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Construal Level Stereotypes: Perceived Differences in Groups' Abstract versus Concrete Cognitive Tendencies

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Abstract

Individuals can construe the world around them more concretely or more abstractly, with consequences for their judgments and behaviors. With five studies involving 3,963 US adult participants, we test whether people hold stereotypes about the tendency for different groups to think more concretely or more abstractly. Across Studies 1-3, individuals report explicit and consistent construal level stereotypes about social groups in various demographic, occupational, and non-human categories. In Studies 2 and 3, we provide evidence that construal level stereotypes are correlated with, yet distinct from, stereotypes about their competence, agency, and power. In Studies 4 and 5 we offer evidence of predictive validity with two experiments showing that individuals use construal level stereotypes to inform employee selection decisions. These findings integrate and advance two major topics in social cognition: construal level theory and stereotyping. We discuss societal implications of construal level stereotypes predicting behaviors associated with discrimination in resource allocation.

Keywords: construal level theory, stereotypes, social cognition, intergroup relations

Construal Level Stereotypes: Perceived Differences in Groups' Abstract versus Concrete Cognitive Tendencies

Construal level theory (CLT, Trope & Liberman, 2003; 2010) states that people's mental representations range from more concrete (low construal level) to more abstract (high construal level). When thinking concretely, people focus on specific details and are concerned with the near-term and how processes unfold. When thinking at a high construal level, people zoom out to the bigger picture and think about the long-term and their overarching goals. Everyone has the potential to think at both high and low levels of construal (Trope et al., 2021). For example, when planning a birthday party for a friend, a person can think about the event at a high level of construal (thinking about why they are throwing this party and its symbolic meaning for the friendship), or they can think about the event at a low level of construal (figuring out the details of time, location, who to invite, etc.). Indeed, the same person is likely to think more abstractly, and more concretely, at different stages of the party planning process.

To date, research stemming from CLT has primarily focused on how construal level shapes people's judgments and behaviors (e.g., Trope et al., 2021; Wakslak, 2012). For example, it affects outcomes such as assessment of risk (Lermer et al., 2016; Trope & Liberman, 2003), self-control (Fujita et al., 2006), communication style (Joshi et al., 2016; Venus et al., 2019), and support for policies (Fleischmann & Burgmer, 2020). This work has also shown that people's construal level is shaped by both their unique disposition (Vallacher & Wegner, 1989) and contextual factors (e.g., whether the party is scheduled for tomorrow versus in two weeks; Smith & Trope, 2006).

Despite how influential CLT is, and how impactful differing construal levels are on our own lives, as a field, we know surprisingly little about the beliefs people hold about the construal

level of others. For example, people can likely use others' behaviors to tell when their coworkers are thinking abstractly (e.g., when they are discussing the department's broad purpose and goals at a strategic planning meeting) or concretely (e.g., when they are deliberating about fonts and color scheme to be used on presentation slides). People may also recognize that a friend or family member tends to think primarily abstractly or concretely on average. Moreover, judgments and behaviors toward others are likely to emanate from such perceptions.

The potential ability to infer the construal level tendencies of others also raises the possibility that such perceptions may coalesce as stereotypes about certain groups of people. For example, individuals may presume that most company leaders spend a lot of time thinking abstractly about the big-picture future of their company, whereas administrative assistants spend much more time thinking concretely about details and imminent events. These perceptions may become the basis of stereotypes about the construal level tendency of people in these roles. This, in turn, raises the question of whether individuals hold similar stereotypes about various groups in society, the question this paper seeks to answer.

Whether or not stereotypes about construal level tendencies exist is an important question that brings together scholarship on construal level and scholarship on stereotyping, two prominent literatures in social and cognitive psychology which have not yet been in conversation but may lend valuable insights to one another. For one, understanding whether people's perception of others' construal level is attributed to their membership in social groups is important because such stereotypes may influence other judgments of, and behaviors toward, these people. In addition, understanding how stereotypes and construal level connect is theoretically important because it extends our knowledge of how construal level enters into interpersonal processes, such as person perception and attributional processes, with respect to

group membership. In this work, we ask three fundamental questions. First, we ask whether stereotypes about the construal level tendencies of different groups exist. Second, we ask the extent to which these stereotypes overlap and are distinct from other stereotypes already well-established in the literature (e.g., stereotypes about competence). Third, we ask if stereotypes about construal level tendencies are influential enough to impact relevant work opportunities that members of different groups receive.

The main contribution of this work lies in advancing scholarship on CLT by providing evidence that people hold stereotypic beliefs about the construal level tendency of others, opening new theoretical terrain in this space. Furthermore, we extend our understanding of stereotypes by suggesting that not only *what* we think of others, but also what we think about *how they think*, is shaped by the social groups they belong to. Indeed, we show that these attributions and inferences can be pervasive and require little evidence of how targets actually think. We also advance research on stereotyping by adding detail and contextual nuance to a literature which has largely focused on understanding stereotypes in their most fundamental forms (e.g., the dichotomy of warmth and competence; Fiske, 1998; Fiske et al., 2002). Finally, by revealing that stereotypes about construal level tendencies may shape the opportunities that people are given at work, we shed light on a new mechanism potentially driving inequalities in task distribution as well as barriers to diversity and equity in the workplace.

Do Construal Level Stereotypes Exist?

Our first question is whether people hold stereotypes about the general tendency of members of social groups to think either more abstractly or more concretely.[1] One possibility, is

[1] This is distinct from existing work which has focused on the role of a perceiver's construal level on the likelihood of them engaging in stereotyping, prejudice, or discrimination (e.g., Hess et al., 2018; Linville et al., 1996; Luguri et al., 2012; Milkman et al., 2012; Yogeeswaran & Dasgupta, 2014).

that given the ability of all people to think both abstractly and concretely (Wiesenfeld et al., 2017), that people do not ascribe distinct construal level tendencies to different groups. However, we predict that these stereotypes do exist and that we will be able to detect consistent patterns of difference and similarity in the average perceived construal level stereotypes of a wide range of various target groups. We make this prediction given people's motivation to understand how those around them are thinking.

Recent research shows that groups along some dimensions of identity (i.e., differences in socioeconomic status and gender) do vary in the degree to which they tend to think and communicate either abstractly or concretely (Aguilar et al., 2020; Caballero et al., 2021; Joshi et al., 2020). It is not the intention of our work to assess whether construal level stereotypes may or may not be accurate (Hall & Goh, 2017), but the fact that group-based differences in construal level tendencies have been observed supports the possibility that stereotypes about these tendencies could form through repeated exposure to different groups.

Construal level stereotypes could also form because they could be seen as useful to those who hold them. One of the most fundamental findings from psychology is that people spend a lot of time attending to the minds of others (i.e., mentalizing) to predict their intentions and behaviors (Higgins & Pittman, 2008). Given that interdependence and the division of labor are common features of human society, understanding who tends to think more abstractly or concretely could feel beneficial when forced to assign people to various roles. When deciding who should plan visions for collective futures, and who should be assigned to do more rote and repetitive labor, the belief that some groups are inherently more suited to one sort of role than the other could feel highly attractive. Whether their origin is motivated (i.e., wanting to know who is

suited for certain roles) or purely incidental (i.e., observing which groups display different construal level tendencies), it is possible that people hold construal level stereotypes.

In order to assess whether construal level stereotypes exist, we must also be clear on how to define construal level. Our general prediction is that stereotypes about the construal level tendency of different groups will generalize across many of the finer-grained distinctions drawn in the literature. For example, scholars in CLT have extensively examined the connections between construal level and psychological distance, which places a heavier emphasis on the object of one's construal or the degree to which that object is in the here and now (versus distant; e.g., Trope & Liberman, 2010), respectively. However, given individuals' strong, explicit (e.g., Bar Anan et al., 2006) and semantic (e.g., Gamoran et al., 2024) associations between construal level and psychological distance, we assume that stereotypes about the tendency of a group to think more abstractly (vs. concretely) are likely to track with stereotypes about the tendency of a group to think more long-term (vs. short-term). It is also fundamental to CLT that being good at thinking abstractly does not necessarily mean one is poor at thinking concretely, or vice versa (Wiesenfeld et al., 2017). Nevertheless, because stereotypes serve to simplify our cognitions (Sherman et al., 2000), we assume that people hold generalized perceptions falling along a single continuum and reflecting beliefs about the tendency of different social groups to think, on average, more abstractly or more concretely.

