

To ensure response quality, we implemented several best practice quality-control procedures (Bansak et al., 2021; Green et al., 2001; Hainmueller et al., 2015; Shepherd & Zacharakis, 2018): (1) randomizing profile order to distribute learning and fatigue effects uniformly across tasks; (2) randomizing attribute order within profiles to prevent systematic position bias; (3) embedding replicated profiles to assess test–retest reliability and identify inconsistent responses; and (4) including attention checks to detect inattentive or automatic responding, thereby ensuring thoughtful engagement. These procedures are widely used in conjoint research and provide stronger evidence of engagement or data quality than indirect proxies such as total task time.

Sample

Our sample included corporate executives, administrative staff, professionals, and some undergraduate and high-school students, recruited through the co-authors' institutions and networks. Respondents were French or Spanish nationals, ensuring contextual familiarity with fracking in their respective countries. As noted above, participants in the pilot phase confirmed that the vignettes were realistic and clear. Based on their feedback, minor refinements were made to enhance cue clarity.

Data collection was primarily conducted face-to-face, between May and September 2018, using a “pen and paper” format. After explaining the study, participants completed the task, which included 25 profiles (one practice profile, 16 original profiles, and eight replications) and a post-experiment questionnaire, typically within 30 min. For the 19 participants unable to attend in person, the instrument was mailed, and a practice profile was completed with guidance.

We collected a total of 269 responses, of which 10 were incomplete and excluded. Among the remaining 259, we dropped 12 additional participants with low test–retest reliability between the original and replicated profiles (correlation < 0.30), consistent with prior conjoint research (Claes et al., 2025; Shepherd et al., 2013). To be conservative, we also removed the replicated profiles from the analysis to avoid inflating the observations. The final dataset consisted of 3952 observations nested within

247 individuals, with a mean test–retest reliability of 0.87, indicating high response consistency.

Variables and measures

Dependent variable (DV): Propriety

The DV aligns with established studies using single-item scales in conjoint analysis (e.g., Shepherd et al., 2013) to measure legitimacy (Claes et al., 2025). Participants rated the legitimacy of each profile on a 7-point Likert scale, from 1 (*very low legitimacy*) to 7 (*very high legitimacy*). Under the heading “In your personal view,” participants were asked, “Based on the description of the situation above, how do you rate the extent to which the activity should be perceived as legitimate?” The description refers to each profile presented (see Appendices A and B).

Level 1 independent variables: Validity cues

Evaluators' responses were decomposed into coefficients for each of the attributes and an intercept. Each cue varied at two levels: favorable or unfavorable, high or low, established or new venture, and regulated or unregulated (Hahn & Shapiro, 1966). The two levels were coded, respectively, as 0.5 or −0.5 (see Appendix A for the descriptions of the attributes).

Level 2 variable: Environmentalism (cross-level moderator)

Evaluators' environmentalism was measured using a validated multi-item scale in the post-experimental questionnaire. The sustainable development values scale (Shepherd et al., 2009) includes a subscale for “respect for nature” (four items). Participants were asked to choose, on a 7-point Likert-type scale, where their opinions lay between the following pairs of opposing statements. The first statement of each pair corresponds to 1 on the scale, the second to 7 (see Appendix C). The scale's internal reliability had a Cronbach's alpha of 0.79.

Control variables

We acknowledge that microlevel legitimacy is influenced by factors beyond the cues and moderators in our study. Therefore, the post-experiment questionnaire controlled for several variables, including age, gender, country of residence, educational attainment, direct fracking experience, fracking knowledge, and entrepreneurial experience (see Appendix C). Research shows that age and gender influence decision-making and values. For example,

females tend to care more about the environment (Konisky et al., 2008). Age was treated as a categorical variable, with the majority of respondents (59.9%) falling within the 25–34 and 35–44 age brackets. Gender identity was recorded as male or female, with women comprising 44.1% of the sample. We also controlled for country effects (Kriesky et al., 2013). Of the responses, 56% were collected in France and 44% in Spain. Prior research has found that higher educational attainment facilitates a better understanding of the broader implications of shale gas extraction. Accordingly, evaluators with higher educational attainment are more likely to attribute less weight to validity cues in their judgments (Hall et al., 2018). Of the participants, 15% reported high school as their highest educational attainment, 21.5% had completed technical or vocational training, 48.5% held a bachelor's degree or equivalent, and 15% possessed a master's or doctoral qualification. Direct experience and knowledge of fracking shape attitudes, either positively (e.g., seeing job opportunities) or negatively (e.g., understanding environmental risks) (Dokshin, 2016; Gravelle & Lachapelle, 2015; Vasi et al., 2015). To account for entrepreneurial experience, participants were asked whether they had ever started a business, as this could affect how they view the longevity cue. In total, 11.7% of participants reported having done so, which is consistent with the average entrepreneurial activity in France and Spain. In our sample, 88% of respondents reported having no direct experience with fracking, 9% had some experience through geographic proximity (e.g., potential fracking sites, trials, or exploration), and 3% through past or current employment. Knowledge levels about fracking varied; 75% indicated some familiarity, 5% considered themselves very knowledgeable, and 20% reported no knowledge.

ANALYSIS AND RESULTS

Table 2 reports the means, standard deviations, and correlations of the control variables and environmentalism.

Variables at Level 1 (validity cues) were orthogonally set in the experiment; they have zero correlation with individual-level variables and with each other. For robustness, and to ensure that multicollinearity among the independent variables is not a potential problem, we calculated the variance inflation factors (VIFs). All VIFs were below 1.5, well below the generally accepted limit of 10.0 (Kutner et al., 2004).

Table 3 summarizes the HLM results. Following established conventions in full-profile conjoint studies (Haynie et al., 2009), we report the full model only. The analysis of both main effects and full models is neither necessary nor appropriate in this case because the orthogonal research design assures there is zero correlation between the cues (Haynie et al., 2009).

Table 3 shows that all four favorable validity cues significantly increase propriety (public opinion: 1.471, $p < 0.001$; economic impact: 1.481, $p < 0.001$; venture longevity: 0.296, $p < 0.001$; regulatory setting: 1.373, $p < 0.001$). Consistent with Hypothesis 1a, Table 4 further shows that positively congruent cue combinations produce the highest propriety, whereas negatively congruent cue combinations produce the lowest. The cue combinations are ordered as follows: consistently favorable (all cues are favorable to fracking), mostly favorable (three out of four cues are favorable to fracking), conflicting (two cues are favorable to fracking and two cues are unfavorable to it), mostly unfavorable (three out of four cues are unfavorable to fracking), and consistently unfavorable (all cues are unfavorable to fracking).

Table 4 indicates that consistently favorable cues have a mean propriety of 6.65 on a scale from 1 (*low propriety*) to 7 (*high propriety*) and consistently unfavorable cues have a mean propriety of 1.83. These findings also support Hypothesis 1a. The mean values for propriety when cues conflict reveal a clear continuum from high to low propriety. Scenarios 6–11, in which two cues favor fracking and two oppose it, produce mean values close to the scale midpoint, neither predominantly supporting nor opposing the legitimacy subject. These means are lower

TABLE 2 Means, standard deviations (SD), and correlations of the control variables and environmentalism.

Variables	Mean	SD	1	2	3	4	5	6	7
1. Age	2.51	0.737							
2. Gender	0.44	0.498	−0.051						
3. Entrepreneurial experience	1.91	0.365	−0.170**	0.093					
4. Direct experience	2.87	0.465	−0.002	0.135*	−0.093				
5. Knowledge	2.24	0.834	0.059	−0.177**	−0.033	−0.216**			
6. Country	0.44	0.497	−0.367**	0.055	0.136*	0.080	0.012		
7. Educational attainment	16.95	2.672	0.662**	−0.081	−0.144*	−0.108	−0.025	−0.381**	
8. Environmentalism	5.62	1.056	−0.054	0.237**	0.057	0.154*	0.109	0.132*	−0.084

Note: $N = 247$.

*Correlation is significant at the 0.05 level (two tailed).

**Correlation is significant at the 0.01 level (two tailed).

TABLE 3 Results.

