

DOI: https://doi.org/10.48009/3_iis_2026_127

Dependent but not passive: AI reliance, trust, and decision-making in human-AI interaction

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Abstract

Artificial intelligence (AI) is increasingly embedded in everyday decision-making, raising important questions about how reliance on AI shapes human cognition and behavior. This study presents a secondary analysis of a publicly available dataset (Human Clarity Institute, 2025) examining the relationships between AI Dependence, Trust in AI, Decision Confidence, Cognitive Caution, and Independent Decision-Making using survey data from 201 respondents across six English-speaking countries. Five hypotheses were tested using multiple regression, statistical mediation analysis, and moderation analysis. Contrary to automation bias predictions, higher AI Dependence was associated with greater Cognitive Caution rather than reduced vigilance. Trust in AI was found to partially statistically mediate the association between AI Dependence and Decision Confidence, accounting for approximately 24% of the total effect. AI Dependence was also associated with a modest but significant reduction in Independent Decision-Making. A moderation analysis testing whether Cognitive Caution buffers this reduction produced a non-significant interaction term, though simple slopes analysis revealed the negative association was significant at mean and high caution levels. The findings challenge simplified accounts of automation bias and suggest that reliance and active cognitive engagement can coexist within AI-assisted decision-making.

Keywords: AI Dependence, Trust in AI, Decision Confidence, Cognitive Caution, Human-AI Interaction, Automation Bias

Introduction

The integration of artificial intelligence into everyday decision-making has accelerated substantially over recent years. Individuals now routinely consult AI tools when navigating medical questions, financial choices, professional tasks, and personal decisions. This growing reliance has prompted researchers to ask a fundamental question: whether depending on AI makes people better or worse decision-makers. The answer, based on prior literature, is far from settled.

Two competing perspectives dominate the debate. The first, rooted in automation bias research, holds that reliance on automated systems reduces human vigilance, encouraging individuals to accept system outputs without adequate scrutiny (Horowitz & Kahn, 2024; Klingbeil et al., 2024). On this view, AI dependence represents a cognitive risk — the erosion of critical thinking in favor of effortless compliance. The second perspective, associated with research on human-AI collaboration and augmented cognition, argues that AI can function as a thinking partner that enhances rather than replaces human judgment (Xu et al., 2025). From this standpoint, reliance on AI need not diminish cognitive engagement; it may stimulate it.

The present study contributes empirical evidence to this debate by examining how AI Dependence is associated with Cognitive Caution, Trust in AI, Decision Confidence, and Independent Decision-Making

within a single dataset. Rather than testing isolated bivariate associations, the study uses multiple regression, statistical mediation analysis, and moderation analysis to provide a more complete and methodologically defensible picture of these relationships. A key theoretical contribution is the identification of Trust in AI as a partial statistical mediator connecting AI Dependence to Decision Confidence, and the examination of whether Cognitive Caution moderates the association between AI Dependence and Independent Decision-Making.

The study proceeds as follows. The next section reviews relevant theoretical perspectives and prior empirical work. A dedicated hypothesis development section then formally links each hypothesis to its theoretical framework. The methodology section describes the data, measures, and analytic approach. Results are then presented for each hypothesis, followed by a discussion of findings, implications for research and practice, limitations, and conclusions.

Background and Literature Review

Automation Bias and Algorithm Aversion

A central concern in the human-AI literature is that individuals may over-rely on automated systems, accepting their outputs without sufficient critical evaluation. This tendency, termed automation bias, has been documented across a range of domains including aviation, medicine, and military decision-making (Horowitz & Kahn, 2024). Research suggests that when individuals rely on AI recommendations, they may be less likely to detect system errors or override incorrect outputs, even when conflicting information is available (Klingbeil et al., 2024). Automation bias is theoretically grounded in dual-process accounts of cognition, which predict that effortful deliberation gives way to heuristic reliance when an authoritative external source is present.

