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Information search, coherence effects, and their interplay in legal decision making

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ABSTRACT

Legal judgments require one to make sense of a complex set of typically contradicting pieces of information that can easily be interpreted in a biased manner. This systematic judgment bias can be caused by biased information search (i.e., confirmatory search) as well as biased information processing (i.e., coherence effects) in which the interpretation of information is changed to fit the emerging favored option. In four studies, we investigate the complex interplay between both kinds of influences. Participants completed three legal cases in which they could freely search for information. We manipulated between subjects whether systematic search was possible or not and measured the assessment of each selected piece of information. In line with previous studies, we observe strong coherence effects in each study, in that the evidence interpretation strongly depended on the current tendency towards acquittal or conviction. In contrast to our expectation, however, people searched for information that was contrary to their current belief in the given case (i.e., disconfirmatory information search). We also observed a trend towards an interaction between both factors, in that coherence effects were slightly stronger for neutral and pro-guilty evidence when systematic information search was possible. Our results underline an unconscious striving for coherence when making complex judgments that is not easily corrected.

1. Introduction

Maximizing coherence is a natural and inevitable striving in complex decision making, including in the context of legal judgments. The final judgment – whether a defendant is to be convicted or acquitted – requires the integration of an often contradicting or at least complex set of information into a single, relatively coherent interpretation of the case. Coherence can be maximized through several means. First, information can be searched for in a manner that it is either in line with (confirmatory) or opposed to the current belief (disconfirmatory information search). Second, new information (e.g., pieces of evidence in a legal case) can be evaluated in a biased manner (e.g., devaluing or ignoring the information) dependent on one's tendency towards conviction or acquittal (i.e., coherence effects). The aim of our study is to investigate how these coherence-structuring mechanisms influence each other in legal judgments.

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1.1. Coherence effects

Theoretical grounds of coherence effects, also known as information distortion (e.g., Carlson & Russo, 2001; Russo, Medvec, & Meloy, 1996) and biased assimilation (Schmittat & Englich, 2016), emphasize its unconscious nature (Simon, 2004) and are in line with the theory of explanatory coherence (Thagard, 1989; 2000; 2003). Instead of selectively exposing oneself to specific information (i.e., information search), the mental representation of the decision task shifts towards a state of internal coherence (Glöckner & Betsch, 2008). By devaluating the information that is in dissent with the current belief and accepting or even promoting information that speaks for the favored option, one maximizes coherence without losing the appearance of rationality. Importantly, both mechanisms of generating coherence (i.e., favoring the leading alternative and disfavoring the trailing option) were similarly shown (Blanchard, Carlson, & Meloy, 2014). Coherence effects can be modeled using Parallel-Constraint-Satisfaction (PCS) models (Glöckner & Betsch, 2008; Holyoak & Simon, 1999; Holyoak & Thagard, 1989), which consist of a bidirectional spreading-activation network. Information is evaluated based on prior assessments; and the incoming information modifies the overall assessment of the case (Holyoak & Simon, 1999; Simon, Snow, & Read, 2004). In the context of legal information processing for example, new evidence will unconsciously be evaluated based on the prior belief regarding whether the defendant is guilty or innocent. The overall (posterior) belief, however, will also be shaped by incoming evidence. In consequence, there is no objective evaluation of the probative value, but rather a process of bidirectional, holistic story formation and sense making (Pennington & Hastie, 1991). Coherence effects are a highly robust phenomenon (e.g., Carlson & Russo, 2001; Glöckner & Engel, 2013; Holyoak & Simon, 1999; Simon, Stenstrom, & Read, 2015) also beyond the legal context (e.g., Bond, Carlson, Meloy, Russo, & Tanner, 2007; DeKay, Patiño-Echeverri, & Fischbeck, 2009; DeKay, 2015; Glöckner, Betsch, & Schindler, 2010; Miller, DeKay, Stone, & Sorenson, 2013; Russo, Meloy, & Medvec, 1998). A substantial amount of research was conducted to investigate the relation between coherence effects and order effects such as when manipulating the order of evidence presented in legal decision making (e.g., Engel, Timme, & Glöckner, 2020; Kerstholt & Jackson, 1998; Pennington & Hastie, 1988) and the order of product information in consumer choice (e.g., Carlson, Meloy, & Russo, 2006; Russo, Carlson, & Meloy, 2006). Coherence based models predict that information presented first will exert greater influence on the judgment than information presented thereafter (i.e., a primacy effect). This is because the information displayed first is assumed to elicit and anchor an initial belief to which the subsequently presented information is assimilated (see Asch, 1946). However, empirical evidence is mixed and also demonstrates recency effects in legal decision making (e.g., Engel et al., 2020).

