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Public Policy and Methodological Myopia: An Austrian Epistemological Critique of the Cochrane Library (2023) Systematic Review and Meta-Analysis

Abstract The 2023 systematic review published by the *Cochrane Library* on the use of physical barriers to contain respiratory viruses became a landmark in the scientific and political debate surrounding non-pharmaceutical interventions during pandemics. This article analyzes the content and implications of the *Cochrane Library* (2023) study through the lens of Austrian epistemology, highlighting the limits of empirical knowledge in complex social phenomena, the risks of scientistic pretension in public policy formulation, and the dangers of state coercion when based on uncertain evidence. It concludes that institutional prudence and respect for individual liberty must prevail in the face of scientific uncertainty.

Keywords: Austrian School; state coercion; pandemic; epistemology

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Políticas públicas e miopia metodológica: uma crítica epistemológica austríaca à revisão sistemática com meta-análise da Cochrane Library (2023)

Resumo A revisão sistemática publicada em 2023 pela *Cochrane Library* sobre o uso de barreiras físicas para conter vírus respiratórios tornou-se um marco no debate científico e político em torno das intervenções não farmacológicas durante pandemias. Este artigo analisa o conteúdo e as implicações do estudo da *Cochrane Library* (2023) à luz da epistemologia austríaca, destacando os limites do conhecimento empírico em fenômenos sociais complexos, os riscos da pretensão cientificista na formulação de políticas públicas e os perigos da coerção estatal quando baseada em evidências incertas. Conclui-se que a prudência institucional e o respeito à liberdade individual devem prevalecer diante da incerteza científica.

Palavras-chave: Escola Austríaca; coerção estatal; pandemia; epistemologia.

Políticas públicas y miopía metodológica: Una crítica epistemológica austríaca a la revisión sistemática con metaanálisis de la Cochrane Library (2023)

Resumen La revisión sistemática publicada en 2023 por la *Cochrane Library* sobre el uso de barreras físicas para contener virus respiratorios se convirtió en un hito en el debate científico y político sobre las intervenciones no farmacológicas durante las pandemias. Este artículo analiza el contenido y las implicaciones del estudio de la *Cochrane Library* (2023) desde la perspectiva de la epistemología austríaca, destacando los límites del conocimiento empírico en fenómenos sociales complejos, los riesgos de la pretensión cientificista en la formulación de políticas públicas y los peligros de la coerción estatal cuando se basa en evidencia incierta. Se concluye que la prudencia institucional y el respeto por la libertad individual deben prevalecer ante la incertidumbre científica.

Palabras clave: Escuela Austríaca; coerción estatal; pandemia; epistemología

INTRODUCTION

Amid the growing politicization of strategies to combat the SARS-CoV-2 pandemic, the 2023 systematic review published by the *Cochrane Library* reignited the debate on the effectiveness of mask use as a public health measure. The study, conducted by Jefferson et al., aimed to investigate – based on high-quality evidence – whether physical interventions, including mask use, are effective in reducing the transmission of respiratory viruses such as influenza, coronaviruses, and other airborne pathogens (Jefferson et al., 2023). As this article also discusses aspects of a second paper from the *Cochrane Library* (2023), special care will be taken throughout the text to clearly indicate which study is being referenced at each point. What may initially seem repetitive is, in fact, a deliberate measure intended to ensure argumentative clarity – particularly in an analysis that seeks conceptual and episte-

mological rigor concerning the limits of scientific evidence and the risks involved in its direct application to coercive public policy.

METHODOLOGY OF THE PRESENT ARTICLE

This article critically analyzes the 2023 *Cochrane Library* study through the epistemological assumptions of the Austrian School of Economics, with emphasis on the limits of scientific knowledge when applied to public policy-making. The methodological approach adopted is that of a critical essay with a theoretical-interpretive basis, grounded in a narrative literature review. This method allows for the integration of different theoretical traditions and the construction of a contextualized critique, as proposed by Booth, Colomb, and Williams (2008, pp. 127-129) and Minayo (2001, p. 43). The goal is not to refute the empirical data presented, but rather to question its normative applicability and the ethical, political, and institutional risks involved in using such evidence as a foundation for restrictive public policies.