Variables	Full model		
	Coef.	SE	<i>p</i>
1. Intercept for overall model	4.142***	0.089	<0.001
2. Public opinion	1.471***	0.026	<0.001
3. Economic impact	1.481***	0.026	<0.001
4. Venture longevity	0.296***	0.026	<0.001
5. Regulated setting	1.373***	0.026	<0.001
6. Regulated setting $\times$ public opinion	0.265***	0.051	<0.001
7. Regulated setting $\times$ economic impact	0.168**	0.051	0.001
8. Regulated setting $\times$ venture longevity	0.129*	0.051	0.011
9. Age	0.045	0.063	0.477
10. Gender	−0.246***	0.073	<0.001
11. Entrepreneurial experience	0.051	0.100	0.613
12. Direct experience	−0.051	0.081	0.527
13. Knowledge	−0.072	0.045	0.107
14. Educational attainment	−0.357	0.377	0.345
15. Country	−0.158*	0.079	0.047
16. Environmentalism $\times$ public opinion	0.058*	0.024	0.016
17. Environmentalism $\times$ economic impact	−0.122***	0.024	<0.001
18. Environmentalism $\times$ venture longevity	0.059*	0.024	0.015
19. Environmentalism $\times$ regulated setting	0.054*	0.024	0.025

p* < 0.05.*p* < 0.01.****p* < 0.001.

TABLE 4 Mean values of propriety and cue combinations.

Scenario	Public opinion	Economic impact	Regulatory setting	Venture longevity	Mean propriety	Standard error	Standard deviation	Cue congruence
1	Favorable	High	Regulated	Established	6.650	0.037	0.821	Consistently favorable (4+)
2	Favorable	High	Regulated	New	6.270	0.039	0.870	Mostly favorable (3+ and 1−)
3	Favorable	High	Unregulated	Established	4.960	0.064	1.424	
4	Favorable	Low	Regulated	Established	4.930	0.059	1.322	
5	Unfavorable	High	Regulated	Established	4.870	0.055	1.231	
6	Favorable	Low	Regulated	New	4.590	0.059	1.310	Conflicting (2+ and 2−)
7	Unfavorable	High	Regulated	New	4.570	0.053	1.186	
8	Favorable	High	Unregulated	New	4.520	0.061	1.463	
9	Unfavorable	High	Unregulated	Established	3.540	0.059	1.717	
10	Unfavorable	Low	Regulated	Established	3.500	0.058	1.285	
11	Favorable	Low	Unregulated	Established	3.490	0.059	1.302	
12	Favorable	Low	Unregulated	New	3.490	0.067	1.351	Mostly unfavorable (1+ and 3−)
13	Unfavorable	High	Unregulated	New	3.490	0.062	1.372	
14	Unfavorable	Low	Regulated	New	3.090	0.058	1.295	
15	Unfavorable	Low	Unregulated	Established	2.200	0.050	1.121	
16	Unfavorable	Low	Unregulated	New	1.830	0.054	1.204	Consistently unfavorable (4−)

than those of the mostly favorable scenarios (2–5) and higher than those of the mostly unfavorable scenarios (12–15), supporting Hypothesis 1b.

Table 4 and the propriety distribution figures (Figure 1a–e) show that cue congruence shapes propriety in two ways. First, mean propriety decreases across the

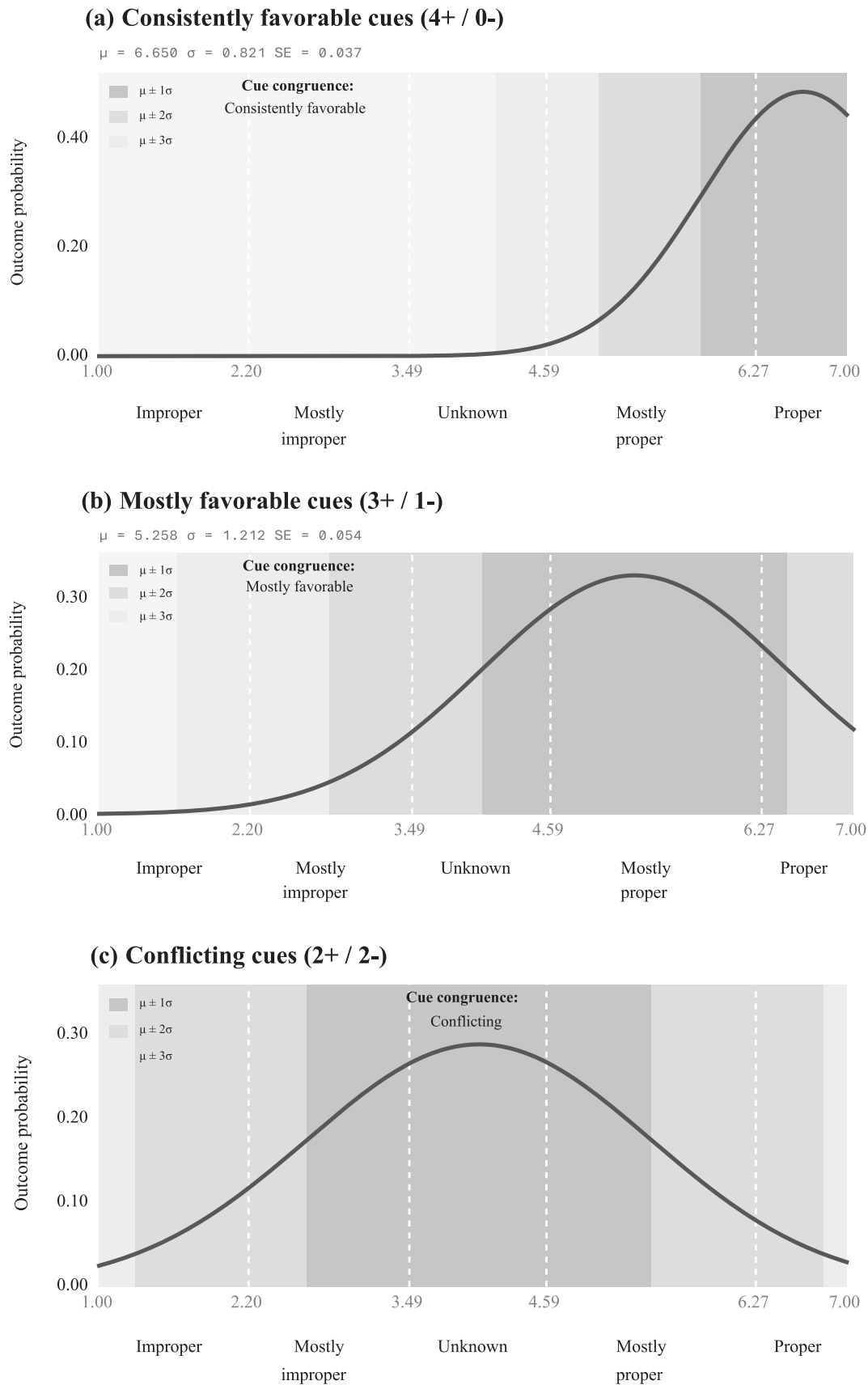


FIGURE 1 Propriety outcome under different cue combinations. (a) Consistently favorable cues (4+/0-). (b) Mostly favorable cues (3+/1-). (c) Conflicting cues (2+/2-). (d) Mostly unfavorable cues (1+/3-). (e) Consistently unfavorable cues (0+/4-).