In contrast to manipulating the order of information, the research presented here allows participants to either systematically search for information (i.e., knowingly deciding whether to take a look at confirmatory or disconfirmatory evidence) or look up information when no prior information on the valence of the evidence is given, thus disabling systematic search.

1.2. Information search

The theoretical background of confirmatory information search has its roots in cognitive dissonance theory (Festinger, 1957; Frey, 1986). As applied to the legal context, two pieces of evidence are dissonant if one supports the defendant's innocence (e.g., presenting an alibi), whereas the other speaks for his or her guilt (e.g., strong motive to commit the crime). As dissonance is unpleasant for the judging individual (Elliot & Devine, 1994), "[...] people reduce the intensity of dissonance by changing elements so that they become less dissonant with each other, or they reduce the proportion of dissonant links by searching for new information that is not dissonant with other elements" (Brownstein, 2003, p. 546). Stated differently, systematically (i.e., deliberately and consciously) searching for confirmatory information can help to reduce dissonance and thereby maximize coherence.

Additional research examined factors that enhance confirmatory information search – for example, a strong commitment to a position or the irreversibility of a decision (for an overview, see Frey, 1986). More recent research identified additional situational variables that promote confirmatory information search such as limiting the amount of information available (Fischer, Jonas, Frey, & Schulz-Hardt, 2005) and manipulating the inclusion of additional pieces of information as either sequential (i.e., consecutive) or simultaneous (Jonas, Schulz-Hardt, Frey, & Thelen, 2001).

Comparatively few researchers observed the absence of confirmatory information search (e.g., Carlson & Guha, 2011; Chaxel, Russo, & Kerimi, 2013). Identifying a selective exposure to confirmatory information particularly due to a post-decisional defense goal (see e.g., Fischer & Greitemeyer, 2010), a predecisional accuracy motive was shown to be the underlying reason for non-confirmatory information search (Hart et al., 2009). Relatedly, Carlson and Guha (2011) discuss the influence of an increased strength of preference leading to post-decisional confirmatory search in contrast to predecisional search where the preference towards one of the options is still emerging. Notably, though, also a predecisional accuracy motive does not substantially reduce information distortion (Russo, Meloy, & Wilks, 2000).

1.3. Aim of present research

Rather than focusing on only one coherence mechanism, we contribute to the literature by analyzing the interplay between information search and coherence effects – that is, whether the option to systematically search for information influences subsequent evaluation. Despite their different ways of functioning, the two coherence-structuring mechanisms of (confirmatory) information search and evaluation are not mutually exclusive. To the best of our knowledge, our studies provide the unique investigation of the predecisional interplay between information search and biased evaluation (i.e., coherence effects) in the legal context. Although studies in the consumer context investigated both, information search and its biased evaluation (e.g., Chaxel et al., 2013) and even incorporated them into a single index of confirmatory information processing (Fischer, Greitemeyer, & Frey, 2008), the *interplay*

between information search and evaluation has not yet been examined. To do so, we relied on a paradigm used to investigate the stepwise evolution of preference (“SEP-method”, see Meloy & Russo, 2004). Methodologically, we contribute to the SEP-method by (1) extending it to the context of legal judgments and (2) including an optional stopping mechanism (see Russo et al., 1996) that allows participants to terminate their information search when the (subjectively perceived) standard of proof is met.

In comparison to classic work assessing coherence effects as a difference measure between pre- and post-ratings of evidence material (see e.g., Simon, 2004, pp. 524-526, for a detailed description), we assess information search and coherence effects as follows: Participants judged three mock legal cases of differing severity by rating the defendant’s probability of guilt and making a final verdict for conviction or acquittal. Each case consisted of 12 pieces of evidence and allowed for unlimited, non-costly information search. After reading a neutral description of the case, the evidence material was displayed in a circular format according to the respective condition (see Fig. 1). If a piece of evidence was selected, it was shown on an extra slide in full length. Participants rated each individual piece of evidence in terms of how strongly it spoke for or against the defendant’s guilt. Participants then rated how likely it was that the defendant had committed the crime. This served as current overall assessment of the case.

To operationalize information search, we used the overall assessment of the case to predict the valence of the subsequently selected evidence (i.e., regressing the valence of the selected evidence to the point “ t ” on the current assessment of the case at the point “ $t-1$ ”). In turn, disconfirmatory information search would be characterized by choosing a piece of evidence that contradicts the current assessment of the case (e.g., choosing pro-guilty evidence when assuming the defendant is innocent).

