STEREOTYPES AND SOCIAL DECISIONS:

THE INTERPERSONAL CONSEQUENCES OF SOCIOECONOMIC STATUS

by

BRADLEY T. HUGHES

A DISSERTATION

Presented to the Department of Psychology
and the Division of Graduate Studies of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2023

DISSERTATION APPROVAL PAGE

Student: Bradley T. Hughes

Title: Stereotypes and Social Decisions: The Interpersonal Consequences of Socioeconomic Status

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Psychology by:

Dr. Sanjay Srivastava	Co-Chair
Dr. Elliot Berkman	Co-Chair
Dr. David M. Condon	Core Member
Dr. Ellen Peters	Institutional Representative

and

Krista Chronister	Vice Provost for Graduate Studies

Original approval signatures are on file with the University of Oregon Division of Graduate Studies.

Degree awarded June 2023

DISSERTATION ABSTRACT

Bradley T. Hughes

Doctor of Philosophy

Department of Psychology

May 2023

Title: Stereotypes and Social Decisions: The Interpersonal Consequences of Socioeconomic Status

Interpersonal perceptions of socioeconomic status (SES), those formed in face-to-face interactions, can perpetuate inequality if they influence interpersonal interactions in ways that disadvantage people with low SES. There is indirect evidence to support that SES is perceived accurately, elicits SES-based stereotypes, and influences interpersonal decisions but these effects and the underlying mechanism have not been examined in social interactions. This dissertation extends the study of the interpersonal effects of SES into real world social interactions between people from a socioeconomically, and otherwise diverse population. To study how SES impacts these interactions, I developed a novel computer mediated online round robin method (CMORR) that uses videoconferencing technology to recruit a diverse online sample. In Study 1, I describe the CMORR procedure and shows that impressions of personality traits formed in CMORR interactions are comparable to those formed in-person. In Study 2, I used CMORR to facilitate interactions among N = 297 participants from across the United States. Participants interacted dyadically in virtual rooms and then provided judgments of their interaction partner's SES, personality traits, and the credibility of their consumer experience. The results showed that in these interactions perceptions of SES were accurate and elicited negative interpersonal stereotypes for people with low SES, in all 12 of the personality traits measured. SES was also

associated with social decisions about affiliation, credibility, and sympathy, and these effects were mediated by the interpersonal stereotypes. I finish by discussing the implications for the interpersonal perpetuation of inequality and future directions for studying the interpersonal effects of SES.

This dissertation includes previously published and unpublished co-authored material.

CURRICULUM VITAE

NAME OF AUTHOR: Bradley T. Hughes

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
University of California Berkeley, Berkeley, CA
Orange Coast College, Costa Mesa, CA

DEGREES AWARDED:

Doctor of Philosophy, Psychology, 2023, University of Oregon
Master of Science, Psychology, 2018, University of Oregon
Bachelor of Arts, Psychology, 2016, University of California Berkeley

AREAS OF SPECIAL INTEREST:

Interpersonal Perception
Inequality
Personality
Stereotypes

PROFESSIONAL EXPERIENCE:

Graduate Employee, University of Oregon, Eugene, OR 2016-2023

GRANTS, AWARDS AND HONORS:

UO Dissertation Research Fellowship, University of Oregon, 2022-2023
Wayne Morse Center Graduate Research Fellowship, University of Oregon, 2022-2023
Consumer Protection Grant, University of Oregon Law School, 2021
Love Consortium, Graduate Student Research Grant, 2020

PUBLICATIONS:

Hughes, B. T., & Srivastava, S. (2023). Studying Impressions and Social Interactions Online: Validating the Computer Mediated Online Round Robin (CMORR).[preprint]

Hughes, B. T., Srivastava, S., Lesko, M., & Condon, D.M. (2022). Occupational Prestige: The Status Component of Socioeconomic Status. [preprint]

Hughes, B. T., Berkman, E. B., & Ludwig, R. M. (Stage 1 RR, *in-principle acceptance in the Journal of Experimental Social Psychology*). The Detrimental Effect of Financial Stress on Inhibitory Control and Economic Decisions. [Stage 1 RR]

Hughes, B. T., Costello, C. K., Pearman, J., Razavi, P., Bedford-Petersen, C., Ludwig, R. M., Srivastava, S. (2021). The Big Five Across Socioeconomic Status: Measurement Invariance, Relationships, and Age Trends. *Collabra: Psychology*. https://doi.org/10.1525/collabra.24431

Hughes, B. T., Flournoy, J. C., & Srivastava, S. (2020). Is perceived similarity more than assumed similarity? An interpersonal path to seeing similarity between self and others. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/pspp0000369

ACKNOWLEDGEMENTS

Considering my life 12 years ago, it is hard to believe that I am here now. I certainly would not have made it here without the help and guidance from many amazing people. In science, like the rest of life, you cannot accomplish much alone.

First, I would like to thank my advisor Sanjay Srivastava for his guidance, advice, and mentorship in both research and life. I feel extremely fortunate to have had the opportunity to grab coffee with you weekly and chat about life, methods, and sometimes our current research projects. Your insight, wisdom, and whit turned these casual conversations into learning experiences that molded me as a scientist. Your approach of taking ideas and translating them into boxes and arrows is a tradition I have adopted and will continue. Beyond research, I want to thank you for listening to my *real-world* problems and your efforts to help me find solutions. It is challenging to navigate graduate school with a child, but your support as an advisor made it manageable.

Thank you to my committee members, Ellen Peters, Elliot Berkman, and David Condon for your feedback and insightful questions.

A giant thank you to Lori Olsen, the knower of all things. Thank you for your patience and the countless reminders. Without you, I certainly would not have completed all the program requirements and might still be locked out of my office.

Thank you to the incredible scientists I was fortunate to work with in the Personality and Social Dynamics lab. You all played an important role in my growth and development as a scientist and I feel fortunate to have co-authored work with all of you! Your insightful feedback during lab meetings improved my research and helped push it forward. I am especially grateful for the assistance and guidance that John Flournoy and Cory Costello provided on how to implement advanced statistical models.

I would like to thank all of the research assistants who helped on this project and any of my other work while at the UO. I appreciate your efforts and dedication.

Thanks to my fellow graduate students and cohort mates who made graduate school a little easier and a lot more enjoyable. I have truly enjoyed getting to know many of you over the last 7 years. You are my best friends and have been a fantastic support system.

I would also like to thank: my parents, Barbara and Charlie; my in-laws, Sharon and Dave; my brother and sister-in-law, Pamela and Geoff; and my cousins, Lynn, Ralph, Cammie, and Emi. Your support from near and far was greatly appreciated!

Finally, I would like to thank and acknowledge the contributions of my wife Brenda Hughes and my son Macsen Hughes. You two have been with me every step of this journey and have been my support and strength when most needed. Your patience and understanding when I was lost in thought or experienced stress induced crankiness was vital to completing this work. Thank you! I love you! This is for us!

For Brenda and Macsen. You are my support and my inspiration. Without you none of this would have been possible.

For the Bills, who were essential mentors and guides in my life. Bill Brill, who recommended I “get a few degrees”, and Bill (aka “Fridge”) who was instrumental in showing me how to trudge the road to happy destiny.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

I. INTRODUCTION

> Let me explain it to you, let me run it down just briefly if I can. We're looking for the American Dream, and we were told it was somewhere in this area.
>
> -Hunter S. Thompson; Fear and Loathing in Las Vegas

The American Dream, "work hard and you will get ahead", is synonymous with upward mobility and economic prosperity. For those at the top, who have realized the American dream, achieving economic success appears possible. But for individuals and families at the bottom of society's social and economic hierarchy, there are significant challenges and barriers to achieving this dream. Being stuck at the bottom of the socioeconomic hierarchy has deleterious effects on health outcomes (Adler & Stewart, 2010), educational attainment (Reardon, 2011), and access to opportunities (Marmot & Wilkinson, 2005; Sirin, 2005), which makes understanding and reducing barriers to upward social mobility a key piece to addressing economic inequality and improving the lives of people at the bottom.

The structure of society maintains inequality through policies and procedures that create unequal access to resources like education, occupations, loans, and healthcare. People low on the socioeconomic hierarchy have fewer educational opportunities, lower paying jobs, greater difficulty acquiring loans, and worse health outcomes than people higher up the hierarchy. There is increasing evidence to suggest that the social judgments and decisions made during interpersonal interactions are one mechanism through which these structural effects manifest at the individual level. For example, if people are stereotyped on the basis of SES, that could

reduce access to resources if they are treated differently by loan officers, admissions committees and educators (Auwarter & Aruguete, 2008), and health care providers (van Ryn & Burke, 2000)

Evidence of accuracy in perceptions of SES (Kraus & Keltner, 2009; Bjornsdottir & Rule, 2017), stereotypes of SES-based groups (e.g., "the rich", "the poor"; Fiske et al., 2002), and findings from the study of hypothetical or imagined "cross-class" interactions on behavior (Swencionis & Fiske 2016), all point towards SES impacting the judgments and decisions made during everyday social interactions. Theorists have proposed that together these effects influence interpersonal interactions in ways that perpetuate inequality (Kraus et al., 2017; Durante & Fiske, 2017). However, none of the empirical work testing these theories features a social interaction between a perceiver and target, and little has examined perceptions of real live people. Additionally, much of it has relied on convenience undergraduate samples, leaving a wide inferential gap between the findings in the literature and real-world interactions among people in a socioeconomically diverse population.

The primary aim of the present work was to address this gap by extending the study of the effects of SES into real-world social interactions. I will be able to estimate the accuracy of perceptions of SES in social contexts by studying interactions between people with diverse backgrounds and identities. This approach will also enable me to advance the understanding of how SES influences impressions of personality traits through the emergence of SES-based stereotypes, and test how SES and SES-based stereotypes influence social decisions about others. I begin by reviewing the lab-based evidence to support each component of this process. Then, I draw on previous theoretical frameworks of the stereotypes (Abele et al., 2021; Fiske et al., 2002; Koch et al., 2021) and the inferred social effects of SES to develop an approach to estimate the stereotype content of SES in interpersonal perceptions of individuals, and a

theoretically informed analytical model of how SES influences social judgments, through the elicitation of SES-based interpersonal stereotypes.

Accuracy in Perception of Socioeconomic Status

An individual's position in society's social and economic hierarchy is called their socioeconomic status, or SES (Diemer et al., 2013; Hughes et al., 2023; Kraus & Stephens, 2012). Often measured with indicators like income, educational attainment, or occupational prestige, SES represents an individual's access to resources and the status they are afforded based on their occupation (Antonoplis, 2022; Deimer et al., 2013; Oakes & Rossi, 2003). SES is a multidimensional psychological construct that influences where people live, shop, and work. Several studies suggest that SES cues may be visible to others during interactions.

Social interactions are a ubiquitous part of daily life. In the course of a day, people might have an interaction with a grocery store worker, an Uber driver, a friend, or a random stranger in a coffee shop or bookstore. During these interactions do people accurately perceive the SES of each other? Impressions of SES are similar to those of personality. People use information they observe during an interaction to form a judgment about the SES of an interaction partner. Funder's Realistic Accuracy Model (RAM; Funder 1995; 2012) proposes that for impressions of personality to be accurate, relevant personality cues need to be available during interactions and a perceiver must detect and utilize them in their impressions. Extending RAM to perceptions of SES, perceivers will form accurate judgements of SES if they detect and utilize relevant cues expressed by a target. If one of these processes does not occur, impression of SES will not be accurate.

To date, the study of accuracy in perceptions of SES has been conducted in lab-based studies in which perceivers judge the SES of a standardized stimuli (e.g., face, voice, video). The findings from these studies show that from various constrained stimuli people can guess SES with better-than-chance accuracy. For example, participants who were presented a face could classify it as rich or poor with over 60% accuracy (Bjornsdottir & Rule, 2017). In other work, participants listened to a target speak seven unrelated words and were able to classify whether the target had a college education or not with 55% accuracy (Kraus et al., 2019). Provided with more information, raters have also judged, with better-than-chance accuracy, SES from social media photos (Becker et al., 2017) or after watching a brief get-to-know-you interaction video between two targets (Kraus & Keltner, 2009). Together, this work provides evidence to suggest that SES-relevant information may be available during face-to-face interactions, but there are several reasons to question whether the findings from these studies will extend to interpersonal contexts.

Whether it is a face, voice, photo, or video, judging the SES of stimuli in the lab is inherently different from judging the SES of another person during an interaction. Lab-based studies include scaffolding to ensure cues were available and to assist people in detecting and utilizing them. For example, in the studies of faces (Bjornsdottir & Rule, 2017) and voices (Kraus et al., 2019), researchers selected stimuli from the extremes ends of the SES continuum, thus accentuating the characteristic they were interested in, which made it easier for SES to be detected. Interpersonal interactions are complex and dynamic situations that require effort and attention. Removing the perceiver from the interaction makes it a simpler situation without the cognitive load of an interaction. This could facilitate the perceiver's utilization of the accentuated cues. The interaction itself might also influence the accuracy of perceptions of SES. When

people interact, the perceiver influences the behavior of a target (Carson, 1968; Leary 1957) in ways that can influence impressions (Hughes et al., 2020). For example, people might use impression management strategies to alter the SES-based cues they express (Swencionis et al., 2017), potentially reducing the relevance or availability of SES cues, which according to RAM (Funder 1995; 2012) would reduce the accuracy of impressions of SES. These concerns are not limited to perceptions of SES. Researchers of personality impressions have long argued that accuracy is not a relevant concept for perceptions of person-like stimuli and therefore needs to be studied in impressions of real people formed during interpersonal interactions (Funder, 1987; Albright & Kenny, 1987).

Other issues that limit generalizing from previous lab-studies to interpersonal interactions are concerns about the number of perceivers studied and an overreliance on undergraduates as both perceivers and targets. Two of the four studies often used to support the accuracy of perceptions of SES examined the accuracy in perceptions made by a limited number of judges; early work on thin-slice judgments of SES reported the accuracy of seven undergraduate raters (Kraus & Keltner, 2009), and the study of perception of the SES of Facebook photos reported the accuracy of nine undergraduate judges (Becker et al., 2017). How the judgments of these seven or nine undergraduates relates to judgments formed during dynamic social interactions between people with diverse socioeconomic background is unclear. The other two studies examined perceptions of faces (Bjornsdottir & Rule, 2017) and spoken words (Kraus et al., 2019). Studying SES in undergraduate perceivers and targets also raises questions about how the restricted range of SES in this population affects estimates of accuracy. It is also unclear how perceptions of students, who have yet to establish their own SES, apart from their family, relate to perceptions

of working adults who have. In order to understand the accuracy of perceptions of SES outside of academic context it is necessary to study them in non-student samples.

Interpersonal Stereotypes of Socioeconomic Status

Evidence of accuracy in perceptions of SES suggests that SES may be an observable characteristic of individuals. If perceptions of SES activate SES-based stereotypes, these stereotypes should be detectable as biased impressions of personality traits, at least early in relationships. Kenny's PERSON model of interpersonal perception (Kenny, 2004) proposed that early impressions are predominantly comprised of stereotyped information based on observable characteristics. Thus, initial impressions of personality should reveal which domains are biased by an individual's SES, the *interpersonal stereotype content* of SES.

Stereotypes are generalized characterizations about the attributes of members of a social group or category (Eagly & Koenig, 2021). The potential for stereotypes to impact people's lives has motivated work on both the effects (e.g., Bodenhausen & Wyer, 1985) and content of stereotypes (e.g., Fiske et al., 2002; Koch et al., 2016; Koch et al., 2021). Research on the content of stereotypes has primarily looked to identify the social groups or categories that are stereotyped by society and the domains of the stereotypes activated by each group. To accomplish this, participants have been asked to rate how society stereotypes different groups on a limited number of domains (e.g., warmth and competence; Fiske et al., 2002). An adversarial collaboration showed that these models coalesce around two domains: agency/competence, which is associated with status, prestige, and power; and communion/warmth, which is associated with benevolence, trustworthiness, and cooperativeness (Koch et al., 2021).

Understanding of the stereotype content of SES is limited by the SES-based categories examined in previous work, which identified the stereotype content of "the rich" as cold and competent and "the poor" as incompetent with ambiguity as to their warmth (Fiske et al., 2002). Other work by these researchers has sought to refine the stereotype content of SES by including additional socioeconomic categories (i.e., "working class", "middle class"). People judged both these groups as higher in competence and warmth than either the rich or the poor (Durante et al., 2017), which suggests a curvilinear effect. However, applying the findings from impressions of these groups to develop predictions about the stereotype content of SES across the continuum is not straightforward. Based on these findings, in previous unpublished work, I preregistered and tested for curvilinear effects in the stereotype content of SES in two undergraduate samples. There was no evidence to support curvilinear stereotype content of SES in either study.

There are several limitations in the stereotype content model approach that caution against directly applying the findings to social interactions. First, impressions of groups and individuals are inherently different (Crump et al., 2010). Whether the stereotype content that emerges in perceptions of groups like "the rich" or "the middle class" will also emerge in impressions of individuals who are perceived to be group members remains an open question. When people make impressions of groups, they have to aggregate across a large number of individuals, and the evidence suggests that in impressions of groups people differentiate the characteristics into two domains (e.g., warmth and competence). Impressions of individuals can also be organized in two domains (Abele & Wojciszke, 2013). However, the study of interpersonal perception has shown that during social interactions people differentiate others in additional domains (e.g., the Big Five; Kenny, 1994; Srivastava, 2010).

Second, there is little evidence to support that people categorize others into these, or other, SES-based groups. Using researcher-determined broad groups limits the connection between this work and interactions among members of a society with a continuous socioeconomic hierarchy. In the US, people are organized along a continuum that stretches from very poor to obscenely rich, with most people somewhere in the middle. Given the continuous nature of the socioeconomic hierarchy in the US, studying stereotypes of SES in terms of extreme socioeconomic groups makes little sense if the goal is to understand how SES biases impressions of individuals along this continuum. Most Americans do not belong to either of these extreme groups, with seventy percent identifying as middle class (Pew, 2015). This means that most "cross-class" interactions do not involve someone who is, or identifies as, rich or poor. In what domains do SES-based stereotypes emerge during these interactions? It appears unlikely that everyone perceived to be middle class benefits from the stereotypes of high warmth and competence.

Interpersonal Stereotypes Methodological Approach

The application of social group stereotypes onto individual members of those groups is an understudied phenomenon, so there is not a standard methodological or analytical approach to assess them. Considering what we know about SES stereotype content is limited to how people judge a few SES-based groups, it is unclear what stereotypes to expect in impressions of people perceived to be higher or lower in SES. I will use perceptions of the SES-based groups as a starting point to formulate hypotheses but anticipate that stereotypes of SES will emerge in additional personality traits.

To differentiate between social-group and interpersonal stereotype content, I define interpersonal stereotype content as the bias in impressions of an individual's personality traits associated with perceived social group membership or position in a structural hierarchy. To determine the interpersonal stereotype content of SES, I will examine SES as a continuum and estimate how an individual's position in the hierarchy influences perceptions of personality traits. For example, the stereotype that people with higher SES are higher in competence would manifest interpersonally if an individual who is perceived by others to be higher in SES is also perceived by others to be higher in competence than they actually are. However, the lack of a direct connection between previous work and social contexts provides little reason to limit the study of interpersonal stereotype content of SES to certain traits. Instead, we will investigate the stereotype content of SES across a wide range of potential domains, including warmth and competence, the Big Five domains, and lay stereotypes that SES is associated with trustworthiness, laziness, intelligence, and impulsivity.

Socioeconomic Status, Stereotypes, and Social Decisions

I have hypothesized that people accurately detect the SES of others and apply biased stereotypes when forming impressions of their personality. If impressions of SES and SES-based interpersonal stereotypes in turn influence social judgments and decisions in ways that disadvantage people with lower SES, or advantage people with higher SES, they could contribute to the perpetuation of inequality. Social interactions in which social or economic resources are at stake could be especially important. Interactions that present an opportunity to gain additional resources, such as job interviews or social events (Ridgeway & Fisk, 2012) are one potential interpersonal context for the perpetuation of inequality. In these interactions, if

decisions that affect access to resources are made as a function of SES, and favor people with higher SES, it can create barriers to upward social mobility. Another important context for inequality is how people are treated when allocating resources to purchase goods or services as a consumer. Consumers with lower SES are more susceptible to being taken advantage of by companies (Jacob et al., 2022). Moreover, if SES and SES-based stereotypes cause lower-SES consumers' experiences to be deemed less credible, or elicit less sympathy from others, it could exacerbate the negative impacts of receiving faulty goods or services for people with lower SES.

How Does SES Influence Social Decisions?

Affiliation

In the lab, perceptions of SES can impact hypothetical decisions, such as who to hire (Bjornsdottir & Rule, 2017; Kraus et al., 2019) or who to affiliate with (Côté et al., 2017). For example, college students indicate a preference for friends who share similar SES (Bahns et al., 2017; McPherson et al., 2001). Together this work suggests a connection between SES and affiliation. Given the importance of social ties with people who have higher SES to upward social mobility (Chetty et al., 2022a), it would be adaptive for people to pursue friendship with others who have higher SES. These efforts might not be effective if people encounter challenges establishing these friendships, or choose not to, as suggested by evidence of friending bias in SES—people with lower SES are less likely to befriend people with higher SES (Chetty et al., 2022b).

Observations of widespread similarity in SES between friends and romantic partners (Moody 2001; McPherson et al., 2001) and empirical work that shows people express greater affiliation towards others with similar SES (Cöté et al., 2017), suggests that people are more

interested in affiliating with others who have similar SES. The tendency to associate with people who share similar characteristics is called homophily (McPherson et al., 2001). The structure of society in the US contributes to homophily in SES by limiting the amount of exposure to people with different SES. People tend to live and work with others who have similar SES, which creates additional opportunities to meet and become friends (Epstein & Guttman, 1984). Chetty et al. (2022b) examined the friendships of 70 million Facebook users and determined that half of the social disconnectedness between high and low SES individuals can be attributed to exposure. The other half is attributed to friending bias, which is the tendency for people with lower SES to form friendships with higher SES others at lower rates with the same amount of exposure.

Despite the overwhelming evidence of connection between affiliation and SES, the methods and data of previous work cannot identify the interpersonal processes that cause friending bias or homophily in SES. There are at least three distinct possibilities: 1) people might prefer to initiate relationships with others who are, or are perceived to be, similar in SES, 2) people might all prefer to initiate social relationships with others who are high in SES, but individuals with higher SES share this preference so the highest SES others interested in relationships are those with similar SES (akin to the mating markets hypothesis of relationship formation; Luo, 2017), and 3) SES might not initially influence social decisions about who to be friends with but through a process of attrition reduces the number of relationships between individuals with different SES. The present work will directly test if people are more interested in affiliating with others who have higher SES, and if people prefer to be friends with others who have similar SES. If neither of these effects are detected, future work should explore attrition as another potential cause of homophily in SES.

Consumer Credibility

Purchasing goods or services is another context in which differential treatment of people with lower SES can create barriers to upward economic mobility. For example, if the negative consumer experiences of people with lower SES are judged less credible or they receive less sympathy from others, they may not get compensated for the faulty good or service they received, which would further reduce their already limited resources. Research on consumer complaints has primarily focused on effective organizational response (Bell & Luddington, 2006; Davidow, 2003; Gruber et al., 2009) and customer retention (Knox, & van Oest, 2014). There is little work examining customer complaints from the perspective of the customer or investigating how the individual differences among customers, such as SES, impact the response to a complaint.

One way that an individual's SES could affect these situations and the social decisions about affiliation and consumer credibility is indirectly, by eliciting SES-based stereotypes about personality that then in turn influence social decisions. For example, decisions about affiliation could be influenced by impressions of extraversion, and if a person is perceived to be lower in extraversion as a function of SES, it could reduce others' interest in pursuing a friendship (Laakasuo et al., 2017). If the effect of SES on affiliation or credibility favor people with higher SES, these contexts have the potential to perpetuate inequality interpersonally.