The opposite tendency — algorithm aversion — has also received substantial attention. Algorithm aversion describes the inclination to distrust or reject AI recommendations, particularly when individuals perceive a lack of transparency, control, or contextual sensitivity (Mahmud et al., 2024; Schaap et al., 2024). Evidence suggests that responses to AI are not uniform across individuals or contexts, but depend on perceived benefits, domain familiarity, and situational factors (Wang et al., 2024). Together, automation bias and algorithm aversion suggest that AI use involves a dynamic tension between over-reliance and under-reliance, rather than a single stable response pattern.

Trust in AI and Decision Confidence

Trust has emerged as one of the most consistently studied antecedents of AI adoption and continued use. Research indicates that trust in AI is shaped by perceived reliability, usability, transparency, and prior experience with AI systems (Tun et al., 2025). Repeated interaction with AI tends to increase familiarity, which in turn tends to increase trust (Dang & Li, 2025; Ng & Zhang, 2025). Trust has also been identified as a key driver of decision behavior, with higher trust associated with greater confidence in AI-supported decisions (Shamim et al., 2024; Stevens & Stetson, 2023).

The relationship between trust and decision quality is more complex. High trust can support effective AI use when the system is reliable but may be associated with overconfidence and uncritical acceptance when systems err. Research on explainable AI has proposed that transparency can improve trust calibration, but effects have been mixed (Eke & Shuib, 2025; Wang & Ding, 2024). The current study positions trust as a potential statistical mediator between AI Dependence and Decision Confidence, building on prior work identifying trust as a mechanism through which AI use shapes experiential outcomes.

Cognitive Offloading and Human-AI Collaboration

Cognitive offloading theory holds that individuals shift cognitive tasks to external tools when those tools are available, reducing the need for effortful internal processing (Gilbert, 2024). Applied to AI, cognitive

offloading predicts that greater reliance on AI should be associated with reduced independent thinking and decision-making capability over time (Gerlich, 2025). Against these risk-focused perspectives, emerging work on human-AI collaboration suggests a more optimistic account. Research on augmented cognition proposes that AI can serve as a complement to human judgment rather than a substitute for it (Xu et al., 2025). On this view, individuals who use AI actively may continue to question, verify, and reflect on AI outputs, particularly in high-stakes or uncertain situations (Marmolejo-Ramos et al., 2024).

Research Questions and Hypothesis Development

The five hypotheses tested in this study are derived from the theoretical frameworks reviewed above. Each addresses a distinct research question and is grounded in a specific theoretical perspective on human-AI interaction and decision-making.

Research Question 1 (RQ1): Is AI Dependence associated with higher or lower levels of Cognitive Caution?

Automation bias theory predicts that individuals who rely more heavily on automated systems will show reduced critical evaluation and vigilance, as the presence of an authoritative external system reduces motivation for effortful deliberation. Applied to AI-assisted decision-making, this predicts a negative relationship between AI Dependence and Cognitive Caution. This study tests the automation bias prediction as the primary directional hypothesis.

Hypothesis 1 (H1): AI Dependence is negatively associated with Cognitive Caution, such that individuals with higher AI Dependence will report lower levels of reflective and evaluative thinking.

RQ2: Is AI Dependence associated with greater Trust in AI?

Research on familiarity-based trust formation consistently shows that repeated interaction with a system increases trust over time, as individuals develop expectations about reliability based on accumulated experience. Applied to AI, this predicts that individuals who rely more frequently on AI tools will report higher levels of trust, reflecting confidence built through repeated use.

H2: AI Dependence is positively associated with Trust in AI, such that individuals with higher AI Dependence will report greater trust in AI systems.

RQ3: Does Trust in AI statistically mediate the relationship between AI Dependence and Decision Confidence?

Building directly on H2, familiarity-based trust formation suggests that AI Dependence is associated with higher Trust in AI, and that this trust in turn is associated with how confident individuals feel when making AI-assisted decisions. This perspective positions trust as the statistical mechanism through which the association between reliance and confidence operates. This hypothesis is tested using statistical mediation analysis.

H3: Trust in AI statistically mediates the association between AI Dependence and Decision Confidence, such that the association is at least partially explained by higher levels of Trust in AI.