Coherence effects are similarly based on the current overall assessment of the case at the point $t-1$. However, it is now used to predict the assessment of the subsequently selected piece of evidence. From a rationality perspective, the current belief regarding probable guilt should have no influence on the evaluation of newly presented evidence and how strongly it speaks for the defendant’s guilt or innocence. Coherence-based models, however, predict that disconfirmatory evidence is devalued, whereas confirmatory evidence is disproportionately more influential to confirm the current belief. As such, we expect a dependency between the current overall assessment of the case at the point $t-1$ and the evaluation of a newly presented evidence to the point t : The stronger the tendency to convict at the point $t-1$, the higher the assessed probability of guilt of the subsequently selected evidence.

Regarding the interplay of information search and coherence shifts, we expect both mechanisms to interact, in that a confirmatory information search can reduce the necessity for biased evaluation. Stated differently, when searching in line with one’s current leaning, there is no need to devalue disconfirmatory information – simply because its presentation is excluded in the first place. In turn, we hypothesize stronger coherence effects when the opportunity for a systematic search is inhibited (i.e., in the control condition). In this case, only biased evaluation can generate coherence.

Taken together, we argue that the need for coherence (e.g., Russo, Carlson, Meloy, & Yong, 2008) is reflected in both confirmatory information search (H1) and coherence effects (H2). Furthermore, we expect both mechanisms to interact in that stronger coherence effects are observed when the opportunity of a systematic information search is lacking (H3).

We therefore derive the following hypotheses¹:

H1: We expect a confirmatory information search: The stronger the tendency to convict at the point $t-1$, the more likely the evidence subsequently selected at time “ t ” is chosen that supports the defendant’s guilt.

H2: We expect coherence effects in the evaluation of evidence: The current assessment of the case at time $t-1$ predicts the probability of guilt for a selected piece of evidence at time “ t ”.

H3: We expect an interplay between both coherence maximizing mechanisms: Coherence effects are larger when there is no opportunity for a systematic information search.

2. Method

Participants and Design. In total, $N = 315$ participants (163 female) completed a set of four studies (for detailed sample characteristics, see Table 1).² The first study was conducted at the Decision Lab of the Max Planck Institute for Research on Collective Goods in Bonn, Germany. Data for the second and third studies was collected at the University of Göttingen, Germany. The fourth study was conducted online via an online panel provider. Participants of the lab studies were invited via ORSEE (Greiner, 2004). All studies were programmed using the Bonn eXperimental System (BoXS; Seithe, Morina, & Glöckner, 2016). Since we ran the studies before routinely conducting a-priori power analyses, we analyzed by means of a sensitivity analysis in G-Power (Faul, Erdfelder, Buchner, & Lang, 2009) the minimal effect size that our sample size allows us to detect. Given our interest in the interplay between coherence effects and information search, we include three predictors in the sensitivity analysis (i.e., current overall assessment, information search conditions, and their interaction term) for a linear multiple regression analysis setting the required power conservatively at 0.90 and the alpha level conventionally at 0.05. Results reveal that a small effect size of $f^2 = 0.046$ can be detected with our sample size.³

We manipulated between-subject whether a systematic information search was possible: In the control condition ($n = 130$), the

¹ Note that studies were conducted before we committed to preregistration.

² We excluded $n = 10$ participants in studies 1 to 3 due to a lack of language abilities. Furthermore, 6 participants were excluded from analysis in the online study 4 due to insufficient conscientiousness in the handling of the studies (making the final verdict without regarding any of the evidence material). To include them would unsystematically change the results in the single studies but does not change the results of the overall analysis.

³ Note we are likely able to detect an even smaller effect size since we have multiple observations per participant (i.e., each participant decided three legal cases and was not restricted regarding the searched and evaluated number of evidence per case) that is not captured in this G-Power analysis.