Social Function of Stereotypes

Considering the function of stereotypes broadly, at the level of social groups, stereotypes are often called upon to justify policies that discriminate against certain groups. For example, people may use the stereotypes that individuals with low SES are lazy, to justify support for

policies aimed at reducing government aid (e.g., welfare, food programs; Bullock, 2017; Rudman & Saud, 2020). At the level of individuals, stereotypes are used to facilitate rapid evaluation about the social intent of others from visible information and each domains serves a specific social function: communion/warmth evaluates others' intentions to "get along" (Hogan, 1983; Abele et al., 2021) or if they mean harm (Fiske et al., 2002), and agency/competence evaluates others' intentions to "get ahead" (Hogan, 1983; Abele et al., 2021) or if they are capable of inflicting any intended harm (Fiske et al., 2002).

These functions have primarily been explored outside of social contexts with a focus on how an imagined or anticipated (e.g., Swencionis & Fiske, 2016; Dupree & Fiske, 2019) interaction with a target, who explicitly belongs to an extreme SES group, impacts a perceiver's attitude or behavior. For example, one study asked participants to consider an interaction with an imaginary coworker who belongs to either a high, medium, or low SES group (Swencionis & Fiske, 2016). From this information, it was assumed that perceivers would think about the targets using the stereotype content of SES, such that the imaginary low SES coworkers were perceived as lower in competence (untested). They asked participants to select which personality traits about themselves they would like the imagined interactions partner to know about. The results showed that perceivers altered the traits they selected as a function of their SES, specifically that participants selected competence-related traits less in the imagined interactions with low SES coworkers. From this, the researchers inferred that in interpersonal interactions, higher SES people "downplay" their competence in an attempt to match the stereotyped low competence of the imagined low SES interaction partner.

Whether the attitudes expressed by the participants in this study predict how they will act towards a low SES co-worker, and more broadly whether any effects found in studies of

imagined interactions with hypothetical others are predictive of behavior in actual interactions, is an open and important question. There is reason to believe that there may be a large gap between what people say they will do and what they actually do during social interactions. In an early landmark study of stereotypes and discrimination, LaPiere (1934) questioned this association and argued that there is little connection between people's expressed attitudes towards others in their "verbal responses to symbolic situations" (p. 230) and the way they actually treated real people in social contexts. At the time of his research, there was overwhelming anti-Chinese prejudice in the US, and he found that most inn and restaurant owners reported in response to survey items that they would not allow Chinese person to stay at their inn or eat at their restaurant. To test how this attitude informed actual behavior towards a Chinese person, LaPiere drove around the country with a Chinese couple stopping at 251 inns and restaurants. In direct contrast with the expressed attitudes of the innkeepers and restauranteurs, they were welcomed at 250 and only refused service at one. The discrepancy between people's attitudes towards others and their actual behavior towards others makes it necessary to study the effects of stereotypes in actual social interactions between real people.

The Interpersonal Stereotype Model

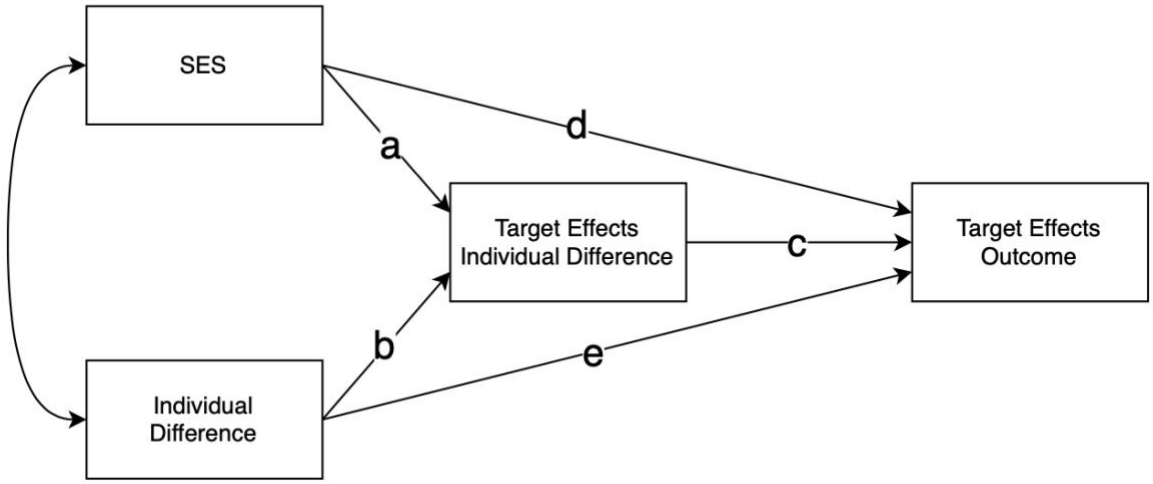
Together, previous work on the content and social functions of stereotypes provides a foundation of indirect evidence to inform theories of how SES impacts social interactions in ways that perpetuate inequality (Durante & Fiske, 2017; Kraus et al., 2017). Kraus et al., (2017) proposed that both sorting by SES and SES-based stereotypes help augment SES-based group boundaries and hypothesized that sorting was partially caused by people preferring to affiliate with others who have similar SES. Durante & Fiske(2017) used overlapping empirical work to

develop a theory about how SES-based stereotypes maintains inequality in "cross-class" encounters by fostering mutual mistrust (Fiske et al., 2012), and influencing social behavior (Swencionis & Fiske, 2016).

I built upon these theories to develop a theoretically informed analytical model of how SES impacts social judgments and decisions through interpersonal stereotypes. The interpersonal stereotype model (ISM; Figure 1.1) maps how an individual's SES and personality inform perceptions of personality, and how all of these variables affect an interpersonal decision, such as who to be friends with. Path *a* in the model represents how SES biases perceptions of personality traits by controlling for actual standing on that trait (path *b*). Path *c* is the effect of perceptions of personality on the outcome. The main path of interest in this model is the indirect path *a*c*, which is the effect of SES on the outcome transmitted through interpersonal stereotypes of SES, controlling for the direct effects of both SES and personality on the outcome. The ISM provides theoretical clarity for how SES perpetuates inequality interpersonally by explicitly positioning SES-based stereotypes as the mechanism by which SES influences social decisions.

Figure 1.1

The Interpersonal Stereotype Model



Studying SES in Social Interactions

Previous work provides compelling indirect evidence of the interpersonal impacts of an individual's SES, but there is limited evidence of these effects in social interactions between people. Studying the impact of SES on the impressions formed and the social decisions made during everyday social interactions presents two methodological challenges. The first is how to study impression formation and stereotyping in social interactions between real people, rather than in artificial experiments with controlled stimuli. I address this first challenge by using the Social Relations Model (SRM; Kenny 1994; Kenny & LaVoie, 1984), a quantitative modeling approach that statistically isolates and precisely estimates different interpersonal effects of interest. The SRM requires data from a multiple-rating design such as a round robin, in which each participant interacts with several others and provides their impressions of each one.

The second challenge stems from the need to collect multiple-rating data and is more novel: how to study perceptions of SES in interactions between people from a socioeconomically diverse population. Round-robin studies are logistically challenging because they require scheduling and running multiple participants simultaneously. As a result, SRM studies have overwhelmingly relied on convenience samples of undergraduates. To overcome this challenge, I developed and validated a new paradigm, the computer-mediated online round-robin (CMORR; "see-more"). CMORR facilitates interactions between participants using videoconferencing technology, making it possible to extend the lab into the real world and study interactions between people from diverse backgrounds. Participants can be anywhere as long as they have access to a computer and an internet connection.

Overview of the Present Studies

The aims of this dissertation are: 1) to investigate how SES influences the impressions and social decisions formed during initial social interactions, and 2) validate the computer mediated online round robin (CMORR ; Hughes & Srivastava, preprint) method I used to collect the data and test these substantive hypotheses. In Chapter 2, I review approaches to studying impressions and the logistical challenges associated with studying the impressions formed during social interactions and in diverse populations. Then, I describe the CMORR method and report the results from a CMORR study that compared the structure and accuracy in impressions of Big Five traits formed during CMORR interactions to impressions formed during in-person interactions. The similarity in both structure and accuracy of these impressions to the in-person studies supported the validity of using CMORR to study impressions and the impression formation process, and showed that CMORR impressions are comparable in-person impressions.

I discuss the broader implications of the CMORR method for the study of interpersonal perception and social interactions more broadly before returning to my substantive questions about the impact of SES on social interactions.

In Chapter 3, I use CMORR to collect data from $N = 297$ adults from across the United States. Participants had a series of interactions with other participants in online videoconference rooms, in which they discussed a recent consumer experience. After each interaction, participants rated the SES and personality of their interaction partner, and indicated how interested they were in future affiliation, judged the credibility of and told us how much sympathy they had for their partner's consumer experience. I report the results of preregistered hypotheses about the accuracy of interpersonal perceptions of SES, the content of interpersonal stereotypes of SES, and how perceptions and stereotypes of SES influence social decisions. In Chapter 4, I discuss the broader implications of these results for the study of SES, inequality, and stereotypes.

II. STUDYING IMPRESSIONS AND SOCIAL INTERACTIONS ONLINE: VALIDATING THE COMPUTER MEDIATED ONLINE ROUND ROBIN (CMORR)

Advances in videoconferencing technology and its adoption as a substitute for in-person meetings present a new opportunity to extend the study of social interactions, impression formation, social cognition, and interpersonal perception into the real world, and to study these phenomena in interactions among people from diverse backgrounds. Almost all Americans (*Mobile Fact Sheet*, 2021) and the vast majority of people across the globe have access to a smartphone or computer that can run videoconferencing software (Turner, 2018). Researchers can leverage this technology and its widespread availability to recruit participants from anywhere in the world and bring them together online to interact and complete measures about their impressions of one another, experiences during the interaction, and much more.

Moving a traditional in-person research paradigm to online settings can create an exciting opportunity to answer new research questions and extend previous work to more diverse and hard-to-reach populations (Gosling et al., 2004). However, it is important to first understand how the impressions formed during online interactions compare to those formed during in-person interactions. If basic features of the impression formation process are similar between online and in-person settings, that should be reflected in similarities in critical features of data from interaction experiments. Research and theorizing in computer-mediated communication research suggests that modern videoconferencing can approximate face-to-face interactions much better than sparser channels like text messaging (Antheunis et al., 2020). The central goal of the present research is to gauge the validity of using online, videoconferencing-based interactions to study first impressions formed during social interactions by comparing key features of data with a

widely used model of interpersonal perception, the Social Relations Model (SRM; Kenny & LaVoie, 1984).

In this chapter, I first review two major paradigms for studying impression formation: social cognition and interpersonal perception. While the social cognition paradigm has already been substantially adapted for online use, interpersonal perception research has lagged behind. I discuss what kinds of questions the interpersonal perception paradigm is uniquely capable of answering, and how logistical requirements have limited how much of that potential has been reached. Then, I introduce a potential solution: the Computer Mediated Online Round Robin (CMORR; "see-more"). CMORR is a novel methodological approach that facilitates face-to-face interactions between participants in virtual rooms and collects data about the impressions formed and the social judgments and decisions made during the interactions. I describe the method in detail, then compare the structure and accuracy of impressions of Big Five traits formed in a CMORR study to both those formed in an in-person round-robin study with the same population, and to previous work in the literature.

The Interpersonal Perception Paradigm: Opportunities and Barriers

Understanding the impressions people form of others, especially first impressions, has long been a goal of psychological research. For example, early work by Asch (1946) examined how individuals incorporate a multitude of distal characteristics into the impression of a single person. More recently, psychological research on impressions and impression formation has taken two distinct methodological approaches.

Social-Cognitive Approaches

One major paradigm is social cognition, which prioritizes internal validity and experimental control. In studies of social cognition, participants are generally asked to make judgements about static or hypothetical stimuli (e.g., pictures or vignettes). The goal of these studies is often to isolate a single feature of targets (e.g., group membership, gender) to determine how this specific feature changes perceptions of the other characteristics of the target (Fiske & Taylor, 1991) or alter decisions made about the target. Social cognition research includes diverse research paradigms such as the IAT (e.g., Forscher et al., 2019; Greenwald et al., 1998), face perception (e.g., Bjornsdottir & Rule, 2017; Hehman et al., 2017; Xie et al., 2019), and content models of social group stereotypes (e.g., Fiske et al., 2002; Koch et al., 2016). Because the experimental social cognition paradigm does not require social interactions, it has been relatively straightforward to adapt to online settings.

The Interpersonal Perception Paradigm

An important and unanswered question for social cognition researchers is: what does this work tell us about the back-and-forth dynamics of real social interactions, such as a job interview, a work meeting, or a social gathering? The other primary approach to studying impressions, interpersonal perception (Kenny, 1994; 2019), was developed to complement the social cognition paradigm and allows researchers to answer these questions by studying impressions formed during social interactions between participants. In contrast to controlled laboratory settings where people make judgements about standardized stimuli, in real-world interactions people adapt to one another and influence each other's behavior (Carson, 2019; Kiesler 1983; Kenny & Albright 1987; Leary, 1957). Interactivity is a critical part of real-world impression formation, which demonstrably influences the impressions people form (Hughes et

al., 2020). People may also interpret a cue differently when it is presented out of context as an experimental stimulus, compared to when it is just one part of a dynamic and complex behavioral stream of information (Zebrowitz & Collins, 1997). Finally, the interpersonal perception approach allows researchers to test questions about accuracy, which artificial stimuli do not (Funder, 1987; Kenny & Albright 1987). A vignette, a resume with a randomly assigned name, a morphed face, or other artificial stimuli do not have personalities, social identities, or social positions – when impressions are not about real humans that have these characteristics, accuracy is simply not an applicable concept.

Because interpersonal perception researchers relinquish the experimental control of a target's attributes, favored in social cognition, they use multiple-rating designs (e.g., round robin, full-block) and advanced statistical models such as the social relations model (Kenny & LaVoie, 1984), the social accuracy model (SAM; Biesanz, 2010; Human & Biesanz, 2011), and others to make precise estimates of interpersonal effects in noisy social interaction data. The interpersonal perception approach has been used to answer a broad range of questions, including those about accuracy (e.g., Biesanz, 2010; DePaulo et al., 1987; Kenny & Albright, 1987), meta-accuracy (e.g., Levesque, 1987; Porter et al., 2018), and global judgements about others (Rau et al., 2021); and to study other psychological phenomena, such as work relationships (Elfenbein et al., 2009), psychological adjustment (Humberg et al., 2019), personality disorders (Oltmanns & Turkheimer, 2009) and externalizing behavior (Marcus et al., 2017). Further, it has been used to study impressions in relationships of different types and lengths, including during initial interactions between strangers (Carney et al., 2007; Kerr et al., 2020) between people in relationships (Watson et al., 2000), and over time (Human et al., 2020; Paulhus & Bruce, 1992; Srivastava et al., 2010).

Interpersonal perception research can answer questions no other method can so it has enormous potential. But a significant barrier to realizing that potential is that to date, interpersonal perception studies have relied heavily on convenience samples, which are often unrepresentative and homogenous. This is especially true of interpersonal perception research on first impressions, which has been conducted almost exclusively with convenience samples of undergraduate students. Indeed, we reviewed 10 years (2010-2020) of entries into the SRM reference list, maintained by David Kenny (available at http://davidakenny.net/srm/srm.htm), and found that of the 125 empirical research articles, only 3 articles featured unacquainted, non-student participants: Asendorpf et al., 2011; Back et al., 2011a; Back et al., 2011b. All three used data from the same speed dating study that recruited college-educated participants from the local community The overreliance of previous work on samples of college undergraduates in the study of first impressions raises important questions about the generalizability of this work outside of this population.

College samples at research universities are less diverse than the general population in important ways, including age, race/ethnicity, and socioeconomic status. This lack of diversity can have several effects. One broadly applicable one, which has been widely discussed, is that of external validity – unrepresentative samples may not generalize to broader populations (Henrich et al., 2010; Syed, 2021). A second problem of special relevance for interpersonal perception research, is the homogeneity itself. Many of the key parameters estimated in the SRM, SAM, and other models are variances and covariances. A lack of within-sample variability will lead to systematic biases in estimates of consensus, accuracy, and other important phenomena.

Why then have undergraduate samples persisted in interpersonal perception research? Traditional round-robin designs, and other interactive studies, are logically challenging and

labor-intensive. They require recruiting a group of participants to show up at the lab at the same time and spend a considerable amount of time interacting with each other. Undergraduates who have research requirements to fulfill, live close by, and have flexible schedules make them feasible populations to sample from, if not an ideal one in other ways. One approach researchers could use to address these concerns, and study a more extensive range of questions, is to recruit a community sample and conduct study sessions in the lab using a conventional paradigm. However, this would create additional logistical issues (e.g., recruiting and scheduling) and be costly in time and money. The dearth of interpersonal perceptions studies with community samples suggests that most researchers consider this cost-prohibitive. In addition, researchers may not always be located in places where the local community is representative of the population they want to study.

A New Approach: The Computer Mediated Online Round Robin

To overcome these logistical challenges and enable researchers to collect data from more diverse and harder-to-reach populations, we developed an interactive online data collection paradigm called the *computer mediated online round robin* (CMORR). CMORR can leverage the widespread availability of computers, the internet, and videoconferencing software to facilitate interactions between participants from anywhere in the world and collect data afterword.

How CMORR Works

The availability of videoconferencing and ubiquity of online meetings might make it seem simple to move the study of impressions and social interactions online. But, as we discovered when we tried to actually run a round-robin study online, there are important considerations and challenges that need to be addressed to limit attrition, collect high quality data, and for participants to have a seamless experience.

General Considerations in Round-Robin Studies

When conducting a round-robin study, whether in-person or with CMORR, there are several general considerations: 1) should the members of a round-robin group all interact together or in a series of one-on-one interactions? 2) how much time should participants spend interacting or working on a task together? 3) how many ratings or judgments should participants make of one another? and 4) how many participants should be in each group and how many groups should there be? Interpersonal perception researchers make decisions about study design based on a mix of domain knowledge of the research topic, statistical considerations, and practical limitations of available funding, personnel, equipment, and facilities. With proper planning and support, CMORR can be used to study both group and dyadic interactions and accommodate a wide variety of interaction tasks and judgments. CMORR can also be used to study interactions among people with different relationships, such as strangers, coworkers, or friends, and in different social contexts, such as initial social interactions, work groups, or online social games.

For the first CMORR study, we had participants interact one-on-one in a series of dyadic interactions. Considering evidence that people struggle with natural turn-taking during online group interactions (Boland et al., 2022), we decided one-on-one interactions would provide the

best opportunity for participants to interact and get to know one another. Piloting showed that for our get-to-know-you task, five minutes was an ideal amount of time to complete the interaction task without awkward down time. It was also important to limit the number of items participants responded to in-between interactions so that individual differences in response time did not lead to lengthy delays where one or two participants held up the session and make others wait for several minutes. We found that participants could respond to about 50 items without significant delays. To balance concerns about power and participant fatigue, we recruited groups of 4 to 6 participants. SRM effects can be extracted from groups as small as 4, but larger groups provide more statistical power. With groups of 6, we had 5 rounds of dyadic interactions and ratings for a total of 50 minutes, giving us a 10-minute cushion to complete the session in less than an hour.

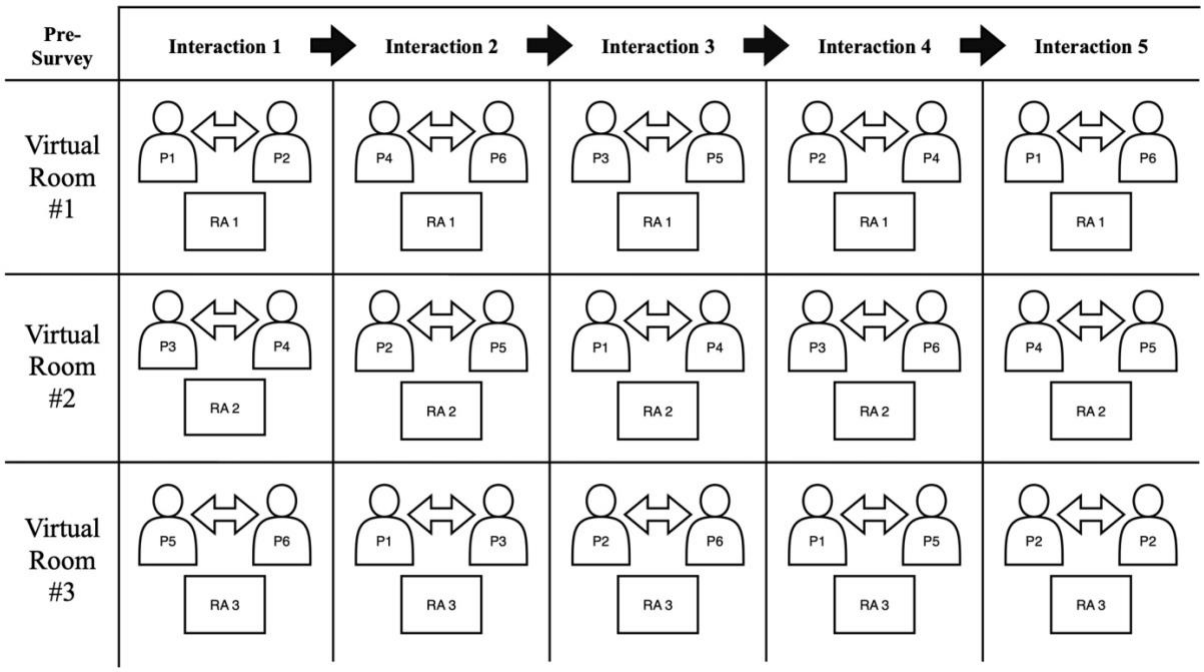
Online-Specific Challenges and Solutions

CMORR sessions are complex. A 6-person dyadic CMORR study session features 5 interaction rounds, with each round having three simultaneous dyadic interactions (see Figure 2.1). After participants have joined the study session, they each need to be paired with another participant, have an interaction, answer survey items about their interaction partner, and then be paired with a different participant and repeat the cycle. This process continues until each participant has interacted with and rated all of the other group members. Early pilot CMORR sessions demonstrated that even with clear instructions and dedicated support, participants found it challenging to navigate between different software and browsing windows for the interaction and survey. To address this, we eliminated the need to move back and forth by embedding videoconference rooms directly into the survey software. To increase the accessibility of participating in a CMORR study, we chose videoconferencing software that did not require a

software download. Out of the currently available videoconferencing software, we found that Jitsi Meet (https://meet.jit.si) provided an easy way to embed the virtual rooms into a Qualtrics survey using html code and that it did not require that participants download software. Jitsi Meet is also open source, free to use, and features end-to-end encryption, making it ideal for scientific use.

Figure 3.1

Interaction Flow for a Six-person CMORR Session



Note. Each on-way solid black arrow represents leaving one interaction, taking a survey, and joining another interaction.

With Jitsi Meet rooms embedded into a Qualtrics survey, participants use a single survey link to join the study session, and their subsequent experience is very similar to other online

survey studies. In order to advance to an interaction, the participants simply click a button, and then after the interaction they advance the survey again to rate their interaction partner. This approach makes participating in a CMORR study a linear experience for participants and reduces attrition by eliminating the possibility that they get lost switching between software platforms or navigating to the next virtual room.

Other challenges include how to ensure participants follow interactions instructions, spend the designated amount of time together, and how to record the interactions. These challenges are addressed by having a well-trained team of trained research assistants (RAs) who monitor the study in real time. The RAs are key to keeping participants engaged and moving through the study together, and record the interaction. Each 6-person CMORR session requires a minimum of three RAs, one in each virtual room, supervising the interactions. We found it helpful to have a fourth RA to help coordinate the session, communicate with participants outside the virtual rooms and, if necessary, address any technical or timing challenges. For the RAs, we created Qualtrics surveys with embedded Jitsi Meet rooms, similar to the participant surveys, so that they could monitor the interactions within a single survey and not have to navigate into the correct virtual room for each of the five interactions. We recommend using uniquely identified virtual Jitsi Meet rooms for each interaction round. This limits the disruptions that can be caused by participants who fall behind or fail to advance the survey.

