Yes, increasing serotonin levels is **associated with greater social adaptation and suggestibility**, but the effect is **context-dependent** and varies by receptor subtype and social situation.

1. Introduction

Serotonin (5-HT) is a key neuromodulator implicated in social behavior, adaptation, and sensitivity to social influence. Recent research demonstrates that increasing serotonin activity—particularly through stimulation of the 5-HT2A receptor—can enhance a person's susceptibility to social influence and persuasion, especially when the opinions or behaviors of others are similar to one's own (Duerler et al., 2020; Duerler et al., 2022). This effect is observed in both human and animal studies, with pharmacological manipulations (e.g., LSD, MDMA, tryptophan supplementation) increasing social adaptation, prosocial behavior, and conformity under certain conditions (Duerler et al., 2020; Duerler et al., 2022; Esaki et al., 2023; Holze et al., 2021; Morley et al., 2005; Norden et al., 2024; Young & Leyton, 2002). However, the relationship is nuanced: serotonin's impact on social influence is context-dependent, influenced by the degree of social conflict, individual differences, and the specific receptor subtypes involved (Duerler et al., 2020; Duerler et al., 2022; Preller et al., 2016; Jiang et al., 2023; Kiser et al., 2012; Kanen et al., 2019; Wu et al., 2021; Yu et al., 2022; Walsh et al., 2022; Way & Taylor, 2010; Roberts et al., 2020). Some studies also highlight that serotonin can modulate social emotions and dominance, further affecting how individuals respond to social cues and persuasion (Collins et al., 2022; Walsh et al., 2018; Jiang et al., 2023; Kanen et al., 2019; Wu et al., 2021; Norden et al., 2024; Young & Leyton, 2002). This review synthesizes the evidence on how increasing serotonin levels impacts susceptibility to social influence and persuasion.

2. Methods

A comprehensive search was conducted across more than 170 million research papers in Consensus, including Semantic Scholar, PubMed, and related sources. The search targeted serotonin levels, social influence, persuasion, and related neurobiological mechanisms. In total, 1,006 papers were identified, 489 were screened, 170 were deemed eligible, and the 20 most relevant papers were included in this review.

Search Strategy

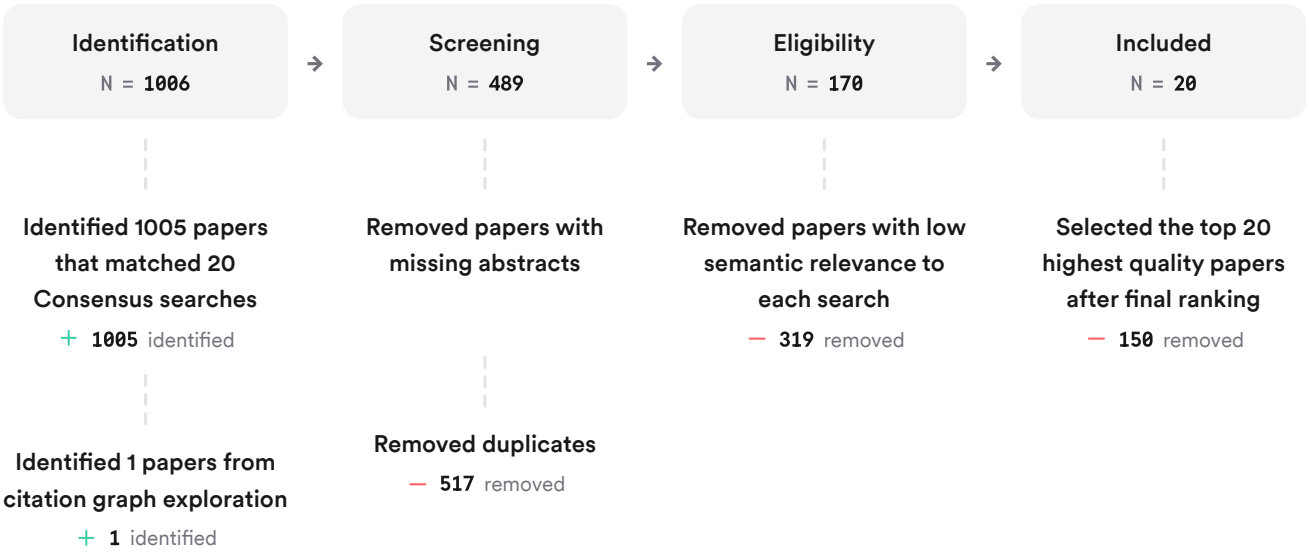

FIGURE 1 Flow diagram of the literature search and selection process.