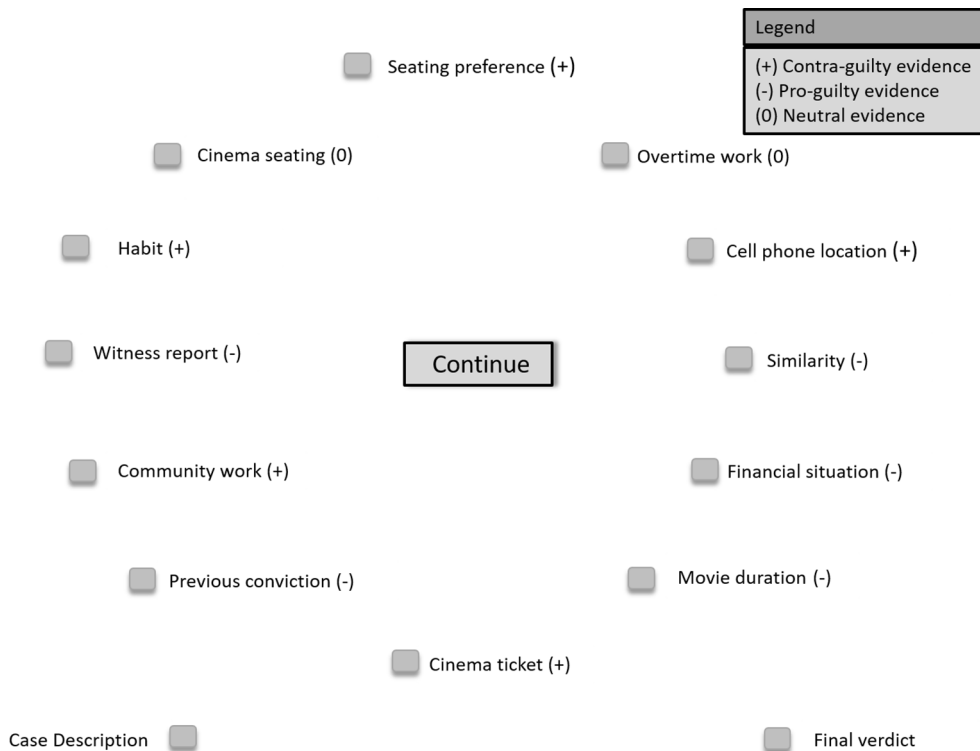


Fig. 1. Circular display of evidence. To analyze information search, the pieces of evidence were circularly arranged around a “continue button” that participants clicked on after selecting one piece of evidence to view its content. In the conditions that enabled a systematic information search, the colored legend describes the valence of the evidence (pro-guilty / contra-guilty or neutral evidence).

Table 1
Overview of sample characteristics.

	Study 1	Study 2	Study 3	Study 4
Sample size	29	102	119	65
Female in %	55.17	62.75	52.94	35.09
Age	$M = 23.52 (SD = 4.60)$	$M = 24.18 (SD = 4.18)$	$M = 24.60 (SD = 5.99)$	$M = 53.33 (SD = 15.37)$
Setting	Lab	Lab	Lab	Online
Sample	Student	Student	Student	Non-student

circular overview of evidence consisted of random letter codes, making any systematic search impossible. In the experimental conditions ($n = 185$), the circular overview of evidence either entailed symbols indicating the valence of the specific evidence material or keywords that summarized the content of the evidence (see Table 2), thereby enabling systematic search for pro- vs. contra-guilty evidence.⁴

Materials and Procedure. All materials and data are provided on the Open Science Framework (<https://osf.io/8qz7v/>). In two pilot studies ($N_1 = 59, N_2 = 30$), we pretested the three mock legal cases to obtain both balanced and unbalanced evidence material that could lead to different degrees of information distortion (see Russo et al., 1998, Study 2). We varied across cases whether the number of pro- vs. contra-guilty pieces of evidence were equally balanced: In one case, we presented balanced evidence material. In the other two cases, the pieces of evidence were quantitatively in favor of either the defendant’s innocence or guilt.

Participants completed all three legal cases in random order. Similarly, the position of evidence material on the computer screen was also varied randomly (see Fig. 1).⁵ Participants were unrestricted in their decision of how much information to sample until they wanted to make the final verdict. As outlined, participants rated on a continuous slider measure after each selected piece of evidence how strongly it speaks in favor of the defendant’s guilt or innocence (the scale ranging from “speaks to 100% in favor of his innocence”

⁴ We slightly adapted the paradigm over the course of studies and aggregate in our analyses those conditions that allowed for a systematic search (see Table 2).

⁵ Due to a technical malfunction, the randomization of evidence failed in Study 1. We therefore included several covariates controlling for the evidence’s position, content, and point in time when it was examined during the information sampling process.

Table 2
Overview of between-study conditions per study.