Comparing CMORR to In-Person Interpersonal Perception Studies

Before applying CMORR to study novel populations or ask new questions, it was important to evaluate whether current videoconferencing technology has enough rich behavioral information that personality impressions from CMORR interactions are similar to those from in-person interactions. Because the majority of interpersonal perception research has been conducted with undergraduates who are able to come to a research lab, we chose to conduct an initial CMORR in that population as well. That allowed us to make comparisons across media (CMORR vs in-person) without changes in population. If CMORR produces comparable results, it would support the validity of future CMORR studies in new populations.

We used the SRM to analyze ratings of Big Five traits in the CMORR data. We focused our evaluation on several key parameters: the relative size of variance components, the cross-trait covariances among the perceiver effects and among the target effects, and self-other agreement. These parameters are often either the focus of SRM studies or are examined as a preliminary step to more complex analyses that depend on them. There is an extensive body of research on them with in-person designs, making them a useful and important basis for comparison.

Variance Components

An SRM variance decomposition shows how much variance in ratings can be attributed to differences among perceivers, targets, and the unique relationships between perceivers and targets. Each of these components is associated with a fundamental question in interpersonal perception. Perceiver variance is an indicator of assimilation, the extent to which the same perceiver views different targets in the same way (Kenny, 1994; 2019). Target variance is an indicator of consensus, the extent to which different perceivers view the same target in the same way. Relationship variance is an indicator of uniqueness, the extent to which a perceiver views a

target differently from the way they view other targets and the way others view that target. In an SRM with a single indicator of the perception, relationship variance cannot be differentiated from error variance. Therefore, in our comparison we focused on perceiver and target variance.

If videoconferencing software provides a similar opportunity for the expression, availability, detection, and utilization of behavioral information (Funder, 1995) in both CMORR and in-person interactions, we would expect perceiver and target variance to be in the range of previous research. If the different interaction mediums of interaction were to impact the expression and detection of relevant behavioral cues, we would expect to see differences in these variance components. For example, if behavioral cues were degraded in CMORR interactions, we might see an increase in perceiver variance. Perceivers would have to rely on heuristics or global judgments instead of behavioral observation. In this scenario, we would also anticipate a decrease in target variance (consensus) caused by less cues available to differentiate between targets.

Correlations Among Perceiver and Target Effects

In addition to estimating sample-level variances, the SRM provides individual-level effect estimates for each component. Perceiver effects indicate how each participant tends to rate others, and target effects indicate how each participant tends to be rated by others. Correlations among perceiver effects of Big Five traits show whether the tendency to rate others as high or low in one trait is associated with rating tendencies in other traits. For example, do people who tend to rate others high in extraversion also tend to rate others high in conscientiousness? Similarly, correlations among target effects show whether the tendency to be perceived as high or low in a trait is associated with the tendency to be perceived high or low in other traits. For

example, are people who are generally rated as high in agreeableness also rated high in openness? Differences between CMORR and in-person studies in the direction or strength of these correlations would suggest that people are using a different process or information to inform their trait judgments. For example, if participants cannot discern trait-specific information about targets, they may fall back on more holistic judgments based on global positive or negative evaluation. This would lead to correlations among perceiver effects for different traits that are strong and in a consistent evaluative direction.

Self-other agreement

Self-other agreement is indexed by correlations between target effects and self-reports of the same trait. Depending on the context of a study and the theoretical framework, both consensus and self-other agreement are sometimes used as indices of accuracy (Connelly & Ones, 2010; Kenny, 1994) Some traits, such as extraversion, are typically judged more accurately than others, such as neuroticism, an effect that has previously been attributed to how easy it is for others to observe these traits (Funder & Dobroth, 1987; Vazire, 2010). Much like structure, if the medium of interaction impacts the expression, availability, detection, or utilization of behavioral cues of personality (Funder, 1995; Gosling et al., 2008), we would expect accuracy in the perception of these traits to be affected.

The Present Study

We used CMORR to facilitate face-to-face interactions between participants in virtual rooms and collected ratings of participants' impressions of one another. In order to compare these impressions to previous work, in this first CMORR study, we recruited an undergraduate

sample. To provide a frame of reference to interpret the CMORR SRM results, we used two data sources to make comparisons. First, we calculated the same statistics in an in-person study we previously conducted in our lab. The in-person study was originally run for a different purpose; it features participants drawn from the same population and uses the same rating items, but the interaction task is not identical to the CMORR study. We believe this makes it a useful point of comparison, but it should not be interpreted as a pure control condition. We also compare CMORR results to data from meta-analyses of SRM studies. Meta-analytic data reflects heterogeneity in research questions, rating instruments, and other details. Thus, rather than using it to pinpoint a single "correct" answer to compare CMORR results to, we use it to compare CMORR results to a range that is common in interpersonal perception research.

Method

Both the CMORR Study (title: Computer Mediated Online Round Robin; protocol number: 01292019.042) and In-person Study (title: Consensus and Accuracy in Interpersonal Perception; protocol number: 09272019.031) were approved by the University of Oregon IRB. The methods for both studies, including procedures and materials, were preregistered on the Open Science Framework (OSF) prior to data collection (CMORR: https://osf.io/y2rke/; In-person: https://osf.io/95amb/). The hypotheses included in these preregistrations are reported elsewhere and additional measures, not reported in this manuscript, were collected to test those hypotheses. None of the analyses in this manuscript were preregistered.

A round robin study requires a minimum sample size of $N = 139$, participating in 26 groups of 4-6 participants to achieve 92.5% power to detect variance components with a standardized effect size of 10% of the total variance (Lashley & Kenny, 1998; Salazar Kämpf et

al., 2019)**.** Both the CMORR Study and In-person Study surpass this minimum sample size and therefore are adequately powered to reliably estimate the variance decomposition and accuracy (indexed as self-other agreement) of impressions of big five traits.

Computer Mediated Online Round Robin (CMORR) Study

Participants

CMORR data comes from a sample of 187 undergraduates who were recruited from the University of Oregon Psychology and Linguistics human subject pool and participated in groups of 5 and 6. They volunteered to participate in exchange for partial course credit. Three groups were missing perception data for multiple targets and were removed from the final analysis, excluding 16 participants. The final sample of $N = 171$ participated in 30 groups, and self-reported the following demographics: $M_{age} = 20$, $SD_{age} = 2$; 74% women (3 participants identified as gender non-conforming); 63% White, 13% Asian; 6% Latino/Latina, 2% Black, and the other 16% of participants selected multiple responses or "other."

Procedure

Groups were scheduled to arrive at the lab at the same time and were greeted by an experimenter who escorted each participant to a private room. The experimenter then provided a brief overview of the CMORR procedure. Participants were told they would be interacting with several other participants in virtual rooms and then provide impressions about them. When all the participants were seated at a computer in a private room, they were instructed to begin the survey. First, participants self-reported Big Five personality traits and provided demographic

information. Then, they followed a link to a virtual room where they were met by a research assistant (RA) and another participant. The RAs delivered detailed instructions for the get-to-know-you task, answered questions, and provided the 5 discussion questions the participants were instructed to use to guide their 5-minute interaction. The experimenter then began recording the interaction and "left" the virtual room by muting their audio and video (though participants were aware that the experimenter was able to see and hear them and that the interaction was being recorded).

During each round of interactions, three dyads interacted in three virtual rooms. After five minutes, the RAs unmuted their audio and video and informed participants they were to exit the virtual room and return to the survey to provide ratings of the interaction partner. After the ratings participants were provided a link to the next virtual room where they met and interacted with another participant. This process was repeated until the participants had interacted with and rated each of the other group members. In 5-person groups, each round had two interactions and one participant sat quietly with the RA for 5-minutes.

In-Person Study

Participants

In-person data comes from a sample of 247 undergraduate students who were recruited through the University of Oregon Psychology and Linguistics human subjects' pool and participated in groups of 4 to 6. They volunteered to participate in exchange for partial course credit. In accordance with the preregistration, 22 participants were excluded from the analysis. The final sample consisted of $N = 225$ participants who participated in 44 groups: $M_{age} = 19$,

SD_{age} = 2; 68% women; 64% White, 7% Asian, 7% Hispanic, 2% Black, 0.8% Native American, and the other 20% of participants selected multiple responses or "other."

Procedure

Groups of 6 participants were scheduled for each session. Due to some participants not showing up, sessions were run with groups of 4-6 participants. Upon arrival, participants were shown to private rooms, where they were consented and self-reported personality and responded to demographic items, including age, sex, and race and ethnicity. They were also provided a name tag with their preferred first name and participant ID number to wear for the duration of the task.

Next, participants were brought together and photographed as a group[1]. Participants were then seated at a round table and provided instructions for the Leaderless Group Discussion Task (LGD; adapted from DesJardins et al., 2015). In this task, participants assumed the roles of a scholarship committee whose job is to rank order applicants' essays and distribute scholarship money. Participants were given five minutes to read the applicants' essays and then twenty minutes to work as a group to complete the task. The entire group session was video and audio recorded by four ceiling mounted cameras and a microphone. After completing the group task, participants returned to private rooms and rated each other member of the group.

[1]During the interaction, this photo was printed and labelled with the participant ID number of each person. The labeled photo was provided to the participants after the interactive session to reference while they made ratings of others to ensure they were rating the correct person.

Measures for Both Studies

Self-report

Big Five Inventory 2-XS (Soto & John, 2017). The "extra-short" BFI has 15-items, three for each domain. Respondents indicated agreement to each item with a 5-point scale anchored at 1-strongly disagree and 5-strongly agree. Scores for BFI-2-XS domains were calculated by reverse scoring and averaging the associated items (see Table 2.1 for descriptive statistics).

Perceptions

Big Five Inventory 2-XS other report (Soto & John, 2017). A modified version of the BFI-2-XS modified for other-reports. Respondents provided ratings of their interaction partner by indicating agreement to the items on a 5-point scale anchored at 1-strongly disagree and 5-strongly agree (see Table 2.2 for descriptive statistics).

Results

For each Big Five trait, we conducted a SRM analysis (Kenny, 1994) using the TripleR package (Version 1.5.4; Schönbrodt et al., 2012; 2022) in R (Version 4.2.1; R Core Team, 2020). Descriptive statistics for self-report and perceived Big Five traits for the CMORR Study are presented in Table 2.1 and for the In-person Study in Table 2.2.

Table 3.1

Descriptive Statistics for Big Five Domains in the CMORR Study

Trait	Self-report (*N* = 171)			Perceptions (*N* = 802)		
	Mean	SD	alpha	Mean	SD	alpha
Extraversion	3.11	0.91	.70	3.13	0.87	.73
Agreeableness	3.88	0.76	.59	3.93	0.70	.70
Conscientiousness	3.51	0.77	.47	3.47	0.77	.58
Neuroticism	3.27	1.00	.76	2.83	0.69	.56
Openness	3.78	0.77	.62	3.55	0.66	.58

Table 3.2

Descriptive Statistics for Big Five Domains in the In-Person Study

Trait	Self-report (*N* = 225)			Perceptions (*N* = 932)		
	Mean	SD	alpha	Mean	SD	alpha
Extraversion	3.16	0.88	.67	3.21	0.96	.80
Agreeableness	3.82	0.70	.46	3.79	0.64	.65
Conscientiousness	3.43	0.75	.54	3.60	0.70	.67
Neuroticism	3.19	0.88	.67	2.62	0.66	.62
Openness	3.76	0.74	.58	3.43	0.62	.57

Variance Components

The standardized SRM variance components for the CMORR study are presented in Table 2.3. Perceiver variance and target variance have been estimated in a large number of studies, providing a range of expected values for CMORR variance components if they are comparable to those made in-person. To provide a point-estimate comparison, we also report the

variance components from the In-person Study in Table 2.3. We estimated the range of expected values as plus or minus two standard deviations from the meta-analytic mean of standardized perceiver variance (from Table 2 of Rau et al., 2021). Because the CMORR Study is of initial impressions formed during social interactions, we included initial interaction studies and the first wave of longitudinal studies, and excluded 2 studies examining impressions of videos. The anticipated range of perceiver variance and the point-estimates from both the CMORR Study and

In-person Study are plotted in Figure 2.2. The figure shows that the amount of perceiver variance in impressions formed during CMORR are in the expected range.

Table 3.3

SRM Standardized Variance Components for the CMORR Study and In-person Study

	Perceiver		Target		Relationship/Error	
	CMORR	In-person	CMORR	In-person	CMORR	In-person
Extraversion	.07	.06	.40	.57	.53	.38
Agreeableness	.25	.32	.19	.17	.57	.51
Conscientiousness	.15	.31	.30	.16	.55	.54
Neuroticism	.21	.38	.19	.09	.60	.53
Openness	.22	.23	.19	.15	.59	.62

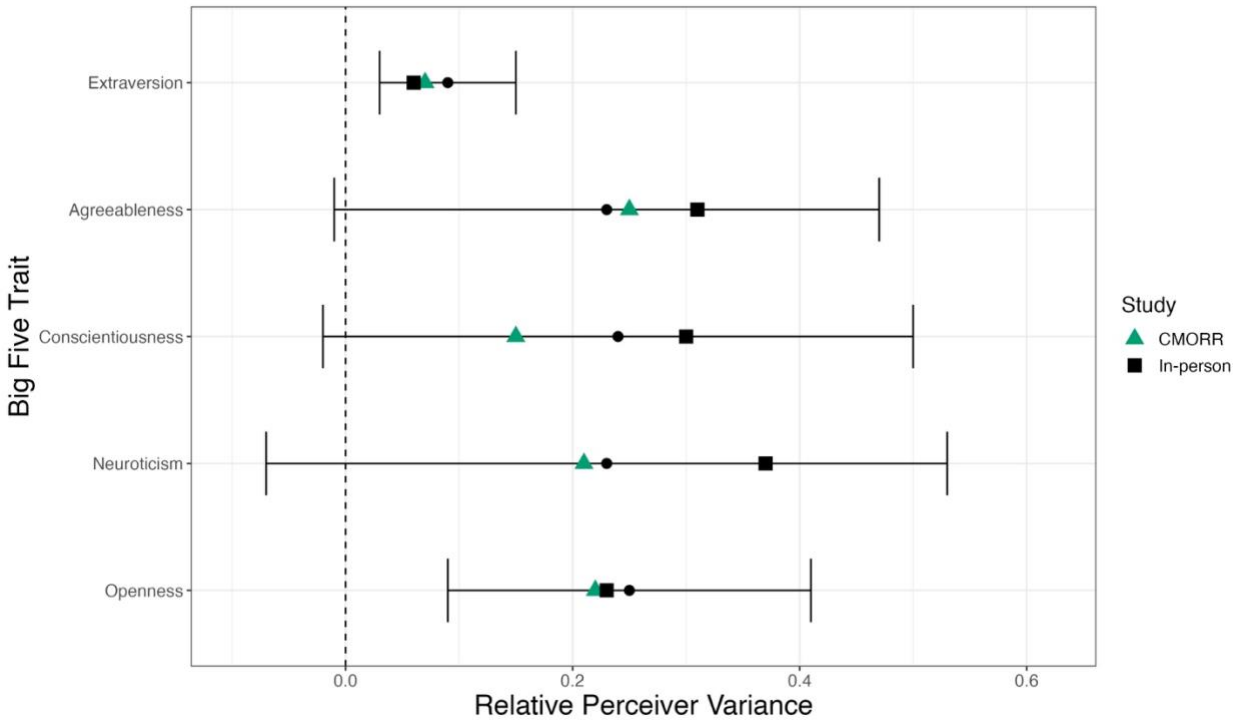
Note: All variance components were significantly different from zero ($p < .01$).

For target variance, we estimated the anticipated range as plus or minus two standard deviations from the meta-analytic of standardized target variance (Table 1; Kenny, 2004). We again included the first wave of longitudinal studies. The anticipated range of target variance and the point-estimates from both the CMORR Study and In-person Study are plotted in Figure 2.3.

The figure shows the estimates of consensus, as indicated by target variance, in the CMORR Study are in line with estimates from previous in-person studies.

Figure 3.2

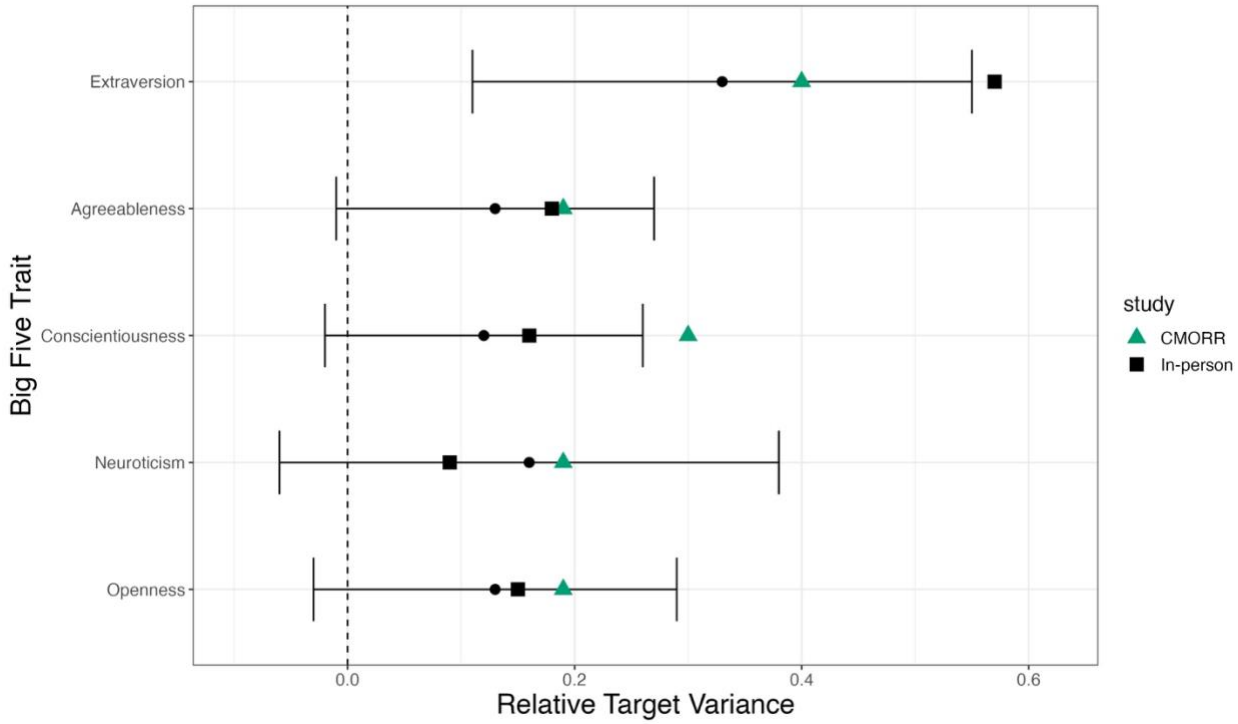
Perceiver Variance: Assimilation



Note. The bars represent +/- 2 SD from the mean (black circle) of the relative (standardized) perceiver variance estimates from studies 1, 2, 3, 5, 6, and 8 in Table 2 of Rau et al. (2021).

Figure 3.3

Target Variance: Consensus



Note. The bars represent +/- 2 SD from the mean (black circle) of the relative (standardized) perceiver variance estimates from the first wave of studies in Kenny (2004; Table 1).

Correlations Among Perceiver Effects and Target Effects

The correlations among perceiver effects for the Big Five are presented in Figure 2.4. There is notable similarity between the CMORR and In-person studies. The between trait correlations for perceiver effects are all in the same direction. In fact, the CMORR correlations are slightly smaller in magnitude, which is the opposite of what we would expect if the interaction medium was causing CMORR participants to make low-effort ratings or basing them on global evaluation rather than considering different traits separately. Similarly, the correlations among target effects, presented in Figure 2.5, show nine of ten correlations are in the same

direction. The exception is two correlations that are very near zero. For both perceiver and target effects there is no consistent pattern of one study having stronger or weaker correlations than the other. This supports similarity in the structure of impressions formed in CMORR and those formed in-person.

Figure 3.4

Correlations Among Perceiver Effects in CMORR and In-person Perceptions

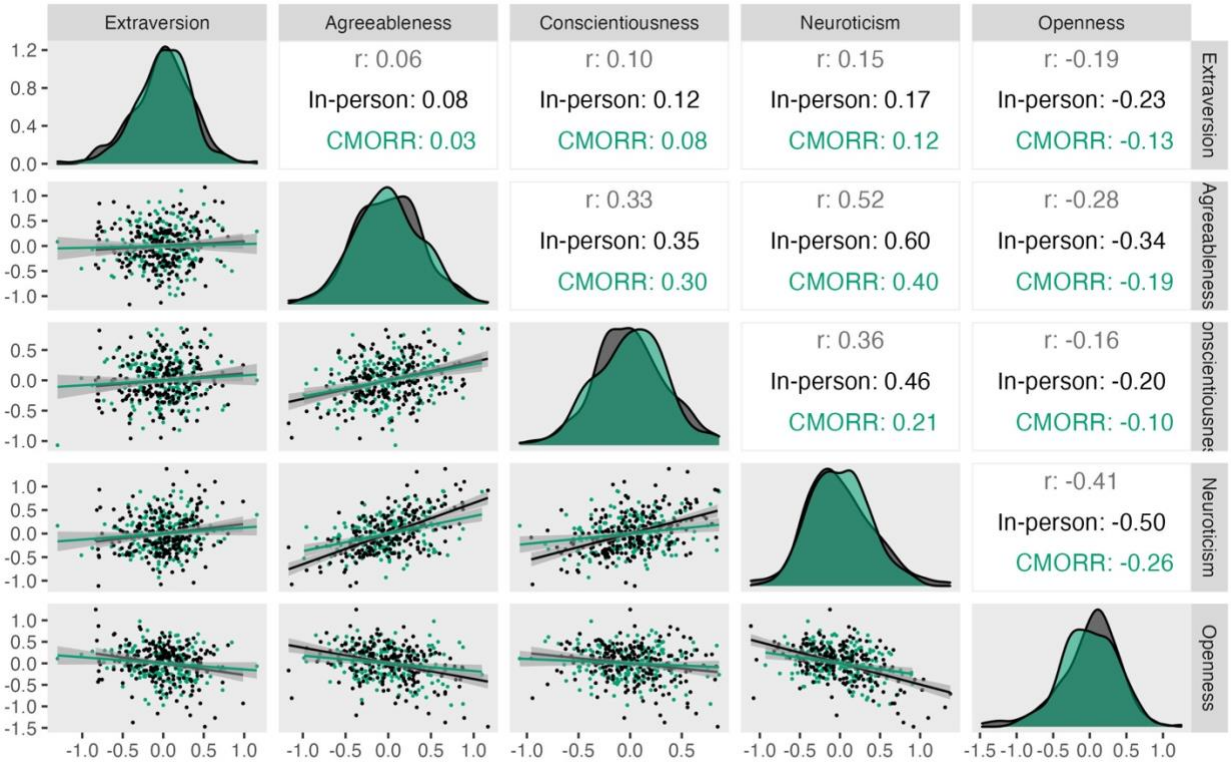
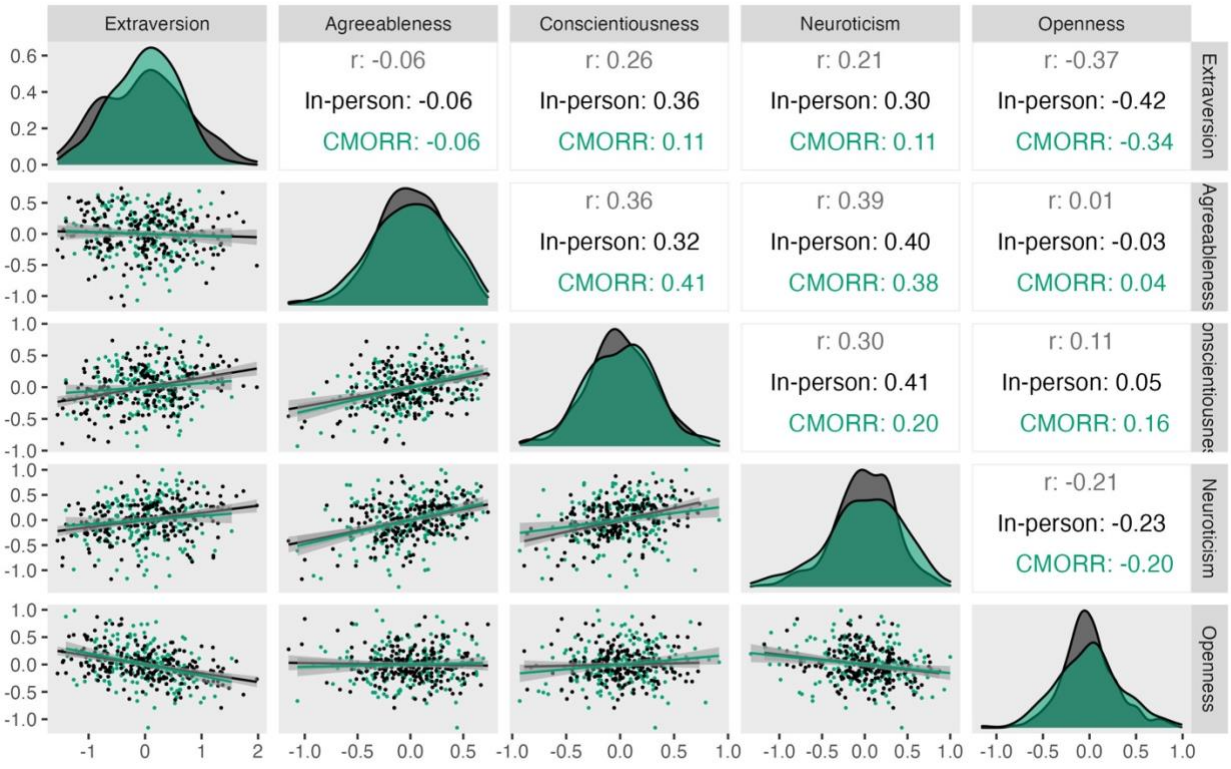


Figure 3.5

Correlations Among Target Effects in CMORR and In-person Perceptions



Self-Other Agreement

We calculated self-other agreement in both studies as the correlation between self-reports and target effects of the same Big Five trait, controlling for group (Table 2.4). We estimated the anticipated range of self-other agreement as plus or minus two standard deviations from the mean of a meta-analysis of the accuracy of trait perceptions (Table 5 of Connelly & Ones, 2010). The anticipated range of self-other agreement and the point-estimates from both the CMORR Study and In-person Study are plotted in Figure 2.6. The figure shows that self-other agreement in a CMORR study are in line with estimates from previous in-person studies, showing that personality is perceived with similar accuracy in initial interactions online and in-person.