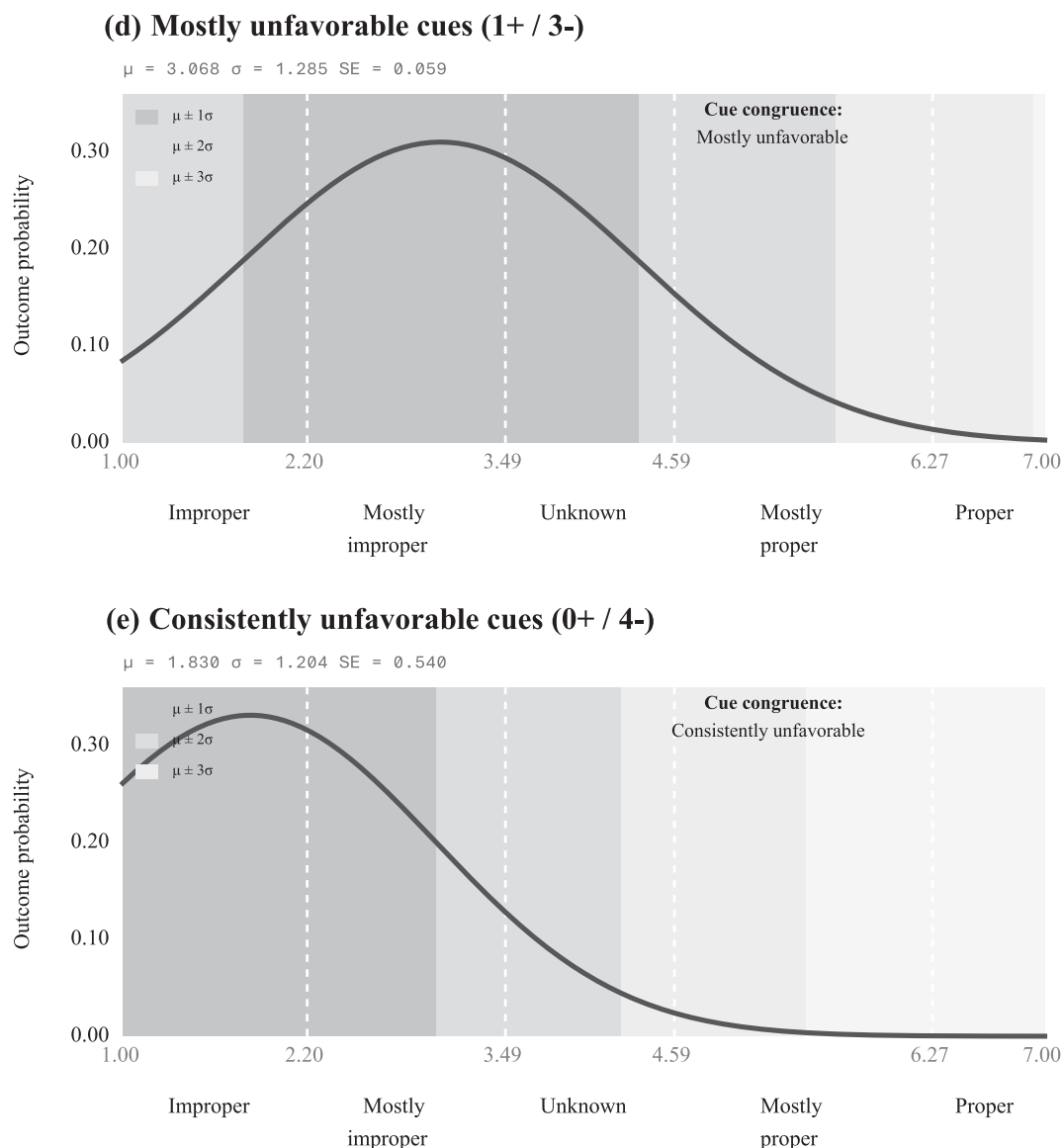


FIGURE 1 (Continued)

five cue combinations, from 6.65 under consistently favorable cues to 1.83 under consistently unfavorable cues, with conflicting combinations close to the scale midpoint. This supports Hypothesis 1a, concerning the congruent extremes, and Hypothesis 1b, concerning intermediate propriety under conflicting combinations. It also extends to the microlevel the gray area between legitimacy and illegitimacy theorized by Siraz et al. (2023). Second, the figures report dispersion aggregated within each congruence category, which the scenario-level standard deviations in Table 4 do not show. Dispersion is lowest under consistently favorable cues (0.82) and peaks under conflicting cues (1.38), with intermediate values for the mostly favorable and mostly unfavorable combinations (1.21 and 1.29) and 1.20 under consistently unfavorable cues. An intermediate mean under conflicting cues may therefore reflect not a shared moderate evaluation

but evaluators dispersing toward competing readings of the same subject. In Figure 1a–e, the propriety scale is partitioned into five ranges corresponding to these five legitimacy states, with boundaries set at the observed cell means separating adjacent cue-congruence categories. The partition is descriptive, intended to locate each distribution rather than to classify individual judgments.

Of the four cues investigated, economic impact was attributed the highest weight, followed by public opinion, and then by regulatory setting. Least weight was attributed to longevity, though still significant. This ranking does not support Hypothesis 2a, which states that regulatory setting would have the highest weight among cues used by evaluators. We find support for Hypothesis 2b, which posits the magnifying effect of regulatory setting on the other cues in the formation of evaluators' propriety judgments. The interaction coefficients for regulatory

setting and, respectively, public opinion (0.265, $p < 0.001$), economic impact (0.168, $p = 0.001$), and longevity (0.129, $p = 0.011$) are all positive and significant

(see Figure 2a–c). Figure 2a indicates that the weight assigned to favorable public opinion increases from 4.114 to 5.586 (35.8% increase) when the setting is unregulated

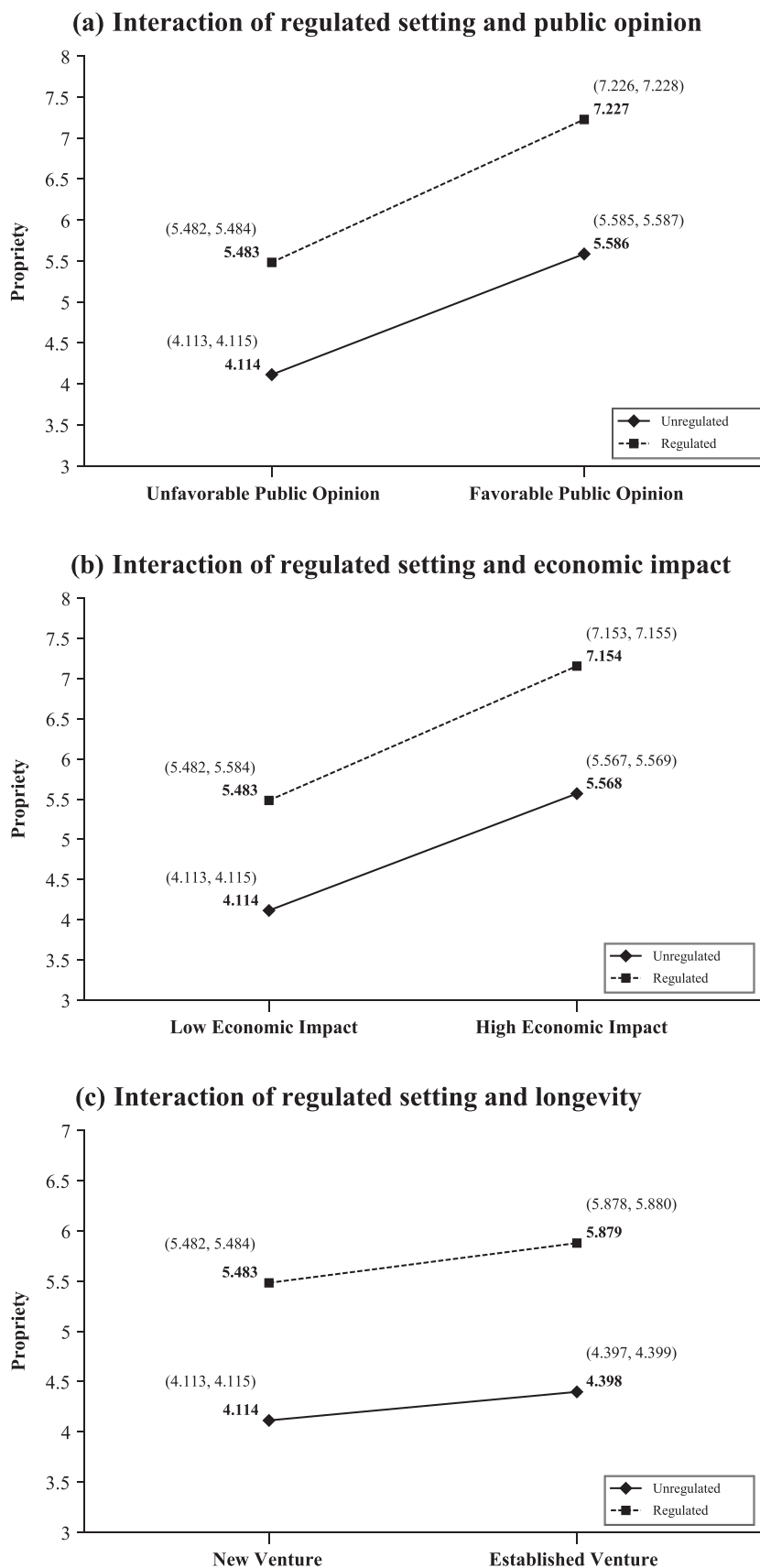


FIGURE 2 (a) Interaction of regulated setting and public opinion. (b) Interaction of regulated setting and economic impact. (c) Interaction of regulated setting and longevity.

