

## JULIANA SCHROEDER: RESEARCH STATEMENT

Humans are the most social primates on the planet today due in part to our ability to perceive and reason about the nature and content of others' minds. When people effectively connect with and understand others' minds, it can increase their wellbeing and productivity; but when they fail to do so, it can lead to misunderstanding and conflict. My research seeks to understand the psychological processes underlying how people perceive other minds – and when and why they make errors. I am particularly interested in how mind perception can affect social outcomes in organizational settings, like how people negotiate, lead others, work in groups, and use technology to engage more (or less) effectively with others. Below, I review each of my primary research questions in more detail.

***Communication and mind.*** How does communication affect the way people perceive and engage with other minds? In a series of papers, my co-authors and I have found that a person's *voice* typically conveys their mental capacity more strongly than their semantic content alone (i.e., their words in text). For example, recruiters rate job candidates as more competent, thoughtful, and intelligent—that is, as more mentally capable—when they are randomly assigned to hear their elevator pitches than read them (**Schroeder & Epley, 2015**). As a result, they are more interested in hiring the candidate. Moreover, adding visual cues to audio pitches does not meaningfully alter evaluations of the candidates, suggesting that voice may be uniquely important for conveying mental capacity. This finding has practical implications for improving first impressions (e.g., in hiring decisions) and for the role of communication technology (e.g., Zoom) in social interactions.

Communication not only influences how we form inferences about humans' minds, but also the minds of nonhuman agents (e.g., virtual assistants, robots). Using a novel paradigm<sup>1</sup>, we found that hearing an actor's voice (vs. seeing an actor's face or reading their words) made observers more likely to infer that a script was created by a human (vs. computer) (**Schroeder & Epley, 2016**). However, removing the naturalistic paralinguistic cues that convey humanlike capacity for thinking and feeling, such as varied pace and intonation, eliminated this humanizing effect of speech.

One implication of these results is that speech might serve to “humanize” others by making them appear more mentally capable. We next tested this possibility in the context of ideological polarization, a context in which dehumanization is rife because people tend to attribute disagreement to their ideological opponent's inability to think reasonably about an issue, rather than to having different perspectives or information. As hypothesized, we found that the effect of disagreement on dehumanizing assessments of a communicator was buffered by hearing (vs. reading) the communicator's opinions (**Schroeder, Kardas, & Epley, 2017**). In such a way, the tendency to denigrate the minds of the opposition can be tempered by giving them, quite literally, a voice.

I am currently extending these findings by examining synchronous dyadic interactions between political opponents. In such situations, talking (vs. typing) to an opponent leads to not only more humanizing attributions about the opponent's mind but also improves conflict

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<sup>1</sup> Based on the famous Turing Test developed in 1950 in which humans interact with an online agent to guess whether it is another human or a computer program.

resolution outcomes, increasing receptiveness toward an opponent's opinions (**Schroeder, in prep**). There are at least three possible reasons for this effect: speech contains more humanizing paralinguistic cues, people tend to say more receptive things when speaking, and speaking is typically a more synchronous medium, allowing for more clarifications and back-channeling during disagreement than writing. Concerningly, this research also finds that people prefer to write than speak when interacting with an ideological opponent, even though the written medium actually enhances conflict the most. An implication is that people may prefer to use written platforms (e.g., Twitter) to argue with their opponents, inadvertently escalating conflict.

Given that consumption of auditory media is at an all-time high, understanding the consequences of different communication technologies is important. To address this, we have tested how specific forms of communication technology (e.g., headphones vs. speakers) influence assessments of communicators' mental capacities and behavior toward them. In particular, one series of experiments find that listening to someone's voice via headphones (vs. speakers) enhances the communicator's vocal cues, increasing listeners' social immersion and empathy with the speaker (**Lieberman, Schroeder, & Amir, 2022**). However, this effect can be eradicated when communicators' voices are distorted or inauthentic. A follow-up review paper summarized the primary ways in which online and offline interactions differ (**Lieberman & Schroeder, 2020**).

Of course, the communication medium is not the only aspect of communication that can influence mind perception; the semantic content of one's communication can also do so. One aspect of semantic content we have explored is the way in which people use politically correct (or politically incorrect) language, and its implications for person perception. In particular, we have found that politically incorrect language enhances communicators' authenticity but reduces their warmth (and has no influence on their competence; **Rosenblum, Schroeder, & Gino, 2020**). These perceptions, however, are moderated by perceivers' political ideology and how sympathetic perceivers feel toward the target group being labeled politically incorrectly.