	Non-systematic search	Systematic search
Study 1	–	Heading incl. valence (e.g., “Financial Situation (-)”)
Study 2	Code without valence (e.g., “OZP”)	1. Heading without valence (e.g., “Financial Situation”)
		2. Code with valence (e.g., “OZP (-)”)
Study 3	Code without valence (e.g., “OZP”)	Code with valence (e.g., “OZP (-)”)
Study 4	Code without valence (e.g., “OZP”)	Code with valence (e.g., “OZP (-)”)

to “speaks to 100% in favor of his guilt”). In a second step, participants stated their current overall assessment of the case (i.e., “How strongly do you currently assume that the defendant committed the crime?” The scale ranging from “100% sure that he did not commit the crime” to “100% sure that he committed the crime”). The final verdict was measured twice as a continuous probability rating (“How likely do you assume that XY committed the crime?”) and as a binary verdict (“Would you acquit or convict XY?”). When deciding to make the final binary verdict, participants were given a standard of proof in that we instructed them to convict only beyond a reasonable doubt.

After the three legal cases, we assessed basic personality traits (via the 60 items version of the HEXACO personality inventory; Ashton & Lee, 2007) and the specific trait of preference for consistency (Cialdini, Trost, & Newsom, 1995) to take personality factors into account that might influence the striving for coherence. With the exception of Study 1, we further measured cognitive reflection ability (Frederick, 2005).⁶ Participants were then thanked and debriefed.

3. Results

As the four studies had a similar design, we report the results in a high-powered overall analysis and provide the results of the single studies in an online appendix (see https://osf.io/8qz7v/?view_only=18e66b5c70de4b0ca296c86175006273). Overall, the three cases were evaluated very mildly and led to rather high rates of acquittal, especially in the cases where the evidence material was balanced (verdict rate = 19.37%) or unbalanced in favor of the accused (verdict rate = 17.20%). Only in the case that was the most severe as a matter of willful homicide and consisted of more pro-guilty pieces of evidence did the conviction rate increase to 40.95%.

3.1. Information search

Participants rarely made use of the option to terminate their information search before having acquired complete information: Participants sampled per case on average almost 14 pieces of evidence ($M = 13.66$, $SD = 3.45$). Given that each case contained 12 pieces of evidence, this shows a tendency to search for complete information. Specifically, only 18.7% of participants refrained from searching for complete information in at least one of the three cases.

When focusing on how participants searched for evidence in the systematic search conditions, results reveal contradictory evidence to our first hypothesis: When regressing the valence of the chosen evidence to the time t on the current leaning of the case at $t-1$, a disconfirmatory information search arises in that individuals searched for information that was contrary to their current assessment of the case (Cluster regression: $b = -0.24$, $t(178) = -6.25$, $p < .001$). Since we analyze across four studies containing three legal cases each, we include three study and two case dummy variables in our regression model. As an additional robustness check, we controlled for position and content of the evidence and the moment at which the evidence was examined during the information search process. As further covariates we included the number of evidence pieces with a similar sign (pro- vs. contra-guilty vs. neutral evidence) that had not yet been examined at that point in time.⁷ The disconfirmatory information search persists when including these covariates (Cluster regression: $b = -0.11$, $t(152) = -2.97$, $p = .003$).

Since we can only meaningfully consider those conditions that allowed for a systematic information search, we additionally test for potential artefacts in the control condition. Specifically, we analyze whether there is an allegedly systematic information search when no systematic search is possible. When running the same regression model for the control rather than the experimental condition, results reveal no systematic information search pattern (Cluster regression: $b = -0.01$, $t(98) = -0.23$, $p = .819$).

As we did not expect disconfirmatory information search to arise, we analyzed within the systematic search conditions in more detail how information search evolves over the information sampling process.⁸ Specifically, we graph the b -coefficients of the information search regression (see above) across the course of information sampling (see Fig. 2): At no point in time did we find evidence of a confirmatory search. During the first third of information sampling, information search hovers around the zero mark, indicating a complete lack of strategic search (i.e., neither confirmatory nor disconfirmatory information search). During the second third, however, significant disconfirmatory peaks are visible (i.e., for the fifth piece of evidence $b = -0.48$, $p < .001$ and the seventh piece of evidence $b = -0.36$, $p = .044$; all other $p > .092$). The last third of information sampled returns to predominantly non-strategic search.

⁶ Results of the personality factors were inconclusive and are reported in an online appendix for the sake of brevity (see <https://osf.io/8qz7v/>).

⁷ As participants are not likely to sample pieces of information twice, the information search in this paradigm can be understood as an urn model from which participants sample without replacement. Therefore, the probability to pick a confirmatory piece of evidence is reduced over the sampling process. To partial this influence out, we standardly include the above-mentioned covariates in the following regression models.

⁸ We are grateful to an anonymous reviewer for encouraging us to do so.