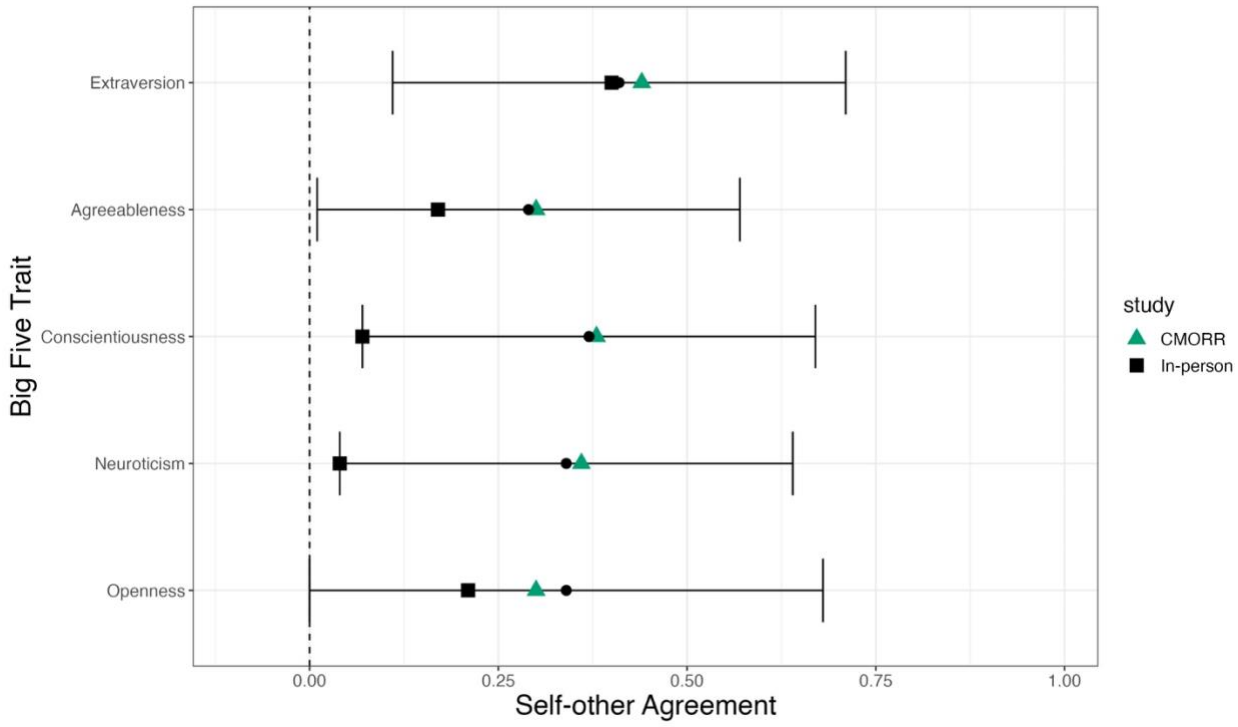
Table 3.4

Self-other Agreement for the CMORR Study and In-person Study

	Self-other Agreement			
	CMORR		In-person	
	r	*p*	*r*	*p*
Extraversion	.44	<.001	.39	<.001
Agreeableness	.30	<.001	.18	.016
Conscientiousness	.38	<.001	.07	.341
Neuroticism	.36	<.001	.04	.562
Openness	.30	<.001	.19	.010

Figure 3.6

Self-other Agreement in Perceptions of Big Five Traits



Note. The bars represent +/- 2 SD from the meta-analytic mean (black circle) of self-other agreement across multiple studies for each trait (from Table 5; Connelly & Ones, 2010).

Discussion

Research on impression formation and social interactions would benefit from studying these phenomena online. We presented a method for doing so, the computer mediated online round robin (CMORR), and used it to collect impressions of Big Five personality domains. We compared the variances, covariance structure, and self-other agreement of these impressions to reference values from both an in-person round-robin study and previous meta-analyses. Parameters from the CMORR study were within the typical range of effects calculated from previous meta-analyses and similar to those from an in-person study. Pervasive similarities across the results support the conclusion that current videoconferencing technology provides enough rich behavioral information to make it is suitable for studying impressions and the impression formation process.

The results provide evidence that similar relevant behavioral cues are available, detected, and utilized (Funder, 1995) by perceivers in a CMORR or in-person study and help rule out other potential effects of the online interactions. We did not observe substantial differences in assimilation (perceiver variance), which could have meant that online perceivers are more reliant on personal heuristics, such as response style. We also did not observe substantial differences in consensus (target variance), indicating that relevant cues were available and detected in CMORR and suggesting no major differences in inattentive or random responding between online and in-person studies. Estimates of self-other agreement for the CMORR study were near the meta-analytic mean for all traits. This further support that modern videoconferencing technology provides similar trait-relevant information during online video interactions and in-person ones.

The correlations among the perceiver effects and the correlations among the target effects were similar for both the CMORR study and in-person study. This lets us rule out two other

potential issues: a general factor and random responding. If the correlations among Big Five perceiver or target effects in the CMORR study were too high, it would suggest that people are rating or being rated on a general factor. If the correlations were too low, it would suggest that participants in CMORR were providing random responses. Given the results, neither a general factor nor random responding are more of an concern for a CMORR study than an in-person one.

Strengths of the CMORR Paradigm

Many psychological studies now use some form of online data collection. Paper and pencil surveys have long been abandoned in favor of survey software that neatly organizes data, and cognitive experiments, even those conducted in the lab, are now often run on online servers. Moving single-participant experiments to online formats has made it possible to recruit participants from a much broader range of populations. Similarly, CMORR provides an online data collection paradigm for social interactions studies, but it can be used to study a wide range of populations, offering promising new directions for interpersonal perception research.

Recruitment

Data collection from online participants took off in social psychology in the early 2000s (Gosling et al., 2004), and the proportion of studies collecting data online has increased over the last decade (Sassenberg & Ditrich, 2019). Access to these online samples can provide researchers of interpersonal perception, social interactions, and relationships a way to address concerns about the overreliance on college undergraduates and homogeneity of samples (Gosling et al, 2004), and also increase sample sizes (Sassenberg & Ditrich, 2019). Online samples from

participant recruitment platforms (e.g., Prolific, Qualtrics Panels, mTurk) are not necessarily representative but they tend to be more diverse than college samples.

CMORR can also be used with truly representative samples, as well as with purposive samples, such as harder-to-each populations or members of organizations, support groups, patient populations, etc. CMORR can be used in conjunction with nearly any recruitment method and any population that has access to devices capable of videoconferencing. Future work can further extend the reach of CMORR studies by using smartphones to facilitate interactions and collect data.

Efficiency and Logistics

A traditional in-person round robin study requires that at least 4 participants and multiple researchers show up to the lab at the same time. In a CMORR study, participants and researchers still need to participate at the same time, but they can do so from their own computer or smart phone, wherever they are. This eliminates the need to bring people into the lab, or create a lab in the field, or even have a physical lab at all, thereby simplifying logistical issues, even for studies that recruit local participants. Moreover, CMORR can increase the speed and efficiency of data collection by enabling researchers to schedule sessions closer together and run more sessions per week.

Data Quality

Using CMORR to collect data, especially with online samples, addresses some concerns with online data quality but could raise others. Many concerns about running surveys and single-participant experiments with online samples center on bots and inattentive responses. These

factors threaten the validity of online survey data (Chmielewski & Kucker, 2019), but are less of an issue with CMORR studies. Participants must be visible on a webcam, interact with others, and are monitored by an RA, all of which reduce the possibility of bots. The engaging and interactive nature of CMORR interactions combined with relatively short surveys completed after each interaction means that CMORR studies should not experience higher inattentive responding rates than in-person studies.

One of our major concerns when developing CMORR was the potential of participants to cause social disruptions. We preemptively addressed potential disruptions (e.g., aggressive, demeaning, or racist behavior) by having a research assistant monitor the interactions in each CMORR room. We also developed a plan on how to react to any antisocial behavior. RAs were trained to immediately intervene if a participant caused a social disruption and to provide a single opportunity for the participant to alter their behavior before ending their participation in the study by removing them from the videoconference room and survey. The presence of RAs seems to have had a strong preventive effect. We now have extensive experience collecting CMORR data from students and an online sample, and to date we have not had to remove anyone for disruptive behavior.

Limitations

The overarching goal of this work was to examine if impressions formed in online virtual rooms are in general comparable to those formed during in-person interactions. The evidence supports that they are. However, the procedure used in the CMORR differed from the in-person study, and many of the meta-analytic comparison studies in several important ways beyond being computer-mediated. For example, CMORR used low behavioral overlap interactions (dyadic)

and many of the comparison studies used high overlap interactions (group), but previous work suggests the difference is negligible (Kenny, 2004).

Other differences in procedure might have contributed to an interesting difference between this CMORR study and the in-person study we compared it to – CMORR impressions were higher in self-other agreement for every trait. These differences appear substantial in the domains of neuroticism and conscientiousness. We believe these differences can be attributed to the task and not the interaction medium, but a more controlled experiment is needed to be certain. In this particular CMORR study, participants discussed personality-relevant questions which might have provided perceivers with additional trait relevant information. This is not an inherent feature of the CMORR method, but it suggests that the substance of an interaction or topic of a discussion is pivotal to the formation of impressions. Future work can explore how interaction style (dyadic vs. group) and task influence self-other agreement.

The focus of the present work on initial impressions of Big Five traits might raise concerns about how other impressions and judgments made during CMORR interactions compare to those made during in-person interactions. For example, people could show less interest in affiliating with others who they meet online because they see little chance of pursuing a relationship outside of the study. Findings from the present work cannot directly address these concerns, but future work can use the CMORR method to test the limits of studying social interactions online.

Future Applications of CMORR: New Populations and New Questions

Initial interactions and online samples are only one type of interaction and population that can be studied using CMORR. It can also be used to study interactions among friends,

coworkers, and within social and professional organizations. For example, I/O psychologists can use CMORR to study how impressions impact team productivity, UX and marketing researchers to study what people think about new products or services, and relationship researchers to facilitate speed-dating studies. Further, clinical researchers could use a CMORR approach by embedding items after teletherapy sessions to better understand how a client's impressions of a therapist impact the effectiveness of treatment, or to study group therapy sessions.

Interpersonal perception researchers can use CMORR to extend the study of impressions to diverse populations and test if social-group-based stereotypes manifest in impressions of individual members of those groups. Further, researchers can use CMORR and the Intergroup Social Relations Model (Kenny et al., 2015) to study cross-group interactions and test hypotheses about how intergroup biases impact everyday social interactions, and to complement recent field work examining the contact hypothesis (Mousa, 2020; Scacco & Warren, 2018). Given the ability to recruit anyone with a webcam and internet to participate in a CMORR study, this paradigm will enlarge the number and types of questions researchers can answer about human interpersonal interactions.

Finally, the video-recordings of each CMORR interaction offer another world of possibilities for the study of human social interactions. Unlike an in-person study, in a recorded CMORR study the researchers have a complete record of every bit of information that was available to participants about one another. A CMORR study also provides multiple first-person videos of each participant. These videos have the potential to contribute to the advancement of the study of social cognition and face-perception by providing new stimuli for lab-based studies. Moreover, they can be coded and analyzed to better understand the features of people and contexts that contribute to impressions and social decisions.

Conclusion

Moving the study of social interactions and the impressions and judgments made during them online to interactions in virtual rooms will provide researchers an opportunity to study these phenomena in larger and more diverse samples. This, in turn, will extend the study of interpersonal perception and social cognition to new populations and answer new questions.

III. THE INTERPERSONAL CONSEQUENCES OF SOCIOECONOMIC STATUS

One important substantive question CMORR can help address is the impact of SES on impressions formed and decisions made during face-to-face social interactions. The indirect evidence from the lab, discussed in Chapter 1, suggests that SES impacts these interactions, but to determine if and how SES influences how people are seen and treated by others in interpersonal interactions it is necessary to study the impressions and decisions made during them.

To study the effects of SES in a population representative of typical interactions people experience in daily life, I recruited a socioeconomically, and otherwise diverse national sample. I used the computer mediated online round robin (CMORR; Hughes & Srivastava, preprint) to bring groups of four to six people together online too have series of dyadic interactions, with each other member of the group. During these one-on-one interactions, participants discussed a recent negative consumer experience where they were unhappy with a good or service they received. After the interaction, participants made judgements about their partner's SES and personality, and reported how interested they were in affiliating, whether they found the story credible, and how much sympathy they had for their experience. They also responded to a Net Promoter Score item (NPS; Reichheld, 2003), and judged the credibility of the business.

I used the data from this study to test the following preregistered hypotheses about the interpersonal effects of SES. Based on previous research, I theorized people can accurately detect the SES of others. I tested two specific hypotheses about SES perception. H1 was there would be consensus in interpersonal perceptions of SES, meaning that perceivers will agree with one another about who is high and who low in SES. H2 was that perceptions of SES will be accurate, operationalized as self-other agreement. The stereotype content model suggests

interpersonal perceptions will emerge in impressions of an individual's warmth and competence. H3a was that perceptions of an individual's SES will bias impressions of their warmth and competence. The stereotype content model predicts SES will be positively associated with competence and negatively associated with warmth. Based on people's ability to reliably differentiate others in the Big Five traits, H3b was that perceptions of individual's SES will bias impressions of their Big Five traits, plus honesty and propriety. People could also stereotype people with lay stereotypes in other domains. H3c was that an individual's SES will bias others' impressions of their trustworthiness, laziness, impulsivity, and intelligence. I did not preregister any directional prediction for the interpersonal stereotypes.

To understand how SES and SES-based stereotypes influence social decisions about whom to be friends with, who is credible, and who deserves sympathy, as well as how SES influenced judgments about a business, I examined the association between SES and social decisions in 3 ways. First, I tested for a total effect of an individual's SES on the social decisions others made about them. H4a was that there would be a total effect of actual SES on the social decisions, and H4b was that there would be a total effect of perceived SES on the social decisions. Evidence of social homophily in SES suggests people might prefer to affiliate with others who have similar SES. I tested how the similarity between the interactants' SES affected affiliation and the other social decisions. H4c was that the similarity between a perceiver's actual SES and a target's actual SES will predict interest in affiliation. I also tested if the similarity between a perceiver's SES and their perception of a target's SES was associated with interest in affiliation. H4d was that the similarity between a perceiver's SES and their perception of a target's SES affected interest in affiliation. I used the same analytical approach to test the effects

of both actual SES and perceived SES on two additional outcomes: social judgements about the consumer (H5a, H5b), and judgments about the business (H5c, H5d).

Finally, I proposed that the effect of SES on the social decisions was transmitted through interpersonal stereotypes. H6a was that SES would indirectly influence affiliation through the interpersonal stereotypes and H6b was that SES would indirectly influence the consumer credibility judgments.

Method

This study was approved by the University of Oregon institutional review board (title: *Consequences of Socioeconomic Stereotypes*; protocol number: STUDY00000195). Prior to analyzing the data, I preregistered the methods, materials, sampling plan, exclusion criteria, and analysis plan, as well as the hypotheses outlined above (https://osf.io/ea4m9).

Participants

Previous work has estimated that a round robin study with a sample size of $N = 139$, consisting of 26 groups of 4-6 participants, provides a minimum of 92.5% power to detect variance components with a standardized effect size of 10% of the total variance (Lashley & Kenny, 1998; Salazar Kämpf et al., 2019)**.** Given the novelty and complexity of some of the analyses, we did not conduct a formal power analysis for all of them. Instead, our decision about sample size was determined by the available resources (Lakens, 2022). Our sampling plan was to recruit groups until we reached a minimum of 300 participants.

We recruited 351 participants from the Prolific online participant recruitment platform, who participated in 79 round robin groups. Because SRM analyses require groups of four or more, we excluded 19 groups with less than 4 participants, $N = 54$ participants. The final sample

for our analysis consisted of N = 297 who participated in 60 groups: M_{age} = 37, *Range* = 18 to 79; 59% women, 39% men, and 2% non-binary; 63% White, 12% Black, 11% Asian, 5% Hispanic, and the other 9% selected multiple race/ethnicity categories or chose to self-identify. A preregistered blinded review was completed to identify any irregularities in the individual responses or in the distributions of the data. The blinded reviewer did not exclude any additional participants or recommend any transformations of the data.

Procedure

In this study, I used CMORR to facilitate a series of dyadic interactions among groups of participants in virtual rooms. After each interaction, participants provided impressions and judgements of the person they had just interacted with. For this study, we recruited a nationwide sample of participants from Prolific[2]. We scheduled participants in groups of 6, but when some participants did not show up for the interactive sessions, we also conducted sessions with groups of 4 and 5 participants.

Study sessions were posted to Prolific in the morning, and the interactive session was scheduled for the same day between 3pm and 10pm Eastern Time. Participants signed up for a specific time for an interactive session, and then immediately completed self-report measures of personality, SES, and demographic information. They also spent a minimum of two minutes describing a personal negative consumer experience that they were willing to share in conversations with others. Approximately two hours prior to the scheduled interactive session

[2] The original plan was to recruit a sample of Oregonians to specifically address the goals of the funder of this work. Because of sampling issues, we switched recruitment methods, from Facebook ads to Prolific, and tried to recruit an oversample of Oregonians. The low number of available participants on Prolific from Oregon and eligible to participate in the study (N ~ 380) made this also unsuccessful.

time, we messaged each participant with a Qualtrics link and instructions on how to join the session.

The virtual rooms were Jitsi Meet (https://meet.jit.si) rooms that had been embedded into the Qualtrics survey. After joining the interactive sessions, participants arrived in a virtual room where they were greeted by a research assistant (RA) and met another participant. For a 6-person CMORR session there were three virtual rooms, each hosting a dyadic interactions, and five rounds of interactions. Each interaction was supervised by one of three RAs (in sessions with 4 or fewer participants there were only 2 virtual rooms per round, and 2 RAs).

During the study session, participants spent 5 minutes with each other group member discussing their negative consumer experiences. Before the first interaction, the RAs in the virtual rooms provided instructions for the CMORR procedure, and began recording the interaction. RAs told participants that they would have a series of one-on-one interactions with other participants, provided technical advice, and gave participants an opportunity to ask questions. The RAs also provided participants with instructions for each 5-minute interaction. Participants were told to take turns briefly (< 1 minute) describing their consumer experience and then to use the remainder of the time to discuss these experiences. The RA then started the 5-minute interactions and muted their own video and audio, leaving the participants "alone" in the virtual room (participants were aware that the RA was able to see and hear them and that the interaction was being recorded). After 5 minutes, the RAs turned on their audio and video and instructed the participants to advance their survey to provide impressions of their interaction partner. Participants rated their partner's personality, SES, how much they were interested in affiliating with them, and made several judgments about the partner's consumer experience. After providing impressions, participants arrived in the second virtual room and, after a brief

reminder of the task from the RA, they interacted with another participant for 5 minutes. This process repeated until each participant had interacted with and rated every member of the group. In a 6-person session, each participant interacted with and rated 5 other participants. In a 5-person session, each participant interacted with and rated 4 other participants, with each participant sitting quietly with an RA for the round they did not have an interaction partner. And, in a 4-person session the participants interacted with and rated 3 other participants.

Measures

Self-report

Demographics. Participants self-reported their age, gender, and race/ethnicity. For gender, we asked that they please select all that apply. The options were Woman, Man, would prefer to self-identify (with open-ended response option). For race/ethnicity, we asked they please select all that apply. Options: Black, Asian, Latino/Latina, Native American, White, Other/would prefer to self-identify (with open-ended response option).

MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000). This measure of subjective SES asked respondents to use a ten-rung ladder to indicate their social standing compared to the rest of the United States, in terms of income, education, and employment.

Household Income. Respondents indicated household income by selecting one of 10 bins. The first bin is <$15,000. The next 6 bins are $10k ranges between $15k and $75k ($15k to $25k, $25k to $35k, etc.). The next two bins are $75k to $100k and $100k to $125k and the last bin is > $150. These bins were transformed into a continuous numeric 1-10 scale for analysis.

Educational Attainment. Participants indicated their highest level of educational attainment from the following choices: “Did not finish high school”, “High school grad, general

education diploma", "Some college", "Associate's Degree (2 year college degree)", "Bachelor's Degree (4-year college degree)", "Postgraduate (e.g., Master's, PhD., MD.)". These categories were transformed into a continuous numeric 1-5 scale for analysis.

Occupational Prestige. Participants used a drop down list to select their occupational family from a list of 22, and specific occupation from a list of 1033 options. The list comprised 1029 occupations from the U.S. Bureau of Labor's O*Net database plus student, unemployed, retired, or household worker. Occupations were assigned a prestige score based on an index that Hughes et al. (2023) developed and validated. Prestige ratings for students, unemployed, retired, or household workers are not available, so these participants were excluded from analyses with occupational prestige.

Personality. Participants self-reported personality by responding to the 15-item *Big Five Inventory 2-XS* (Soto & John, 2017), along with 5 honesty and propriety items from the Questionnaire Big Six (QB6; Thalmayer & Saucier, 2014). Respondents indicated agreement to each item on a 5-point scale anchored at 1-strongly disagree and 5-strongly agree. Scores were calculated by reverse scoring appropriate items and then averaging the items for each domain. Reliability for each of the Big Five traits is reported in Table 3.1.