and increases from 5.483 to 7.227 (31.8% increase) when regulated. Note that the values between brackets in the interaction graphs indicate the confidence intervals. Figure 2b shows an increase from 4.114 to 5.568 (35.3% increase) for high economic impact in an unregulated setting and from 5.483 to 7.154 (30.5% increase) in a regulated setting. Finally, Figure 2c shows that when the weight assigned to venture longevity is high—that is, when the fracking involves established ventures—there is an increase from 4.114 to 4.398 (6.9% increase) in an unregulated setting and from 5.483 to 5.879 (7.2% increase) in a regulated setting. We carried out a post hoc analysis to check whether the other cues also had a magnifying effect and found this not to be the case.

Next, we added the cross-level interaction with environmentalism as a moderator to test Hypotheses 3a and 3b. We find the coefficient of the interaction between environmentalism and economic impact is negative and significant (-0.122 , $p < 0.001$). This means that the higher the evaluators' environmentalism, the less influential the economic impact cue in the formation of their propriety beliefs. Environmentalism also interacts positively with public opinion (0.058 , $p = 0.016$), venture longevity (0.059 , $p = 0.015$), and regulatory setting (0.054 , $p = 0.025$), indicating that these cues have stronger positive effects on propriety as environmentalism increases. Because these pooled interaction effects may conceal heterogeneity across evaluators, we conducted subgroup analyses to examine how cue effects differ between evaluators with higher and lower environmentalism. To do so, we did a factor analysis of environmentalism, generating one factor. We then mean centered the factor and split the sample into two subsets: one comprising evaluators with higher environmentalism (mean-centered values ranging between 0.13 and 1.38, $n = 140$) and the other evaluators with lower environmentalism (mean-centered values ranging between -4.37 and -0.12 , $n = 107$). Finally, we conducted the HLM analysis with each subset, yielding results with clear differences in terms of how environmentalism affects the weight of cues on propriety judgment. The moderating effect of environmentalism for the subset of evaluators with high environmentalism had negative coefficients for economic impact (-0.103 , $p = 0.009$), regulated setting (-0.424 , $p = 0.027$), and longevity (-0.091 , $p = 0.04$), indicating that the influence of these cues weakens as environmentalism increases. By contrast, public opinion had a positive coefficient (0.164 , $p = 0.029$), meaning that the public opinion cue resonates with high environmentalism. Regarding the subset with low environmentalism, the coefficient for the economic impact cue remains negative (-0.185 , $p = 0.01$), whereas those for public opinion (0.036 , $p = 0.021$), regulatory setting (0.111 , $p = 0.034$), and venture longevity (0.012 , $p = 0.029$) are positive. Turning to the interaction graphs (Figure 3a–h) and Table 5, we see that the findings support Hypotheses 3a and 3b.

Higher environmentalism subset

The interaction graphs below (Figure 3a–d) for evaluators with higher environmentalism show that the effect of the cues on propriety is weaker for economic impact, venture longevity, and regulatory setting. Interestingly, the effect of environmentalism is attenuated when public opinion is favorable (Figure 3b).

Lower environmentalism subset

The interaction graphs below (Figure 3e–h) show that evaluators with lower environmentalism rely on all four validity cues, with public opinion, economic impact, and regulatory setting exerting stronger effects than venture longevity. Evaluators with low environmentalism attributed higher propriety to high economic impact than did evaluators with average environmentalism.

DISCUSSION

This study examined how multiple validity cues shape propriety beliefs in a contested issue field and how their effects vary with evaluators' personal values. Rather than treating propriety as a response to isolated cues, our findings show that evaluators are affected by multiple cues considered simultaneously, that these cues carry unequal weight, and that their influence depends both on whether cues align or conflict with one another and on whether they align or conflict with evaluators' values. Consequently, our study extends legitimacy research (e.g., Deephouse et al., 2017; Siraz et al., 2023; Suddaby et al., 2017; Tost, 2011) by examining how evaluators confront heterogeneous and conflicting signals at the same time and by identifying two alignment mechanisms, cue congruence and cue-value congruence, that shape propriety in contested settings.

The relative weight of type-based validity cues

Evaluators assigned unequal weight to validity cues corresponding to distinct legitimacy types, and the relative ordering of these cues was in part unexpected. Economic impact, the cue corresponding to pragmatic legitimacy, received the highest weight, indicating that perceived utility and material benefit to self and society weigh heavily in propriety assessments in this context (Jerolmack & Walker, 2018). This is notable because economic impact reflects neither authorization nor endorsement, demonstrating that the source-based classifications dominating this literature do not exhaust the evaluative logics through which propriety is shaped (Siraz et al., 2023; Thaler et al., 2026). Studies confined to authorization