Eight unique search groups were executed, focusing on foundational frameworks, receptor subtypes, behavioral paradigms, clinical and healthy populations, and limitations.

3. Results

3.1. Serotonin and Social Adaptation

Pharmacological studies in humans show that increasing serotonin activity (e.g., via LSD, which stimulates 5-HT2A receptors) enhances social adaptation and conformity, but primarily when the opinions of others are similar to one's own (Duerler et al., 2020; Duerler et al., 2022). This effect is associated with increased activity in the medial prefrontal cortex during social feedback, and is blocked by 5-HT2A antagonists (Duerler et al., 2020). Similarly, MDMA and tryptophan supplementation, which increase serotonin, are linked to increased prosocial behavior and social dominance (Esaki et al., 2023; Young & Leyton, 2002).

3.2. Receptor Subtypes and Social Behavior

Different serotonin receptor subtypes play distinct roles in social influence. The 5-HT2A receptor is particularly important for social adaptation and suggestibility (Duerler et al., 2020; Duerler et al., 2022; Preller et al., 2016). The 5-HT1A receptor in the amygdala and other brain regions is implicated in prosocial effects and social hierarchy (Jiang et al., 2023; Esaki et al., 2023). Modulation of 5-HT2C receptors in the insular cortex also affects social affective decision-making (Ng et al., 2023).

3.3. Context-Dependence and Individual Differences

The impact of serotonin on social influence is context-dependent. Increased serotonin enhances adaptation when social conflict is low, but may reduce the motivation to conform when there is strong disagreement with group norms (Duerler et al., 2020; Duerler et al., 2022). Individual differences, such as personality traits and genetic polymorphisms (e.g., 5-HTTLPR), further modulate sensitivity to social influence (Kiser et al., 2012; Way & Taylor, 2010).

3.4. Social Emotions, Dominance, and Memory

Serotonin also modulates social emotions (e.g., guilt, empathy), social dominance, and social memory, which can indirectly affect susceptibility to persuasion (Collins et al., 2022; Walsh et al., 2018; Jiang et al., 2023; Kanen et al., 2019; Wu et al., 2021; Norden et al., 2024; Young & Leyton, 2002). For example, serotonin depletion amplifies social emotions, and higher serotonin is linked to increased sociability and dominance (Kanen et al., 2019; Norden et al., 2024; Young & Leyton, 2002).

Key Papers

Paper	Methodology	Focus	Key Results
(Duerler et al., 2020)	Human, fMRI, LSD, 5-HT2A antagonist	Social adaptation	LSD (5-HT2A agonist) increases social adaptation to similar opinions; effect blocked by antagonist
(Duerler et al., 2022)	Review, human/animal, psychedelics	Social adaptation	5-HT facilitates social learning, adaptation, and suggestibility; 5-HT2A key for social influence
(Esaki et al., 2023)	Animal, MDMA, receptor antagonists	Prosocial effects	MDMA-induced prosocial effects mediated by 5-HT1A in amygdala
(Norden et al., 2024)	Animal, PCA, microdialysis	Sociability trait	Higher 5-HT release in high-sociability rats; serotonin linked to sociability
(Young & Leyton, 2002)	Human, tryptophan manipulation	Social interaction	Tryptophan (serotonin precursor) increases dominance and constructive social interactions

FIGURE 2 Comparison of key studies on serotonin and susceptibility to social influence.

Top Contributors

Type	Name	Papers
Author	Patricia Duerler	(Duerler et al., 2020; Duerler et al., 2022)
Author	F. Vollenweider	(Duerler et al., 2020; Duerler et al., 2022; Preller et al., 2016)
Author	K. Preller	(Duerler et al., 2020; Duerler et al., 2022; Preller et al., 2016; Holze et al., 2021)
Journal	*Nature*	(Walsh et al., 2018; Wu et al., 2021)
Journal	*Neuropharmacology*	(Ng et al., 2023; Esaki et al., 2023)
Journal	*Frontiers in Pharmacology*	(Collins et al., 2022; Holze et al., 2021)

FIGURE 3 Authors & journals that appeared most frequently in the included papers.