Open data from prior research provides preliminary evidence that can be interpreted as supporting the idea that construal level stereotypes exist and emerge spontaneously (Nicolas et al., 2022; https://osf.io/74rax/). When generating stereotypes about a variety of social groups, participants provided numerous terms closely related to construal level. For example, when describing various groups, people generated terms like "detail-oriented," "detailed," "diligent,"

"focused," and "tunnel vision", all characteristics associated with low construal level. Similarly, people generated terms like "visionary," "planner," "innovative," "creative," and "complex", terms associated with high construal level. Although this provides some preliminary evidence that construal level stereotypes exist, no research has sought to specifically capture such stereotypes and test their relevance for a wide range of social groups. Furthermore, the researchers from this study argued that these stereotypes are best understood as existing under broader categories of stereotypes (e.g., ability). This leads us to our second research question.

Are Construal Level Stereotypes Distinct from Other Stereotypes?

We predict that not only do stereotypes of construal level tendencies exist, but that they can tell us something above and beyond what other stereotypes previously identified in the literature convey. Scholars have long argued that a large share of the attitudes individuals hold about various social groups can be attributed to a concise set of fundamental stereotypes. These include beliefs about groups' warmth and competence (per the Stereotype Content Model; Fiske et al., 2002), as well as their agency, beliefs, and communality (per the ABC stereotype model; Koch et al., 2016). It is not our contention that stereotypes about construal level tendencies represent a new foundation of stereotyping, but rather that understanding these stereotypes helps us better know how people make sense of construal level, perceive it in others, and guide their judgments and behaviors toward people in certain groups accordingly. Construal level stereotypes, therefore, likely exist as a subset of broader stereotypes, but possess their own explanatory ability in differentiating people's beliefs about social groups that would be lost by relying solely on broader stereotypes.

We expect that stereotypes about construal level will be related to other, more fundamental, stereotypes about cognition (e.g., competence, agency). However, we also expect

that stereotypes about construal level will pick up nuances in expectations about the cognitive tendencies of different groups not necessarily picked up in these other stereotypes. For example, individuals may see a group as high in competence, in part, because they are good at thinking long-term about the big picture. However, it is also possible for groups to be stereotyped as highly competent while also tending towards more concrete and detailed thinking. This theorizing means that people could stereotype preachers and police officers, for example, as comparable in overall competence but differing greatly in their construal level tendencies. Because preachers often spend time reflecting on and speaking about broad topics of morality, the afterlife, and the intangible spirit, it is possible that people assume that preachers tend to think primarily abstractly. In contrast, because police officers have to spend much of their time attending to the minutiae of numerous protocols and serve to enforce, rather than question, the law, people may see them as tending towards concrete thinking. As such, we should be able to differentiate stereotypes about construal level from stereotypes about competence (or agency) by examining groups where these stereotypes are likely to misalign.

Construal level tendencies may also relate to stereotyped perceptions of groups shaped by repeated exposure (Dupree et al., 2021; Eagly & Karau, 2002). For example, previous research demonstrates that people with higher levels of perceived power tend to think at higher construal levels (due to greater psychological distance from others; Smith & Trope, 2006; Smith et al., 2008), and that more abstract communicators are seen as having greater expertise (Reyt et al., 2016). As such, people may come to expect construal level tendencies that are related to stereotypes about groups' perceived social standing.

In addition, it is possible that construal level stereotypes may also relate to general feelings of positivity. Construal level and affective valence typically are positively associated

with some exceptions (Efrat-Treister et al., 2024). Several explanations for the positive relationship have been offered and supported, including that abstraction is associated with goals, which are framed positively in comparison to the more challenging concrete means required to achieve them, and that positive aspects of situations are more salient when people represent them more abstractly (e.g., Bless & Burger, 2017; Labroo & Patrick, 2009; Williams et al., 2014). People also associate greater abstraction in themselves or others with positively-valenced attributes including flexibility, goal achievement, self-regulation, and growth mindset (Crouzevialle et al., 2023; Fujita et al., 2006; Pyone & Isen, 2011). Given this link between mood and level of mental abstraction that perceivers may experience, it's conceivable that people may begin to associate those who exhibit a more abstract cognitive style with positivity in general, and feel more positively towards them in turn.

However, we do not expect construal level stereotypes to be reducible to either perceptions of standing or intergroup liking. Our theorizing suggests that even if people have comparable feelings of warmth toward leaders and athletes, for example, they may still hold very different construal level stereotypes about these two groups. Leaders are likely viewed as thinking more abstractly about *why* important decisions need to be made, whereas athletes may be viewed as focused more concretely on the technical steps of executing various actions. Likewise, Native Americans and blue-collar workers may be seen as possessing relatively comparable power in the US, but because of associations between Native Americans and spirituality (e.g., Fryberg et al., 2008), and blue-collar workers often needing to do jobs based in repetitive implementation, people may associate the former with abstract thinking and the latter with concrete thinking. Identifying where our approach differentiates groups in ways that

broader, more frequently studied group-based perceptions do not offers evidence of both the existence and importance of construal level stereotypes.

What Impact May Construal Level Stereotypes Have?

Stereotypes about the abilities or tendencies of particular groups play an important role in driving inequalities in society (e.g., Bian et al., 2017; Fiske, 1998; Oakes et al., 1994; Pennebaker et al., 1996). Previous research suggests that stereotypes predict discrimination among hiring managers and self-selection among job applicants (e.g., Dupree et al., 2021), so groups stereotyped as lacking particular attributes may be systematically excluded from certain roles in society. If stereotypes about construal level tendencies exist, this leads us to our third research question which asks whether these stereotypes influence perceptions of group members' suitability for more concrete and more abstract roles.

We have identified multiple sources of anecdotal evidence which suggest construal level stereotypes would be relevant in shaping role allocation decisions in the workplace. The first is O*Net, or the Occupational Informational Network developed by the US Department of Labor/Employment and Training Administration (onetonline.org). The O*Net database provides expert-rated characteristics that relate to the abilities and work styles required for 1,016 occupations. Several of the characteristics O*Net uses to differentiate occupations are theoretically linked to construal level. For example, "selective attention" (i.e., narrowed focus), "problem sensitivity" (i.e., noticing small and subtle changes or inconsistencies), "information ordering" (i.e., adhering closely to rules and procedures), and "attention to detail" should all be related to low construal level. "Abstract thinking" (i.e., higher construal level), "category flexibility" (i.e., recombining things in novel and adaptive ways), "speed of closure" (i.e., recognizing a whole and integrated pattern from scattered or incomplete information),

"originality", and "innovation" all relate to high construal level (Förster et al., 2004; Henderson, 2013; Mueller et al., 2014; Trope et al., 2021). We see similar evidence in the skills categories database hosted by Lightcast, a private labor market analytics firm that has used machine learning to scrape common characteristics from billions of job postings. Their skills database (https://lightcast.io/open-skills/categories) contains characteristics associated with low construal level, like "detail oriented" and "mental concentration", as well as characteristics associated with high construal level like "abstract management", and "forward planning". Finally, the company Traitify (https://traitify.github.io/assessments/) offers personality assessments for companies seeking to learn more about their applicants. Among the personality traits Traitify says they can help identify in hiring are traits such as "concrete," and "meticulous," (low construal level traits) as well as "future-focused," and "visionary" (high construal level traits). Together, these anecdotal data sources provide evidence that companies think about roles at work on the basis of construal level tendencies, use construal-level relevant language in job ads to attract particular candidates, and seek to ascertain the construal level tendencies of applicants in hiring.

We predict that if people are asked to sort applicants belonging to different social groups (e.g., demographics) into roles with task requirements involving thinking either abstractly or concretely, their decisions will be consistent with stereotypes held about the construal level tendencies of the groups they are judging. If so, this would underscore the potential presence and importance of construal level stereotypes.

Present Research

We seek answers for our three research questions across five studies. In Studies 1 through 3, we explore people's construal level stereotypes for a wide variety of social groups. In Studies 2 and 3, we test for evidence of both convergent and divergent validity to differentiate construal

level stereotypes from other potentially related stereotypes (e.g., competence, power). In Studies 4 and 5, we experimentally test if people's selection decisions for an abstract versus concrete job align with consistent patterns in construal level stereotypes for members of various groups. Four studies (2, 3, 4 and 5) were preregistered, and preregistration links are provided. We report all manipulations and measures in these studies. For consistency across studies, we do not exclude any participants from the raw data. Applying preregistered potential exclusion criteria (short completion time, incomplete responses, attention checks) do not change any of the conclusions derived from our studies. Data, syntax, and high-resolution figures are available on this paper's Open Science Framework webpage: https://osf.io/fqcpk/?view_only=d9da60dbcf954c4e9b7701ba812cc245.