RQ4: Is AI Dependence associated with reduced Independent Decision-Making?

Cognitive offloading theory holds that individuals shift cognitive tasks to external tools when those tools are available and perceived as reliable, reducing the need for effortful independent processing over time. Applied to AI, this predicts that greater reliance on AI for decision support will be associated with a reduced tendency to make decisions independently.

H4: AI Dependence is negatively associated with Independent Decision-Making, such that individuals with higher AI Dependence will report a reduced tendency to make decisions without AI assistance.

RQ5: Does Cognitive Caution moderate the negative relationship between AI Dependence and Independent Decision-Making?

Research on human-AI collaboration and reflective engagement suggests that individuals who approach AI outputs with greater reflective scrutiny may be better positioned to preserve independent judgment even as their reliance increases. On this view, Cognitive Caution functions as a protective factor, buffering the erosion of independence associated with AI Dependence.

H5: Cognitive Caution moderates the negative association between AI Dependence and Independent Decision-Making, such that the negative association is weaker among individuals with higher Cognitive Caution.

Presentation of the Main Contribution of the Paper

This paper makes several contributions to research on human-AI interaction and decision-making. The primary contribution is empirical: the study provides evidence that AI dependence and cognitive engagement are not mutually exclusive. Higher AI reliance was associated with greater cognitive caution even after controlling for demographic variables, directly challenging the automation bias prediction of reduced vigilance.

The second contribution is methodological. By replacing bivariate regression models with multiple regression, statistical mediation analysis, and moderation analysis, the study addresses confounding concerns and provides a more defensible analytical foundation. The mediation finding — that Trust in AI partially statistically mediates the association between AI Dependence and Decision Confidence — specifies a statistical mechanism rather than merely documenting an association, which is a theoretically meaningful advance.

The study also surfaces an important trade-off. While AI Dependence was associated with positive outcomes including increased caution, trust, and confidence, it was simultaneously associated with reduced independent decision-making. This dual finding — enabling and constraining effects coexisting — offers a nuanced account of AI use that neither fully endorses the automation bias narrative nor dismisses its concerns.

Methodology

Data and Sample

This study constitutes a secondary analysis of the publicly available AI Decision Dependence & Cognitive Caution 2025 dataset (Human Clarity Institute, 2025, version v2.2, [DOI: 10.5281/zenodo.17772518](https://doi.org/10.5281/zenodo.17772518)). The dataset was collected by the Human Clarity Institute via Prolific, a widely used academic research recruitment platform, in November 2025. The final analytic sample consisted of $N = 201$ respondents drawn from six English-speaking countries: the United Kingdom, United States, Canada, Australia, New Zealand, and Ireland. Participants were required to be aged 18 or older and provided explicit informed consent for anonymous open publication. The dataset is archived on Zenodo, Figshare, and GitHub under a Creative Commons CC-BY-4.0 license. The Human Clarity Institute has published a separate descriptive report drawing on this and three other datasets. The present study differs from that report in applying inferential statistical analysis to formally test theoretically grounded hypotheses — none of these analytical approaches appear in the HCI descriptive report, and the findings are original to this manuscript.

Measures

AI Dependence was operationalized using three items capturing frequency of AI tool use, frequency of reliance on AI for decision support, and extent of reliance on AI when decisions are difficult. These items

were averaged to form a composite score consistent with operationalization of AI reliance in prior research. Cognitive Caution was measured using twelve items capturing reflective and evaluative behavior including checking decisions, second-guessing AI outputs, reflecting on AI influence, and monitoring reasoning processes. Items align conceptually with established measures of cognitive reflection and deliberative thinking. Internal consistency for both composites was assessed using Cronbach's alpha.