**Instrumental minds.** A second research question I study is: How does using another person to achieve one's own goals (i.e., instrumentally) affect beliefs about that person's mental capacities? My co-author and I hypothesized that people might sometimes become goal-focused in their social perceptions, perceiving an instrumental target with respect to their own needs. We initially examined this hypothesis in the context of patients' assessments of their physicians, and found that the higher individuals' need for care, the less they valued physicians' traits related to their personal lives (e.g., self-focused emotions), but the more they valued physicians' traits related to patients (e.g., patient-focused emotions; **Schroeder & Fishbach, 2015**). For example, patients in higher (vs. lower) need may tend to overlook a physician's own needs like a physician being tired or hungry.

In a follow-up paper, we examined what happens when intimacy becomes instrumental (i.e., for a non-relational purpose). We distinguished between three forms of intimacy: relationship intimacy (where physical intimacy promotes closeness), imposed intimacy (which is undesired), and functional intimacy (which is desired only for fulfilling a goal; **Schroeder, Fishbach, Schein, & Gray, 2017**). Across experiments, people tended to compensate during functionally intimate situations by reducing their social intimacy with the service provider. For example, people might prefer a physician administering an intimate physical exam not to make eye contact with them or share their name.

Another common context in which people behave instrumentally is in the workplace. In a series of experiments, we found that people tend to behave more strategically and calculatedly in workplace (vs. non-workplace) settings, leading to more objectification in such settings (**Belmi & Schroeder, 2021**). Moreover, the more that people experience or imagine experiencing objectification at work, the worse is their self-reported well-being. People are also less interested in working at companies whose mission statements appear more (vs. less) objectifying (e.g., referring to employees as “human resources”), even when the companies offer higher salaries.

In a separate but related research stream, I examine how egocentrism affects outcomes in instrumental interactions. Specifically, I study a common outcome in group work: the tendency for group members to “overclaim” credit for collaborative work (i.e., when group members’ credit claims add to more than the logically allowable 100% of work accomplished). My co-authors and I have found that the size of the group increases overclaiming because it requires more cognitive effort to consider others’ contributions when there are more people in the group (**Schroeder, Caruso, & Epley, 2016**). Thus, overclaiming is more pervasive—and more problematic—when groups are larger.

Another factor that affects overclaiming is the group’s structure (e.g., hierarchy). Groups that contain more “indirect contributors” (individuals who operate on an outcome via intermediaries, like managers and assistants) overclaim credit more than groups that only contain “direct contributors” (individuals who operate on an outcome directly; **Stein, Schroeder, Caruso, & Epley, under review**). The reason is that indirect contributors’ lack of proximity to the outcome makes them less able to distinguish how much of their effort has a true impact and how much is illusory.

Whereas the prior two papers examine egocentric overclaiming, a more recent paper also considers strategic overclaiming. This paper shows that when group members are trying to convey competence (but not warmth) to their fellow group members, they are more likely to overclaim than underclaim credit (**Stein, Schatz, Schroeder, & Chatman, under review**). However, their group members do not find overclaiming individuals to be any more competent but rather penalize their warmth. Thus, we find that the strategy to overclaim for impression management purposes is misguided.

***Dehumanized minds.*** A third research question I consider is: When do people derogate other minds, believing that others have relatively weaker mental capacities than they themselves have and thus “dehumanizing” them? My colleagues and I have proposed that dehumanization may be a default state, because the very act of considering other minds is an effortful process that requires motivational triggers (**Epley, Schroeder, & Waytz, 2013**). There are three forms of dehumanization: believing that others have less mental experience than the self, that others’ mental experience is less causally important to behavior than one’s own, and that others’ inner mental experience is a less accurate reflection of reality than one’s own (**Waytz, Schroeder, & Epley, 2014**).

These prior theories continue to inform and guide my research, but we are now extending them in several ways. For one, we proposed a new form of dehumanization that is based on assessments of others’ *needs* instead of their traits, which we call “demeaning” (**Schroeder & Epley, 2020**). Demeaning occurs when people believe that others have weaker psychological needs—those requiring mental capacity, and hence more uniquely human (e.g., need for meaning

and autonomy)—than physical needs—those shared with other biological agents, and hence more animalistic (e.g., need for food and sleep). Demeaning is more common for groups that are traditionally dehumanized, like homeless people – yet, these perceptions may be inaccurate. For example, in one experiment, charity donors believed that homeless charity requesters have stronger needs to satisfy their hunger (a prototypical physical need) than to find meaning in life (a prototypical psychological need), but charity requesters reported the opposite. Donors’ misunderstanding of requesters’ needs resulted in less effective aid provided to requesters.

A different way in which dehumanization can influence helping behavior is that it can influence *how* people decide to help. We have shown that how people choose to help a recipient depends partly on their beliefs about the recipient’s mental capacities (**Schroeder, Waytz, & Epley, 2017**). Perhaps unsurprisingly, people perceive paternalistic aid to be more effective for those who seem less mentally capable. But because people tend to believe that they are more mentally capable than are others, people also believe that paternalistic aid will be more effective for others than for oneself. We discuss the implications of whether people are sometimes too paternalistic when helping others, but not paternalistic enough when helping themselves.