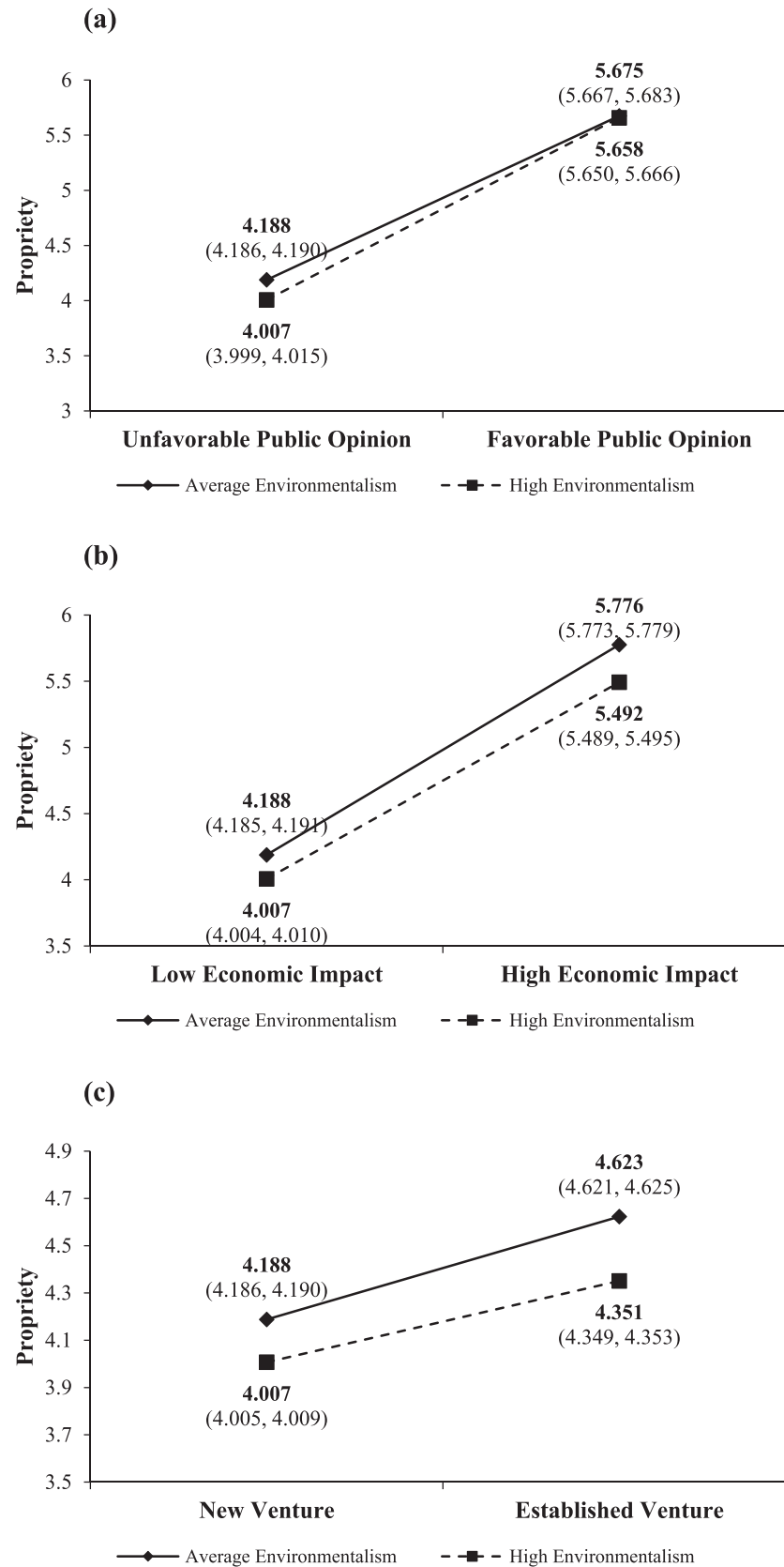


FIGURE 3 (a–d) The interactions of higher environmentalism and cues. (e–h) The interactions of lower environmentalism and cues.

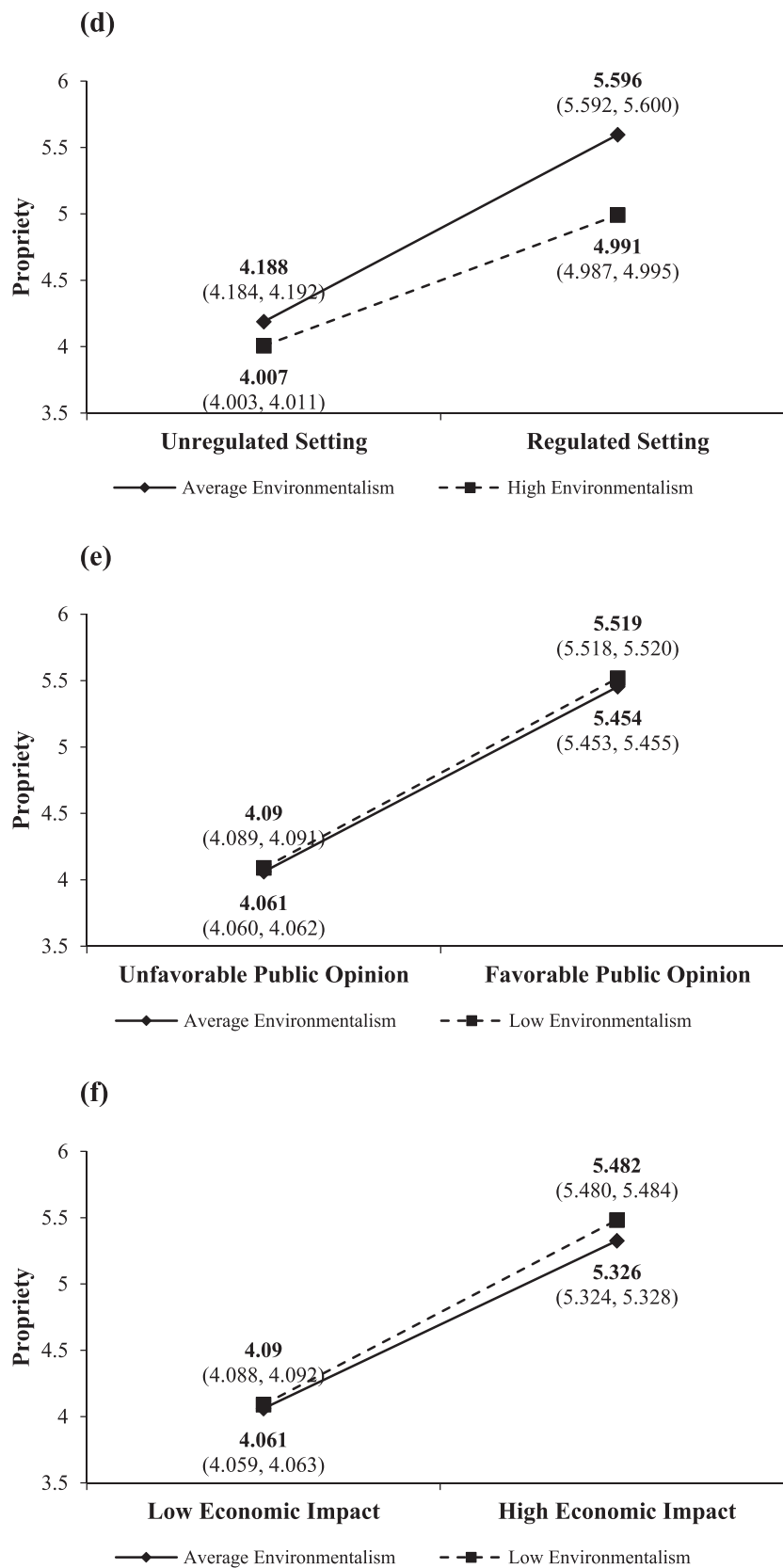


FIGURE 3 (Continued)

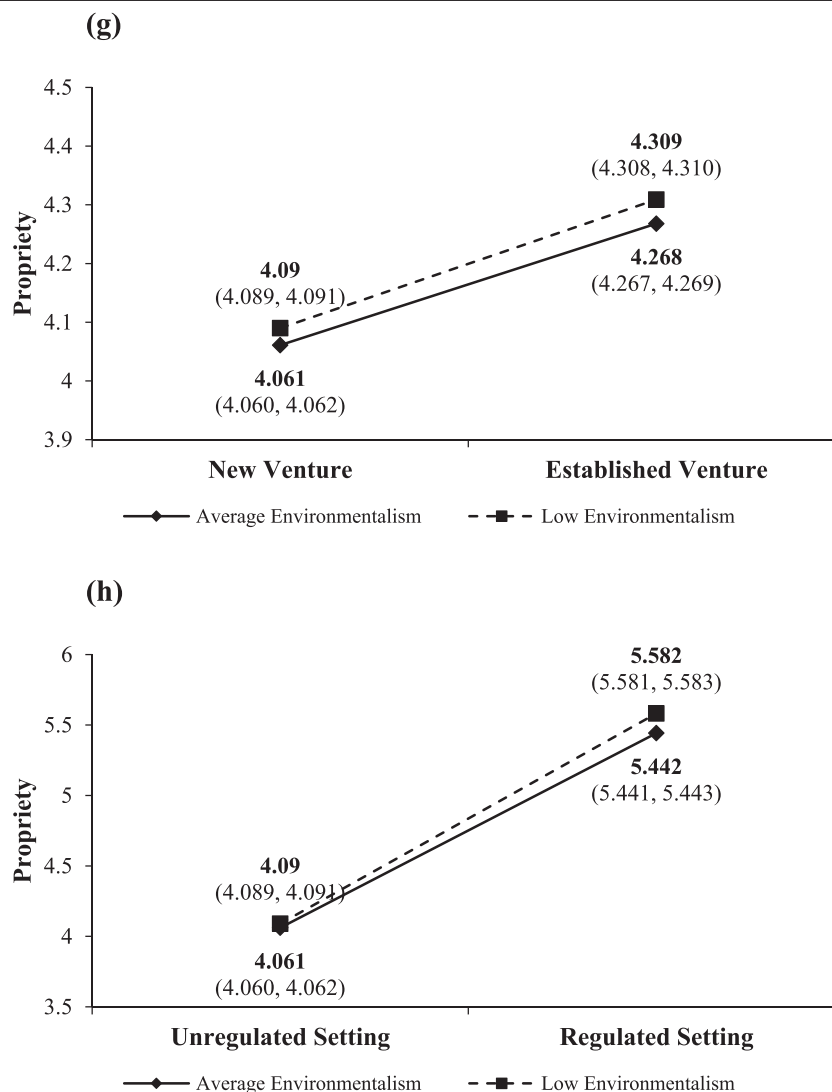


FIGURE 3 (Continued)

and endorsement may therefore overlook key determinants of legitimacy at the individual level.