METHODOLOGY OF THE COCHRANE LIBRARY SYSTEMATIC REVIEW (2023)

The 2023 systematic review conducted by Jefferson et al. and published by the *Cochrane Library* follows the methodological framework of evidence-based medicine (EBM), which prioritizes randomized controlled trials (RCTs) as the gold standard for evaluating health interventions. As outlined in the *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins et al., 2019, pp. 3-6), the review applied standardized protocols for data collection, risk-of-bias assessment, and statistical synthesis through meta-analysis.

A total of 78 RCTs were included, 11 of which specifically focused on mask use in community settings. The data were structured into three primary comparisons: (1) surgical masks versus no masks; (2) N95/P2 respirators versus surgical masks; and (3) mask use combined with other non-pharmaceutical interventions, such as hand hygiene.

Special attention was given to N95 respirators (or PFF2 in Brazilian classification), which are designed to filter at least 95% of airborne particles ≥ 0.3 μm in diameter, provided they are properly fitted to the face. Unlike surgical masks – which act primarily as unidirectional barriers against droplets – N95 respirators offer bidirectional protection through both mechanical and electrostatic filtration. However, their effectiveness is highly dependent on proper fit, duration of use, and material integrity – factors that were inconsistently controlled across the included studies (CDCP, 2020).

The most controversial conclusion of the review was that mask use "probably makes little or no difference" in preventing influenza-like illness or COVID-19 – like symptoms, whether in community or healthcare settings (Jefferson et al., 2023, p. 2). This finding was based on meta-analyses characterized by low certainty of evidence, primarily due to metho-

dological heterogeneity, variability in adherence, inconsistent protocols, poor quality control of materials, and the presence of multiple potential biases.

It is important to emphasize that the authors themselves caution: "The pooled results do not provide conclusive evidence that mask use significantly reduces respiratory infections, due to the overall low certainty of the evidence" (Jefferson et al., 2023, p. 14). In summary, the review does not claim that masks are inherently ineffective, but rather that the available empirical studies do not offer sufficiently robust evidence to affirm their effectiveness with statistical confidence.

DISCUSSION

The discussion unfolds in five subsections, beginning with an analysis of two expressions that have become ubiquitous in both popular and scientific discourse: "public policy" and "evidence-based medicine" (EBM). These terms are often employed without critical scrutiny or epistemological reflection. Here, they are revisited through the lens of Austrian thought, which emphasizes methodological individualism, the subjectivity of value, and the limits of centralized knowledge. The subsequent subsections explore how these fundamental premises relate to the methodological structure and political implications of the Cochrane Library review.

Public Policy and the Pretense of Knowledge

According to Thomas Dye, "public policy is whatever governments choose to do or not to do" (2013, p. 3), including their strategic omissions. Harold Lasswell (1951, p. 3) encapsulated the essence of political processes in his famous question: "Who gets what, when, and how?", revealing the selective and distributive nature of state decisions. Similarly, Jenkins described public policy as "a set of interrelated decisions taken by political or administrative actors with the purpose of achieving defined goals in specific situations" (1978, p. 15). While useful, such definitions are grounded in the assumption that the state is a rational and benevolent agent – an assumption radically challenged by the Austrian School.

The Austrian School offers a deeper critique. For Ludwig von Mises (1949/2010), state intervention disturbs the spontaneous mechanisms of market coordination, generating distortions and triggering further interventions – until central planning entirely supplants economic freedom. Friedrich A. Hayek (1944/2007) warns that centralized public policies arise from the "fatal conceit" that authorities know better than individuals how their lives should be lived. Murray Rothbard (1973/2009) takes this critique further by portraying the state as a monopolistic force whose policies reflect the interests of privileged groups, not the mythical "common good."

This view is reinforced by the concept of *spontaneous order* – central to the Austrian tradition – according to which the most complex and efficient social structures do not arise from deliberate planning, but from the free interaction among individuals. It is an emergent,

unplanned process that respects the plurality of human ends. The imposition of public policies based on statistical models ignores this dynamic social fabric and replaces dispersed individual knowledge with bureaucratic and homogenizing commands.

Finally, the Austrian School rejects the idea that the state should occupy the center of social order. As Mises (1949/2010) asserts, "men exist independently of public policies; public policies, however, do not exist independently of men." This logical inversion–treating individuals as mere objects of policy – is both an epistemological and ethical error. Before accepting the technocratic narrative of state action as inevitable or benevolent, one must recall that liberty, personal responsibility, and voluntarism are the true foundations of any genuinely human order.