Study 1

In Study 1, we asked participants to rate the extent to which thirty-eight distinct and randomly-presented target groups on average focus on: a) the big picture (versus the details); b) why something gets done (versus how something gets done); and c) long-term goals (versus short-term goals). Because Studies 1 through 3 use a similar paradigm, we assess the consistency of our findings across studies in a dedicated section at the end of Study 3.

Method

Participants

Five hundred twenty-eight participants (63% men, 66% White, age: $M = 36.75$, $SD = 10.20$) agreed to complete an online survey through Amazon's Mechanical Turk (MTurk). Given the exploratory and descriptive nature of this study, we had no existing effect sizes on which to base a power analysis.

Procedure

Adapting a frequently-used self-report measure[2] of situational construal level (Burrus & Roese, 2006; distinct from the trait level group-based stereotypes we study), we created a three-item measure of groups' perceived construal level. We asked participants to indicate "to what extent do [target group], on average, focus on…" a) the details versus the big picture, b) short-term versus long-term goals, and c) how something gets done versus why something gets done. Participants responded to these questions using an 11-point sliding scale from -5 (indicating low construal level) to +5 (indicating high construal level). Reliability looking at participant responses to these three items across all target groups was $\alpha = .74$. To test our predictions, we created an index of construal level stereotypes for each target group by averaging responses to the three items. SM1 in the Supplemental Material includes the means, standard deviations (SD), and alphas for each group.

Participants completed our measure of perceived construal level for 38 target groups in a randomized order. We generated this list of target groups looking at groups frequently studied in the literature on stereotypes and intergroup relations (e.g., Koch et al., 2016). We selected target groups based on what we thought would be most interesting to social psychologists, including groups for whom we expected there to be differences in construal level stereotypes (e.g., leaders vs. students) and those for whom we did not have clear predictions (e.g., Hindus vs. Jews). Our

[2] We adapted this particular scale as it measures *multiple* dimensions of construal level, whereas other common measures of construal level, such as the Behavior Identification Form (Vallacher & Wegner, 1989) focus instead on just one dimension of construal (i.e., solely why versus how; see Burgoon et al., 2013). Additionally, we added an item assessing psychological distance (long-term versus short-term) to our measure as we expected construal level stereotypes to generalize across multiple dimensions and correlates of construal level. We also calculated an index of construal level stereotypes that excluded the psychological distance item. Group level correlations between our original three-item composite and this two-item composite are very strong across studies (Study 1: $r = .93$, Study 2: $r = .96$, Study 3: $r = .96$). SM4 in the Supplemental Material shows comparisons of our two-item and three-item measure of construal level stereotypes.

list included targets differing in terms of gender (men and women), age (e.g., adults and children), ethnicity (e.g., White Americans, Black Americans), religion (e.g., Christians, Muslims), class (e.g., rich people, poor people), political affiliation (e.g., liberals, conservatives), and profession (e.g., doctors, lawyers).

Results

Across our first three studies, we can analyze our data at multiple levels (i.e., at the level of the target group, at the level of the participant, or in Studies 2 and 3, at the level of the construct). In this paper, we focus our analyses at the group level, as this best positions us to answer our first two research questions. To answer our first research question pertaining to whether construal level stereotypes exist, we can look within and across studies at the differences in the average construal level stereotypes of various social groups. Observing consistent patterns (i.e., the relative ranking of groups in these group level ratings) would suggest that people do indeed hold stereotypes about the construal level tendencies of various social groups. To answer our second research question, group level analyses allow us to ask whether groups that score high in construal level stereotypes also tend to score high in other stereotypes, like competence and warmth. Identifying where some groups may be comparable in one stereotype but different in construal level stereotypes (and vice versa), would help us understand whether these stereotypes are reducible to one another.

Figure 1 presents mean construal level stereotypes for each group we examined, which we organized into seven superordinate categories. Across all target groups, leaders, Christians, and Buddhists were rated as highest in abstraction while poor people, lower class people, and children were rated as lowest (i.e., highest in concreteness). Participants also made intergroup distinctions in construal level stereotypes within social categories. For example, within the

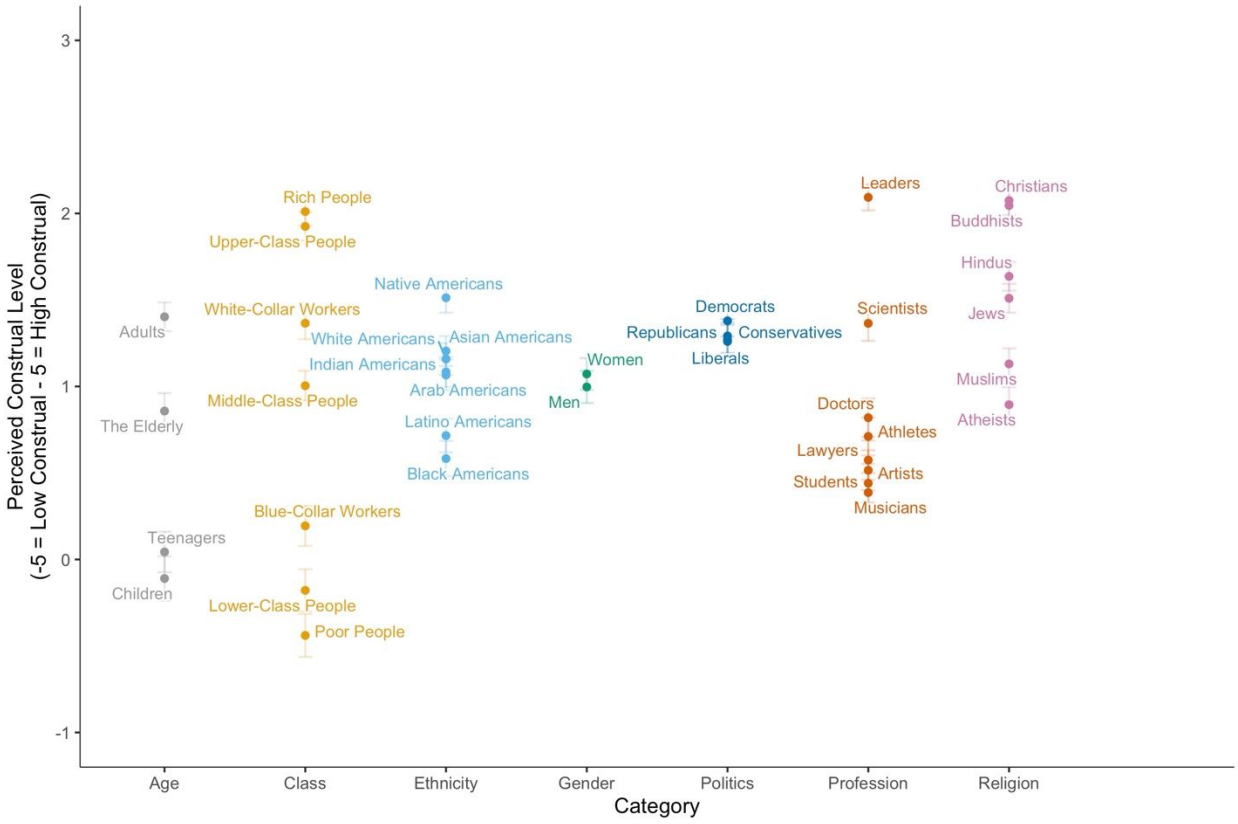
category of age, children and teenagers were viewed as most concrete, while the elderly, and then adults, were seen as increasingly more abstract thinkers. We report full construal level ratings and scale reliabilities for each target group by category in all studies in the Supplemental Material (SM1 – 3). For this study and the next two, we also provide an interactive Shiny app (https://clstereotypes.shinyapps.io/clsfig1int/) which enables users to see the t-test results of any desired pair of target groups[3].