Trust in AI was measured using a single item assessing the extent to which participants believe AI acts in their best interests. Single-item trust measures have been used in prior human-AI interaction research where brevity is required, though their reliability is limited compared to validated multi-item scales such as the Trust in Automation scale. Decision Confidence was measured using a single item capturing self-reported confidence when making AI-assisted decisions. Independent Decision-Making was measured using a single item capturing willingness to make decisions without AI assistance. The use of single items for Trust in AI and Decision Confidence is acknowledged as a limitation with specific implications for the mediation analysis, discussed in the Limitations section. Control variables included age group, education level, and daily hours spent online.

Analytic Strategy

Five hypotheses were tested using OLS multiple regression with theoretically justified controls. A statistical mediation analysis with 5,000 bootstrapped simulations tested whether Trust in AI statistically mediates the AI Dependence — Decision Confidence association. A moderation analysis with mean-centered variables tested whether Cognitive Caution buffers the negative association between AI Dependence and Independent Decision-Making. Simple slopes analysis examined the conditional slopes at low, mean, and high levels of Cognitive Caution. A robustness check for H2 excluded Cognitive Caution to address potential post-treatment bias. All analyses were conducted in R.

Hypotheses	Relationships	Method
H1	AI Dependence → Cognitive Caution	Multiple regression
H2	AI Dependence → Trust in AI	Multiple regression + robustness check
H3	Trust statistically mediates AI Dependence → Confidence	Statistical mediation + bootstrapping (5,000 sims)
H4	AI Dependence → Independent Decision-Making	Parsimonious regression
H5	Cognitive Caution moderates H4	Moderation regression + simple slopes

Results and Findings

Preliminary Analysis

Prior to hypothesis testing, descriptive statistics and a bivariate correlation matrix were examined. Cronbach's alpha for the Cognitive Caution composite was acceptable, supporting the reliability of the scale. Variance inflation factor (VIF) values were within acceptable ranges across all regression models, indicating multicollinearity was not a material concern. Residual diagnostics confirmed approximate normality across models.

H1: AI Dependence and Cognitive Caution

H1 tests whether individuals who rely more heavily on AI show lower levels of Cognitive Caution. The independent variable is AI Dependence. The dependent variable is Cognitive Caution. Controls included age group, education level, and daily hours online. A significant negative coefficient for AI Dependence would support H1.

The overall model was significant ($F(12, 188) = 31.92, p < .001, R^2 = .67$). AI Dependence was a significant positive predictor of Cognitive Caution ($\beta = 0.73, p < .001$). Contrary to expectations, higher AI Dependence was associated with greater, not lower, Cognitive Caution. H1 was not supported in its original direction.

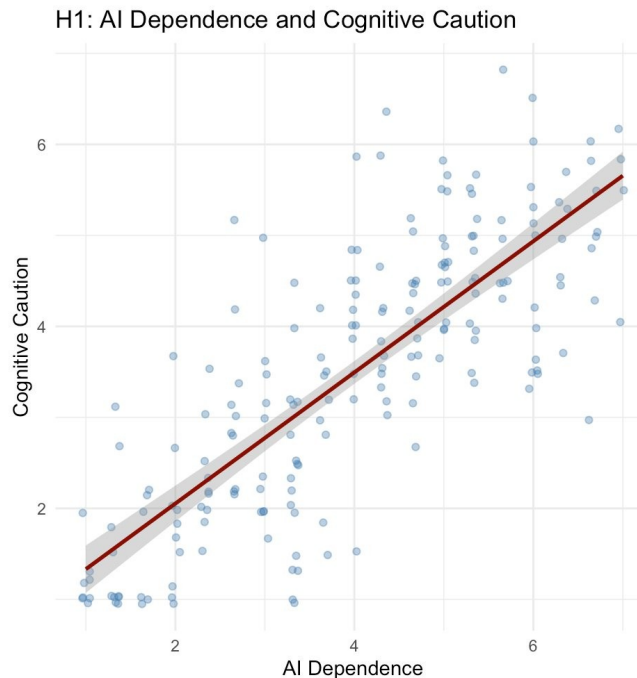


Figure 1. Association between AI Dependence and Cognitive Caution (N = 201). Shaded region represents 95% confidence interval.