Meta-Analysis as a Tool of Scientific Validation

Within the hierarchy of evidence-based medicine (EBM), meta-analysis is often presented as the highest level of scientific reliability, especially when applied to systematic reviews such as the one conducted by the Cochrane Library (Jefferson et al., 2023). From a methodological perspective, meta-analysis is a statistical technique that seeks to synthesize the results of multiple primary studies on a given topic, offering an aggregated quantitative estimate of the investigated effect (Higgins et al., 2019). This claim to robustness–by combining data from diverse contexts – grants meta-analyses an almost normative status in the formulation of public health policies, often equating them with scientific consensus.

However, as discussed in the previous section, transforming statistical results into normative guidelines entails substantial epistemological and ethical risks. As Ioannidis warned, the results of a meta-analysis may be seriously compromised by factors such as publication bias, methodological heterogeneity among included studies, and subjective choices in selection criteria (Ioannidis, 2005, p. 0708). Furthermore, by relying on historical data and inductive statistical inference, meta-analysis falls into the error of treating knowledge as something mechanically aggregable, ignoring – as Hayek emphasized in *The Use of Knowledge in Society* – that "the knowledge relevant here is not given to anyone in its totality," but consists of "dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess" (Hayek, 1945, pp. 519-520).

This statistical illusion undermines genuine understanding of human action in dynamic and unpredictable contexts. Rather than serving as a tool of critical inquiry, meta-analysis can become a mechanism for the automatic validation of policies already shaped by commercial or governmental interests – as is frequently observed in pharmacology. By conferring an appearance of technical neutrality to decisions with high social impact, it – and EBM itself – risks promoting a false sense of certainty born of methodological ignorance, in which the semblance of statistical rigor replaces praxeological analysis and individual responsibility in the conduct of human action (Higgins et al., 2019; Jefferson et al., 2023).

Epistemological Analysis

The Cochrane Library (2023) study – albeit certainly unintentionally – offers an illustrative case of the limits of science when applied to large-scale human behavior under the dogmatic label of so-called public policy. Austrian epistemology, as developed by Ludwig von Mises and Friedrich A. Hayek, holds that social phenomena are categorically distinct from natural phenomena: they are composed of intentional, context-bound, and subjectively motivated human actions. Therefore, their predictability is, by definition, limited (Hayek, 1945, p. 519; Mises, 1949/2010, p. 67).

Hayek, in criticizing the planners' pretension of knowledge, warned that governing populations based on highly aggregated scientific models constitutes a form of constructivist rationalism doomed to failure (Hayek, 1945, p. 524). The Cochrane Library's difficulty in obtaining conclusive data precisely reflects this limitation: mask usage depends on voluntary compliance, individual comfort, risk perception, institutional trust, and a multitude of other factors that elude experimental control (Jefferson et al., 2023).

The Austrian School thus warns that it is not the absence of data that weakens science-based coercive policies, but rather the illusion that such data could ever be sufficiently comprehensive, reliable, and contextually neutral. Its epistemology, rooted in methodological individualism and radical uncertainty, rejects the idea of aggregate predictability in social phenomena. Mises emphasizes that praxeology – the science of human action – does not aim to predict behavior through statistics, but to logically understand the universal principles of intentional action (Mises, 1949/2010, p. 69). He adopts an *a priori* approach – grounded in the philosophical tradition of Immanuel Kant, for whom "*a priori* knowledge does not derive from experience but makes experience possible" (Kant, 1781/2001, p. 46) – to formulate the axiom that man acts, that is, chooses means to achieve ends. This epistemological framework contrasts sharply with the empirical methods of the natural sciences. Hoppe similarly argues that "praxeological theories cannot be tested in a laboratory like those of the natural sciences, since social data are always imbued with subjective interpretations and motivations" (Hoppe, 2006, p. 60).

This fundamental difference is also reflected in the concept of *spontaneous order* – a central term in Austrian thought – which describes the emergence of complex, stable, and functional social structures through the voluntary interaction of free individuals, without the need for centralized command. Political interventions that ignore this dynamic frequently incur systematic errors in prediction and control.

Attempting to build universal interventions based on uncertain evidence amounts to ignoring the complexity of the real world – and this, as both Hayek and Mises demonstrated, carries high moral and social costs (Hayek, 1945, p. 525; Mises, 1949/2010, p. 885).