In the Supplemental Material, we also report the full results of analyses using linear-mixed effect models accounting for participant level random effects. We examine two models. The first (SM5), a baseline model, predicts construal level stereotype ratings from an intercept, and random intercepts for both target group and participant. From this, we examine intraclass correlation coefficients which show that target group explains a non-zero degree of variance in our data. The second model we test (SM6), examines target group as a fixed effect (a categorical predictor in which we selected "adults" as the most generic possible reference group). This shows, consistent with Figure 1, significant and systematic variation in construal level stereotypes between target groups, accounting for the repeated measures aspect of our data. We combine the reporting of these results with parallel analyses for Studies 2 and 3 to show consistency across studies.

[3] We advise readers aiming to draw conclusions on the basis of these t-tests, especially in combination, to be mindful of the statistical risks that accompany multiple comparisons (e.g., García-Pérez, 2023). Furthermore, with the figures for Studies 2 and 3, we calculate between-subjects t-tests, when some comparisons may include the same participants due to our random assignment to a small subset of groups. Our main aim with these findings is to demonstrate that construal level stereotypes exist, and we examine the consistency of these stereotypes across studies in a section at the end of Study 3.

Figure 1

Study 1 Construal Level Stereotypes



Note: Error bars indicate ±1 SE. Means and standard deviations are provided in SM1 of the Supplemental Material. See https://osf.io/fqcpk/files/wa9dk?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image and https://clstereotypes.shinyapps.io/clsfig1int/ to view an interactive version of this image.

Discussion

We found initial evidence that people reliably distinguish the degree to which they believe 38 different social groups across a variety of categories think more abstractly versus more concretely. However, we did so by examining a limited number of target groups and without considering the extent to which these stereotypes relate to other frequently studied stereotypes (e.g., warmth and competence). We address these issues in Studies 2 and 3.

Study 2

In Study 2, we extended our list of target groups from Study 1 to more accurately reflect different groups in society (e.g., adding non-binary people, non-American ethnic groups). We also added target groups which we predicted might capture upper limits (e.g., spiritual gurus, ministers/preachers) and lower limits (e.g., dogs, machines) for construal level stereotypes. In addition, our aim was to explore how construal level stereotypes relate to, and are distinct from, other more fundamental stereotypes.

Method

Participants

Nine hundred sixty-one participants (52% men, 74% White, age: $M = 40.10$, $SD = 12.39$) agreed to complete an online survey through Amazon's Mechanical Turk (MTurk). We had no existing effect sizes on which to base a power analysis for evaluating whether construal level stereotypes differ from other stereotypes. Because each participant only rated a subset of our target groups, in order to receive at least 100 ratings for each target group (observed mean number of ratings = 111.47) , we posted the study for 900 participants (see preregistration: https://osf.io/z68w3/?view_only=47dfc9e304e14d008ba91c287834eb29).

Procedure

Participants were presented with a random subset of ten out of 85 total target groups. Reliability looking at participant responses to these three items across all target groups was $\alpha = .71$. SM2 in the Supplemental Material reports the means, SDs, and alphas/correlations for each target group.

Participants rated each group's construal level with the same three-item measure used in Study 1. After providing their construal level stereotypes, participants also rated the same ten

groups on measures of competence and warmth (taken from the Stereotype Content Model; Fiske et al., 2002) and agency, beliefs, and communality (from the ABC stereotype model; Koch et al., 2016). Although recent research has sought to reconcile these two approaches (Koch et al., 2020), we tested both for thoroughness. Given some conceptual overlap between measures of SCM and ABC stereotypes, we selected items that we thought would best differentiate these stereotypes. We measured warmth (warm, tolerant, and sincere), competence (competent, confident, and intelligent), agency (dominated vs dominating, unassertive vs competitive), beliefs (traditional vs modern, conservative vs liberal), and communality (untrustworthy vs trustworthy, threatening vs benevolent) on an 11-point sliding scale from -5 to +5. We measured warmth and competence from "not at all" to "extremely" to align with past measurement (Koch et al., 2016), and we measured agency, beliefs, and communality anchored with the descriptors listed above at both scale ends. Finally, participants indicated whether they belonged to each of the target groups they previously rated.

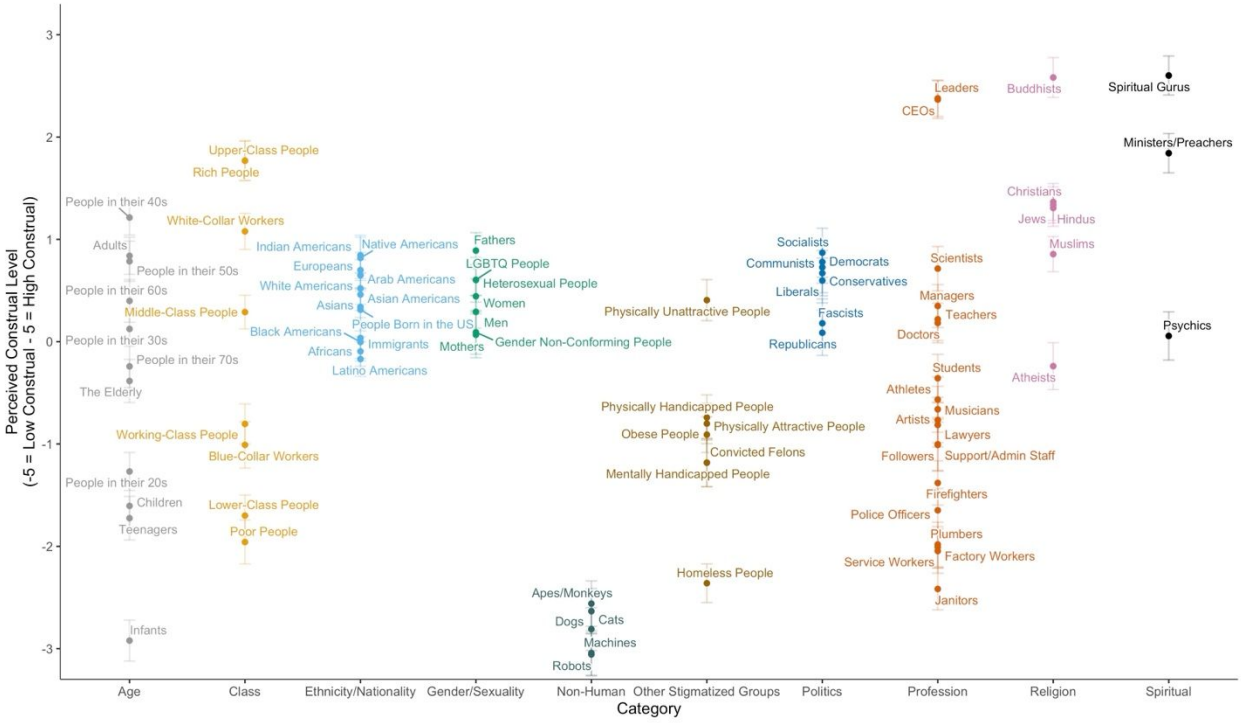
Results

Figure 2 presents mean construal level stereotypes for each group we examined, which we organized into ten superordinate categories. Across all 85 target groups in Study 2, spiritual gurus, Buddhists, and CEOs were rated as highest in abstraction, while machines, robots, and infants were rated as highest in concreteness. Participants again made intergroup distinctions within many of the ten categories included. For example, within the age category, participants rated infants, teenagers, children, and people in their 20's as most concrete, and rated people in their 50's, adults, and people in their 40's as most abstract. Due to the large number of target groups examined, we do not include independent-samples t-tests of how target groups differ in terms of stereotypes about their construal level here as was preregistered. However, all t-tests

examining intergroup comparisons for target groups' relative construal level can be examined in an interactive graph: https://clstereotypes.shinyapps.io/clsfig2int/ .

Figure 2

Study 2 Construal Level Stereotypes



Note: Error bars indicate ±1 SE. Means and standard deviations are provided in SM2 of the Supplemental Material. See https://osf.io/fqcpk/files/72hck?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image and https://clstereotypes.shinyapps.io/clsfig2int/ to view an interactive version of this image.

To examine how construal level stereotypes relate to other commonly-studied stereotypes, we calculated mean stereotype scores for each group and calculated correlations

between stereotypes, with group means as data points[4]. This allowed us to assess the extent to which the relative ranking of groups in terms of construal level related to their relative ranking in terms of other stereotypes. Correlations for Study 2 (as well as Studies 1 and 3) are presented in Table 1 and viewable with an interactive graph here: https://clstereotypes.shinyapps.io/clscorint/.