By contrast, venture longevity, the cue corresponding to cognitive legitimacy, exerted the weakest effect on propriety, though it remained significant. Longevity may provide a less direct and less uniformly interpretable signal of appropriateness than economic impact, public opinion, or regulatory setting, because it does not by itself resolve the broader controversy surrounding fracking (Aldrich & Fiol, 1994; Boudet et al., 2014).

We had hypothesized that regulatory setting would dominate the other cues (Hypothesis 2a), given the strong tradition linking authorization to propriety (Dornbusch & Scott, 1975; Johnson et al., 2006; Tyler, 2006). This expectation was not supported. One plausible explanation is that, in France and Spain, formal regulation does not automatically translate into propriety when rules are perceived as insufficient or unjust, consistent with Tyler's (2006) argument that procedural legitimacy depends on

perceived fairness rather than formal authority alone. This possibility is consistent with the fact that, in both France and Spain, major protest episodes, including the yellow vest movement in France (Driscoll, 2023) and the public reaction to the "Wolf-pack" case in Spain (Faraldo-Cabana, 2021), reflected dissatisfaction with existing legal or policy frameworks rather than confidence in them.

Even though regulatory setting did not dominate as a direct cue, it still amplified the influence of public opinion, economic impact, and venture longevity on propriety (supporting Hypothesis 2b). This amplifying role suggests that regulatory approval can function as an institutional anchor that increases the credibility and mutual reinforcement of co-occurring signals (Hiatt & Park, 2013; Short & Toffel, 2010). Regulation thus conveys not only legality but also a degree of institutional guarantee, signaling that the practice is subject to scrutiny, thereby raising the perceived reliability of other favorable cues

TABLE 5 HLM results for subsets with higher and lower environmentalism.

Variables	Higher environmentalism			Lower environmentalism		
	Coef.	SE	<i>p</i>	Coef.	SE	<i>p</i>
1. Intercept for overall model	4.188***	0.128	<0.001	4.061***	0.107	<0.001
2. Public opinion	1.487***	0.123	<0.001	1.393***	0.111	<0.001
3. Economic impact	1.588***	0.144	<0.001	1.421***	0.119	<0.001
4. Venture longevity	0.435***	0.097	<0.001	0.207**	0.095	0.029
5. Regulated setting	1.408***	0.153	<0.001	1.381***	0.124	<0.001
6. Regulated setting × public opinion	0.320***	0.071	<0.001	0.194**	0.071	0.007
7. Regulated setting × economic impact	0.240**	0.071	0.002	0.168**	0.071	0.007
8. Regulated setting × venture longevity	0.102*	0.071	0.013	0.165**	0.071	0.008
9. Age	0.045	0.063	0.477	0.007	0.076	0.767
10. Gender	−0.246***	0.073	<0.001	−0.324**	0.123	0.010
11. Entrepreneurial experience	0.051	0.100	0.613	0.091	0.100	0.641
12. Direct experience	−0.051	0.081	0.527	0.034	0.106	0.751
13. Knowledge	−0.072	0.045	0.107	−0.101	0.068	0.145
14. Educational attainment	−0.357	0.377	0.345	−0.162	0.487	0.740
15. Country	−0.158*	0.079	0.047	−0.321*	0.122	0.049
16. Environmentalism × public opinion	0.164*	0.015	0.029	0.036*	0.007	0.021
17. Environmentalism × economic impact	−0.103**	0.019	0.009	−0.185*	0.009	0.010
18. Environmentalism × venture longevity	−0.091*	0.011	0.040	0.012*	0.007	0.029
19. Environmentalism × regulated setting	−0.424*	0.022	0.027	0.111*	0.007	0.034

p* < 0.05.*p* < 0.01.****p* < 0.001.

(Kelman & Hamilton, 1989). This underscores that the joint influence of cues and not merely their individual valence should be considered when examining propriety.

It is also important to situate these findings in their temporal context. Our data were collected in 2018, before the rise in European energy prices that began in 2021 and before the 2022 energy crisis intensified concerns about affordability and energy security. In 2018, fracking debates in France and Spain were more clearly dominated by environmental and sustainability concerns, with pragmatic and regulatory considerations remaining relatively distinct. In the more recent context, pragmatic cues such as economic impact may plausibly carry greater weight than we observe here. At the same time, this does not necessarily imply that regulatory legitimacy would carry greater weight, as formal regulation may remain contested or may be viewed as insufficient to address broader public and environmental concerns. The relative weight of pragmatic and regulatory cues may therefore shift over time but not necessarily in the same direction.

Cue congruence and intermediate propriety

Beyond the weight of individual cues, our findings show that cue congruence matters. Evaluators responded not only to the valence of single cues but to whether cues

aligned or conflicted when encountered together. Congruent combinations strengthened propriety in a clear direction, whereas incongruent combinations generated more ambivalent and intermediate propriety beliefs. Incongruent cues convey mixed messages about whether the evaluator's social environment regards the subject as acceptable, desirable, or appropriate, introducing a degree of uncertainty that evaluators resolve by tempering their assessments. Siraz et al. (2023) describe such instances as conflicts of legitimacy types and theorize that diverging outcomes across regulatory, normative, pragmatic, and cognitive legitimacy move subjects away from clear legitimacy or illegitimacy at the macrolevel. Our findings suggest that the same dynamic operates at the individual level. When evaluators encounter conflicting validity cues, they attribute conditional or partial propriety rather than clear acceptance or rejection, locating the subject in the gray area between legitimacy and illegitimacy (Siraz et al., 2023; Thaler et al., 2026).

Cue-value congruence and heterogeneity in propriety beliefs

Considering multiple cues simultaneously provides only a partial understanding of propriety unless evaluators' values are also taken into account. Evaluators with

higher environmentalism responded differently to several cues than evaluators with lower environmentalism, indicating that cue effects are not uniform across individuals. Specifically, the influence of economic impact, regulatory setting, and venture longevity on propriety was weaker among evaluators with higher environmentalism (Hypothesis 3a), whereas favorable public opinion exerted a stronger effect, reflecting its resonance with environmental values (Hypothesis 3b). This value-based heterogeneity is captured by cue-value congruence. It is consistent with the argument that personal values influence which cues resonate and which are discounted when they are ambiguous or conflicting (Claes et al., 2025; Leavitt et al., 2016; Reynolds et al., 2010). It complements Jacqueminet & Durand's (2020) finding that consistency between values and validity cues matters for organizational outcomes: Whereas their explanandum was practice implementation within organizations, our study shows that cue-value congruence also influences external evaluators' propriety beliefs.

In the case of economic impact, evaluators with stronger environmental values were less prepared to interpret economic benefits as unequivocal signals of propriety. Prior research shows that individuals with strong environmental values tend to assume that economic gains come at the expense of the environment, even absent supporting information (Finch et al., 2015; Margolis & Walsh, 2003). This reflects a persistent assumption in which profitability and environmental responsibility are seen as incompatible. Although environmental, social, and governance frameworks and corporate sustainability discourses have sought to reconcile these goals (Chan, 2026; Gardiner & Portney, 1994), our findings suggest the perceived trade-off remains influential. As a result, organizational efforts to signal legitimacy through economic success may backfire among environmentally oriented evaluators unless paired with credible environmental framing (Edwards, 2021).

One finding was unanticipated. When public opinion was unfavorable toward fracking, evaluators with higher environmentalism held less favorable propriety beliefs than those with lower environmentalism. Yet when public opinion was favorable, higher environmentalism did not significantly decrease propriety, and the gap between the two groups was minimal. This asymmetry suggests either that prevailing social norms can override personal values under conditions of broad approval or that a conflict between a favorable cue and strong environmental values produces evaluative ambivalence analogous to cue incongruence. Either way, values and cues do not operate in a simple additive way, as perceived social consensus may reduce the extent to which personal values lead evaluators to discount a cue.