Stereotype Content. We modified the brief stereotype content scale to measure perceptions of warmth and competence of individuals instead of groups (Fiske et al., 2002). Respondents self-reported warmth and competence by indicating agreement to 2 items for warmth (I am someone who: …is warm, …is sincere) and 2 items for competence (I am someone who: …is competent, …is confident) using a 5-point Likert scale anchored at 1-Disagree strongly and 5-Agree strongly. Warmth was calculated by averaging the 2 warmth

items, and competence was calculated by averaging the 2 competence items. Reliabilities for warmth and competence are reported in Table 3.1.

Other Potential Stereotyped Domains. We also included 4 face-valid single-item measures of domains that correspond to common stereotypes associated with SES. These items started with the same prompt as the other individual differences items: "I am someone who…" followed by: "is lazy", "is impulsive", "is intelligent", or "is trustworthy." Participants self-reported their standing on these 4 items using a 5-point scale anchored at 1-strongly disagree and 5-strongly agree. They will be analyzed as single-item indicators of the domain. Descriptive statistics are reported in Table 3.1.

Table 5.1

Descriptive Statistics and Reliability for Self- and Other-report Personality

	Self-report			Perceptions		
Measure	*Mean*	*SD*	a	mean	SD	a
Extraversion	3.07	0.93	.63	3.31	0.98	.75
Agreeableness	3.83	0.83	.57	4.02	0.74	.70
Conscientiousness	3.5	1.01	.73	3.71	0.85	.75
Neuroticism	2.87	1.10	.76	2.5	0.83	.67
Openness	4.12	0.79	.66	3.56	0.77	.68
Honesty/Propriety	3.95	0.79	.75	3.96	0.67	.73
Warmth	4.37	0.62	.61	4.34	0.69	.72
Competence	4.07	0.78	.53	4.07	0.79	.63
Trustworthiness	4.65	0.59	-	4.27	0.75	-
Laziness	2.59	1.28	-	1.96	0.92	-
Impulsivity	2.75	1.26	-	2.48	1.09	-
Intelligence	4.39	0.73	-	4.28	0.78	-

Note: Reliability is not reported for the four other stereotyped domains because these were single item measures.

Other-report

Participants rated each interaction partner's SES using the MacArthur Scale of Subjective Socioeconomic Status (Adler et al., 2000) adapted for other-report. They also rated others' personality (Soto & John, 2017; Thalmayer & Saucier, 2014), stereotype content domains (Fiske et al., 2002), and other potential stereotyped domains with the same items as the self-report adapted for other-report.

Social Decisions

Interest in Affiliation. This is a five-item scale to assess interest to affiliate with a previously unknown interaction partner (Tackman & Srivastava, 2016). Participants indicated their agreement or disagreement with each item on a scale from 1 (*disagree strongly*) to 7 (*agree strongly*). Interest in affiliation was calculated as an average of these 5 items (M = 3.98, SD = 0.87, a = .93).

Credibility of Consumer Complaints. Participants responded to 6 items to assess their attitudes towards their interaction partner's consumer experience. These items are organized into 4 domains. *Credibility of the person* was measured with a 2-item composite of the items: "I believe this person's story"; "I think I got an incomplete or inaccurate story." (reversed). Responses were made on a 5-point scale anchored at 1-Disagree strongly and 5-Agree strongly (M = 4.59, SD = 0.71, a = .66). *Sympathy* towards other's experiences was measured with the item, "I sympathize with this person." Participants used a 5-point scale anchored at 1-Disagree strongly and 5-Agree strongly. *Net promoter score* (Reichheld, 2003) was the primary indicator of the impact of the consumer complaint on others' attitudes towards the business. This is a single item measure that asks: "How likely is it that you would recommend the product or

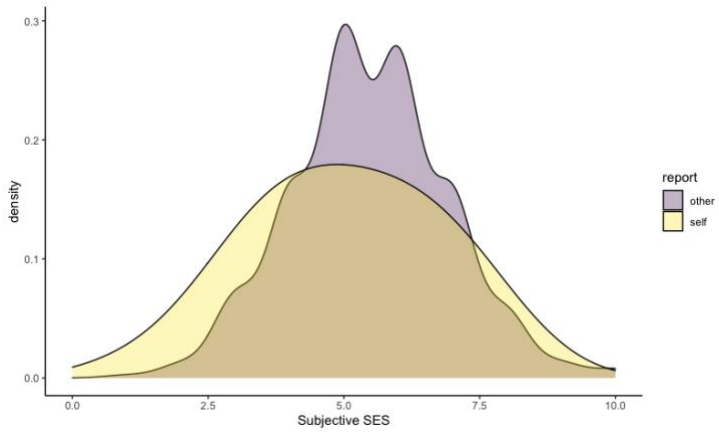
company this person just told you about to a friend or colleague?" Responses are made on a 11-point scale anchored at 0-"not at all likely" and 10-"extremely likely". In business applications, net promoter scores are sometimes binned into categories for analysis (promoters, passives, and detractors); however, we will analyze the actual ratings, not binned categories. We collected two additional items about how the consumer's experiences impacted others' attitudes towards the business: "I would be willing to patronize the business this person described."; "I would tell other people to avoid this business." (reversed). Responses were made on a 5-point scale anchored at 1-Disagree strongly and 5-Agree strongly. These two items were combined into a composite (M = 2.53, SD = 1.15, a = .64).

Results

Descriptive statistics for both self- and other-report measures are reported in Table 3.1. The distributions of Subjective SES for both self-report and other report are shown in Figure 3.1. To test for consensus and accuracy in perceptions of SES, I used the Social Relations Model (SRM; Kenny, 1994; Kenny & La Voie, 1984) and estimated the models with the TripleR package (Version 1.5.4; Schönbrodt et al., 2012; 2016) in the R programming language (Version 4.2.1; R Core Team, 2022). I estimated an SRM for subjective SES, interest in affiliation, the four credibility judgments, and each of the twelve personality domains. The output of these models includes the parameter estimates I used to test consensus (H1) and self-other agreement (H2). I also extracted perceiver and target effects from these models to use in subsequent analyses.

Figure 5.1

Distributions of Self-report and Other-report Subjective SES



Consensus and Accuracy in Interpersonal Perceptions of SES

In the SRM, consensus in perceptions of SES is indexed by target variance. The primary test of accuracy was self-other agreement between self-report subjective SES and others' perceptions of SES (target effects) using the same subjective SES measure. I also calculated correlations between target effects of SES and the other self-reported SES indicators to examine how choosing a different criterion for SES would influence accuracy and to determine if people are using different components of a target's SES to inform their judgments. To provide a comparison for the effect sizes of consensus and accuracy in perceptions of SES to other interpersonal perceptions, I report consensus (and other variance components), and accuracy (self-other agreement) for all twelve self-reported personality domains. Variance components for the social decisions are also reported in Table 3.2.

Consensus (H1)

The variance decomposition of interpersonal perceptions of SES and for the other perceptions and judgments are presented in Table 3.2. These results show moderate consensus in

perceptions of SES, 16% of total variance. People agreed about who was high or low in SES about as much as they agreed about who is high or low in conscientiousness and warmth. There was greater consensus in perceptions of SES than in agreeableness, honesty/propriety, impulsiveness, and trustworthiness, and less than in extraversion.

Table 5.2

Variance Decomposition (Standardized) and Self-other Agreement

Perception	Self-other Agreement	Consensus (Target Variance)	Assimilation (Perceiver Variance)	Relationship and Error
SES	.31	.16	.39	.45
Extraversion	.38	.40	.15	.46
Agreeableness	.15	.13	.35	.52
Conscientiousness	.25	.17	.34	.49
Neuroticism	.29	.17	.38	.45
Openness	.13	.22	.28	.49
Honesty/Propriety	.20	.07	.46	.47
Warmth	.15	.16	.31	.53
Competence	.32	.23	.30	.47
Trustworthiness	.14	.08	.32	.60
Laziness	.23	.15	.31	.54
Impulsivity	.26	.06	.26	.69
Intelligence	.07[a]	.14	.34	.52
Interest in Affiliation	-	.18	.31	.51
Sympathy for Experience	-	.10	.25	.65
Credibility Person	-	.05[a]	.26	.69
Credibility Business	-	.27	.24	.49
Net Promoter Score	.39	.19	.31	.50

Note: For all SRM models, $df = 236$. Self-other agreement and the variance components were all significantly different from zero ($p < .05$), except those marked with [a], which were not significant.

Self-other agreement (H2)

To estimate accuracy in perceptions of SES, I calculated self-other agreement between self-report subjective SES and the SRM target effects of SES. This correlation indicates people judge the SES of others with relative accuracy, $r(295) = .28$, $p < .001$, 95% *CI* [.18, .39]. People detected the SES of other in interpersonal interactions more accurately than the Big Five traits, except for extraversion. Overall, SES was perceived more accurately than 10 out of the 12 personality traits. Correlations between the target effects of SES and three of the four other indicators of SES report criterion showed similar effects (Figure 3.2): income, $r(295) = .28$, $p < .001$, 95% *CI* [.17, .38], or educational attainment, $r(295) = .37$, $p < .001$, 95% *CI* [.27, .47]. However, the participants' occupational prestige, $r(192) = .09$, $p = .198$, 95% *CI* [-.05, .23], was not associated with others' perceptions of their SES.

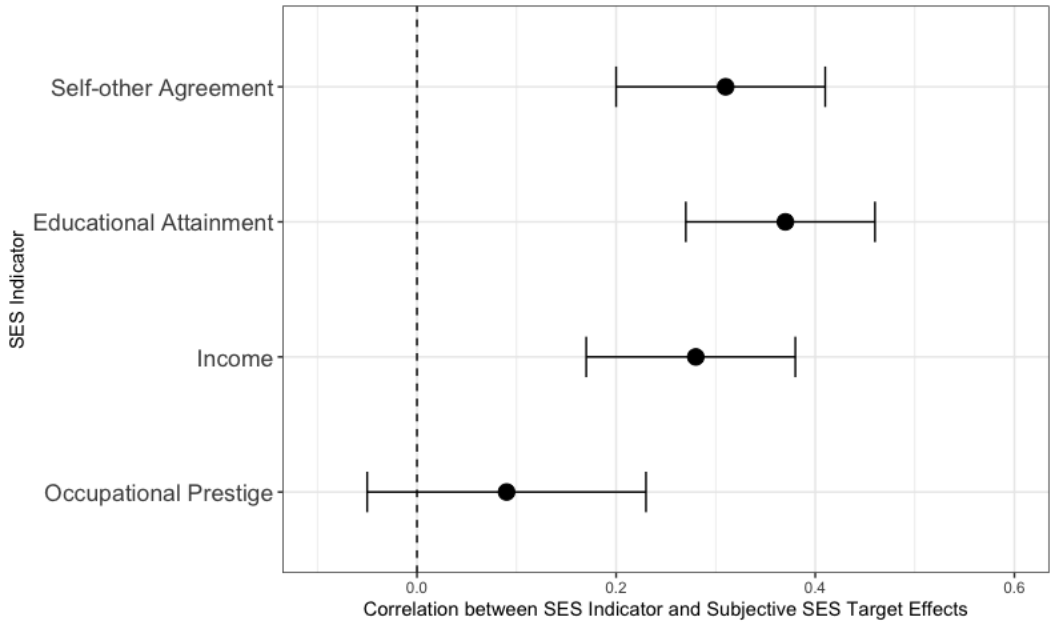
Interpersonal Stereotype Content of SES

One way that SES is hypothesized to impact interpersonal interactions is by biasing perceptions of an individual's personality traits in stereotyped domains. I estimated the content of these *interpersonal stereotypes* of SES by calculating the relationship between the target effects of SES and the target effects of personality traits, controlling for actual standing on the traits. I used linear regression models and took a trait-by-trait approach, estimating the stereotype effect independently for 12 potential stereotyped domains: H3a) warmth and competence, H3b) Big Five+ domains, and the H3c) four other individual differences. In each preregistered model, I regressed the SRM target effects of a single personality trait on the SRM target effect of SES and the self-report of that trait. In these models, the coefficient for the target effect of SES is the effect of being perceived as high or low in SES on perceptions of the trait, for people with the

same actual standing on the trait, which represents the *interpersonal stereotype content* of SES for that trait.

Figure 5.2

Accuracy in Perceptions of SES



Note. Accuracy was operationalized as self-other agreement between self-report subjective SES and perceptions of SES. The correlations presented for the other indicators are with the target effect of SES.

I present the results of the preregistered models with perceived SES in Table 3.3. There was significant and substantial interpersonal stereotype content for each measured trait. These results support the hypotheses that SES would bias perceptions of the personality traits (H3a, H3b, H3c), but did not directionally support the ambivalent stereotypes in warmth and

competence predicted by the stereotype content model.[3] The ubiquity and strength of the effects in the preregistered analysis, combined with the effects being keyed in the direction of social desirability, raised the possibility that these effects might be caused by global positive evaluations—people rating others they like in the socially positively direction on each trait dimension and also rating them higher in SES. To investigate this possibility, I conducted a set of four exploratory regression models for each trait. Each model replaced perceived SES in the regression model with one of the four self-report measures of SES (subjective SES, income, educational attainment, occupational prestige). The effects of the other indicators of SES on perceptions of personality were in the same direction as the preregistered models with perceived SES. The effects were significant for both subjective SES and educational attainment (Table 3.4), albeit with considerably smaller effect sizes. This shows that stereotyped impressions of personality are linked to people's actual SES.

[3] Based on evidence from work on the stereotype content model (Durante & Fiske, 2017), I conducted exploratory analyses to test for curvilinear interpersonal stereotype content effects by adding the square of SES target effect as a predictor in the regression models. There were small but significant quadratic effects for competence (β = -.09, p = .048), neuroticism (β = .12 , p = .013), openness (β = -.12, p = .020) and intelligence(β = -.11 , p = .026). These effects, however, are not the upside down horseshoe predicted in previous work.

Table 5.3

Interpersonal Stereotype Content of SES

Personality Domain	*b* *95% CI*	*p*	β
Warmth	0.14 [0.09, 0.20]	<.001	.28
Competence	0.32 [0.26, 0.38]	<.001	.51
Extraversion	0.30 [0.20, 0.40]	<.001	.31
Agreeableness	0.11 [0.05, 0.17]	<.001	.21
Conscientiousness	0.37 [0.31, 0.42]	<.001	.60
Neuroticism	-0.27 [-0.33, -0.21]	<.001	-.44
Openness	0.28 [0.21, 0.34]	<.001	.45
Honesty/Propriety	0.12 [0.08, 0.17]	<.001	.32
Trustworthiness	0.17 [0.11, 0.22]	<.001	.33
Intelligence	0.30 [0.25, 0.35]	<.001	.54
Laziness	-0.29 [-0.36, -0.22]	<.001	-.44
Impulsivity	-0.21 [-0.29, -0.13]	<.001	-.30

Table 5.4

Associations Between Self-Report Indicators of SES and Target Effect of Traits, Controlling for Actual Standing on Trait

Personality Domain	Subjective SES			Educational Attainment			Income			Occupational Prestige		
	b *95% CI*	*p*	β	*b* *95% CI*	*p*	β	*b* *95% CI*	*p*	β	*b* *95% CI*	*p*	β
Warmth	0.03 [0.01, 0.05]	.007	.16	0.05 [0.02, 0.07]	.001	.19	0.01 [-0.00, 0.03]	.063	.11	0.00 [-0.00, 0.01]	.228	.09
Competence	0.05 [0.02, 0.08]	<.001	.20	0.08 [0.05, 0.12]	<.001	.27	0.02 [0.00, 0.03]	.029	.12	0.00 [0.0, 0.01]	.031	.15
Extraversion	0.04 [-0.00, 0.08]	.074	.10	0.06 [0.01, 0.11]	<.001	.13	0.02 [-0.01, 0.04]	.173	.07	-0.00 [-0.01, 0.01]	.709	-.03
Agreeableness	0.03 [0.01, 0.05]	.016	.14	0.04 [0.01, 0.07]	.004	.16	0.01 [-0.00, 0.03]	.062	.11	0.00 [-0.00, 0.01]	.249	.08
Conscientiousness	0.05 [0.02, 0.07]	<.001	.19	0.08 [0.05, 0.12]	<.001	.28	0.01 [-0.00, 0.03]	.102	.09	0.00 [-0.00, 0.01]	.057	.14
Neuroticism	-0.05 [-0.08, -0.03]	<.001	-.23	-0.08 [-0.11, -0.04]	<.001	-.26	-0.02 [-0.04, -0.01]	.008	-.15	-0.004 [-0.01, -0.00]	.036	-.15
Openness	0.03 [0.01, 0.06]	.012	.14	0.04 [0.00, 0.07]	.039	.12	0.01 [-0.01, 0.03]	.187	.08	0.00 [-0.00, 0.01]	.288	.08
Honesty/Propriety	0.02 [0.00, 0.04]	.021	.13	0.03 [0.01, 0.05]	.012	.14	0.01 [-0.00, 0.02]	.066	.11	0.00 [-0.00, 0.00]	.198	.09
Trustworthiness	0.03 [0.01, 0.05]	.010	.15	0.05 [0.02, 0.07]	<.001	.19	0.01 [-0.01, 0.02]	.310	.06	0.00 [-0.00, 0.01]	.070	.13
Intelligence	0.06 [0.03, 0.08]	<.001	.27	0.07 [0.04, 0.10]	<.001	.27	0.02 [0.00, 0.03]	.035	.12	0.00 [0.00, 0.01]	.039	.15
Laziness	-0.05 [-0.08, -0.02]	<.001	-.20	-0.08 [-0.11, -0.04]	<.001	-.24	-0.01 [-0.03, 0.01]	.241	-.07	-0.00 [-0.01, 0.00]	.260	-.08
Impulsivity	-0.03 [-0.06, -0.00]	.027	-.13	-0.07 [-0.10, -0.03]	<.001	-.19	0.01 [-0.01, 0.02]	.547	.03	-0.00 [-0.01, 0.00]	.129	-.11

The Effect of SES and SES Stereotypes on Social Decisions

The effect of SES on interest in affiliation and the consumer-related outcomes could manifest in several ways. In this section, I examine this effect in three different analyses. The first analysis estimated the total effect of SES on the outcomes, which showed if there was an association between an individual's SES and each of the outcomes. The second analysis tested whether similarity between a perceiver's SES and target's SES influences the outcomes. The third analysis tested if the effect of SES on outcomes is mediated by interpersonal stereotypes. I preregistered analyses with self-report subjective SES as our primary test of each hypothesis, but I also report preregistered followup analyses that estimated the total effects of SES on the outcomes with each of the other self-report indicators of SES (income, educational attainment, occupational prestige).

The Total Effects of SES on Interest in Affiliation and Consumer Credibility (H4a, H4b)

To estimate the total effect of SES, and perceived SES, on interest in affiliation and the consumer experience judgments (NPS, sympathy, consumer credibility, business credibility), I conducted a series of single predictor linear regression models. I report the parameters for each of these models in Table 3.5.

The results showed an association between SES and interest in affiliation, supporting the preregistered hypothesis H4a for affiliation, but it was not supported for any of the consumer-related judgements: credibility of the consumer, sympathy, credibility of the business, or NPS. Planned analyses with other indicators of SES showed an association between interest in affiliation and educational attainment, but there was not an association between interest in affiliation and either income or occupational prestige. There were only two other significant

associations between SES and the outcomes: educational attainment was associated with judgments of credibility of the consumer, and income was associated with judgments of the credibility of the business. Because these effects are small and were not predicted a priori we refrain from interpreting these associations as meaningful.

I was also interested in whether others' perceptions of a person's SES, irrespective of the person's actual SES, influenced the social decisions. So I also tested for the total effect of perceived SES on the outcomes by regressing SRM target effects of the outcomes on SRM target effects of SES. For example, to test the effects of being perceived as high or low in SES on interest in affiliation, I regressed the SRM target effects of interest in affiliation on the SRM target effects of SES, $F(1, 295) = 60.39$, $p < .001$, $R^2 = .17$; $b = 0.27$, 95% CI [0.20, 0.34], b = .41. People indicated a greater interest in affiliating with others who they perceived to be higher in SES, with perceptions of SES accounting for 17% of the total variance in interest in affiliation. I present the effect of perceived SES on each of the outcomes in Table 3.6. There were significant relationships between perceived SES and the other person-oriented judgments but not the business-oriented ones.

There was no total effect of SES, or perceived SES, on the credibility of the business or NPS. The remaining preregistered analyses with these outcomes did not provide additional insights, so I report them in the supplemental material.

Table 5.5

Total Effects of Socioeconomic Status on Social Decisions

Outcome	Target's SES Indicator	*b* *CI*	*p*	β	*F*	R^2
Interest in Affiliation	**Subjective SES**	0.05 [0.02, 0.08]	**<.001**	.20	12.77	.04
	Income	0.01 [-0.00, 0.03]	.144	.08	2.15	.01
	Educational Attainment	.06 [0.03, 0.10]	**<.001**	.20	11.66	.04
	Occupational Prestige	0.00 [-0.00, 0.01]	.215	.09	1.55	.01
Sympathy	**Subjective SES**	0.01 [-0.01, 0.04]	.247	.07	1.35	.00
	Income	0.01 [-0.01, 0.02]	.354	.05	0.86	.00
	Educational Attainment	0.02 [-0.01, 0.04]	.308	.06	1.04	.00
	Occupational Prestige	0.00 [-0.00, 0.01]	.350	.07	0.88	.00
Credibility of Person	**Subjective SES**	0.01 [-0.01, 0.03]	.260	.07	1.27	.00
	Income	0.00 [-0.01, 0.01]	.755	.02	0.10	.00
	Educational Attainment	0.03 [0.00, 0.05]	**.036**	.12	4.43	.01
	Occupational Prestige	0.00 [-0.00, 0.00]	.612	.04	0.26	.00
Credibility of Business	**Subjective SES**	0.01 [-0.03, 0.05]	.625	.03	0.24	.00
	Income	0.03 [0.00, 0.05]	**.037**	.12	4.39	.01
	Educational Attainment	0.02 [-0.03, 0.07]	.454	.04	0.56	.00
	Occupational Prestige	-0.00 [-0.01, 0.01]	.910	-.01	0.01	.00
Net Promoter Score	**Subjective SES**	0.07 [-0.03, 0.18]	.151	.09	2.08	.01
	Income	0.04 [-0.02, 0.10]	.173	.08	1.86	.01
	Educational Attainment	0.11 [-0.02, 0.24]	.104	.10	2.66	.01
	Occupational Prestige	0.00 [-0.02, 0.02]	.982	.01	0.00	.00

Note: Degrees of freedom for each of the models was (1, 295), except the models with occupational prestige. Some participants indicated they were students, homemakers, retired, or unemployed (N = 103) and we do not currently have prestige ratings for these occupational

situations. They were excluded from the analysis, so the models with occupational prestige had (1, 192) degrees of freedom.

Table 5.6

Total Effects of Perceived Socioeconomic Status on Social Decisions

Outcome	*b* *95% CI*	*p*	β	F	R^2
Interest in Affiliation	0.27 [0.20, 0.34]	**<.001**	.41	60.39	.17
Sympathy	0.10 [0.05, 0.16]	**<.001**	.20	12.75	.04
Credibility of Person	0.12 [0.07, 0.17]	**<.001**	.26	21.49	.07
Credibility of Business	0.01 [-0.10, 0.12]	.891	.01	0.02	.00
Net Promoter Score	0.10 [-0.16, 0.36]	.459	.04	0.55	.00

Note: Degrees of freedom for each of the models was (1, 295).

Congruence Effects (H4c, H4d)

In addition to main effects of SES on social decisions, previous work suggested that people prefer to affiliate with others who have similar SES. I used a response surface analysis to test for the effect of congruence in SES on interest in affiliation, credibility of the consumer, and sympathy towards the consumer's experience in two ways. I test for congruence effects in actual SES, between the perceiver's and target's self-reported SES, and I test for congruence effects in perceived SES, between the perceiver's SES and their perception of the target's SES.