At the group level, construal level stereotypes were significantly correlated with stereotypes about competence ($r = .48$, $p < .001$) and agency ($r = .46$, $p < .001$)[5]. Construal level stereotypes were not significantly correlated with stereotypes about warmth ($r = .07$, $p = .509$), beliefs ($r = -.14$, $p = .208$), or communion ($r = -.07$, $p = .539$).

[4] As preregistered, we also calculated within-group correlations between construal level stereotypes and the other stereotypes we measured. Although these correlations are less helpful in answering our research questions than the analyses presented here, they show that there are no systematic differences at the level of group or broader category for when and where different stereotypes are correlated. These correlations are reported in SM7 of the Supplemental Material. We also preregistered analyses looking at participant identification, also available in SM8 of the Supplemental Material, but include a note of caution about interpreting these results.

[5] Given the crossed nature of the data, we also conducted analyses predicting construal level stereotypes from the other stereotypes in linear mixed models with target group and participant as random intercepts. These findings show a significant relationship between construal level stereotypes and all of the other stereotypes we measured. We present and interpret these findings in SM9 of the Supplemental Material.

Table 1

Correlations Between Construal Level Stereotypes and Group Perceptions in Studies 1-3

Variable	*M*	*SD*	S1 CL	S2 CL	S3 CL	S2 COMP	S2 WARM	S2 AGNC	S2 BELF	S2 COMM	S3 POWR
S1 CL	1.02	0.63									
S2 CL	-0.16	1.35	.96**								
S3 CL	1.06	0.76	.92**	.93**							
S2 COMP	1.34	1.22	.53**	.48**	.45**						
S2 WARM	0.82	1.20	-.17	.07	.06	.13					
S2 AGENCY	0.51	1.84	.45**	.46**	.45**	.68**	-.40**				
S2 BELIEF	0.02	1.63	-.35*	-.14	-.10	.05	.08	.02			
S2 COMM	0.75	1.31	-.05	-.07	-.06	.20	.87**	-.44**	-.00		
S3 POWER	5.53	0.87	.67**	.65**	.64**	.76**	-.02	.73**	-.07	-.00	
S3 LIKING	6.67	0.70	-.29	-.14	-.14	.17	.79**	-.29**	.10	.77**	.00

Note. *$p < .05$. **$p < .01$. S1 = Study 1, S2 = Study 2, S3 = Study 3, CL = Construal Level, COMP = Competence, WARM = Warmth, AGENCY = Agency, BELIEF = Beliefs, COMM = Communion, POWER = Power, LIKING = Liking

That people associate groups that tend to think abstractly with high levels of competence and agency (and those that think more concretely with lower levels of competence and agency), comports with the existing literature which finds that abstract communicators are seen as having greater expertise, for example (Reyt et al., 2016). However, despite the significant relationships between construal level and both competence and agency, their relationship is also imperfect and weaker than the relationship between competence and agency ($r = .68$, $p < .001$). This supports the possibility that it would be empirically unwise to declare these stereotypes as reducible to one another.

Although not preregistered, to gain further insight into where competence stereotypes may be misleading or inaccurate in predicting construal level stereotypes, we next examined the specific groups for whom stereotypes about construal level were not reliably associated with stereotypes about competence. Because we measured our stereotypes using different scales (e.g.,

construal level stereotype measures were bipolar and competence stereotype measures were unipolar, such that a "3" on one scale does not directly translate to a "3" on another), direct comparisons of mean scores (e.g., within-subjects t-tests) could be misleading. To address this, we regressed the mean construal level stereotype scores of each group on the mean competence (and, in a separate model, agency) stereotype scores and examined standardized residuals. The full set of calculated standardized residuals can be seen in Figures 3 and 4, and can also be examined in our interactive correlation figure (https://clstereotypes.shinyapps.io/clscorint/) by setting "Competence S2" (or "Agency S2") to the x-axis, "Construal Level S2" to the y-axis, and examining where there is the greatest divergence on the y-axis between the data points and the regression line. The groups with the largest residuals suggest where people would be most inaccurate in predicting construal level stereotypes from competence (or agency) alone.

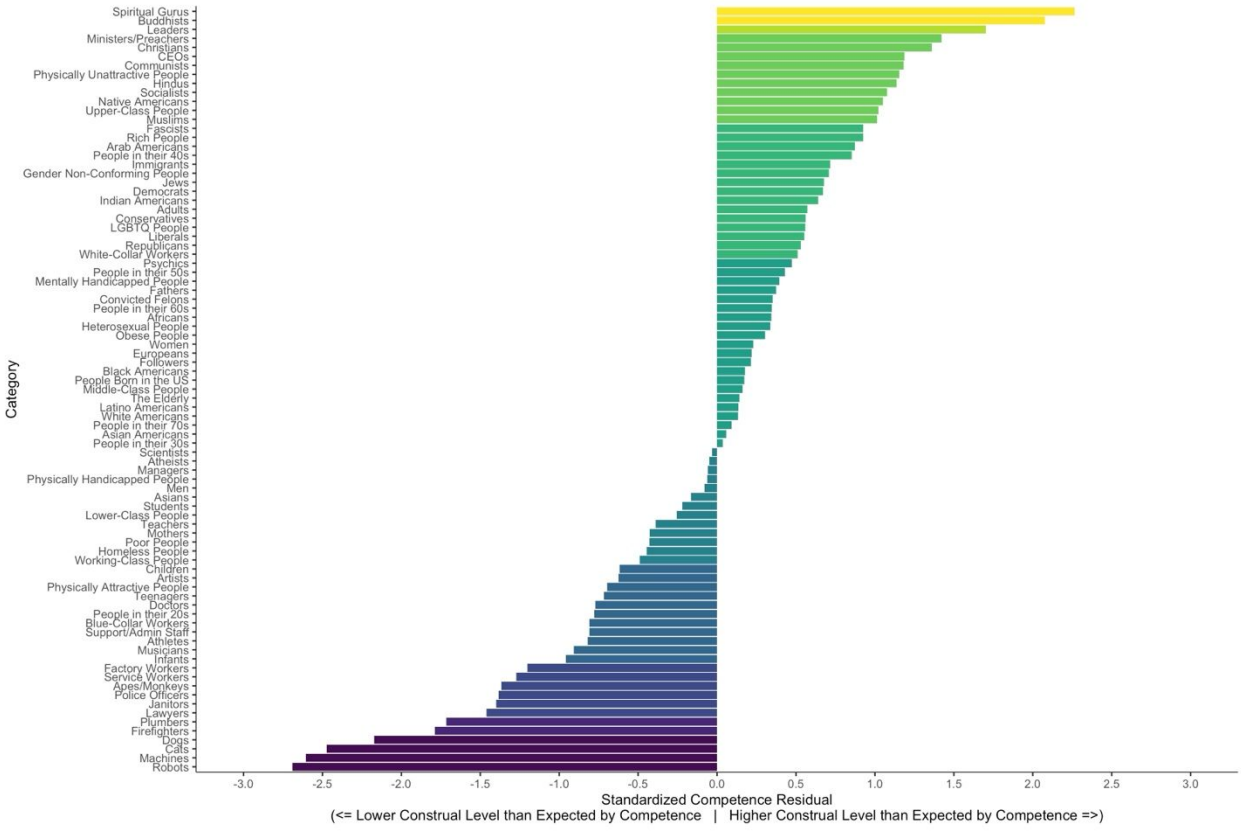
Looking at competence as a predictor of construal stereotypes, the following groups (in descending order) had standardized residuals greater than 1 (i.e., actual construal level scores were at least one standard deviation higher than would be predicted by competence stereotypes given the general relationship between these variables): spiritual gurus, Buddhists, leaders, ministers/preachers, Christians, CEOs, communists, physically unattractive people, Hindus, socialists, Native Americans, upper-class people, and Muslims. The following groups had standardized residuals less than -1 (in ascending order): robots, machines, cats, dogs, firefighters, plumbers, lawyers, janitors, police officers, apes/monkeys, service workers, and factory workers.

Similar results were observed when looking at the relationship between construal level stereotypes and agency. The groups with standardized residuals greater than one were: Buddhists, spiritual gurus, Hindus, ministers/preachers, Native Americans, leaders, physically unattractive people, CEOs, Indian Americans, Jews, and Christians. The groups with

standardized residuals lower than one were: cats, police officers, machines, robots, apes/monkeys, dogs, firefighters, lawyers, plumbers, infants, athletes, teenagers, physically attractive people, janitors, factory workers, and service workers.

