The Effect of Conflict Detection and Open-Mindedness in Intention to Share Misinformation

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Introduction

Training in information evaluation has a significant influence on the interplay between **conflict detection**, **open-mindedness**, and an individual's **intention to share misinformation**. Cognitive processes involved in evaluating information influence how people recognize and respond to conflicting information, which in turn affects their likelihood of disseminating misinformation.

Conflict Detection and its Effects on Misinformation Sharing

Conflict detection is essential for individuals who encounter information that contradicts their established beliefs or knowledge. This process stimulates critical thinking and prompts individuals to reflect on the validity of the conflicting information [1]. Research shows that cognitive training aimed at enhancing critical thinking can improve individuals' abilities to detect conflicts in information, positioning them more favorably against misinformation. For example, findings by Verbruggen et al.[2] highlight the importance of attention in decision-making processes, which could indirectly relate to the recognition of information conflict. Thus, when individuals are trained to evaluate information rigorously, their conflict detection abilities may increase, making them less likely to share misinformation.

Open-mindedness and Conflict Resolution

Open-mindedness complements conflict detection by creating a cognitive environment conducive to embracing diverse perspectives rather than rejecting misinformation outright. Psychological safety transforms tense interactions into constructive dialogues where conflicting

views can be addressed [3]. This climate fosters open-mindedness, encouraging individuals to consider multiple viewpoints before forming conclusions. The interplay between a psychologically safe environment and open-mindedness has been linked to improved cognitive flexibility and decision-making, thereby minimizing the likelihood of misinformation sharing [4].

An environment that promotes open-mindedness facilitates conflict resolution and enhances the quality of discussions regarding controversial topics, ultimately leading to better information sharing practices. As noted by Bavel and Pereira[5], partisanship can bias information processing, and fostering open-mindedness may help address this tendency towards bias. This suggests that promoting a culture of open dialogue can increase the accuracy of information dissemination within social groups, thus reducing the propagation of false claims.

Empirical Links Between Critical Thinking and Misinformation Belief

Empirical evidence supports the notion that training in cognitive reflection correlates with a reduction in belief in implausible claims and misinformation [6]. Individuals scoring higher on the Cognitive Reflection Test (CRT) are often described as reflective thinkers who engage in deeper analytical processes, which typically leads to more skepticism toward misleading information [7]. The psychological mechanisms underlying this effect are aligned with dual-process theories of reasoning, where intuitive (System 1) and deliberative (System 2) thinking are contrasted.

Training that enhances individuals' ability to engage in System 2 not only aids in detecting conflicts in the information they encounter but also fosters clearer discernment between true and false claims. Although direct studies connecting diverse cognitive contexts and critical thinking were not located, research indicates a positive relationship between enhanced critical thinking readiness and decreased misinformation sharing [8].

Research Questions and Hypotheses

Drawing on dual-process and meta-cognitive frameworks, we compare information science students (LIS) with non-LIS peers to understand how training in information evaluation shapes the role of conflict detection and open-mindedness in sharing intentions.

Research Problem

Information science students receive formal instruction in source evaluation, critical appraisal, and ethical information management—skills that likely enhance conflict detection and foster open-minded attitudes. By contrasting LIS and non-LIS groups, we can determine whether academic training amplifies the individual and joint effects of these traits on misinformation sharing behavior.

Research Questions

1. **Does conflict detection predict lower intentions to share misinformation in both LIS and non-LIS students?**
   This question tests whether the skill of spotting inconsistencies functions similarly across groups with and without specialized training.
2. **Does the strength of the conflict detection–sharing intention relationship differ between LIS and non-LIS students?**
   Here we examine whether LIS training moderates the primary effect, potentially leading to steeper declines in sharing intentions among LIS students.
3. **Does open-mindedness moderate the effect of conflict detection on sharing intentions differently across LIS and non-LIS students?**
   We assess whether the joint protective effect of these traits varies by academic background.
4. **Do students high in both conflict detection and open-mindedness exhibit the lowest sharing intentions, and is this joint effect more pronounced among LIS students?**
   This explores potential synergy and threshold effects within each group.

Hypotheses

- **H1:** Across both groups, higher conflict detection will associate with lower intentions to share misinformation.
- **H2:** The negative relationship between conflict detection and sharing intentions will be stronger for LIS students than for non-LIS students.
- **H3:** Open-mindedness will enhance the negative conflict detection–sharing intention link in both groups.
- **H4:** The amplifying effect of open-mindedness on conflict detection's deterrent effect will be greater among LIS students.
- **H5:** LIS students scoring high on both traits will report the lowest sharing intentions overall, demonstrating a synergistic effect informed by their training.

Literature Review

Cognitive Conflict Detection and Its Importance in Critical Thinking

Cognitive conflict detection refers to the process by which individuals recognize discrepancies between their existing beliefs or knowledge and new information or experiences that challenge those beliefs. This mechanism serves as a catalyst for critical thinking, as it prompts individuals to engage in deeper analysis and reconsideration of their views when confronted with conflicting data or perspectives. As articulated by Makhrus and Hidayatullah[9], the experience of cognitive conflict can enhance conceptual understanding by motivating learners to resolve inconsistencies in their knowledge frameworks. Similarly, Zetriuslita et al.[10] emphasize that problem-based learning combined with cognitive conflict strategies can cultivate critical thinking abilities, although not all aspects such as mathematical communication skills may improve.

The importance of cognitive conflict in education and reasoning is highlighted by findings linking performance in critical reasoning tasks to a reduced belief in false claims. Engaging in tasks that elicit cognitive conflict has been associated with improved critical thinking skills, which can diminish susceptibility to misinformation. Verawati and Hikmawati[11] found that employing cognitive conflict strategies within inquiry teaching effectively improved students' critical thinking abilities, enhancing their capacity to analyze and assess the validity of the claims they encounter. This premise aligns with the understanding that when individuals confront conflicting information, they are more likely to engage in System 2 reasoning—characterized by deliberate, reflective thought—thus improving their ability to scrutinize information critically.

The interaction between cognitive conflict and critical thinking aligns well with dual-process models of reasoning, which propose two distinct but interconnected pathways of cognitive processing: System 1 and System 2. System 1 is characterized as fast, automatic, and reliant on heuristics, whereas System 2 encompasses slower, more analytical, and effortful thought processes [[12]; Stephens2018Reasoning]. Conflict detection activates engagement of System 2, prompting individuals to critically examine the conflicting information they encounter. This activation allows them to weigh evidence and counter-argue against misinformation.

For instance, Guo et al.[13] found that prompting individuals to deliberate about framing effects in decision-making scenarios enhances the engagement of System 2, which can mitigate biases typical of quicker, heuristic-driven judgments associated with System 1 processing. Furthermore, the findings from Diederich and Trueblood[14] illustrate that the dynamic interaction between intuitive and deliberative processes is crucial for nuanced decision-making under uncertainty, reinforcing the necessity of engaging System 2 during conflicts to achieve reasoned conclusions.

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