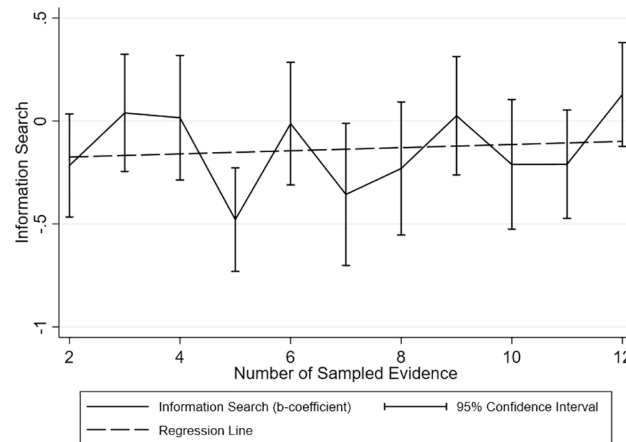


Fig. 2. Information search over the course of information sampling over all cases. Note that a positive (negative) b-coefficient represents (dis)confirmatory search.

This information search pattern shows that it is the intermediate search phase between the fifth and seventh selected piece of evidence, in particular, that drives the disconfirmatory search pattern. However, this is neither preceded nor followed by confirmatory search.

3.2. Coherence effects

In line with our second hypothesis (H2), we find strong coherence effects when regressing the probability of guilt for a selected piece of evidence to the time t on the current assessment of the case at time $t-1$ (Cluster regression: $b = 0.40$, $t(280) = 13.84$, $p < .001$). Coherence effects are similar across studies, cases, and the entire information sampling process within each case (see Fig. 3). Interpreting the b -coefficient illustrates the impressive effect size: The probability of guilt of a selected piece of evidence at time t changes approximately 40% when the current assessment of the case at $t-1$ switches from zero (100% certain that the person did not commit the crime / acquittal) to 1 (100% certain that the person committed the crime / conviction).

Analyzing on an exploratory basis whether coherence effects vary dependent on the valence of the evidence, we find that neutral and pro-guilty evidence show higher coherence effects than non-guilt evidence material ($b = 0.04$, $t(279) = 3.44$, $p = .001$, see Fig. 4).

Finally, when testing the interplay of coherence effects and information search (H3), we do not find coherence effects to differ between conditions: There is no significant interaction between conditions and the current tendency to convict on the evaluation of a subsequently selected evidence ($b = 0.04$, $t(279) = 0.83$, $p = .407$). However, when additionally taking the valence of evidence into account, we find a tendency that coherence effects for pro-guilty and neutral evidence are actually more pronounced in the systematic search conditions ($b = 0.04$, $t(276) = 1.80$, $p = .073$; see Fig. 5). Given that the effect cannot be considered significant at the conventional significance level and additionally points in the contrary direction compared to our expectation, we cannot consider our third hypothesis as confirmed. However, we consider this to be tentative evidence for an interplay between information search and coherence effects that we discuss in the following regarding its limitations and implications for future research.

4. Discussion

Investigating the striving for coherence in complex judgment and decision making is key to understanding when and why individuals evaluate and search for information in a biased manner. In four studies, we provide evidence that even though people search for disconfirmatory information, they interpret this information in a way that fits their emerging judgment. Exploratory analyses further revealed that disconfirmatory information search particularly occurs in the intermediate search phase, when the second third of information is being sampled. Our data provides at no point in time evidence for a (significant) confirmatory information search. Furthermore, subsequently occurring coherence effects depend on the valence of evidence: The interpretation of neutral (i.e., less informative and as such more ambiguous) evidence tends to be particularly influenced by the current overall assessment of the case. The same pattern holds for pro-guilty evidence. With regard to the interplay between coherence effects and information search, we hypothesized stronger coherence effects without the ability to systematically search for information. However, our data shows the opposite tendency of even stronger coherence effects for pro-guilty and neutral evidence when a systematic information search is possible. These findings might be attributable to the legal context and its strong acquittal rates. Given that participants were instructed to provide a verdict only beyond reasonable doubt, pro-guilty evidence needed to be devaluated to fit an overall preference for acquittal. However, to challenge the standard of proof in the first place, participants searched within the pro-guilty evidence that

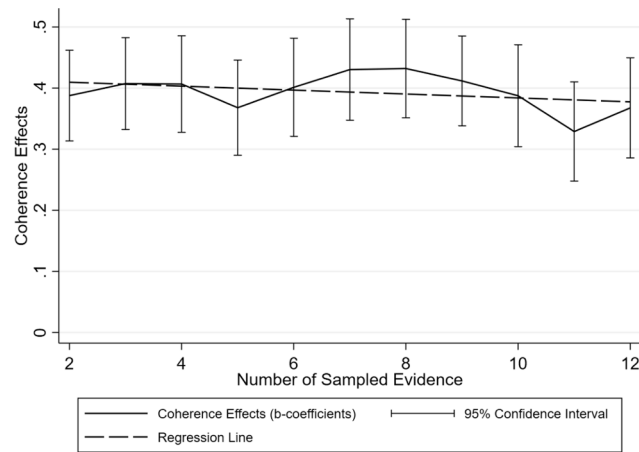


Fig. 3. Coherence effects over the course of information sampling.