Figure 3

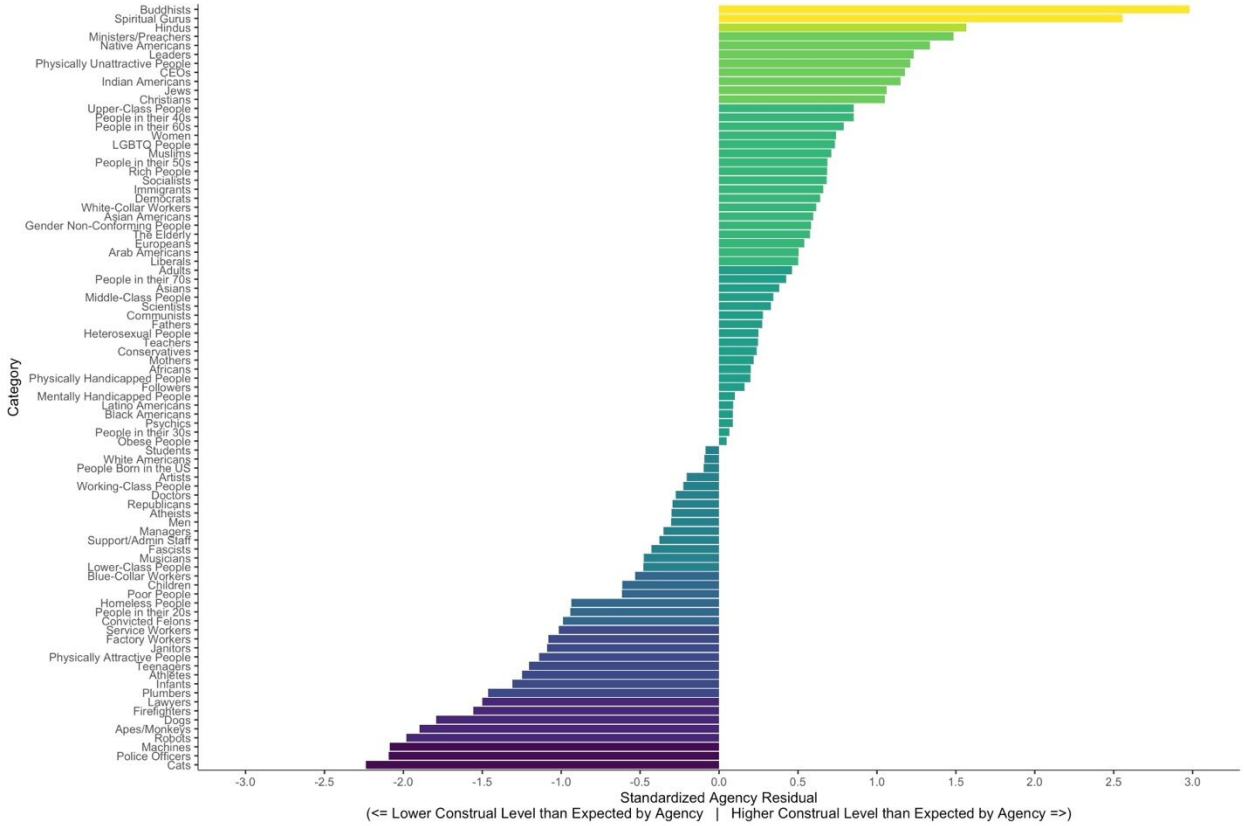
Study 2 Standardized Competence Residuals



Note: See https://osf.io/fqcpk/files/58kcz?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image.

Figure 4

Study 2 Standardized Agency Residuals



Note: See https://osf.io/fqcpk/files/xhtay?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image.

Further evidence of where competence and construal level stereotypes diverge can be seen by identifying groups which are stereotyped comparably in terms of competence, but differently in terms of construal level (seen most easily in the interactive correlation figures linked above). For example, whereas with respect to competence, robots (competence = 1.87) and machines (competence = 1.71) are stereotyped similarly to spiritual gurus (competence =

1.51) and Buddhists (competence = 1.90), but the former pair are stereotyped as significantly lower in construal level (construal = -3.06; -3.04 for robots and machines, respectively) than the latter (construal = 1.71; 1.90 for spiritual gurus and Buddhists, respectively). CEOs (competence = 3.52, construal = 2.37) and lawyers (competence = 3.32, construal = -0.81) are both stereotyped as highly competent, but also different in terms of construal level. Physically unattractive people (competence = -0.14, construal = 0.41) are stereotyped as comparably low in competence to apes/monkeys (competence = -0.17, construal = -2.56), but again, divergent in terms of construal level.

As with competence, we can observe sets of groups that were rated comparably in terms of agency, but very differently in terms of construal level. CEOs (agency = 3.95, construal = 2.37) and lawyers (agency = 3.85, construal = -0.81) are both stereotyped as highly agentic, but viewed differently in terms of construal level. Ministers/preachers (agency = 1.18, construal = 1.84) were comparable in agency stereotypes with cats (agency = 1.14, construal = -2.63), but very different in construal level. Further divergences can also be seen looking at groups comparable in construal level stereotypes, but different in agency, such as police officers (agency = 3.46, construal = -1.65) and children (agency = -1.64, construal = -1.60).

Although these cases are illustrative of the fact that stereotypes about construal level diverge from stereotypes about agency (and competence) in systematic ways, we caution against reading too much into specific pairings of groups, as we could also highlight cases where there is strong concordance between construal level stereotypes and competence/agency stereotypes. The broader pattern, however, is that the presence of these divergences suggests that we would be wrong about the stereotypes people hold about the construal level tendency of multiple groups if we were to assume that they were reducible to competence or agency.

Discussion

In Study 2, we again found that people hold explicit construal level stereotypes. Results were highly consistent with those observed in Study 1. Our findings also suggest that, despite a clear relationship between construal level and both competence and agency, we could not rely on the latter two stereotypes to accurately infer people's stereotypes about the construal level of various groups. Several groups were stereotyped as higher in construal level than would be inferred by competence or agency stereotypes alone. These included some (but not all) religious groups (Buddhists, Christians, and Hindus), religious leaders (spiritual gurus, ministers/preachers), leaders in general (leaders, CEOs), Native Americans, and physically unattractive people. In contrast, non-human targets (robots, machines, cats, dogs, apes/monkeys) and several professions (firefighters, plumbers, lawyers, janitors, police officers, service workers, factory workers) were stereotyped as lower in construal level than would be inferred by competence or agency alone. These findings support our general prediction that construal level stereotypes exist and are distinct from other well-studied stereotypes. We next turned to perceptions of group power and liking to explore, again, whether construal level stereotypes are distinct from other perceptions of groups.

Study 3

In Study 3, we wanted to see how construal level stereotypes relate to, and are distinct from, perceptions of groups' social standing. In addition, we also sought to address a non-stereotype bias in this study: that construal stereotypes may simply be a proxy for how positively individuals feel towards various groups. For example, individuals might simply rate groups they like more as higher in abstraction.

Method

Participants

Six hundred twenty-nine participants (66% men, 59% White, age: $M = 36.29$, $SD = 10.52$) agreed to complete an online survey through Amazon's Mechanical Turk (MTurk). In order to parallel Study 2 and achieve at least 100 ratings per target group (mean number of ratings = 109.18), we posted the study for 600 participants (see preregistration: https://osf.io/us93f/?view_only=cab871c3bf944d9b9a21cf5eb50265f8).

Procedure

We presented a random subset of 15 (out of 85 total) target groups to participants using the same list of target groups as Study 2. They rated each group's construal level as in previous studies. Reliability looking at participant responses to these three items across all target groups was $\alpha = .77$. SM3 in the Supplemental Material reports the means, SDs, and alphas for each target group. We also asked participants to rate each group's power (the "best off" with the "most influence and resources" vs the "worst off" with the "least influence and resources") (Adler et al., 2000; Dubois et al., 2015). Participants also rated how favorable (warm vs cold) they felt towards each group (Karpinski & Hilton, 2001) and indicated whether they belonged to each of the target groups presented. Response scales for construal level ratings were identical to prior studies, a 10-point scale from 1 to 10 for power ratings, and an 11-point sliding thermometer from 0 to 10 for favorability ratings.