Response Surface Analysis (RSA) is a computational approach that tests for congruence effects (Humberg et al., 2019). The multiple dependencies in round robin data presents a challenge for RSA methods, in that participants are included in the model more than once. We

preregistered a novel structural equation modeling (SEM) approach that accounted for these dependencies by adding the RSA regressions to a latent variable SRM. Unfortunately, not all of the preregistered models converged,[4] so we modified our approach. To test for congruence effects between the self-report SES of perceivers and targets, we used a dyadic response surface analysis (DRSA; Shönbrodt et al., 2018) by specifying these models in the lavaan package in R. To test for the effect of congruence between SES and perceived SES on the outcomes, we used a standard RSA using the RSA package (Version 0.10.6; Shönbrodt & Humberg, 2023) in R. Following Humberg et al. (2023), we accounted for the dependencies in the data by lowering the preregistered from a < .05 to a < .01 in both of these analyses. For a more detailed explanation of the RSA models see Humberg et al., 2019, and Shönbrodt et al., 2018, and the supplemental material.

Congruence Between Actual SES. In a DRSA analysis, the first step is comparing models with and without the RSA quadratic and interactions predictors. For the model to support a congruence effect, the addition of the RSA predictors must explain additional variance (Shönbrodt et al., 2018). If the DRSA did not explain additional variance, as indicated by a significant ΔR^2 at $\alpha < .01$, we concluded the linear model was a more parsimonious explanation for the data and rejected the congruence hypothesis. However, because we are interested in understanding how SES affects outcomes, potentially in ways other than congruence, we generated a response surface for each model, even when the congruence hypothesis was rejected based on the model comparison. The RSA parameters for the DRSA models testing how a perceiver's SES and target's SES interact to influence social decisions are presented in Table 3.7.

[4] The models that did converge are reported in the supplemental materials.

Adding the RSA predictors explained additional variance in the DRSA model that tested how the relationship between SES affects interest in affiliation and sympathy for the consumer, but not for credibility of the consumer.

Table 5.7

RSA Parameters from DRSA Models Testing Congruence Between Actual SES

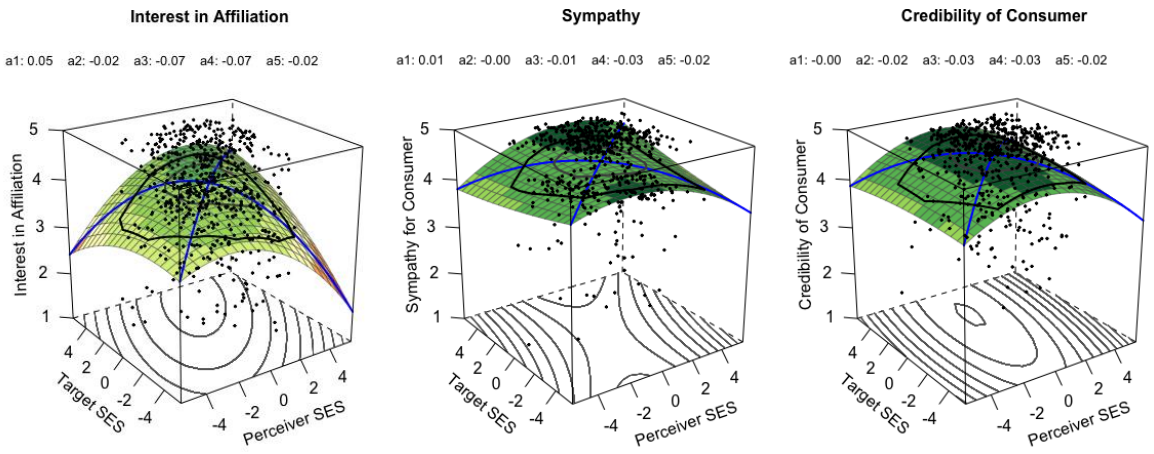
Outcome	ΔX^2	a_1	a_2	a_3	a_4	a_5
Affiliation	35.06**	0.05	-0.02	-0.07**	-0.07**	-0.02
Sympathy for Consumer	29.65**	0.01	-0.00	-0.01	-0.03	-0.02
Credibility of Consumer	23.02	-0.00	-0.02	-0.03	-0.03*	-0.02

Note: * = $p < .01$; ** = $p < .001$

Next, I used the parameters from these models to generate a response surface for each of the outcomes (Figure 3.3). A congruence effect was not supported for any outcome. There was, however, a shifted rising ridge pattern (SRR; Schönbrodt, 2016), which is also called an *optimal margin effect* (Nestler et al., 2019), for SES on interest in affiliation. People indicated more interest in affiliating with others who were slightly higher in SES, across levels of perceiver and target SES.

Figure 5.3

Response Surfaces for the Effect of Actual SES



For the person-oriented consumer judgements, sympathy and credibility of consumer, the surfaces show a ceiling effect (Figure 3.3), suggesting that overall people were sympathetic and believed the consumer experiences of others. They also show a small perceiver-oriented effect, such that a perceiver's SES predicted how much sympathy and credibility they accorded to others more than the target's SES. The perceiver-oriented effect was curvilinear, showing that people at the high and low ends of the SES scale felt less sympathy and judged the targets to be less credible than those in the middle.

Congruence between SES and perceived SES. In addition to testing for congruence in actual SES, I also tested for congruence between a perceiver's SES and their perception of the target's SES on the outcomes. For this analysis, I used a standard RSA approach (e.g., Humberg et al., 2019). I transformed the data so that each observation was a perceiver's perception of a

target, which means that each dyad is represented twice in the data, once for each perceiver. To be consistent with the previous analysis, I accounted for the nonindependence of observations by setting a < .01. The RSA parameters for the models testing for congruence effects of perceived SES are presented in Table 3.8.

The effect of congruence between SES and perceived SES on affiliation (Figure 3.4) showed a similar optimal margin effect as the effect of actual SES, providing additional support for the conclusion that people are interested in affiliating with people who have a slightly higher SES than their own. The effect of congruence between SES and perceived SES on the person-oriented consumer judgments, sympathy, and credibility of consumer showed the same optimal margin effect. People judged others who they perceived as a little higher in SES as more credible consumers and expressed more sympathy for their negative experiences (Figure 3.4). Overall, the relationship between a perceiver's SES and their perceptions of others' SES shows a consistent optimal margin effect across the person-oriented judgments.

Figure 5.4

Response Surfaces for the Effect of Perceived SES

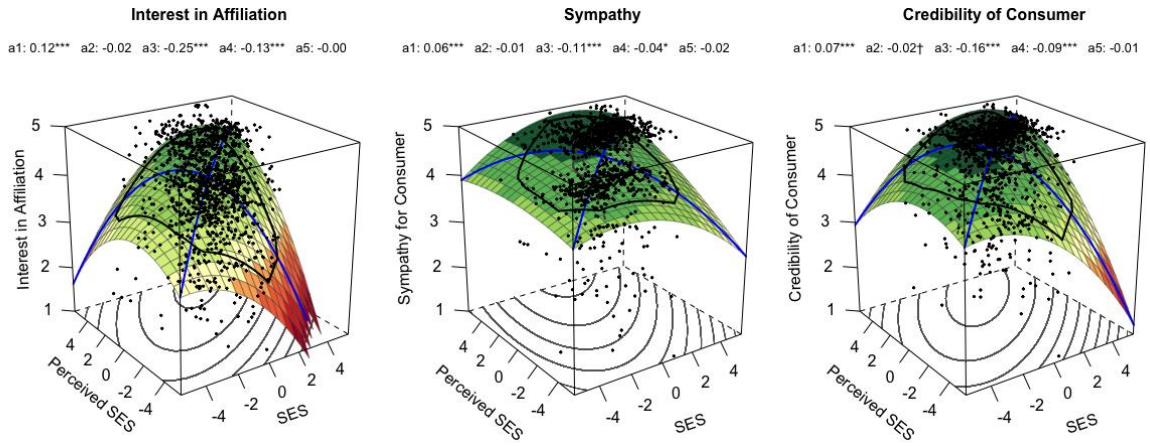


Table 5.8

RSA Parameters from DRSA Models Testing the Effect of Congruence of Perceived SES

Outcome	ΔX^2	a_1	a_2	a_3	a_4	a_5
Affiliation	.12**	0.12**	-0.02	-0.25**	-0.13**	-0.00
Sympathy for Consumer	.03**	0.06**	-0.01	-0.11**	-0.04	-0.02
Credibility of Consumer	.07**	0.07**	-0.02	-0.16**	-0.09**	-0.01

Note: Number of observations for each models: $n = 1186$; * = $p < .01$; ** = $p < .001$

The Effect of SES-based Stereotypes on Social Decisions

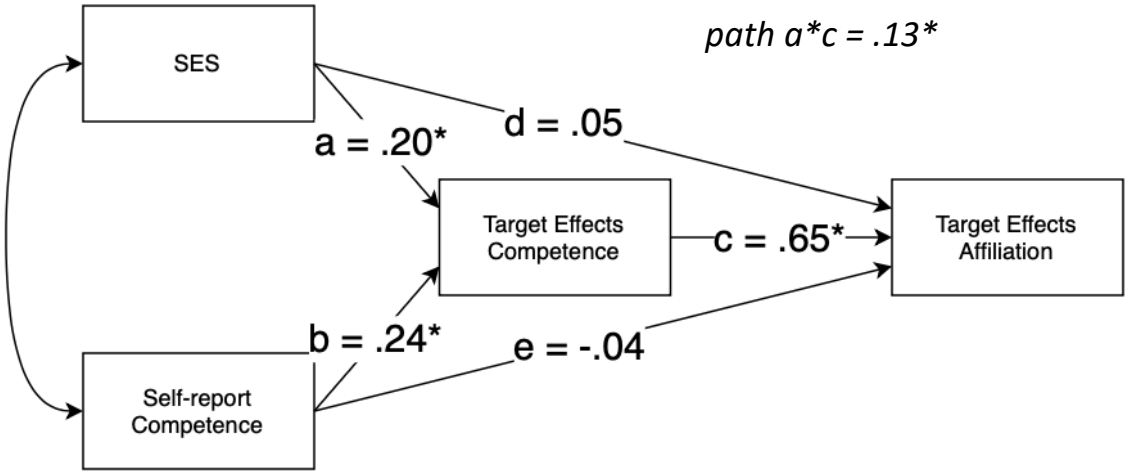
The total effects of SES on the outcomes shows that SES influences social decisions about affiliation and judgments about consumers. I theorized that SES-based interpersonal stereotypes are the mechanism by which SES impacts these social decisions. To test this hypothesis, I used the Interpersonal Stereotype Model (ISM; Figure 3.5) to estimate the indirect effect of SES on the social decisions, transmitted through SES-based interpersonal stereotypes. This effect is specified in the ISM as the indirect path (*path* a*c) from self-report SES to target effects of a personality domain (*path* a) to the target effects of the outcome (*path* c). The other paths in the model control for the direct effect of SES on the outcome (*path* d), the direct effect of the personality domain on the outcome (*path* e), and the association between SES and personality (nondirected path between SES and personality).

I preregistered and conducted an ISM for each personality trait that was associated with interpersonal stereotype content. As reported in the previous section, there was SES-based stereotype content in each of the 12 personality domains, so I estimated 12 ISM models for each of the three outcomes. The standardized model parameters for each model with interest in

affiliation as the outcome are presented in Table 3.9. These ISMs showed a significant positive indirect effect of SES on interest in affiliation mediated by SES-based stereotypes in 10 out of the 12 personality domains. SES indirectly influenced interest in affiliation by biasing impressions of warmth, competence, agreeableness, conscientiousness, neuroticism, openness, honesty/propriety, trustworthiness, laziness, and intelligence. Most of these indirect effects were positive because both direct paths (*a* and *c*) were both positive: higher SES was associated with positively biased impressions of these traits, and a higher level of the trait was associated with greater interest in affiliation. In the domains of neuroticism and laziness, the indirect effect (a*c) was positive because the parameters for both paths were negative. People were more interested in affiliating with higher SES others because of biased perceptions of being lower in these domains. In the domain of neuroticism, for example, impressions of the neuroticism of people with higher SES were biased to be lower (*path a* = -.24), and people were more interested in affiliating with others with lower neuroticism (*path c* = -.51). Overall, the models show that SES impacts social decisions about affiliation through the emergence and application of SES-based interpersonal stereotypes. Moreover, that this effect is ubiquitous across traits and consistently advantageous for people with higher SES, providing them additional opportunities to form social bonds and extend their social network.

Figure 5.5

The Interpersonal Stereotype Model with Competence and Interest in Affiliation



Note: All parameters are standardized. $^{*}p < .001$

Table 5.9

Standardized Interpersonal Stereotype Model Parameters: Affiliation

	Interest in affiliation					
Traits	a*c	a	b	c	d	e
Warm	.12**	.16**	.11*	.76***	.08	-.01
Competence	.13***	.20***	.24***	.65***	.05	-.04
Extraversion	.05	.10	.32***	.52***	.12*	-.04
Agreeableness	.09*	.14*	.12	.64***	.10*	-.01
Conscientiousness	.11***	.19***	.18***	.54***	.09	-.07
Neuroticism	.12**	-.24***	.20***	-.51***	.09	.11*
Openness	.09**	.14**	.11*	.63***	.11*	-.01
Honesty/Propriety	.05*	.13*	.18***	.38***	.15**	-.03
Trustworthiness	.09**	.15**	.12*	.62***	.11*	.04
Laziness	.09***	-.20***	.18**	-.44***	.11*	.02
Impulsivity	.02	-.13*	.22***	-.14*	.18**	.00
Intelligence	.16***	.26**	.03	.61***	.03	.05

Note: $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .00$

I also tested if SES-based interpersonal stereotypes impacted how people were seen and judged as consumers. The ISMs with these outcomes showed that SES indirectly influenced both sympathy and credibility of the consumer through interpersonal stereotypes (Table 3.10). There was an indirect effect of SES through SES-based stereotypes in 11 of the 12 traits (all except impulsivity) and on judgments of credibility in 10 of 12 traits (all except impulsivity and honesty/propriety). Similar to interest in affiliation, these effects were consistently advantageous to people with higher SES. People indicated they had more sympathy for the negative experiences of higher SES consumers and found their experiences more credible.

Discussion

The aim of this study was to examine how SES influences the impressions and decisions made during social interactions among people from a socioeconomically diverse population. After a five-minute computer-mediated interaction, people accurately judged the SES of their interaction partner. This pattern of findings supports the existence of interpersonal stereotypes of SES and that these stereotypes influence social decisions. People with higher SES were perceived in the socially desirable direction for every measured attribute, suggesting that SES is associated with globally positive evaluations. People then used the stereotyped impressions of personality to inform social decisions about affiliation, judgements about credibility, and feelings of sympathy. These findings support that an individual's SES influences how they are seen and treated by others in social interactions. It does so through the activation and application of interpersonal stereotypes of personality. In the next chapter, I discuss the implications of these findings for the perpetuation of inequality in everyday social interactions, and the study of stereotypes and inequality more broadly.

Table 5.10

Standardized Interpersonal Stereotype Model Parameters: Consumer Sympathy and Credibility

	Sympathy for Consumer						Credibility of Consumer					
Traits	a*c	a	b	c	d	e	a*c	a	b	c	d	e
Warm	.08**	.16**	.11*	.50***	-.02	.00	.06**	.16**	0.11*	.40***	-.00	.01
Competence	.07**	.20***	.24***	.34***	-.00	-.08	.08**	.20***	0.24***	.40***	-.02	-.09
Extraversion	.03	.10	.32***	.29***	.04	-.09	.02	.10	0.32***	.18**	.03	.02
Agreeableness	.06*	.14*	.12	.44***	.00	-.02	.05*	.14*	0.12	.33***	.01	.00
Conscientiousness	.07**	.19***	.18**	.34***	.01	-.09	.07***	.19***	0.18**	.38***	-.01	-.05
Neuroticism	.06**	-.23***	.20***	-.26***	.01	.05	.07**	-.23***	0.20***	-.30***	-.01	.03
Openness	.05*	.14**	.11*	.38***	.01	-.12	.06*	.14**	0.11*	.39***	.01	-.08
Honesty/Propriety	.04*	.13*	.18**	.34***	.02	-.00	.03	.13*	0.18**	.24**	.03	-.01
Trustworthiness	.06**	.15**	.12*	.43***	.00	.00	.05*	.15**	0.12*	.33***	.01	.02
Laziness	.04*	-.20***	.18**	-.19**	.03	.07	.05**	-.20***	0.18**	-.25***	.01	-.01
Impulsivity	.02	-.13*	.22***	-.15*	.05	.03	.01	-.13*	0.22***	-.11	.04	-.04
Intelligence	.11***	.27***	.03	.40***	-.04	-.04	.13***	.27***	0.03	.49***	-.06	-.04

IV. GENERAL DISCUSSION

The present work provides direct evidence that SES impacts impressions of personality and the social decisions made during interpersonal interactions. Much like the effects of SES on health and well-being, the interpersonal effects of SES provide advantages for people with higher SES and disadvantages for people with lower SES. In a context with the opportunity to make a new social connection, people with lower SES were stereotyped as having less desirable personality traits, which in turn reduced others' interest in affiliation. Given the importance of economic social ties to social mobility (Chetty et al., 2022a, Chetty et al., 2022b), lost opportunities to develop relationships with higher SES others represents a significant barrier to upward social mobility. Additionally, these interactions revealed that in contexts where they lost resources due to a company providing a faulty good or service, people with lower SES were judged as less credible and received less sympathy.

Interpersonal Perceptions of SES

For an individual's SES to impact interpersonal perceptions and social decisions in ways that perpetuate inequality, it must be detected by others in social interactions. Previous work provided evidence that SES cues are available in lab-based stimuli (Bjornsdottir & Rule, 2017; Kraus et al., 2019), which suggested that relevant SES-based cues are also available in interpersonal interactions with live humans. In this work, I extended the study of accuracy in perceptions of SES to those formed during initial face-to-face social interactions. The results showed consensus in perceptions of SES. Multiple perceivers using information from separate interactions agreed about who was high and low in SES across different interaction partners and interactions. In addition to agreeing about who was high and low in SES, people were also

relatively accurate in their judgments of others SES, showing that SES cues were available, detected, and utilized by perceivers during initial interpersonal interactions.

One advantage to using an interpersonal approach to study perceptions of SES is that it provided greater fidelity in estimating the accuracy of perceptions of SES. The accuracy of personality impressions in this study offers a good comparison from which to calibrate the accuracy of impressions of SES. Interpersonal perceptions of SES were more accurate than 10 out of the 12 personality traits measured, and were nearly as accurate as the other two, competence and extraversion. Impressions of extraversion, the most accurately perceived personality trait, are theorized to be high in accuracy because extraversion is visible and socially salient (Funder& Colvin, 1988).

Visibility is an important consideration in the study of stereotypes, as some stigmatized identities can be more or less visible (Quinn, 2005). Race and gender are often used as examples of visible whereas past drug addiction and sexuality are examples of invisible stigmatized identities (Reinka et al., 2020). These findings show that SES is both an observable and socially salient characteristic of individuals. It is also possible that SES cues can be concealed, such as with clothing (Kraus & Mendes, 2014; Oh et al., 2020). For example, in school or work settings, SES cues from clothing can be reduced by a uniform. In these and other contexts people may also employ other impression management strategies in an attempt to hide their SES or elevate others' impressions of their SES. Future research should examine both how different contexts contribute to the augmentation of group boundaries (e.g., does a person with lower SES avoid or not get invited back to higher SES social functions), and how reducing the visibility of SES, such as through requiring uniforms at school (Bodine, 2003; Jones et al., 2020) or at work, influences the formation of social ties between people with lower and higher SES.

Interpersonal Stereotype Content of SES

This work advances our understanding of stereotype content and SES-based stereotypes in several important ways. First, I developed an approach for estimating interpersonal stereotypes in impressions of personality. This methodological and analytical approach moved the study of stereotype content from impressions of social groups and fictional exemplars (Fiske et al., 2002; Durante et al., 2017) to interpersonal perceptions about the personality traits of individuals. Second, I determined the interpersonal stereotype content associated with an individual's relative position in the socioeconomic hierarchy, extending the study of SES-based stereotypes to account for the continuous structure of SES in society. Third, by estimating these stereotypes with perceptions of SES, rather than providing explicit or implicit information about the target's SES, I directly identified the stereotype content of SES as applied in impressions about the personality of individuals.

Based on the results, SES biased impressions of each of the twelve personality traits we measured. Impressions were biased in the socially desirable direction for people with higher SES, revealing a global positive interpersonal stereotype for SES. The emergence of a global stereotype in SES aligns with previous work on implicit stereotypes (pro-high SES/anti-low-SES implicit bias; Connor et al., 2022), but contradicts previous findings of ambivalent stereotype content for SES-based groups (e.g., cold but competent; Durante et al., 2017). I found that people who were perceived as higher in SES were also perceived as higher in both warmth and competence. It is possible that our sample did not detect a reversal of warmth that the stereotype content model would predicts in stereotypes of someone perceived to be "rich" (i.e., at the extreme high end of SES) because our sample did not feature an adequate number of people at the top of the hierarchy. However, perceptions of the participants' SES made by the other

participants formed a normal distribution that covered the entire range of perceptions. People might judge groups labelled as “the rich” to be cold or “the poor” to be warm, but these stereotypes were not applied in impressions of a diverse sample of individuals based on their SES. Instead, people with higher SES were judged more positively across a broad range of personality traits.

The finding of a global positive interpersonal stereotype for individuals with high SES does align with other theories from the intergroup relations literature. In social dominance theory (Sidanius & Pratto, 1999), for example, high-status groups maintain their position in the social hierarchy through “legitimizing myths” that commend high-status groups (e.g., the rich) and denigrate low-status groups (e.g., the poor). Relatedly, just world theory (Lerner, 1981) and system justification theory (Jost et al., 2004) argue that individuals are motivated to maintain the status quo, and therefore see high-status groups as worthy of their privilege and low-status groups as deserving of their inferior position.

Evidence against ambivalent stereotypes in SES does not necessarily rule out ambivalent stereotypes for other social categories. People might have different stereotypes of category labels than they do for individual members of that category and could serve different functions. For example, stereotypes of category labels might be important in determining an individual’s attitudes towards political policies, but not relevant to social interactions with people in that category. It is also possible that judgments and attitudes about categories or groups are not associated with how people act towards individual members of the group (LaPiere, 1934). The present results further emphasize the need to study stereotype content in impressions of individuals before drawing conclusions about how they are applied to real people and how they in turn affect social decisions.

SES and Social Decisions

The results show that an individual's SES impacts the ways people are seen in interpersonal interactions and the social decisions made about them in ways that are universally detrimental to people with lower SES. By studying initial social interactions between unacquainted people from a socioeconomically diverse population, I was able to show the impact SES can have on everyday social encounters between strangers. This type of encounter occurs frequently and often in situations that can affect access to resources.

Across levels of SES, people were more interested in affiliating with others who were, and who they perceived to be, somewhat higher in SES than their own. This optimal margin effect raises the question of why people want to affiliate with others who are a little, but not a lot, higher in SES. One possibility is that the cultural differences between people with higher and lower SES become more salient as the distance between SES grows. It is also possible that individuals consider the likelihood of becoming friends when indicating their interest in affiliation. People could balance the interest in affiliating with higher SES others with the probability of forming a friendship. It is much more likely that people can befriend their neighbor who makes fifty-thousand dollars more a year than they become friends with a billionaire. Regardless of the mechanism, it appears that people pursue friendships with others in an adaptive way for upward social mobility. However, because everyone is interested in affiliating with people higher up the hierarchy, people with lower SES might struggle to develop social relationships with those who have higher SES, thus creating a barrier to social mobility. This suggests that one cause of social homophily in SES is people with higher SES choosing not to be friends with people of lower SES.

The Interpersonal Stereotype Model analysis (ISM) showed that SES influenced social decisions through the emergence of interpersonal stereotypes in impressions of personality traits. People with lower SES were judged as less credible, received less sympathy for their negative experience, and others were less interested in affiliating with them because they were stereotyped as having fewer desirable traits. By studying these phenomena in social interactions, I was able to model and test this effect in perceptions of real people and show the real-world social consequences of SES. Broadly, the results provided direct support for parts of the Kraus et al. (2017) framework for the interpersonal perpetuation of inequality. People were accurate in their impression of SES, applied interpersonal stereotypes, and SES influenced sorting. Importantly, in the present work I advanced this framework by identifying and testing a mechanism through which an individual's SES perpetuates inequality—interpersonal stereotypes.