H2: AI Dependence and Trust in AI

H2 tests whether individuals who rely more on AI report greater trust in AI systems. The independent variable is AI Dependence. The dependent variable is Trust in AI. Controls included age group, daily hours online, and Cognitive Caution. A robustness check excluding Cognitive Caution was also conducted to address potential post-treatment bias.

The overall model was significant ($F(8, 192) = 24.21, p < .001, R^2 = .50$). AI Dependence was a significant positive predictor of Trust in AI ($\beta = 0.39, p < .001$). Cognitive Caution was also a significant positive predictor ($\beta = 0.43, p < .001$). The robustness check confirmed AI Dependence remained significant when Cognitive Caution was excluded ($\beta = 0.70, p < .001, R^2 = .46$), confirming H2 is not materially affected by the inclusion or exclusion of Cognitive Caution. H2 was supported.

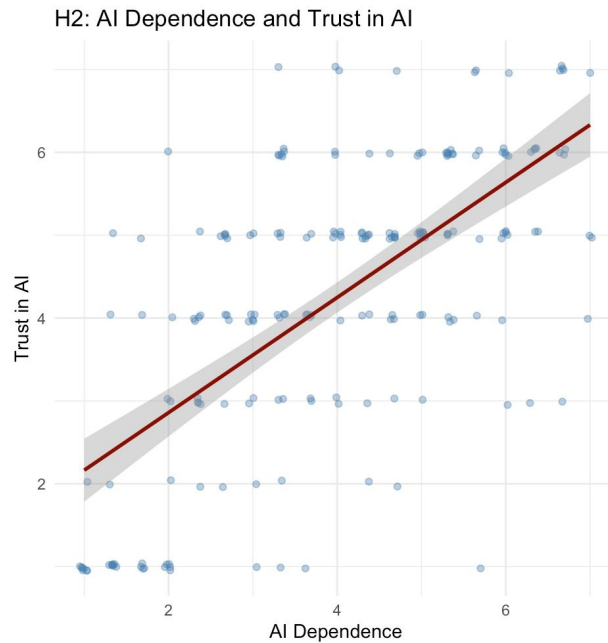


Figure 2. Association between AI Dependence and Trust in AI (N = 201). Shaded region represents 95% confidence interval.

H3: Trust in AI as Statistical Mediator

H3 tests whether Trust in AI statistically mediates the association between AI Dependence and Decision Confidence. The independent variable is AI Dependence, the statistical mediator is Trust in AI, and the dependent variable is Decision Confidence. It should be noted that the cross-sectional design means the mediation model reflects a statistical association rather than a confirmed causal process — the temporal ordering assumed by the model cannot be verified from data collected at a single point in time.

The indirect effect through Trust in AI was significant (ACME = 0.24, 95% CI [0.15, 0.33], $p < .001$), with the confidence interval not including zero confirming statistical mediation. In practical terms, for every one-unit increase in AI Dependence, Decision Confidence is associated with a 0.24-unit increase via the trust pathway alone, expressed on a seven-point scale. The direct effect — the association remaining after Trust is accounted for — was also significant (ADE = 0.77, 95% CI [0.66, 0.89], $p < .001$), confirming partial rather than full statistical mediation. The total association was significant (Total Effect = 1.01, $p < .001$). Trust in AI accounted for approximately 24% of this total association (Proportion Mediated = 0.24, 95% CI [0.14, 0.33], $p < .001$). H3 was supported.

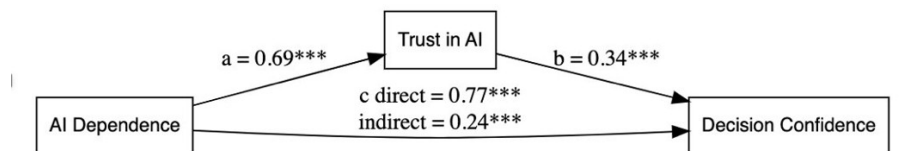


Figure 3. Statistical mediation model showing Trust in AI as a partial statistical mediator of the association between AI Dependence and Decision Confidence. Coefficients are unstandardized. The model reflects statistical associations based on cross-sectional data and does not establish causal directionality. * $p < .001$.**



Figure 4. Association between Trust in AI and Decision Confidence (N = 201). Shaded region represents 95% confidence interval.