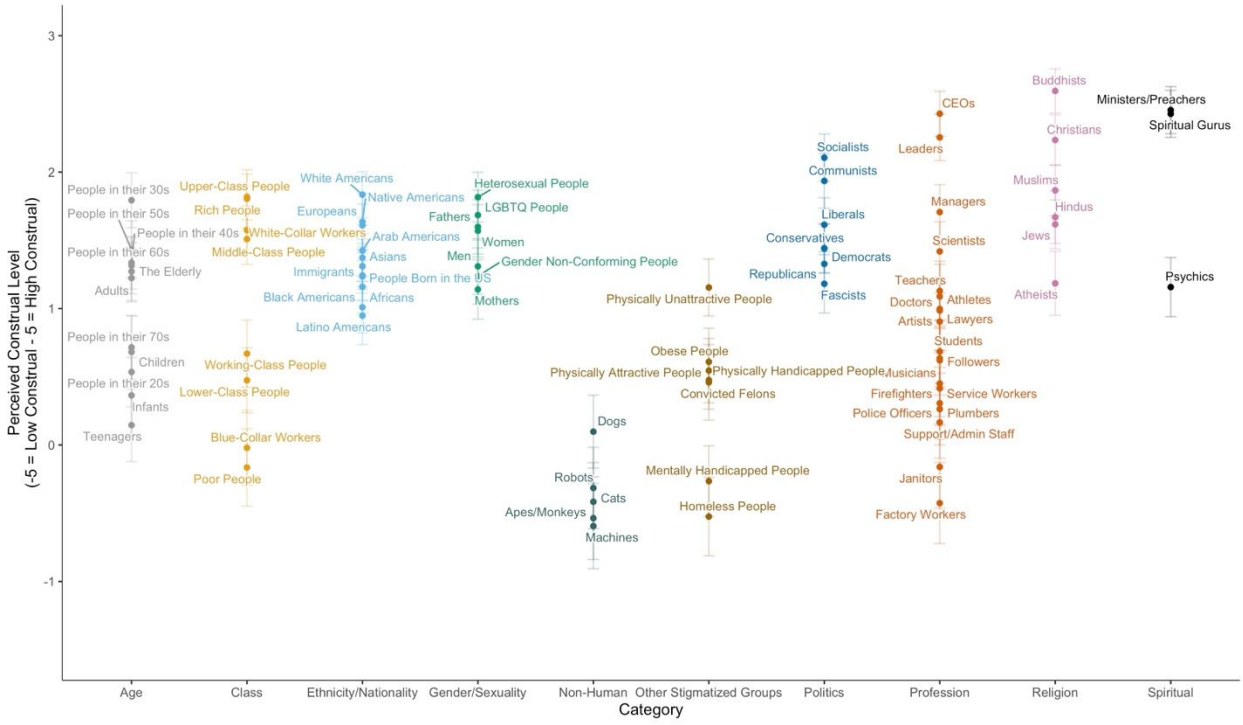
Results

As in Study 2, spiritual gurus, Buddhists, and CEOs were again rated among the highest in abstraction, while machines, robots, and infants were rated among the highest in concreteness. Intergroup distinctions within categories also remained largely consistent with those in Studies 1

and 2. For example, within the age category, teenagers, infants, and people in their 20's were perceived as most concrete, while people in their 30's, 40's, and 50's were seen as most abstract. See Figure 5 and SM3 in the Supplemental Material. While we don't report all group comparisons here as was preregistered, for t-tests between any desired pair of target groups, see https://clstereotypes.shinyapps.io/clsfig3int/ .

Figure 5

Study 3 Construal Level Stereotypes



Note. Error bars indicate ±1 SE. Means and standard deviations are provided in SM3 of the Supplemental Material. See https://osf.io/fqcpk/files/5hdp9?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image and https://clstereotypes.shinyapps.io/clsfig3int/ to view an interactive version of this image.

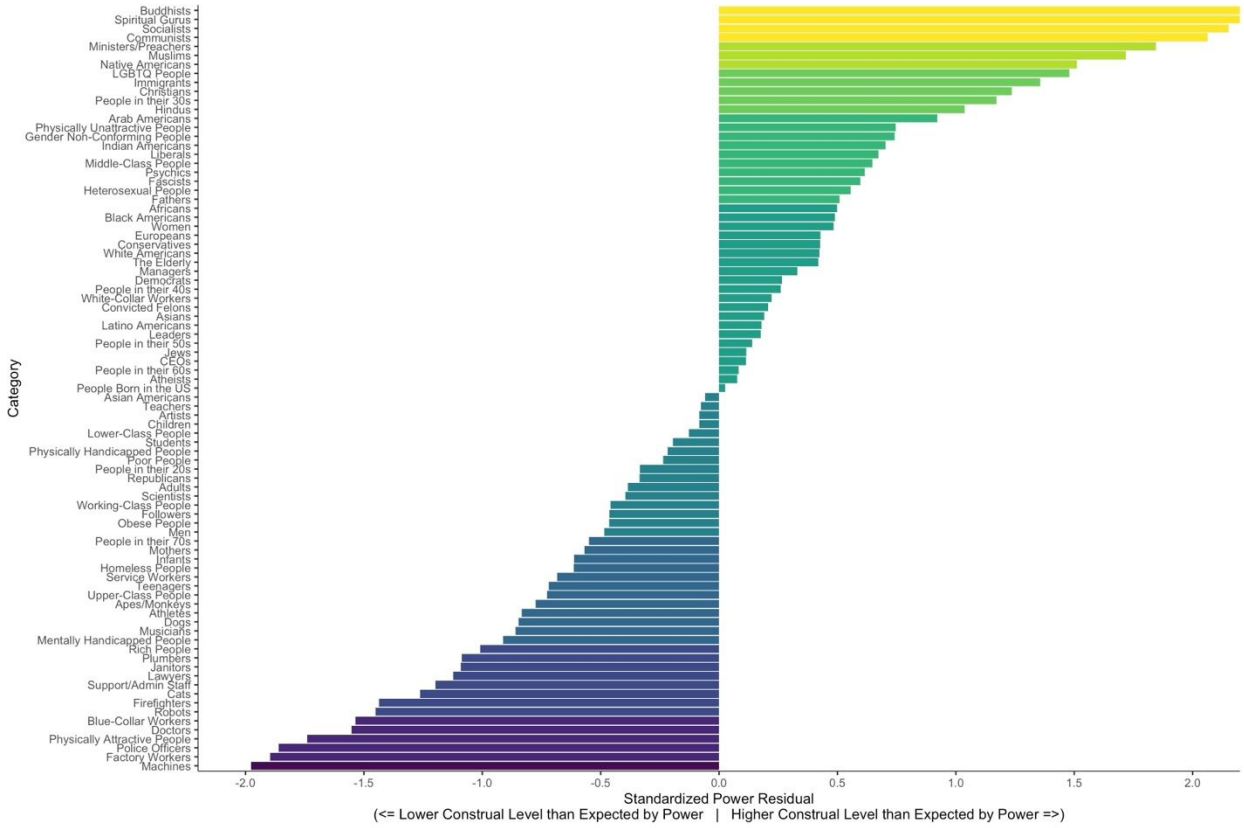
CONSTRUAL LEVEL STEREOTYPES

We calculated mean stereotype scores for each group and calculated correlations between these scores and ratings of power and group liking, using group means as data points (see Table 1 and interactive graph here: https://clstereotypes.shinyapps.io/clscorint/). At the group level, construal level stereotypes were significantly correlated with perceptions of power (r = .64, p < .001) but were not significantly correlated with group liking (r = -.14, p = .217).

Although not preregistered, running similar regression analyses as in Study 2 for the relationship between construal level and power, the following groups had standardized residuals greater than 1: Buddhists, spiritual gurus, socialists, communists, ministers/preachers, Muslims, Native Americans, LGBTQ people, immigrants, Christians, and people in their 30s. The following groups had standardized residuals less than 1: machines, police officers, physically attractive people, factory workers, doctors, firefighters, blue-collar workers, robots, cats, support/admin staff, lawyers, plumbers, janitors, and rich people. The full set of calculated standardized residuals can be seen in Figure 6, and can also be examined in our interactive correlation figure (https://clstereotypes.shinyapps.io/clscorint/) by setting "Power S3" to the x-axis, "Construal Level S3" to the y-axis, and examining where there is the greatest divergence on the y-axis between the data points and the regression line.

Figure 6

Study 3 Standardized Power Residuals



Note: See https://osf.io/fqcpk/files/mpycx?view_only=d9da60dbcf954c4e9b7701ba812cc245 to download a large-scale full-resolution image.