The effects of these interpersonal stereotypes are universally detrimental to people with lower SES. As consumers, people with lower SES are less able to handle the loss of a faulty good or service, which makes negative consumer experiences more consequential. However, they receive less sympathy for their experience. Negative SES-based stereotypes emerge in perceptions of competence and conscientiousness, which suggests that people might blame people with low SES for their negative experiences. Another possibility is that this is a manifestation of out-group derogation. The majority of American view themselves as middle class which makes those perceived to be lower SES as potential outgroup members. Previous work has shown that support for societal hierarchies in general leads to less empathy for and the expression of schadenfreude towards out-groups (Hudson et al., 2019). Future studies should further investigate the connection between SES and sympathy and examine how support for

hierarchies affects this association. This could provide insight into why people support policies to further reduce resources and opportunities for people with low SES.

The interpersonal stereotypes of SES were applied in impressions of people and affected the social decisions about others. In the interactions, people discussed a negative experience with a business, and I wanted to test if the effects of these stereotypes transferred to how the story impacted others' judgments about the business. I found that an individual's SES and the interpersonal stereotypes about their SES did not impact judgments about the credibility of the business or the NPS. One explanation is that many people described experiences with well-known retailers and others had pre-formed judgments that were not swayed much by the story. Another possibility is that people updated their judgments about the business based on the story itself rather than the SES or personality of the storyteller. This finding suggests that businesses concerned about credibility or NPS should be concerned with addressing the negative experiences of all consumers, regardless of SES.

There were, however, some potential serious consequences for low SES consumers. Stereotypes of not being trustworthy or conscientious could lead to differential treatment of consumers in stores and restaurants, or pushback when trying to return a faulty item. To address these concerns, businesses should consider providing SES-specific debiasing training for their customer service representatives. Because the interpersonal interactions between customer service representatives and customers is the context in which SES-based stereotypes can detrimentally impact lower SES consumers it is the ideal place for an intervention. Other ways that businesses and organizations can work to minimize the impact of interpersonal stereotypes is by reducing employee subjectivity in customer-related decisions, and by consistently applying company or organizational policies.

The Social Functions of SES and SES-based Stereotypes

Why do people accurately judge the SES of others? The accuracy in perceptions of SES from social information (e.g., Bjornsdottir & Rule, 2017; Kraus et al., 2019) and in social interactions, as shown in the present work, suggests that perceptions of SES serve a social function. At a fundamental level, SES is an indicator of the resources available to an individual. Evolutionarily, accurate perceptions of who has resources and the pursuit of relationships with those who do could have served to increase survival and fitness. In the present day, perceptions of SES might serve a similar adaptive role by helping people identify others who can assist with economic mobility. However, present decisions about affiliation are based on additional factors besides economic utility.

Functionalist approaches to social status argue that status hierarchies in groups or organizations facilitate the well-being of the groups by reducing intergroup conflict and motivating self-sacrifice for the good of the group (Anderson & Willer, 2014; Willer, 2009). Conversely, critical approaches argue that status is assigned based on characteristics besides merit and is divisive for groups. To reconcile the empirical work that supports each of these approaches, Anderson and Willer (2014) proposed a bounded functionalist approach—people do their best to allocate status to those who deserve to form functional hierarchies but often fall short. In initial interpersonal interactions, perceptions of SES could be used as a proxy for social status and help reduce interpersonal conflict by providing a status structure for the interaction.

Accurate perceptions of SES could also help relationship development. Evidence that misunderstanding or misrepresenting one's social status reduces social acceptance by others (Anderson et al., 2006). This suggests that understanding one's own position in the society's socioeconomic status hierarchy, relative to others, and expressing SES relevant cues is important

for forming new relationships. An interesting direction for future research will be to examine how SES impressions management strategies, intentionally presenting as a higher or lower in SES, influences social acceptance and impacts interest in affiliation.

Stereotypes also serve important social functions. The stereotype content model (Fiske et al., 2003), and other two-dimensional models of social evaluation (Koch et al., 2021), argue that the social function of stereotypes is to help people determine whether others are a threat. Specifically that the warmth domain is indicative of whether or not people from a social group intend harm, and competence is indicative of whether or not people from the groups are able to accomplish any intended harm. For SES, the stereotype content of "the rich" as cold and competent translates to the intention of harm and the capability to do harm. The stereotype of "the poor" as incompetent suggests that whether or not they mean harm is irrelevant, which could explain some of the ambiguity in the stereotypes of this groups. Findings from the present work align with the idea that people apply stereotypes based on perceived threat. But it is the lower SES targets that are seen as a threat and denigrated with stereotypes of less desirable personality traits.

As the predominant organizing hierarchy of society, SES plays an important role in social interactions and the formation of friendships (Chetty et al., 2022). In smaller groups, there is evidence that status both helps and hinders groups progress and success. At the societal level there is less empirical evidence that supports the benefits of the socioeconomic hierarchy for social cohesion. For interpersonal interactions, the inherent SES-based status differentials perceived between interactants could help reduce interpersonal conflict, but could also increase division. Evidence form the present work supports the latter explanation and suggests that the predominant social function of SES is to maintain the economic status quo.

The Interpersonal Perpetuation of Inequality in Social Interactions

A global negative stereotype can affect individuals across a wide range of social contexts. It might impact how a person is treated in a store, where they are seated in a restaurant, or whether or not they are invited to a social gathering. One especially important context for the perpetuation of inequality is hiring decisions. Interviews are often structured as an interaction between strangers, suggesting hiring decisions based on impressions about the personality of the interviewee are likely to be biased by SES (Bjorndotter & Rule, 2017; Kraus et al., 2019). A future study of the impact of SES on real-world hiring decisions and testing interventions or interview strategies to decrease the effect of SES-based stereotypes will be an important next step in reducing the interpersonal perpetuation of inequality.

Limitations & Future Directions

The present work extended the study of perceptions and stereotypes of SES from lab-created stimuli and imagined interactions to real initial social interactions between strangers. This represents a significant advance toward understanding how SES impacts initial real-world interactions. However, despite the many similarities between the *real-interactions* between participants in this study, there were some important differences between them and the spontaneous initial *real-world interactions* they were intended to simulate. These differences were necessary to conduct and interactions study online with a diverse national sample but limit the generalizability of the findings to real-world interactions and to other social contexts.

Real versus Real-world Interactions

The interactions in the present work simulated important features of initial real-world social interactions. Much like a chance meeting in a library, coffee shop, or social gathering, they

featured two people who do not know one another meeting for the first time and having a brief low-stakes conversation. During the interaction, the research assistant (RA) muted their audio and video but remained in the room and their presence was visible to the participants throughout the interaction. People often have initial encounters with strangers in public contexts, where there are other people present who could overhear the conversation or observe the interaction. The presence of potential observers could influences interpersonal behavior in a number of ways, including constraining behavior to meet social norms. The presence of the RA in the virtual rooms might have influenced behavior in a similar fashion or in other ways. The presence of the RA limits inferences from these results to contexts with an expectation of privacy.

There were other important differences between the initial interactions in the present study and spontaneous real-world ones. In real-world spontaneous initial interactions, topics of conversation are often determined by the context in which they occur and beyond loose social norms these interactions do not have a set structure. The interactions in the study were semi-structured, I provided the topic of conversation and unlike some real-world interactions, participants were given the opportunity to prepare in advance by thinking and writing about their negative consumer experience. They were also one-shot, which is similar to real-world interactions but an important difference is that in-person local interactions feature some small probability of future interactions or the potential of a relationship. The interactions in the study had little chance to lead to future meetings or relationships, which could have altered people's social goals, caused them to exert less effort to establish rapport, or led to expressing less interest in the interactions partner. Unlike real-world interactions, we asked participants to tell the same story in back-to-back interactions, which could have changed the emotional content or resulted in people adapting their story based on feedback or response in previous interactions.

How does the considerable similarity and important differences between the interactions in the study and those in the real-world interactions impact the generalizability of the findings to other contexts? Considering the interpersonal effects of SES are founded on accurate perceptions of SES, if context impacts accuracy it will severely limit the generalizability of the findings to other contexts. The present finding of accuracy in interpersonal perceptions of SES, combined with previous evidence of accuracy from constrained stimuli (Bjornsdottir & Rule, 2017; Kraus et al., 2019) suggest that perceptions of SES will be accurate in a variety of interpersonal contexts. In the present work, in addition to the behavioral stream of information provided by the target, in some interaction perceivers also had access to additional environmental information. Although we asked people to join in front of a plain background, in many interactions background information was visible. If a target was in their own home or residence the environmental cues or behavioral residue in the background could have could have provided additional relevant information about the target's SES or personality, but participating from a friend's home or a shared space could have provided the perceiver with cues that were not relevant to the SES or personality of the target.

The consumer experiences described in the interactions could have also provided perceivers relevant cues of SES. However, this is true about most conversation topics. Future work will look to disentangle these sources of information and determine the unique contributions of person, background, and story to the accuracy of perceptions of SES. The context and positions of people could also influence the accuracy of perceptions of SES. Unlike the low-stakes conversations about consumer experiences in the present study, other contexts feature structural status and power differentials. An important question for future work is how do imbalances in power or status in an interaction influence accuracy of perceptions of SES? For

example, how does being the interviewer or interviewee in a job interview or the patient or doctor in a healthcare appointment influence perceptions of SES and the application of SES-based interpersonal stereotypes?

Given the novelty of the present work there is little evidence from which to consider the effect of these contextual differences on stereotype content or the indirect effect of SES on the outcomes. Contextual factors that influence accuracy could subsequently alter the content of stereotypes and how they are applied in interpersonal decision making. For example, in the present work people were describing a consumer experience to another consumer, but if they were trying to get compensation for a faulty good or service in the real-world they would be speaking to an employee of the business who has power in the situation. Much like for accuracy, it is unclear how power or status differentials will impact the stereotypes and decisions made in similar contexts. The ubiquitous nature of SES-based interpersonal stereotype content and the similarities between the study interactions and real-world interactions suggest that the SES-based interpersonal stereotypes observed in the study are applied in a wide variety of contexts. Additional work is needed to determine how different contextual factors, such as the type of interaction (e.g., competitive, cooperative), the social goals of the interactants, or the power structure of the interaction, influence the application of SES-based stereotypes.

If contextual differences impact either accuracy or stereotype content it will also influence the association between SES and the social decisions made during interactions. It is also possible that the one-shot nature of the interactions combined with an extremely limited likelihood of future chance meetings could have influenced the judgments about affiliation, credibility, and sympathy. Less potential for future relationships could have caused people to make different judgments than they would in a local real-world interaction. Thus, in contextually

different real-world interactions we may find a different relationship between SES, stereotypes, and social judgments.

Considering together the differences between real and real-world interactions and the potential effect of these differences on stereotypes and social decisions suggests some limitations to generalizing from the present findings to other social contexts. The findings appear to generalize to situations where people are on equal footing and do not have a reasonable expectation of privacy, such as meeting in a public place like a coffee shop or social gathering. However, caution should be used when inferring from the findings how SES impacts contexts with a power differential or with features that make SES more or less visible, such as a job interview or meeting with a professional in their office. The finding suggest that SES impacts a wide range of personality impressions and social decisions but further work will be necessary to determine how contextual factors impact these effects.

Experimental Control

To study the interpersonal effect of SES in situ, I relinquished the tight experimental control favored in previous work. For example, I asked participants to join the study from a quiet place with a neutral background. But not all participants followed these directions. Some people participated from their kitchen table or other areas of their home that included information in the background environment that perceivers could use to inform their impressions. The use of environmental socioeconomic information (Olson et al., 2011) or behavioral residue (Gosling et al., 2002) might have altered or inflated estimates of accuracy in the present work. A next step in this work is to collect SES judgments of the video recorded interactions with the either

background or the person blurred out to determine the relative contribution of the individual and background environment to perceptions of SES.

I also did not control the information shared about the consumer experience, or the discussion that followed. I asked participants to write down their negative consumer experience and to share the same experience with each of the other participants. However, the experiences were discussed in dynamic social interactions and the specific information shared about the consumer experience varied. The ensuing discussions were also unique to each interaction, much like typical social interactions. While the variability and randomness of the interactions strengthens the inferences drawn from the results about the real world, it also increases noise around the variables and constructs of interest, which can attenuate effects. For example, variability in the consumer experience an individual shared with others could help explain the low reliability of judgments about consumer credibility.

The aim of this work was to study the effect of a single stereotyped social identity in a real-world social context. I did not want to accentuate SES or separate it from other identities. Therefore, I recruited a national sample of participants with a wide range of identities. Many with multiple stereotyped identities. In this work, I was able to detect the effects of SES on social interactions across the different genders and racial backgrounds of the participants. In an exploratory analysis, I did not find any systematic differences in the interpersonal stereotype content of SES between men and women. Future work can investigate if this result is context specific by testing if SES-based interpersonal stereotypes vary by gender in other contexts, such as professional interactions.

There were not enough participants from each self-report racial group to test if SES and racial categories interacted to impact personality impressions. The strong association between

race and SES in the US (U.S. Census Bureau, 2009) suggest it is likely these identities combine or interact in ways that influence the application of stereotypes (Petsko et al., 2022). Future work should address how intersectionality, when different identities and combinations of identities are processed simultaneously, contributes to the activation and application of interpersonal stereotypes (Ito & Urland, 2003; Stangor et al., 1992).

The ubiquitous and strong influence of SES on personality impressions and social decisions paints a bleak outlook for reducing the interpersonal perpetuation of inequality. The PERSON model of interpersonal perception provides some hope with its proposition that stereotyped information is replaced with individuating information after a small number of behaviors are observed (Kenny, 2004). This suggests that in longer interactions, or after interacting multiple times, the SES stereotypes will attenuate, which should reduce the effect on social decisions. However, this empirical question will need to be answered in future work that examines how interaction length and relationship length influence the application of SES stereotypes in impressions of others. Understanding the stereotypes people apply to others during interactions and how they change over time will be key to identifying ways to stem the interpersonal perpetuation of inequality.

Conclusion

The appeal of the American dream is undeniable. The mantra, work hard and you will get ahead, conjures the image of a meritocracy, with the best, hardest working, and most deserving people at the top. The relationship between SES and stereotypes of socially desirable traits suggests people have internalized this idea. Unfortunately, America is not a simple meritocracy and not everyone who works hard will find the American dream. The present work showed that

one barrier to moving up the hierarchy, and towards the American dream, for people with low SES is that their current SES causes others to see them as less desirable, which reduces social and economic opportunities.

References

Abele, A. E., Ellemers, N., Fiske, S. T., Koch, A., & Yzerbyt, V. (2021). Navigating the social world: Toward an integrated framework for evaluating self, individuals, and groups. *Psychological Review*, *128*(2), 290–314. https://doi.org/10.1037/rev0000262

Abele, A. E., & Wojciszke, B. (20130318). The Big Two in social judgment and behavior. *Social Psychology*, *44*(2), 61. https://doi.org/10.1027/1864-9335/a000137

Adler, N. E., Epel, E. S., Castellazzo, G., & Ickovics, J. R. (20001115). Relationship of subjective and objective social status with psychological and physiological functioning: Preliminary data in healthy, White women. *Health Psychology*, *19*(6), 586. https://doi.org/10.1037/0278-6133.19.6.586

Adler, N. E., & Stewart, J. (2010). Health disparities across the lifespan: Meaning, methods, and mechanisms. *Annals of the New York Academy of Sciences*, *1186*(1), 5–23. https://doi.org/10.1111/j.1749-6632.2009.05337.x

Anderson, C., Srivastava, S., Beer, J. S., Spataro, S. E., & Chatman, J. A. (2006). Knowing your place: self-perceptions of status in face-to-face groups. *Journal of personality and social psychology*, *91*(6), 1094.

Anderson, C., & Willer, R. (2014). Do status hierarchies benefit groups? A bounded functionalist account of status. *The psychology of social status*, 47-70.

Antheunis, M. L., Schouten, A. P., & Walther, Joseph. B. (2020). The hyperpersonal effect in online dating: Effects of text-based CMC vs. videoconferencing before meeting face-to-face. *Media Psychology*, *23*(6), 820–839. https://doi.org/10.1080/15213269.2019.1648217

Antonoplis, S. (2023). Studying Socioeconomic Status: Conceptual Problems and an Alternative Path Forward. *Perspectives on Psychological Science*, *18*(2), 275–292. https://doi.org/10.1177/17456916221093615

Asch, S. E. (1946). Forming impressions of personality. *The Journal of Abnormal and Social Psychology*, *41*(3), 258–290. https://doi.org/10.1037/h0055756

Asendorpf, J. B., Penke, L., & Back, M. D. (2011). From Dating to Mating and Relating: Predictors of Initial and Long–Term Outcomes of Speed–Dating in a Community Sample. *European Journal of Personality*, *25*(1), 16–30. https://doi.org/10.1002/per.768

Auwarter, A. E., & Aruguete, M. S. (2008). Counselor perceptions of students who vary in gender and socioeconomic status. *Social Psychology of Education*, *11*(4), 389–395. https://doi.org/10.1007/s11218-008-9056-0

Back, M. D., Penke, L., Schmukle, S. C., & Asendorpf, J. B. (2011a). Knowing your own mate value: Sex-specific personality effects on the accuracy of expected mate choices. *Psychological Science*, *22*(8), 984-989.

Back, M. D., Penke, L., Schmukle, S. C., Sachse, K., Borkenau, P., & Asendorpf, J. B. (2011b). Why mate choices are not as reciprocal as we assume: The role of personality, flirting and physical attractiveness. *European Journal of Personality*, *25*(2), 120-132.

Bahns, A. J., Crandall, C. S., Gillath, O., & Preacher, K. J. (20160201). Similarity in relationships as niche construction: Choice, stability, and influence within dyads in a free choice environment. *Journal of Personality and Social Psychology*, *112*(2), 329. https://doi.org/10.1037/pspp0000088

Becker, J. C., Kraus, M. W., & Rheinschmidt-Same, M. (2017). Cultural Expressions of Social Class and Their Implications for Group-Related Beliefs and Behaviors. *Journal of Social Issues*, *73*(1), 158–174. https://doi.org/10.1111/josi.12209

Bell, S. J., & Luddington, J. A. (2006). Coping With Customer Complaints. *Journal of Service Research*, *8*(3), 221–233. https://doi.org/10.1177/1094670505283785

Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *American economic review*, *94*(4), 991-1013.

Biesanz, J. C. (2010). The social accuracy model of interpersonal perception: Assessing individual differences in perceptive and expressive accuracy. *Multivariate Behavioral Research*, *45*(5), 853-885.

Biskas, M., Sirois, F. M., & Webb, T. L. (2022). Using social cognition models to understand why people, such as perfectionists, struggle to respond with self-compassion. *British Journal of Social Psychology*, *61*(4), 1160-1182.

Boland, J. E., Fonseca, P., Mermelstein, I., & Williamson, M. (2022). Zoom disrupts the rhythm of conversation. *Journal of Experimental Psychology: General, 151*(6), 1272–1282. https://doi.org/10.1037/xge0001150

Bjornsdottir, R. T., & Rule, N. O. (2017). The visibility of social class from facial cues. *Journal of Personality and Social Psychology*, *113*(4), 530–546. https://doi.org/10.1037/pspa0000091

Bodenhausen, G. V., & Wyer, R. S. (19850801). Effects of stereotypes in decision making and information-processing strategies. *Journal of Personality and Social Psychology*, *48*(2), 267. https://doi.org/10.1037/0022-3514.48.2.267

Bodine, A. (2003). School uniforms, academic achievement, and uses of research. *The Journal of Educational Research*, *97*, 67–71. https://doi.org/10.1080/00220670309597509

Bullock, H. E. (2017). Social class and policy preferences: Implications for economic inequality and interclass relations. *Current Opinion in Psychology*, *18*, 141–146. https://doi.org/10.1016/j.copsyc.2017.08.021

Carney, D. R., Colvin, C. R., & Hall, J. A. (2007). A thin slice perspective on the accuracy of first impressions. *Journal of Research in Personality*, *41*(5), 1054-1072.

Carson, R. (1969). *Interaction concepts of personality*. Chicago: Aldine.

Carson, R. C. (2019). *Interaction concepts of personality*. Routledge.

Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., Gong, S., Gonzalez, F., Grondin, A., Jacob, M., Johnston, D., Koenen, M., Laguna-Muggenburg, E., Mudekereza, F., Rutter, T., Thor, N., Townsend, W., Zhang, R., Bailey, M., … Wernerfelt, N. (2022a). Social capital I: Measurement and associations with economic mobility. *Nature*, *608*(7921), Article 7921. https://doi.org/10.1038/s41586-022-04996-4

Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., Gong, S., Gonzalez, F., Grondin, A., Jacob, M., Johnston, D., Koenen, M., Laguna-Muggenburg, E., Mudekereza, F., Rutter, T., Thor, N., Townsend, W., Zhang, R., Bailey, M., … Wernerfelt, N. (2022b). Social capital II: Determinants of economic connectedness. *Nature*, *608*(7921), Article 7921. https://doi.org/10.1038/s41586-022-04997-3

Chmielewski, M., & Kucker, S. C. (2020). An MTurk crisis? Shifts in data quality and the impact on study results. *Social Psychological and Personality Science*, *11*(4), 464-473.

Connelly, B. S., & Ones, D. S. (2010). An other perspective on personality: Meta-analytic integration of observers' accuracy and predictive validity. *Psychological Bulletin, 136*(6), 1092–1122. https://doi.org/10.1037/a0021212

Connor, P., Weeks, M., Glaser, J., Chen, S., & Keltner, D. (2023). Intersectional implicit bias: Evidence for asymmetrically compounding bias and the predominance of target gender. *Journal of Personality and Social Psychology*, *124*, 22–48. https://doi.org/10.1037/pspa0000314

Côté, S., Kraus, M. W., Carpenter, N. C., Piff, P. K., Beermann, U., & Keltner, D. (2017). Social affiliation in same-class and cross-class interactions. *Journal of Experimental Psychology: General*, *146*(2), 269–285. https://doi.org/10.1037/xge0000258

Crump, S. A., Hamilton, D. L., Sherman, S. J., Lickel, B., & Thakkar, V. (2010). Group entitativity and similarity: Their differing patterns in perceptions of groups. *European Journal of Social Psychology*, *40*(7), 1212–1230. https://doi.org/10.1002/ejsp.716

Davidow, M. (2003). Organizational Responses to Customer Complaints: What Works and What Doesn't. *Journal of Service Research*, *5*(3), 225–250. https://doi.org/10.1177/1094670502238917

DePaulo, B. M., Kenny, D. A., Hoover, C. W., Webb, W., & Oliver, P. V. (1987). Accuracy of person perception: Do people know what kinds of impressions they convey?. *Journal of personality and social psychology*, *52*(2), 303.

DesJardins, N. M. L., Srivastava, S., Küfner, A. C., & Back, M. D. (2015). Who attains status? Similarities and differences across social contexts. *Social Psychological and Personality Science*, *6*(6), 692-700.