Trends, Action, and the Fallacy of Aggregated Data: An Austrian Critique of Coercive Empiricism

Contemporary voices within the Austrian School have deepened this epistemological critique. Matthew McCaffrey succinctly captures the core issue: "Praxeology does not deny data, but it rejects its normative authority. Human action is not extracted from a database; it is lived, situated, unrepeatable, and cannot be modeled in spreadsheets" (McCaffrey, 2022, p. 4). His observation encapsulates a broader concern among Austrian scholars: statistical abstraction – though sometimes informative – can never substitute for interpretative understanding of intentional human action.

Hélio Coutinho Beltrão warns that, under the guise of scientific neutrality, coercive health policies often conceal political agendas. He emphasizes how "scientific evidence" was instrumentalized as a tool of obedience, regulating even the most private aspects of daily life (Beltrão, 2021, p. 10). Fernando D'Andrea, in *Planning and Freedom in Times of Pandemic*, argues that policies based on allegedly objective data often mask normative judgments and centralized decisions behind a technocratic rhetoric (D'Andrea, 2022, p. 35).

Fabio Barbieri reinforces the Austrian emphasis on the theory of subjective value by criticizing the treatment of aggregate metrics as ethical imperatives. His work bridges epistemology and economic analysis, defending the irreplaceability of individual judgment in human affairs (Barbieri, 2022, p. 57). These observations echo older Austrian concerns about the misuse of statistics and the dangers of central planning.

Historically, this line of critique finds precedent in thinkers such as Hans F. Sennholz, a direct student of Mises and longtime professor at Grove City College. In *The Economics of Freedom*, he emphasized that "policies based on statistical averages violate the uniqueness of individuals," and argued that true economic and social understanding must always begin with the acting person – not with collectivist abstractions (Sennholz, 1986, p. 72). His role in preserving and disseminating Misesian thought within the American academic context is indispensable to the continuity of the modern Austrian movement.

Taken together, these perspectives reinforce one of the classical teachings of the Austrian School: in times of crisis, the seduction of statistical governance intensifies –but so do its dangers. The Austrian tradition – from Menger to Mises, Hayek, and their successors – reminds us that liberty, complexity, and moral responsibility cannot be planned, aggregated, or programmed. They must be chosen, lived, and defended against the persistent temptation of technocratic certainty.

CONCLUSION: EPISTEMOLOGICAL CIRCULARITY AND THE ILLUSION OF SCIENTIFIC NEUTRALITY

This critique culminates in what may be cautiously – yet rigorously – described as an epistemological paradox: the Cochrane Library review, while aspiring to question the orthodoxy of public health policies, remains entangled in the very methodological assumptions

it seeks to evaluate. Its findings, based on aggregated statistical data and analyzed through empiricist methods, attempt to assess the effectiveness of mask usage while overlooking the inherently complex and context-dependent nature of human action.

By relying on historical data – what Mises (1949/2010) called "snapshots of the past" –and attempting to extract prescriptive value from them, the Cochrane review engages in a circular reasoning process: it uses empirical tools to judge other empirical tools. This methodological tautology, or *petitio principii*, risks validating its own premises rather than subjecting them to critical scrutiny. The result is a form of analytical mimicry: a critique that appears rigorous but ultimately reaffirms the technocratic logic it might have challenged.

The Austrian School, grounded in praxeology and *a priori* reasoning, offers a decisive alternative. Mises (1949/2010) emphasized that action cannot be understood through aggregates, but must be deduced from purpose and individual choice. Hayek (1945) warned against the "pretense of knowledge" inherent in central planning, and Hoppe (1989/2006) reminded us that theories of human action cannot be empirically falsified like those in the natural sciences. Even Karl Popper (1959/2009), often contrasted with Austrian thought, recognized that genuine science must be falsifiable – a criterion not fulfilled by the circular logic of meta-analyses.

The practical implications are significant. If statistical models built upon flawed assumptions inform policies that restrict individual behavior, such policies inherit the epistemological defects of their foundations. Technocratic decisions, detached from individual context and moral agency, convert political uncertainty into coercive certainty.

As a final insight of this article, we reaffirm: where there is scientific uncertainty, there must be political humility. And when a conflict arises between centralized knowledge and individual action, liberty must remain the rule–not the exception.

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