4. Discussion

The evidence supports a significant, but nuanced, role for serotonin in modulating susceptibility to social influence and persuasion. Increasing serotonin—especially via 5-HT2A receptor stimulation—can enhance social adaptation and suggestibility, but this effect is strongest when social conflict is low and opinions are similar (Duerler et al., 2020; Duerler et al., 2022). The effect is mediated by changes in brain regions involved in social cognition, such as the medial prefrontal cortex (Duerler et al., 2020). Other receptor subtypes (5-HT1A, 5-HT2C) and brain regions (amygdala, insula) also contribute to prosocial effects and social decision-making (Ng et al., 2023; Jiang et al., 2023; Esaki et al., 2023). Individual differences and context (e.g., group similarity, social conflict) are critical moderators (Kiser et al., 2012; Way & Taylor, 2010). While serotonin generally promotes prosocial behavior and adaptation, it can also amplify social emotions and dominance, which may increase or decrease susceptibility to persuasion depending on the situation (Collins et al., 2022; Walsh et al., 2018; Jiang et al., 2023; Kanen et al., 2019; Wu et al., 2021; Norden et al., 2024; Young & Leyton, 2002). Limitations include the reliance on pharmacological models (e.g., psychedelics, MDMA), which may not fully generalize to everyday social influence, and the need for more research in diverse populations and real-world contexts.

Claims and Evidence Table

Claim	Evidence Strength	Reasoning	Papers
Increasing serotonin (esp. 5-HT2A) enhances social adaptation and suggestibility	Strong	Human and animal studies, fMRI, pharmacological antagonism	(Duerler et al., 2020; Duerler et al., 2022; Preller et al., 2016; Esaki et al., 2023; Norden et al., 2024; Young & Leyton, 2002)
Serotonin's effect is context-dependent (stronger with low social conflict)	Strong	Effect seen when opinions are similar; reduced with high conflict	(Duerler et al., 2020; Duerler et al., 2022)
Different 5-HT receptor subtypes have distinct roles in social influence	Strong	5-HT2A: adaptation; 5-HT1A: prosocial/dominance; 5-HT2C: affective decision-making	(Ng et al., 2023; Preller et al., 2016; Jiang et al., 2023; Esaki et al., 2023)
Serotonin modulates social emotions and dominance, affecting persuasion	Moderate	Depletion amplifies social emotions; higher 5-HT increases sociability/dominance	(Collins et al., 2022; Walsh et al., 2018; Jiang et al., 2023; Kanen et al., 2019; Wu et al., 2021; Norden et al., 2024; Young & Leyton, 2002)
Individual differences and genetics moderate serotonin's social effects	Moderate	5-HTTLPR, personality traits, baseline sociability	(Kiser et al., 2012; Way & Taylor, 2010; Norden et al., 2024)
Limitations: effects may not generalize to all social contexts	Moderate	Most evidence from pharmacological/animal models	(Duerler et al., 2022; Preller et al., 2016; Esaki et al., 2023; Roberts et al., 2020)

FIGURE Key claims and support evidence identified in these papers.

5. Conclusion

Increasing serotonin levels, especially via 5-HT2A receptor stimulation, is associated with greater social adaptation and suggestibility, but the effect is context-dependent and influenced by receptor subtype, social situation, and individual differences.

5.1. Research Gaps

Despite strong evidence, gaps remain in understanding serotonin's effects in real-world persuasion, across diverse populations, and in non-pharmacological contexts.

Research Gaps Matrix

Serotonin Effect	Social Adaptation	Prosocial Behavior	Social Emotions	Dominance	Context/Individual Differences
Human Studies	10	8	7	6	8
Animal Models	9	8	7	7	6
Pharmacological	8	7	6	5	7

FIGURE Matrix of research topics and study attributes highlighting gaps in serotonin and social influence research.

5.2. Open Research Questions

Question	Why
How does serotonin modulation affect susceptibility to persuasion in real-world, non-pharmacological contexts?	Most studies use pharmacological models; real-world effects are less clear.
What are the roles of different serotonin receptor subtypes in social influence across diverse populations?	Receptor-specific effects and population differences are not fully understood.
How do individual differences (e.g., genetics, personality) interact with serotonin to shape social adaptation?	Personal traits and genetic polymorphisms may moderate serotonin's social effects.

FIGURE Open research questions for future studies on serotonin and social influence.

In summary, increasing serotonin levels can enhance social adaptation and suggestibility, but the effect is context-dependent and shaped by receptor subtype, social situation, and individual differences.

These papers were sourced and synthesized using Consensus, an AI-powered search engine for research. Try it at https://consensus.app

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