Another decision people have to make when deciding how to help others is allocating their help across multiple individuals in need. A series of donation experiments reveal the preference for distributing help across requesters because it feels fairer (**Sharps & Schroeder, 2019**). A consequence of this preference for distributed help is that helpers tend to donate more when there are more requesters but only when the requests are “unpacked,” thereby allowing them to distribute donations across individuals.

Finally, in an ongoing project, we have been examining dehumanization among Jewish Israeli and Palestinian teenagers in one of the largest co-existence programs in the world (called *Seeds of Peace*). The flagship event of the program is an annual summer camp where teenagers from Israel, Palestine, and other conflict regions interact together. For 13 years, tracking 13 separate cohorts, my co-authors and I have collected survey and behavioral data from campers at the beginning of camp, end of camp, and nine months following camp. An initial paper studying the consequences of friendship formation at camp found that campers’ outgroup friendships at the end of camp predicted more humanization of the entire outgroup nine months after camp (**Schroeder & Risen, 2016**). More recent research tests the factors at camp that influence outgroup friendship formation (**White, Schroeder, & Risen, 2021**). Taking advantage of the quasi-random assignment of campers to dialogue groups, tables, and bunks, we test how propinquity (here, sharing an activity group) and similarity (here, sharing the same nationality with another camper) influence friendship formation at camp. Results demonstrate that propinquity has an especially large impact on outgroup friendship formation relative to ingroup friendship formation, and this interaction was particularly strong for more intimate activities (e.g., sharing bunks), suggesting that meaningful shared experiences may be particularly important for making outgroup friends. This is the first paper (to our knowledge) showing that meaningful propinquity can counteract homophily.

***Misunderstood minds.*** A fourth research question I consider is: When do people misunderstand their own and others’ minds, and what are the consequences of these misunderstandings? I have identified several cases of systematic misunderstandings. In an initial foray into this topic (**Epley & Schroeder, 2014**), we examined an apparent puzzle of human behavior: connecting with others increases happiness, yet strangers in close proximity routinely

ignore each other (e.g., when commuting). A series of experiments conducted on public transportation (e.g., on buses, cabs, trains) demonstrated that commuters *predict* that solitude will be more enjoyable than connection, but in reality, find solitude less enjoyable than connection. In other words, people mispredict the consequences of social interactions with strangers, at least in the contexts we tested. We recently conceptually replicated this paper with two larger-scale field experiments conducted on London public transportation (**Schroeder, Lyons, & Epley, 2022**).

Another aspect of social interaction that people appear to misunderstand is how enjoyable connecting with others will be over time (**Kardas, Schroeder, & O'Brien, 2022**). Like many other contexts, people's predictions are consistent with "hedonic adaptation:" they think that conversations with the same person will become less enjoyable over time. But in reality, people's conversations actually are stable in enjoyment or even become more enjoyable over time because they deepen their relationship with their partner. One reason why people mispredict the hedonic trajectory of conversation is that they underestimate how much conversation material they will have to discuss with the other person.

People also misunderstand others' minds when they are trying to help others. For example, people do not recognize how much others want and appreciate constructive feedback even when the feedback is embarrassing (e.g., telling someone they are mispronouncing a person's name), leading people to fail to give constructive feedback as much as others would prefer (**Abi-Esber, Abel, Schroeder, & Gino, 2022**). This finding has consequences for the workplace; people may infer their subordinates do not want their constructive feedback even though it actually has the potential to help them advance in their careers. In an even more taboo context, we also find that unsolicited advice—which most people believe should not be given—tends to be valued more than advice givers expect (**Vani, Abel, Schroeder, & Flynn, under review**). We identify a potential reason for advice givers' underestimate of advice recipients' appreciation: Givers underestimate their legitimacy to give advice in the eyes of recipients.

An important consequence of people misunderstanding their own and others' minds is that it can lead them to avoid others more than is warranted, reducing their own and others' wellbeing. We have called this phenomenon of avoiding others to one's own detriment "undersociality" and document its antecedents and consequences in several review papers (**Abel, Vani, Abi-Esber, Blunden, & Schroeder, 2022; Epley, Kardas, Zhao, Atir, & Schroeder, 2022**).

**Conclusion.** The social world is filled with other minds. Our perceptions of these minds, and resulting decisions about whether and how to engage with them, form the basis for all social relationships. I have dedicated my career to trying to understand the antecedents and consequences of mind perception. In the future, I hope to continue studying this research topic but also integrate newer, relevant methods into my research – like natural language processing – and shift focus toward the exciting ways in which social technology – like social media and the metaverse – is fundamentally changing the very nature of mind perception.

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**Note:** Francesca Gino is a coauthor on Abi-Esber et al. (2021) and Rosenblum et al. (2019); she did not handle any of the data in these papers (for more detail, see audits posted on the OSF pages for each paper).