Regarding venture longevity, evaluators with higher environmentalism attributed lower propriety to new ventures than to established ones. Because no information about prior environmental performance was provided,

new ventures appear to have suffered from a liability of newness. Evaluators may assume that knowledge, experience, and a track record accumulate over time, leading them to associate established ventures with lower environmental risk. This contrasts with evidence that many environmentally beneficial innovations originate in new ventures (O'Neil & Ucbasaran, 2016), suggesting that the longevity heuristic may disadvantage new entrants in value-sensitive contexts regardless of their actual environmental credentials.

Regulatory approval likewise did not override environmental concerns. Evaluators with higher environmentalism still assigned lower propriety to regulated fracking, suggesting that formal approval is reassuring only when evaluators believe regulatory institutions can safeguard environmental values; otherwise, it is discounted rather than treated as a signal of appropriateness.

Taken together, these findings show that propriety in contested settings depends on more than cue valence. It depends on the cue combination evaluators face, the unequal weight assigned to different cues, and whether those cues align with one another and with evaluators' values. This is especially important in contested issue fields, where evaluators rarely encounter a single clear or uncontested cue for legitimacy.

Theoretical implications

This study advances legitimacy research by refining the analytical treatment of validity cues, theorizing the importance of cue combinations, and specifying how personal values shape the effect of validity cues on propriety.

First, our paper extends research on validity cues by distinguishing between the source of a cue and the type of legitimacy and its underlying evaluative logic. Existing work has often classified validity cues according to the actor or source from which they originate, especially through the distinction between authorization and endorsement (Bitektine & Haack, 2015; Dornbusch & Scott, 1975; Johnson et al., 2006). While this distinction remains important, it privileges the carrier of legitimacy-relevant information over the evaluative logic through which that information becomes meaningful. A type-based approach instead classifies validity cues according to the underlying evaluative logic they invoke, namely, normative, pragmatic, regulatory, or cognitive legitimacy (Deephouse & Suchman, 2008; Siraz et al., 2023; Tost, 2011).

This distinction is theoretically consequential because cue sources and legitimacy types do not necessarily correspond one-to-one. The same source may convey several evaluative logics, and the same evaluative logic may travel through multiple sources. For example, peer endorsement may signal normative approval when it reflects shared social acceptance, pragmatic legitimacy when peers emphasize the benefits they derive from a

practice, or cognitive legitimacy when repeated peer adoption makes the practice appear familiar and taken for granted. Classifying cues by legitimacy type therefore allows scholars to compare heterogeneous validity cues within a common framework and to specify why a cue becomes persuasive. This is especially relevant in contested issue fields, where legitimacy-relevant information is diffuse, overlapping, and difficult to attribute to one clear authority or peer group.

Second, our study develops cue congruence as a construct for theorizing the relationship among validity cues. Legitimacy research has examined whether a given cue increases or decreases propriety, but contested issue fields rarely present evaluators with isolated signals. Instead, they present cue combinations in which different type-based validity cues may reinforce or contradict one another. Cue congruence therefore shifts attention from the isolated effect of individual cues to the relational structure among cues, extending recent microlevel work on how evaluators use legitimacy-relevant signals when forming propriety judgments (Thaler et al., 2026). This matters because alignment and conflict among cues are not simply features of a complex evaluative context. Rather, they influence how evaluators interpret the cues themselves. Intermediate propriety can therefore be understood as arising from cue combinations that provide competing grounds for approval and rejection. In this sense, cue congruence offers a microlevel account of why legitimacy subjects may remain conditionally legitimate, ambivalent, or illegitimate, extending work that has theorized intermediate legitimacy states at the collective level (Siraz et al., 2023).

The cue-combination perspective also shows that cues can matter in several ways. Some cues affect propriety directly because of what they signal. Others also affect propriety indirectly because they change how evaluators interpret the cues around them. Regulatory setting illustrates this point. Although it was not the strongest cue on its own, it made public opinion, economic impact, and venture longevity more influential. This suggests that regulation can work as an amplifying lens. It can make other cues appear more credible, more reliable, or more consequential. Legitimacy research should therefore examine not only whether a cue matters but also how it changes the meaning and influence of other cues in the same cue combination.

Third, our work clarifies how personal values shape individual legitimacy assessments. Finch et al. (2015) showed that legitimacy judgments are shaped by personal values, such as environmentalism and economic development, and by beliefs about the credibility of information sources. In related work, Claes et al. (2025) showed that values moderate the perceived appropriateness of legitimization strategies. We build on these important insights by shifting attention from source credibility and legitimization strategies to validity cues. Through cue-value congruence, we show that values shape which cues evaluators treat as

persuasive, which they discount, and which they resist. Cue effects therefore depend not only on the type of legitimacy a cue signals, but also on whether that cue aligns with the evaluator's personal values. This perspective specifies more precisely how values affect the interpretation of legitimacy-relevant information.

Values are not only general antecedents of legitimacy judgments; they also shape how institutional signals are read, weighted, and inform propriety. In contested issue fields, where several type-based validity cues may be signaled simultaneously, personal values help determine which cues are granted greater interpretive weight and which are discounted or resisted. This contributes to institutional microfoundations by showing how the personal values of evaluators affect the relationship between validity cues and propriety (Demers & Gond, 2020; Kraatz et al., 2020; Risi et al., 2023).

Together, these implications advance a relational account of microlevel legitimacy in which propriety emerges from the interaction between type-based validity cues, cue combinations, and evaluator values.

Practical implications

Our study offers practical implications for organizations, entrepreneurs, and policymakers seeking to gain, maintain, or repair legitimacy in contested or environmentally sensitive domains. Legitimation efforts can be costly, risky, and ineffective if they overlook how evaluators encounter multiple cues jointly and interpret them through deeply held personal values. Organizations should therefore attend not only to whether cues are favorable or unfavorable but also to whether cue combinations align with one another and with the values of relevant audiences. A legitimacy strategy built around economic benefits, regulatory compliance, or public approval may not have the intended effect if these cues conflict with other salient signals or are interpreted through incompatible personal values.

Our findings also have implications for introducing new technologies in regulated and environmentally sensitive domains. New technologies may promise lower environmental risks or greater efficiency, but these claims may not be enough to increase propriety when the underlying practice remains contested. Regulatory settings can help by signaling oversight, accountability, and institutional control. In our study, regulatory setting had a positive effect on propriety and strengthened the effects of public opinion, economic impact, and venture longevity. For organizations, entrepreneurs, and policymakers, this suggests that new technologies are more likely to be seen as appropriate when they are supported by credible regulatory frameworks that address their social and environmental consequences.

More generally, the same combination of validity cues may produce different propriety beliefs across

contexts, depending on how those cues align with local values and broader societal narratives. This is especially important in contested issue fields, where legitimacy is fragmented, polarized, and vulnerable to conflicting interpretations and evolving societal expectations.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

In this study, we used conjoint experiments to reduce social desirability and retrospective biases often associated with self-reported outcomes. Like all experimental methods, however, conjoint designs have limitations. The profiles used in experiments are necessarily abstract and may omit emotional and contextual cues present in real-world settings. Additionally, experimental settings can feel artificial. Despite this, experiments offer several advantages: They provide controlled environments, allow for real-time judgments, and enable causal relationships between stimuli (cues) and outcomes (propriety) (Shepherd et al., 2013). Previous research has shown that responses to hypothetical profiles closely mirror real-world ones (Karren & Barringer, 2002; Riquelme & Rickards, 1992). Conjoint experiments also allow a more rigorous examination of propriety by enabling the simultaneous analysis of propriety beliefs and multiple validity cues. This approach highlights the need to move beyond examining validity cues independently, as their influence on propriety is shaped by the presence of other cues. To the best of our knowledge, this is a novel application of conjoint analysis in microlevel legitimacy research, offering a structured design to examine propriety beliefs under complex cue combinations and their alignment with individual values.

Future research could complement the conjoint method with process-tracing or attention-based techniques, such as eye-tracking or discrete-choice tasks (Brock & Durlauf, 2001; Holsanova, 2014), to investigate how evaluators actively allocate attention to different validity cues. These methods could uncover the underlying cognitive processes that guide cue prioritization and interpretation, thus offering deeper insight into microlegitimacy mechanisms.