H4: AI Dependence and Independent Decision-Making

H4 tests whether AI Dependence is negatively associated with Independent Decision-Making. A parsimonious single-predictor model was adopted following reviewer feedback that the original multi-predictor model's non-significant omnibus F test was inconsistent with claiming hypothesis support. This revision is appropriate given all control variables in the original model were non-significant, inflating model complexity without theoretical justification at N = 201.

The parsimonious model was significant ($F(1, 199) = 7.06, p = .009, R^2 = .03$). AI Dependence was a significant negative predictor of Independent Decision-Making ($\beta = -0.21, p < .01$), indicating that greater AI Dependence is associated with a modest reduction in independent decision-making. H4 was supported.

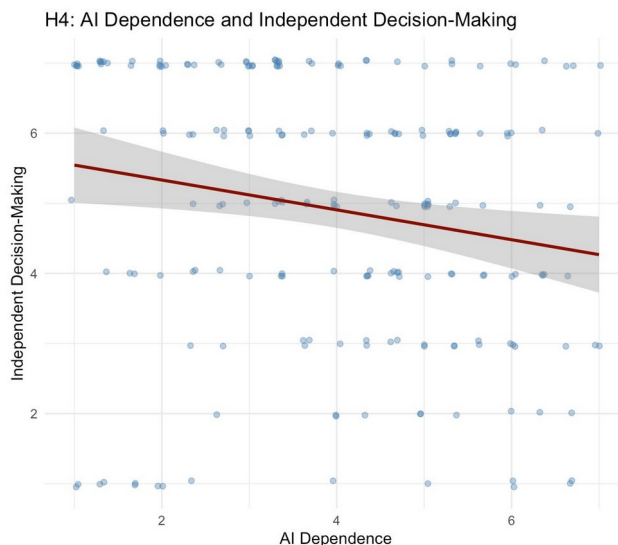


Figure 5. Association between AI Dependence and Independent Decision-Making (N = 201). Shaded region represents 95% confidence interval.

H5: Moderation by Cognitive Caution

H5 tests whether Cognitive Caution moderates the negative association between AI Dependence and Independent Decision-Making. Both variables were mean-centered prior to analysis. Simple slopes analysis examined the slope of AI Dependence on independence at low, mean, and high levels of Cognitive Caution.

The interaction term was not significant ($\beta = -0.04$, $p = .533$). Simple slopes analysis revealed the slope of AI Dependence on independence was not significant at low Cognitive Caution ($\beta = -0.22$, $p = .169$), but was significant at mean ($\beta = -0.28$, $p = .044$) and high caution ($\beta = -0.34$, $p = .049$). These results do not support the predicted buffering effect — the negative association is more pronounced at higher caution levels, contrary to H5. One possible interpretation is that more reflective individuals are more aware of and more willing to acknowledge reduced independence. The figure is retained as an illustration of conditional slopes but should be interpreted with caution given the non-significant interaction term. H5 was not supported.