Diemer, M. A., Mistry, R. S., Wadsworth, M. E., López, I., & Reimers, F. (2013). Best Practices in Conceptualizing and Measuring Social Class in Psychological Research. *Analyses of Social Issues & Public Policy*, *13*(1), 77–113. https://doi.org/10.1111/asap.12001

Dupree, C. H., & Fiske, S. T. (2019). Self-presentation in interracial settings: The competence downshift by White liberals. *Journal of Personality and Social Psychology*, *117*, 579–604. https://doi.org/10.1037/pspi0000166

Durante, F., & Fiske, S. T. (2017). How Social-Class Stereotypes Maintain Inequality. *Current Opinion in Psychology*, *18*, 43–48. https://doi.org/10.1016/j.copsyc.2017.07.033

Durante, F., Tablante, C. B., & Fiske, S. T. (2017). Poor but Warm, Rich but Cold (and Competent): Social Classes in the Stereotype Content Model. *Journal of Social Issues*, *73*(1), 138–157. https://doi.org/10.1111/josi.12208

Elfenbein, H. A., Eisenkraft, N., & Ding, W. W. (2009). Do We Know Who Values Us?: Dyadic Meta-Accuracy in the Perception of Professional Relationships. *Psychological Science*, 20(9), 1081–1083. https://doi.org/10.1111/j.1467-9280.2009.02396.x

Epstein, E., & Guttman, R. (1984). Mate selection in man: Evidence, theory, and outcome. *Social Biology*, *31*(3–4), 243–278. https://doi.org/10.1080/19485565.1984.9988579

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*(6), 878–902. https://doi.org/10.1037//0022-3514.82.6.878

Fiske, S. T., & Markus, H. R. (2012). *Facing Social Class: How Societal Rank Influences Interaction*. Russell Sage Foundation.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. Mcgraw-Hill Book Company.

Forscher, P. S., Lai, C. K., Axt, J. R., Ebersole, C. R., Herman, M., Devine, P. G., & Nosek, B. A. (2019). A meta-analysis of procedures to change implicit measures. *Journal of Personality and Social Psychology*, 117(3), 522-559. http://dx.doi.org/10.1037/pspa0000160

Funder, D. C. (1987). Errors and mistakes: Evaluating the accuracy of social judgment. *Psychological Bulletin*, *101*(1), 75. https://doi.org/10.1037/0033-2909.101.1.75

Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review*, *102*, 652–670. https://doi.org/10.1037/0033-295X.102.4.652

Funder, D. C. (2012). Accurate Personality Judgment. *Current Directions in Psychological Science*, *21*(3), 177–182. https://doi.org/10.1177/0963721412445309

Funder, D. C., & Colvin, C. R. (1988). Friends and strangers: Acquaintanceship, agreement, and the accuracy of personality judgment. *Journal of Personality and Social Psychology*, *55*, 149–158. https://doi.org/10.1037/0022-3514.55.1.149

Funder, D. C., & Dobroth, K. M. (1987). Differences between traits: Properties associated with interjudge agreement. *Journal of Personality and Social Psychology*, *52*(2), 409–418. https://doi.org/10.1037/0022-3514.52.2.409

Gosling, S. D., Gaddis, S., & Vazire, S. (2008). First impressions based on the environments we create and inhabit. In N. Ambady & J. J. Skowronski (Eds.), First impressions (pp. 334-356). New York, NY: Guilford Press.

Gosling, S. D., Ko, S. J., Mannarelli, T., & Morris, M. E. (2002). A room with a cue: Personality judgments based on offices and bedrooms. *Journal of Personality and Social Psychology*, *82*, 379–398. https://doi.org/10.1037/0022-3514.82.3.379

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should We Trust Web-Based Studies? A Comparative Analysis of Six Preconceptions About Internet Questionnaires. *American Psychologist, 59*(2), 93–104. https://doi.org/10.1037/0003-066X.59.2.93

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74(6), 1464-1480. doi:10.1037/0022-3514.74.6.1464

Gruber, T., Szmigin, I., & Voss, R. (2009). Handling customer complaints effectively: A comparison of the value maps of female and male complainants. *Managing Service Quality: An International Journal*, *19*(6), 636–656. https://doi.org/10.1108/09604520911005044

Hehman, E., Sutherland, C. A. M., Flake, J. K., & Slepian, M. L. (2017). The unique contributions of perceiver and target characteristics in person perception. *Journal of Personality and Social Psychology,* 113(4), 513-529. http://dx.doi.org/10.1037/pspa0000090

Henrich, J., Heine, S. & Norenzayan, A. Most people are not WEIRD. *Nature* **466**, 29 (2010). https://doi.org/10.1038/466029a

Hogan, R. (1983). A socioanalytic theory of personality. *Nebraska Symposium on Motivation*, 55–89.

Hudson, S. T. J., Cikara, M., & Sidanius, J. (2019). Preference for hierarchy is associated with reduced empathy and increased counter-empathy towards others, especially out-group targets. *Journal of Experimental Social Psychology*, *85*, 103871. https://doi.org/10.1016/j.jesp.2019.103871

Hughes, B. T., Flournoy, J. C., & Srivastava, S. (2021). Is perceived similarity more than assumed similarity? An interpersonal path to seeing similarity between self and others. *Journal of Personality and Social Psychology*, *121*, 184–200. https://doi.org/10.1037/pspp0000369

Hughes, B. T., & Srivastava, S. (2023). *Studying Impressions and Social Interactions Online: Validating the Computer Mediated Online Round Robin (CMORR)*. PsyArXiv. https://doi.org/10.31234/osf.io/f3k9b

Hughes, B. T., Srivastava, S., Leszko, M., & Condon, D. M. (2022). *Occupational Prestige: The Status Component of Socioeconomic Status*. PsyArXiv. https://doi.org/10.31234/osf.io/6qgxv

Human, L. J., Carlson, E. N., Geukes, K., Nestler, S., & Back, M. D. (2020). Do accurate personality impressions benefit early relationship development? The bidirectional associations between accuracy and liking. *Journal of Personality and Social Psychology, 118*(1), 199–212. https://doi.org/10.1037/pspp0000214

Humberg, S., Dufner, M., Schönbrodt, F. D., Geukes, K., Hutteman, R., Küfner, A. C., ... & Back, M. D. (2019). Is accurate, positive, or inflated self-perception most advantageous for psychological adjustment? A competitive test of key hypotheses. *Journal of Personality and Social Psychology*, *116*(5), 835.

Humberg, S., Gerlach, T. M., Franke-Prasse, T., Geukes, K., & Back, M. D. (2023). Is (Actual or Perceptual) Personality Similarity Associated with Attraction in Initial Romantic Encounters? A Dyadic Response Surface Analysis. *Personality Science*, *4*, 1–25. https://doi.org/10.5964/ps.7551

Humberg, S., Nestler, S., & Back, M. D. (2018). Response Surface Analysis in Personality and Social Psychology: Checklist and Clarifications for the Case of Congruence Hypotheses: *Social Psychological and Personality Science*. https://doi.org/10.1177/1948550618757600

Ito, T. A., & Urland, G. R. (2003). Race and gender on the brain: Electrocortical measures of attention to the race and gender of multiply categorizable individuals. *Journal of Personality and Social Psychology*, *85*, 616–626. https://doi.org/10.1037/0022-3514.85.4.616

Jacob, J., Vieites, Y., Goldszmidt, R., & Andrade, E. B. (2022). Expected Socioeconomic-Status-Based Discrimination Reduces Price Sensitivity Among the Poor. *Journal of Marketing Research*, *59*(6), 1083–1100. https://doi.org/10.1177/00222437221097100

Jones, A. B., Richardson, M. J., Jensen, B. T., & Whiting, E. F. (2020). Perceptions of School Uniforms in Relation to Socioeconomic Statuses. *RMLE Online*, *43*(6), 1–13. https://doi.org/10.1080/19404476.2020.1759298

Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A Decade of System Justification Theory: Accumulated Evidence of Conscious and Unconscious Bolstering of the Status Quo. *Political Psychology*, *25*(6), 881–919. https://doi.org/10.1111/j.1467-9221.2004.00402.x

Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological review*, *90*(3), 185.

Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. Guilford Press.

Kenny, D. A. (2004). PERSON: A General Model of Interpersonal Perception. *Personality and Social Psychology Review*, *8*(3), 265–280. https://doi.org/10.1207/s15327957pspr0803_3

Kenny, D. A. (2019). *Interpersonal perception: The foundation of social relationships*. Guilford Publications.

Kenny, D. A., & Albright, L. (1987). Accuracy in interpersonal perception: a social relations analysis. *Psychological bulletin*, *102*(3), 390.

Kenny, D. A., Gomes, S. B., & Kowal, C. (2015). The Intergroup Social Relations Model: ISRM. *Group Dynamics: Theory, Research, and Practice*, *19*(3), 152.

Kenny, D. A., & La Voie, L. (1984). The Social Relations Model. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 18, pp. 141–182). Academic Press. https://doi.org/10.1016/S0065-2601(08)60144-6

Kerr, L. G., Tissera, H., McClure, M. J., Lydon, J. E., Back, M. D., & Human, L. J. (2020). Blind at First Sight: The Role of Distinctively Accurate and Positive First Impressions in Romantic Interest. *Psychological Science*, *31*(6), 715–728. https://doi.org/10.1177/0956797620919674

Knipprath, K., Crul, M., Waldring, I., & Bai, X. (2021). Urban space and social cognition: The effect of urban space on intergroup perceptions. *The ANNALS of the American Academy of Political and Social Science*, *697*(1), 192-206.

Knox, G., & van Oest, R. (2014). Customer Complaints and Recovery Effectiveness: A Customer Base Approach. *Journal of Marketing*, *78*(5), 42–57. https://doi.org/10.1509/jm.12.0317

Koch, A., Imhoff, R., Dotsch, R., Unkelbach, C., & Alves, H. (2016). The ABC of stereotypes about groups: Agency/socioeconomic success, conservative–progressive beliefs, and communion. *Journal of Personality and Social Psychology*, *110*(5), 675. https://doi.org/10.1037/pspa0000046

Koch, A., Yzerbyt, V., Abele, A., Ellemers, N., & Fiske, S. T. (2021). Chapter One - Social evaluation: Comparing models across interpersonal, intragroup, intergroup, several-group, and many-group contexts. In B. Gawronski (Ed.), *Advances in Experimental Social Psychology* (Vol. 63, pp. 1–68). Academic Press. https://doi.org/10.1016/bs.aesp.2020.11.001

Kraus, M. W., & Keltner, D. (2009). Signs of Socioeconomic Status: A Thin-Slicing Approach. *Psychological Science*, *20*(1), 99–106. https://doi.org/10.1111/j.1467-9280.2008.02251.x

Kraus, M. W., & Mendes, W. B. (2014). Sartorial symbols of social class elicit class-consistent behavioral and physiological responses: A dyadic approach. *Journal of Experimental Psychology: General*, *143*, 2330–2340. https://doi.org/10.1037/xge0000023

Kraus, M. W., Park, J. W., & Tan, J. J. X. (2017). Signs of Social Class: The Experience of Economic Inequality in Everyday Life. *Perspectives on Psychological Science*, *12*(3), 422–435. https://doi.org/10.1177/1745691616673192

Kraus, M. W., & Stephens, N. M. (2012). A road map for an emerging psychology of social class. *Social and Personality Psychology Compass*, *6*, 642–656. https://doi.org/10.1111/j.1751-9004.2012.00453.x

Kraus, M. W., Torrez, B., Park, J. W., & Ghayebi, F. (2019). Evidence for the reproduction of social class in brief speech. *Proceedings of the National Academy of Sciences*, *116*(46), 22998–23003. https://doi.org/10.1073/pnas.1900500116

Laakasuo, M., Rotkirch, A., Berg, V., & Jokela, M. (2017). The Company You Keep: Personality and Friendship Characteristics. *Social Psychological and Personality Science*, *8*(1), 66–73. https://doi.org/10.1177/1948550616662126

Lakens, D. (2022). Sample Size Justification. *Collabra: Psychology*, *8*(1), 33267. https://doi.org/10.1525/collabra.33267

LaPiere, R. T. (1934). Attitudes vs. Actions. *Social Forces*, *13*(2), 230–237. https://doi.org/10.2307/2570339

Lashley, B. R., & Kenny, D. A. (1998). Power estimation in social relations analyses. *Psychological Methods*, *3*(3), 328–338. https://doi.org/10.1037/1082-989X.3.3.328

Leary, T. (1957). *Interpersonal diagnosis of personality; a functional theory and methodology for personality evaluation* (Vol. xv). Ronald Press.

Leary, T. (1958). Interpersonal diagnosis of personality. *American Journal of Physical Medicine & Rehabilitation*, *37*(6), 331.

Lerner, M. J. (1981). The Justice Motive in Human Relations. In M. J. Lerner & S. C. Lerner (Eds.), *The Justice Motive in Social Behavior* (pp. 11–35). Springer US. https://doi.org/10.1007/978-1-4899-0429-4_2

Levesque, M. J. (1997). Meta-accuracy among acquainted individuals: A social relations analysis of interpersonal perception and metaperception. *Journal of Personality and Social Psychology*, *72*(1), 66.

Luo, S. (2017). Assortative mating and couple similarity: Patterns, mechanisms, and consequences. *Social and Personality Psychology Compass*, *11*(8), e12337. https://doi.org/10.1111/spc3.12337

Marcus, D. K., Robinson, S. L., & Eichenbaum, A. E. (2019). Externalizing behavior and psychopathy: A social relations analysis. *Journal of personality disorders*, *33*(3), 310-325.

Marmot, M. G., & Wilkinson, R. G. (1999). *Social determinants of health* / edited by Michael

Marmot and Richard G. Wilkinson. Oxford University Press.

McClain, C., Vogels, E. A., Perrin, A., Sechopoulos, S., & Raine, L. (2021). *How the internet and technology shaped Americans' personal experiences amid COVID-19*. Pew Research Center, Washington, D.C. https://www.pewresearch.org/internet/2021/09/01/how-the-internet-and-technology-shaped-americans-personal-experiences-amid-covid-19/

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, *27*(1), 415–444. https://doi.org/10.1146/annurev.soc.27.1.415

Mobile Fact Sheet. (2021, April 7). *Pew Research Center*: Internet, Science & Tech. Retrieved January 10, 2022, from https://www.pewresearch.org/internet/fact-sheet/mobile/

Moody, J. (2001). Race, School Integration, and Friendship Segregation in America. *American Journal of Sociology*, *107*(3), 679–716. https://doi.org/10.1086/338954

Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, *369*(6505), 866-870.

Nestler, S., Humberg, S., & Schönbrodt, F. D. (2019). Response surface analysis with multilevel data: Illustration for the case of congruence hypotheses. *Psychological Methods*, *24*, 291–308. https://doi.org/10.1037/met0000199

Oakes, J. M., & Rossi, P. H. (2003). The measurement of SES in health research: Current practice and steps toward a new approach. *Social Science & Medicine*, *56*(4), 769–784. https://doi.org/10.1016/S0277-9536(02)00073-4

Oh, D., Shafir, E., & Todorov, A. (2020). Economic status cues from clothes affect perceived competence from faces. *Nature Human Behaviour*, *4*(3), Article 3. https://doi.org/10.1038/s41562-019-0782-4

Oltmanns, T. F., & Turkheimer, E. (2009). Person Perception and Personality Pathology. *Current Directions in Psychological Science*, 18(1), 32–36. https://doi.org/10.1111/j.1467-8721.2009.01601.x

Olson, K. R., Dweck, C. S., Spelke, E. S., & Banaji, M. R. (2011). Children's responses to group-based inequalities: Perpetuation and rectification. *Social Cognition*, *29*(3), 270–287.

Paulhus, D. L., & Bruce, M. N. (1992). The effect of acquaintanceship on the validity of personality impressions: A longitudinal study. *Journal of Personality and Social Psychology*, *63*(5), 816–824. https://doi.org/10.1037/0022-3514.63.5.816

Petsko, C. D., Rosette, A. S., & Bodenhausen, G. V. (20220113). Through the looking glass: A lens-based account of intersectional stereotyping. *Journal of Personality and Social Psychology*, *123*(4), 763. https://doi.org/10.1037/pspi0000382

Pew. (2015, December 9). The American Middle Class Is Losing Ground. *Pew Research Center's Social & Demographic Trends Project*. https://www.pewresearch.org/social-trends/2015/12/09/the-american-middle-class-is-losing-ground/

Porter, B., Øverup, C. S., Brunson, J. A., & Mehta, P. D. (2018). Meta-accuracy and perceived reciprocity from the perception-meta-perception social relations model. *Social Psychology*.

Quinn, D. M. (2005). Concealable Versus Conspicuous Stigmatized Identities. In *Stigma and Group Inequality*. Psychology Press.

Rau, R., Carlson, E. N., Back, M. D., Barranti, M., Gebauer, J. E., Human, L. J., ... & Nestler, S. (2021). What is the structure of perceiver effects? On the importance of global positivity and trait-specificity across personality domains and judgment contexts. *Journal of Personality and Social Psychology*, *120*(3), 745.

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

Reardon, S. F. (2018). The Widening Academic Achievement Gap Between the Rich and the Poor. In D. B. Grusky & J. Hill (Eds.), *Inequality in the 21st Century* (1st ed., pp. 177–189). Routledge. https://doi.org/10.4324/9780429499821-33

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46–54, 124.

Reinka, M. A., Pan-Weisz, B., Lawner, E. K., & Quinn, D. M. (2020). Cumulative consequences of stigma: Possessing multiple concealable stigmatized identities is associated with worse quality of life. *Journal of Applied Social Psychology*, *50*(4), 253–261. https://doi.org/10.1111/jasp.12656

Ridgeway, C. L. (2001). Inequality, Status, and the Construction of Status Beliefs. In J. H. Turner (Ed.), *Handbook of Sociological Theory* (pp. 323–340). Springer US. https://doi.org/10.1007/0-387-36274-6_16

Ridgeway, C. L. (2014). Why Status Matters for Inequality. *American Sociological Review*, *79*(1), 1–16. https://doi.org/10.1177/0003122413515997

Ridgeway, C. L., & Fisk, S. R. (2012). Class rules, status dynamics, and "gateway" interactions. In *Facing social class: How societal rank influences interaction* (pp. 131–151). Russell Sage Foundation.

Rudman, L. A., & Saud, L. H. (2020). Justifying Social Inequalities: The Role of Social Darwinism. *Personality and Social Psychology Bulletin*, *46*(7), 1139–1155. https://doi.org/10.1177/0146167219896924

Salazar Kämpf, M., Liebermann, H., Kerschreiter, R., Krause, S., Nestler, S., & Schmukle, S. C. (2018a). Disentangling the Sources of Mimicry: Social Relations Analyses of the Link Between Mimicry and Liking. *Psychological Science*, *29*(1), 131–138. https://doi.org/10.1177/0956797617727121

Salazar Kämpf, M., Liebermann, H., Kerschreiter, R., Krause, S., Nestler, S., & Schmukle, S. C. (2018b). Disentangling the Sources of Mimicry: Social Relations Analyses of the Link Between Mimicry and Liking. *Psychological Science*, *29*(1), 131–138. https://doi.org/10.1177/0956797617727121

Sassenberg, K., & Ditrich, L. (2019). Research in social psychology changed between 2011 and 2016: Larger sample sizes, more self-report measures, and more online studies. *Advances in Methods and Practices in Psychological Science*, *2*(2), 107-114.

Scacco, A., & Warren, S. S. (2018). Can social contact reduce prejudice and discrimination? Evidence from a field experiment in Nigeria. *American Political Science Review*, *112*(3), 654-677.

Schönbrodt, F. (2016). *Testing fit patterns with polynomial regression models*. OSF Preprints. https://doi.org/10.31219/osf.io/ndggf

Schönbrodt, F. D., Back, M. D., & Schmukle, S. C. (2012). TripleR: An R package for social relations analyses based on round-robin designs. *Behavior Research Methods*, *44*(2), 455–470. https://doi.org/10.3758/s13428-011-0150-4

Schönbrodt, F. D., Back, M. D., & Schmukle, S. C. (2016). TripleR: Social Relation Model (SRM) analyses for single or multiple groups (R package version 1.5.3). Retrieved from http://cran.r-project.org/package=TripleR.

Schönbrodt, F. D., Humberg, S., & Nestler, S. (2018). Testing Similarity Effects with Dyadic Response Surface Analysis. *European Journal of Personality*, *32*(6), 627–641. https://doi.org/10.1002/per.2169

Settles, I. H., Buchanan, N. T., & Dotson, K. (2019). Scrutinized but not recognized: (In)visibility and hypervisibility experiences of faculty of color. *Journal of Vocational Behavior*, *113*, 62–74. https://doi.org/10.1016/j.jvb.2018.06.003

Shavitt, S., Jiang, D., & Cho, H. (2016). Stratification and segmentation: Social class in consumer behavior. *Journal of Consumer Psychology*, *26*(4), 583–593. https://doi.org/10.1016/j.jcps.2016.08.005

Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression* (pp. x, 403). Cambridge University Press. https://doi.org/10.1017/CBO9781139175043

Sirin, S. R. (2005). Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Review of Educational Research*, *75*(3), 417–453. https://doi.org/10.3102/00346543075003417

Soto, C. J., & John, O. P. (2017). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality*, *68*, 69–81. https://doi.org/10.1016/j.jrp.2017.02.004

Srivastava, S. (2010). The Five-Factor Model Describes the Structure of Social Perceptions. *Psychological Inquiry*, *21*(1), 69–75. https://doi.org/10.1080/10478401003648815

Srivastava, S., Guglielmo, S., & Beer, J. S. (2010). Perceiving others' personalities: Examining the dimensionality, assumed similarity to the self, and stability of perceiver effects. *Journal of personality and social psychology*, *98*(3), 520.

Stangor, C., Lynch, L., Duan, C., & Glas, B. (19920601). Categorization of individuals on the basis of multiple social features. *Journal of Personality and Social Psychology*, *62*(2), 207. https://doi.org/10.1037/0022-3514.62.2.207

Swencionis, J. K., Dupree, C. H., & Fiske, S. T. (2017). Warmth-Competence Tradeoffs in Impression Management across Race and Social-Class Divides. *Journal of Social Issues*, *73*(1), 175–191. https://doi.org/10.1111/josi.12210

Swencionis, J. K., & Fiske, S. T. (2016). Promote up, ingratiate down: Status comparisons drive warmth-competence tradeoffs in impression management. *Journal of Experimental Social Psychology, 64*, 27–34. https://doi.org/10.1016/j.jesp.2016.01.004

Syed, M. (2021, December 3). Reproducibility, Diversity, and the Crisis of Inference in Psychology. https://doi.org/10.31234/osf.io/89buj

Tackman, A. M., & Srivastava, S. (20150817). Social responses to expressive suppression: The role of personality judgments. *Journal of Personality and Social Psychology*, *110*(4), 574. https://doi.org/10.1037/pspp0000053

Thalmayer, A. G., & Saucier, G. (2014). The Questionnaire Big Six in 26 Nations: Developing Cross-Culturally Applicable Big Six, Big Five and Big Two Inventories. *European Journal of Personality, 28*(5), 482–496. https://doi.org/10.1002/per.1969

Turner, B. A., (2018, July 10). How Many People Have Smartphones Worldwide (Jan 2023). BankMyCell. Retrieved January 1, 2023, from https://www.bankmycell.com/blog/how-many-phones-are-in-the-world

van Ryn, M., & Burke, J. (2000). The effect of patient race and socio-economic status on physicians' perceptions of patients. *Social Science & Medicine*, *50*(6), 813–828. https://doi.org/10.1016/S0277-9536(99)00338-X

Vazire, S. (2010). Who knows what about a person? The self–other knowledge asymmetry (SOKA) model. *Journal of personality and social psychology*, *98*(2), 281

Watson, D., Hubbard, B., & Wiese, D. (2000). Self–other agreement in personality and affectivity: The role of acquaintanceship, trait visibility, and assumed similarity. *Journal of Personality and Social Psychology*, *78*(3), 546–558. https://doi.org/10.1037/0022-3514.78.3.546

Willer, R. (2009). A status theory of collective action. In *Altruism and prosocial behavior in groups* (Vol. 26, pp. 133-163). Emerald Group Publishing Limited.

Xie, S. Y., Flake, J. K., & Hehman, E. (2019). Perceiver and target characteristics contribute to impression formation differently across race and gender. *Journal of Personality and Social Psychology*, 117(2), 364–385. https://doi.org/10.1037/pspi0000160

Zebrowitz, L. A., & Collins, M. A. (1997). Accurate Social Perception at Zero Acquaintance: The Affordances of a Gibsonian Approach. *Personality and Social Psychology Review*, 1(3), 204–223. https://doi.org/10.1207/s15327957pspr0103_2