We also acknowledge sampling-related limitations. Our sample includes individuals from a variety of professional backgrounds, including some students. While prior studies involving mixed samples have been deemed methodologically valid for investigating cognitive processes (Shepherd et al., 2009), including studies of values and other psychological phenomena (Judge & Bretz, 1992), behavioral phenomena (Cooper & Kagel, 2008), and environmental economics (Kroll et al., 2007), future work could investigate whether similar patterns emerge across more varied audiences of evaluators.

Although our theorizing aimed for generalizability, it is possible that cultural or issue-specific factors influenced

participants' propriety beliefs. For example, environmental concerns may resonate differently across populations or in different sectors (Franzen, 2003). We encourage future research to extend this work to other countries and cultural contexts, including individualistic and collectivist cultures, and to issue areas beyond energy, such as genetically modified food, recreational cannabis, reproductive rights, or even immigration policies. Additionally, while environmentalism was highly relevant in our context of fracking, other values may be more salient elsewhere. For instance, religious values might play a stronger role in legitimacy assessments concerning same-sex marriage or abortion.

Future studies could also integrate broader ideological orientations. Our focus on individual-level values, particularly environmentalism, captures psychologically grounded predispositions. In contrast, ideology reflects more complex, often politically embedded belief systems that could shape how individuals interpret validity cues (Voelkel & Brandt, 2019). Exploring how partisan identity or ideological frameworks influence propriety beliefs may yield additional insights, especially in contested issue fields where legitimacy is deeply politicized.

In relation to communication channels, we intentionally presented the public opinion validity cue in general terms to reflect societal endorsement, independent of medium. However, we recognize that the format and source of communication, for example, traditional news media versus peer-generated content on social media, can shape how such cues are received. Different media sources vary in terms of credibility, emotional impact, and perceived trustworthiness, all of which can influence how strongly a cue informs legitimacy perceptions. Future work could disaggregate media types to examine whether the channel moderates the perceived weight of endorsement cues (Etter et al., 2019; van den Broek et al., 2023).

Finally, future research could examine more directly how intermediate propriety beliefs relate to the gray area between legitimacy and illegitimacy. Siraz et al. (2023) distinguish five macrolevel states of legitimacy, from clear legitimacy through unknown legitimacy to clear illegitimacy. Our findings suggest a microlevel counterpart. Mean propriety falls steadily across the five cue-congruence combinations, and dispersion is tightest when all cues are favorable ($SD = 0.82$) and widest when cues conflict (up to 1.72). This fits the view that cue congruence may produce qualitatively distinct propriety patterns rather than merely different points on a single scale. Conflicting cue combinations, which are intermediate in mean and widely dispersed, may represent a microlevel expression of unknown legitimacy, a macrolevel state comprising both undecided and polarized variants. We flag this as a direction for future research. Examining how such propriety patterns aggregate into broader legitimacy states is therefore a promising direction for research on contested issue fields, where legitimacy remains

debated and where microlevel tensions may scale up into broader patterns of collective disagreement, including polarization.

CONCLUSION

This study examined how individuals form propriety judgments when they encounter multiple validity cues in a contested issue field. The findings show that propriety is not shaped by cue valence alone, but by the weight evaluators assign to different cues, whether multiple cues align or conflict within a cue combination, and the alignment between those cues and evaluators' personal values. By shifting attention from isolated validity cues to cue combinations and cue-value congruence, the study advances a more relational account of microlevel legitimacy. This account is especially relevant for contested issue fields, where legitimacy remains unsettled and evaluators must make judgments under conditions of conflicting normative, regulatory, pragmatic, and cognitive signals.

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The authors do not have any conflicts of interest to disclose.

DATA AVAILABILITY STATEMENT

Data are available on request.

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APPENDIX A: ATTRIBUTES AND LEVELS IN THE CONJOINT STUDY

Base your answers strictly on your personal opinion considering the information provided in each situation and independent of any previous judgments about this activity. Do not refer back to pages already completed. Assume that you are in today's economic and social environment.

Attribute	Option	Description
Public opinion	Favorable	When public opinion is favorable, the use of the new fracking technology is largely consistent with the established values and beliefs in society. In other words, it is generally aligned with long-held ideas or perceptions of what can or should be permissible in the country. At this moment, many people are in favor of using the new technology and media reports are generally positive.
	Unfavorable	When public opinion is unfavorable, the use of the new fracking technology is largely inconsistent with society's established values and beliefs. In other words, it challenges long-held ideas or perceptions of what can or should be permissible in the country. At this moment, many people are against using this new technology and media reports are generally negative.
Economic impact	High	When economic impact is high, the use of this new fracking technology will have considerable positive impact on the country's economic development. According to economic experts and the National Office for Statistics, it will likely create many new jobs and increase energy independence.
	Low	When economic impact is low, the use of this new fracking technology will have minimal positive impact on the country's economic development. According to economic experts and the National Office for Statistics, it will likely create few new jobs and have no impact on energy independence.
Venture longevity	Established venture	When the context involves an established venture, the new fracking technology is developed and used by an established firm already operating in the sector. This firm has a track record in that sector and is considered a respectable member of the business community.
	New venture	When the context involves a new venture, the new fracking technology is developed and used by a firm new to the sector. This firm has no track record in that sector but has so far proven to be a respectable member of the business community.
Regulatory setting	Regulated	When the context is a regulated setting, the use of the new fracking technology is regulated by the government, trade associations, unions, or other regulatory bodies. In other words, regulatory authorities provide formal directions as to what is permissible.
	Unregulated	When the context is an unregulated setting, the use of the new fracking technology is not yet regulated by the government, trade associations, unions, or other regulatory bodies. In other words, regulatory authorities do not provide formal directions as to what is or is not permissible.

APPENDIX B: SAMPLE PROFILES

Situation 1

Public support	Favorable
Economic impact	Low
Regulatory setting	Regulated
Longevity	New venture

In your personal view
Based on the description of the situation above, how do you rate the extent to which the activity should be perceived as legitimate?

Very low	1	2	3	4	5	6	7	Very high
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Situation 2³¹

Regulatory setting	Unregulated
Public support	Unfavorable
Economic impact	Low
Longevity	New venture

In your personal view
Based on the description of the situation above, how do you rate the extent to which the activity should be perceived as legitimate?

Very low	1	2	3	4	5	6	7	Very high
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³Example of a profile from another version out of the four versions of the experiment.

APPENDIX C: OTHER VARIABLES USED IN THE STUDY

Level 2 moderator: Environmentalism (Shepherd et al., 2009)

Please encircle the number which is closest to the statement you most agree with:									
Sometimes some natural resources need to be sacrificed for important developments	1	2	3	4	5	6	7	All precautions must be taken to protect natural resources in our development efforts	
Current patterns of production only require minor adjustments to protect the welfare of the natural environment	1	2	3	4	5	6	7	Current patterns of production must be substantially changed to protect the welfare of the natural environment	
People need only make minor changes to their current consumption out of respect for nature	1	2	3	4	5	6	7	People must make major changes to their current consumption out of respect for nature	
To a certain extent, the natural environment will look after itself to the benefit of future generations	1	2	3	4	5	6	7	It is the obligation of a society to vigorously protect the natural environment for the benefit of future generations	

Control variables:

Variable	Coding
Age	1: 15–24; 2: 25–34; 3: 35–44; 4: 45–54; 5: 55–64; 6: over 65
Gender	0: male; 1: female
Country of residence	0: Spain; 1: France
Educational attainment	Calculated by recoding the level of education into average number of years of schooling (high school: 12 years; bachelor: 16 years; master: 17.5 years; and executives [completed master, DBA, and PhD]: 21.5 years). We then calculated the weighted average of the number of years of education
Direct experience with fracking	1: work, 2: geographic proximity, 3: none, 4: other
Knowledge of fracking	1: not at all knowledgeable; 2: a little knowledgeable; 3: somewhat knowledgeable; 4: very knowledgeable; 5: extremely knowledgeable
Entrepreneurial experience	1: yes; 2: no