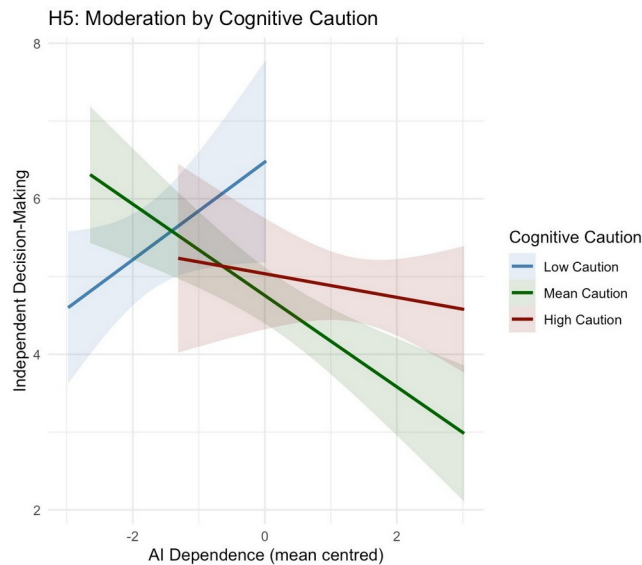


Figure 6. Conditional slopes showing the association between AI Dependence and Independent Decision-Making at low, mean, and high levels of Cognitive Caution. The interaction term was not statistically significant ($\beta = -0.04$, $p = .533$).

Table 2. Summary of Hypothesis Tests: Relationships, Key Results, and Outcomes

Hypothesis	Relationship	Result	Supported?
H1	AI Dependence → Cognitive Caution	$\beta = 0.73$, $p < .001$, $R^2 = .67$	No (opposite direction)
H2	AI Dependence → Trust in AI	$\beta = 0.39$, $p < .001$, $R^2 = .50$	Yes
H3	Trust statistically mediates → Confidence	ACME = 0.24, 95% CI [0.15, 0.33]	Yes (partial)
H4	AI Dependence → Independence	$\beta = -0.21$, $p < .01$, $R^2 = .03$	Yes
H5	Caution moderates H4	$\beta = -0.04$, $p = .533$	No

Discussion of Findings

This study tested five hypotheses examining the associations between AI Dependence, Cognitive Caution, Trust in AI, Decision Confidence, and Independent Decision-Making. H1 was not supported in its predicted direction — contrary to automation bias predictions, AI Dependence was positively rather than negatively associated with Cognitive Caution. H2 was supported, with AI Dependence significantly predicting Trust in AI after controlling for demographic variables. H3 was supported, with Trust in AI confirmed as a partial statistical mediator accounting for approximately 24% of the total association between AI Dependence and Decision Confidence. H4 was supported using a parsimonious model, with AI Dependence significantly and negatively associated with Independent Decision-Making. H5 was not supported — the interaction term was non-significant, and simple slopes analysis revealed the negative association was more pronounced at higher caution levels, contrary to the predicted buffering effect.

Taken together, the results suggest that AI-assisted decision-making is more active than automation bias frameworks predict. Rather than showing reduced vigilance, higher AI Dependence was associated with greater Cognitive Caution. One interpretation is that frequent AI users have developed a habit of evaluating AI outputs based on prior experience with system imperfections. Another is that reflective individuals selectively seek AI input as a supplementary perspective. The cross-sectional design cannot resolve this directionality, and both mechanisms are plausible.

The statistical mediation finding is the most theoretically important result. Trust in AI partially explains why AI Dependence is associated with greater Decision Confidence — reliance is associated with higher trust, which is in turn associated with greater confidence. This is consistent with familiarity-based trust formation in the technology acceptance literature. The partial nature of the statistical mediation, with trust accounting for 24% of the total association, indicates that other pathways operate in parallel, including direct cognitive reassurance and reduced decision uncertainty.

The negative association between AI Dependence and Independent Decision-Making introduces an important tension. Despite the positive associations with caution, trust, and confidence, greater reliance is also associated with reduced independence. The small effect size and low R^2 suggest this outcome is shaped by many factors not captured here. A ceiling effect in the independence variable, with many respondents reporting high independence regardless of AI use, may be suppressing the association for a subset of the sample.

The simple slopes analysis produced an unexpected pattern. The negative association between AI Dependence and independence was non-significant at low caution but significant at mean and high caution levels, with the effect growing stronger rather than weaker as caution increases. This is opposite to the predicted buffering effect. One possible interpretation is that cognitively cautious individuals are more self-aware and more likely to acknowledge reduced independence, while less reflective individuals may not recognize or report this shift. The non-significant interaction term means this cannot be treated as a confirmed moderation effect, and the finding is best treated as a direction for future research.