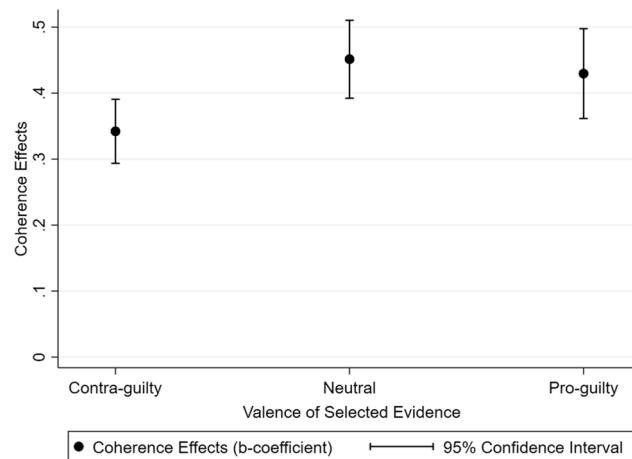


Fig. 4. Coherence effects dependent on the valence of the evidence across conditions.

appears (given their tendency for acquittal) disconfirmatory. Since participants were only capable of intentionally challenging their current leaning in the systematic search conditions, the corresponding devaluation of pro-guilty and neutral evidence was slightly stronger in the respective conditions.⁹ This underlines how powerful the striving for coherence might be in that disconfirmatory information search can be undermined through subsequently even more biased information evaluation. However, it is important to note that these results are highly tied to the legal context and the herein applied instruction to convict only beyond reasonable doubt. Future research is needed to investigate whether the effects hold for lower standards of proof and corresponding increasing conviction rates.

The unexpected direction of disconfirmatory (vs. confirmatory) information search may further be explained by a motivation for accuracy as well as unlimited time and number of selected evidence (see e.g., Fischer, Jonas, Frey, & Schulz-Hardt, 2005). The motivation for accuracy, in particular, might be important for two reasons. First, when judging legal cases – even if they are hypothetical – participants might assume the existence of a correct answer. Even though our case material allowed for variance in interpretations and the final verdict, we cannot exclude the notion that participants' aim to judge the cases correctly led them to search for information in a disconfirmatory manner. Second, participants searched for information *before* making their final judgment. Since the accuracy motive is likely to dominate in pre-choice information search in comparison to a post-choice confirmation bias (Chaxel et al., 2013), we consider this the most important explanation for why we found disconfirmatory rather than confirmatory information search.

Taken together, participants tended to search for complete information and challenged their presumption of innocence with disconfirmatory information search in that they took pro-guilty evidence – particularly in the intermediate search phase – into account. However, the strong coherence effects, specifically for pro-guilty and neutral evidence, show that this disconfirmatory evidence was

⁹ See Meloy (2000) for similar results in consumer choice on different degrees of information distortion dependent on neutral vs. disconfirming information.

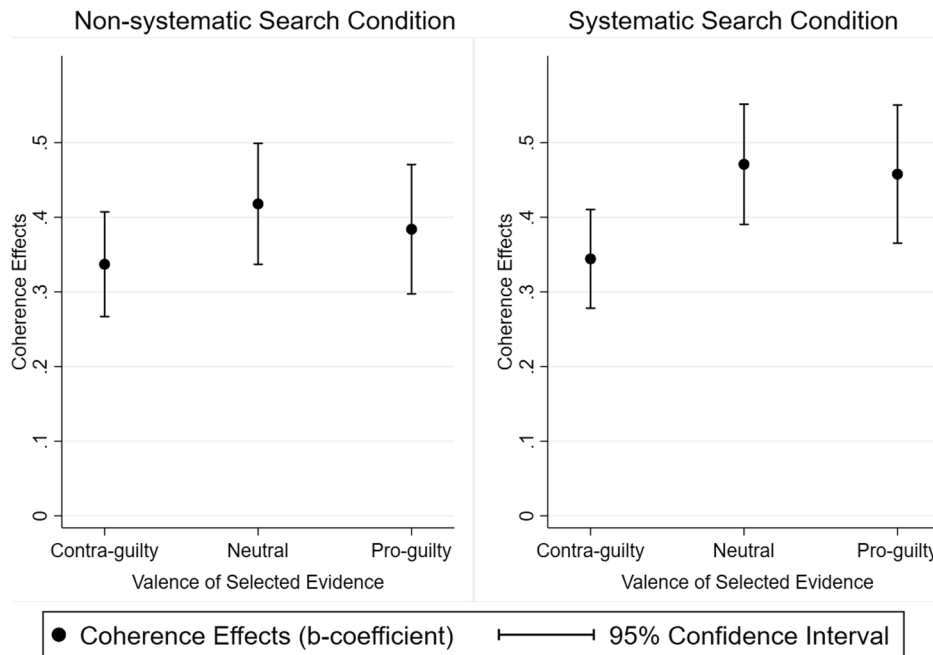


Fig. 5. Coherence effects conditional on information search conditions and valence of evidence.

devalued to fit the overall merging option of acquittal. As such, the specific legal context might add to finding disconfirmatory search, in addition to the striving for accuracy and predecisional information search.

Our findings must be interpreted in light of several limitations that we will address in the following. First and foremost, we refrained from measuring the current tendency of how strongly participants tend to convict vs. acquit the accused directly after reading the case description, as we did not want to elicit an explicit hypothesis on the side of participants regarding whether or not the verdict is guilty. However, refraining from doing so means that a tentative preference for any verdict option might have emerged while reading the case descriptions (see Carlson & Pearo, 2004; Russo et al., 1996, for how a leading option is formed based on only few initial examination), even though the descriptions were neutrally phrased. In consequence, we cannot rule out the influence of the first piece of evidence from the tendency to convict elicited by the case material per se. Thus, our encouragement for future research is to validate the current results with a replication including a measurement of the tendency to convict before any information search among the pieces of evidence is conducted.

Second, our paradigm artificially distinguishes between the recurrent overall assessment of the case and specific evidence evaluation – as it has previously been done when using the stepwise evolution of preference (SEP) method in different contexts (e.g., in consumer choice and business settings; see Meloy & Russo, 2004). The sequential rating is the key element to be able to investigate potentially biased information search and evidence evaluation separately, since the current overall assessment of the case serves as a predictor for subsequent evidence selection and evaluation. Still, it comes at the cost of reduced external validity in that legal practitioners are likely to judge a case more holistically in contrast to the maximally sequential viewing of evidence in our studies. As such, we refrain from making any policy recommendations or even more basic reference to the legal practice.

As a third and final limitation, our first two studies contained labels that summarized the content of the evidence. This bears the risk of having induced a confounding influence: Participants might additionally have weighed the evidence, how important they perceive it to be (e.g., witness report vs. previous conviction), rather than only taking the mere valence (i.e., neutral vs. pro-guilty vs. contra-guilty evidence) into account. According to the component valuation hypothesis (Carlson & Pearo, 2004), prior valuation reduces information distortion: When becoming aware about potentially relevant information (e.g., evidence such as witness reports, alibis, etc. or specific attributes in consumer choice) before entering the process of information acquisition, this aids to withstand an emerging preference to be disproportionally promoted due to irrelevant information. We removed this potential confound in studies 3 and 4 in which the overview of evidence material only consisted of random letter codes. Separate analyses further reveal similar coherence effects for each study (see online appendix) in that information distortion does not differ between our studies, independent of whether we provided labels or random letter codes in the overview of evidence material.

Turning to ideas for future research, it might be worth investigating how information search and coherence effects change when the information search process is placed under time pressure, information search is costly, or when limiting the number of pieces of evidence that can be examined in detail. This could arguably increase the subjective need to generate coherence and, as such, promote confirmatory information search. In a similar vein, it might be interesting to examine how the manipulation of the standard of proof (i.e., to convict only beyond a reasonable doubt) influences the individual striving for coherence, given that a reduction of certainty might decrease the (conscious or unconscious) subjective necessity to generate coherence among the complex evidence material.

Third, and related to the new paradigm, the case material alone allows for various manipulations, for instance on the side of stereotype activation (e.g., manipulating names of the verdicts) that might elicit an even stronger striving for coherence in line with one's potential prejudice.

In conclusion, our studies provide insights into the phenomena of information search and evaluation and, most importantly, their interplay that complement our understanding of the Homo Ignorans when he does (not) ignore but still – and to a potentially even stronger degree – misinterprets information.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.joep.2021.102445>.

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