Implications for Research and Practice

For researchers, the most immediate implication concerns theoretical framing. The automation bias framework does not fully capture the active evaluative engagement documented here. Future theoretical work should develop frameworks accommodating simultaneous reliance and vigilance. Dual-process perspectives may offer a productive foundation for such integration.

The statistical mediation finding suggests that trust should be positioned as a dynamic statistical mechanism in models of AI-assisted decision-making, not merely a static attitude. Longitudinal studies tracking trust development as individuals accumulate AI experience would provide more precise evidence than cross-

sectional designs. The moderation finding and the unexpected simple slopes pattern point to a need for adequately powered studies, as interaction effects are typically smaller than main effects and require greater statistical power to confirm.

Although the current sample does not include domain-specific professional populations, the findings tentatively suggest that system designs supporting transparency, explainability, and iterative dialogue may reinforce the evaluative engagement that users bring to AI-assisted decisions. Pending replication with professional samples, these findings raise the possibility that designs minimizing friction at the cost of discouraging verification may undermine this engagement.

If the modest negative association between AI Dependence and Independent Decision-Making observed in this general adult sample were to replicate in domain-specific professional contexts, it would raise important concerns for organizations integrating AI into high-stakes workflows such as healthcare, legal judgment, and financial advice. This remains an empirical question the current study cannot answer directly, given that the sample was not drawn from professional populations.

Limitations

This study is based on a secondary analysis of a publicly available dataset collected by the Human Clarity Institute. The authors were not involved in the original data collection, instrument design, or sampling decisions. The dataset's own documentation explicitly notes that it is descriptive and exploratory and does not support causal inference.

The cross-sectional design means causal direction cannot be determined. The statistical mediation model in H3 assumes a temporal ordering that cannot be verified from data collected at a single point in time. The indirect effect should be interpreted as a statistical association rather than a causal process.

Trust in AI and Decision Confidence were each measured using single items. Single-item measures are susceptible to measurement error and cannot capture the multidimensional nature of psychological constructs. For the mediation analysis, measurement error in the mediator attenuates indirect effect estimates, meaning the true indirect effect may be larger than reported. The H3 finding should be interpreted conservatively as evidence of a statistically detectable association through the trust pathway. Replication using validated multi-item scales is strongly recommended.

Respondents were drawn from six English-speaking countries — the United Kingdom, United States, Canada, Australia, New Zealand, and Ireland — recruited via Prolific using a non-probability convenience sampling approach. The sample is not nationally representative of any of these countries, nor of the broader global population of AI users. Attitudes toward AI and decision-making norms vary across cultural contexts, and findings should not be generalized beyond English-speaking, digitally engaged adults.

The study examines AI use in general terms rather than in relation to specific systems, tasks, or decision domains. Treating AI use as a unidimensional construct obscures considerable heterogeneity across tool types and contexts. All measures are self-reported, introducing the possibility of social desirability bias and recall inaccuracy.

Conclusions

This study examined how AI Dependence is associated with cognitive, affective, and behavioral dimensions of decision-making. The findings challenge the assumption that reliance on AI necessarily reduces cognitive engagement. Greater AI Dependence was associated with higher Cognitive Caution and Trust, and Trust in AI was confirmed as a partial statistical mediator connecting AI Dependence to Decision

Confidence. At the same time, AI Dependence was associated with a modest reduction in Independent Decision-Making, highlighting a genuine trade-off that warrants continued attention.

The results suggest that individuals incorporate AI into their decision-making in ways that are simultaneously enabling and constraining. Reliance and evaluation coexist rather than trade off — at least at the levels of AI use captured in this sample. Whether this balance is maintained as AI becomes more deeply integrated into everyday judgment, and whether individual differences in cognitive caution shape who retains independence as reliance increases, are important questions for future research.

For researchers and practitioners, the paper reinforces the value of examining multiple dimensions of AI-assisted decision-making simultaneously. Single-outcome studies risk missing the compensatory and trade-off dynamics that characterize how people engage with AI. A more complete understanding of these dynamics is a prerequisite for designing AI systems and organizational practices that support both effective AI use and the preservation of human judgment.

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