As in Study 2, it can be illustrative to examine sets of groups where stereotypes about construal level and power diverge. For example, Buddhists (power = 5.27, construal = 2.60) and plumbers (power = 5.32, construal = 0.31) were rated similarly in terms of power, but very differently in terms of construal level. A similar difference can be observed comparing immigrants (power = 4.59, construal = 1.31) and robots (power = 4.59, construal = -0.31). Alternatively, CEOs (power = 7.83, construal = 2.43) and spiritual gurus (power = 5.51,

construal = 2.43) were seen as comparable in construal level, but very different in terms of power.

Consistency Across Studies 1 - 3

To evaluate whether or not the construal level stereotypes measured in Studies 1 through 3 were consistent and reflective of a coherent set of beliefs, we conducted a series of post-hoc analyses. Although these analyses were not included in the individual preregistrations of each study, they speak to the first research question of the paper of whether construal stereotypes exist.

As seen in Table 1 and Figures 1, 2, and 5, participants were generally consistent in their construal level stereotypes across various target groups, tending to rate, on average, the same groups relatively high or relatively low in construal level across studies[6]. Looking at group-level average construal level stereotypes for the subset of target groups in Study 1, the correlation with Study 2 was $r = .96$ and the correlation with Study 3 was $r = .92$. Looking at the full set of target groups in Study 2 and Study 3, the correlation in construal level stereotypes was $r = .93$. That three separate samples of participants, primarily evaluating distinct sets of groups, were so consistent in their relative rating of the construal level tendencies of such a wide range of groups suggests that these findings reflect real, consensually held stereotypes, and that variance in construal level ratings are not merely the result of random noise.

Although not preregistered, we also examined the consistency of our findings by looking within each study using split-half correlations. To do this, we split each sample randomly into

[6] During analysis, we noted that mean construal level stereotype scores were lower on average in Study 2 than in Study 1 or Study 3. After inspecting the data, we were unable to determine why this was the case, though one possibility is that variance in ratings owes to the number of groups participants were asked to rate. Consistency in the relative ranking of groups across studies suggests that construal level stereotypes may be more relative than absolute.

two and calculated mean values of construal level stereotypes for each target group. We then calculated the correlation between these subsamples. We ran this calculation 1000 times to calculate the average split-half correlation for each study. Average split-half correlations were high in all three studies (Study 1, $r = .98$; Study 2, $r = .96$; Study 3, $r = .86$).

Discussion

Through Studies 1, 2, and 3, we observed consistent stereotypes about the construal level tendencies of various social groups. This was true when participants rated all 38 target groups as in Study 1, as well as when participants only rated a small subset of 85 randomly selected target groups (Studies 2 and 3). This provides evidence in response to our first research question– construal level stereotypes do appear to exist.

Examining the discriminant validity of these stereotypes at the group level, we found no significant relationship between construal level stereotypes and ratings of warmth, beliefs, communality, or group liking. In contrast, we found significant relationships between construal level ratings and ratings of power, competence, and agency. However, we did not find strong evidence to suggest that these stereotypes are reducible to each other as we also observed notable and consistent discrepancies between these group perceptions and construal level stereotypes. Residual analyses show that construal level stereotypes diverge meaningfully from other stereotypes, and we highlighted numerous cases where if we were to assume construal level stereotypes on the basis of other stereotypes, this would be inaccurate. This provides additional insight into our second research question– construal level stereotypes are related to, but distinct from, previously identified stereotypes.

Study 4

Having found evidence in support for our first two predictions that a) construal level stereotypes exist and b) they are differentiable from other stereotypes, we turned to the question: Do construal level stereotypes influence perceptions of group members' suitability for more concrete and more abstract roles? To initially test this, we used a conjoint analysis design. Conjoint analysis is an experimental technique often used in marketing research to reveal preferences between targets that vary on a number of dimensions (e.g., Green & Srinivasan, 1990). More suitable for our purposes, conjoint analysis has also been used to detect preferences among people in hiring situations (Carey et al., 2020; Caruso et al., 2009). We chose a conjoint analysis approach as it allowed us to test the potential relevance of multiple dimensions of identity (age, gender, race, religion, and prior occupation) simultaneously. This design feature enhanced external validity and allowed us to consider construal level stereotypes across numerous groups, consistent with the approach we used in our prior studies.

Method

Participants

Eight hundred six participants completed our survey (49% men, 79% White, age: M = 40.54, SD = 12.94). We posted the study on Amazon's Mechanical Turk (MTurk) for 800 participants to adequately calculate preferences for each role (see preregistration: https://osf.io/8ewc3/?view_only=b2eb04659101428fa8df67347d96423b). Per our preregistration, we included two attention checks. Results are consistent when we examine only the participants who passed both checks (N = 689) as when we include everyone, but here we report the results with the full sample of participants who provided complete responses.

Procedure

All participants were asked to imagine that they were a project placement coordinator in a large company charged with identifying which current employees are best suited to specific project roles. They were instructed that "the first step in this process is to reduce the long list of employees by half, creating a shortlist to consider more closely." Participants were then randomly assigned to fill either a more abstract role or a more concrete role, representing our between-subjects design.

In the abstract role condition, participants were told the role they were selecting for requires a big picture view, focused on long-term goals and the project's overarching purpose. In the concrete role condition, participants were told the role they were selecting for requires a detailed view, focused on short-term goals and the project's implementation (see SM10 in the Supplemental Material for full role manipulations). These role descriptions directly corresponded to the construal level stereotype items from our previous studies. Participants were then presented with 15 pairs of employee profiles. They were asked to select one employee from each pair to pass onto the shortlist of candidates. Employees' profiles contained five features with randomly displayed levels within them: age (25-, 35-, 45-, or 55-years old), gender (man or woman), race (Asian-, African-, Latino-, Native-, or White American), religion (Buddhist, Christian, Hindu, Jewish, or Muslim), and prior occupation (CEO, Doctor, Firefighter, Scientist, or Support/Administrative Staff).

Results

Conjoint analysis allows researchers to mathematically deduce preferences from implied tradeoffs when choosing between options whose features vary along multiple dimensions (Caruso et al., 2009). Using this method, we were able to examine: 1) whether significant

preferences have emerged; and 2) whether there are significant effects of condition (i.e., selecting for a more abstract or concrete role) on these preferences.

As preregistered, we first examined the results using Qualtrics' internal conjoint analysis (see SM11 in the Supplemental Material). This approach provided comparable interpretations to the results below, but was unable to examine condition effects, as we ran separate surveys for each condition and merged them later. Examining the presence of preferences, we used the Cregg package (Cregg, 2022) for R statistical software. Although we preregistered calculating average marginal component effects (which compare levels of a feature to a specific baseline level, which was not our focus), for answering our research question we found it more useful to calculate marginal means for each feature level (i.e., each age, each gender, each race, each religion, and each previous occupation option). A marginal mean describes the level of favorability towards profiles that have a particular feature level, marginalizing across all other features (Leeper et al., 2020). In our forced-choice design between two alternative candidates, marginal means have a direct interpretation as probabilities, such that marginal means above 0.5 indicate a positive preference for a given feature, marginal means below 0.5 indicate a negative preference against that feature, and marginal means that overlap 0.5 indicate chance selection (i.e., no preference). Marginal means can be seen in Table 2. All tests conducted were two-sided.

To more directly answer our third research question (i.e., do construal level stereotypes influence perceptions of group members' suitability for more concrete and more abstract roles?), we examined for which features there was an effect of our between-subjects manipulation (instructing participants to select for roles requiring abstract versus concrete thinking), and whether these differences were consistent with construal level stereotypes found in our previous studies. We started by examining previous occupation. We observed a strong effect for being a

former CEO in favor of the abstract role (MM_{diff} = .33, p < .001) and for previously being support/administrative staff in favor of the concrete role (MM_{diff} = -.20, p < .001). Although participants indicated a negative preference for firefighters in both roles, they were more preferred in the concrete than abstract role (MM_{diff} = -.12, p < .001). These findings are consistent with our prior findings indicating that CEOs are stereotyped as high in construal level (more abstract) and both firefighters and support/administrative staff are stereotyped as low in construal level (more concrete).

Next, we examined employee age. We observed a significant condition effect for 25-year-olds who were disfavored for the abstract role (MM_{diff} = -.05, p = .001) and 45-year-olds who were favored for the abstract role (MM_{diff} = .03, p = .013). Overall, these effects are consistent with our findings from the prior studies that people in their 40s are stereotyped as high in construal level (better suited for the abstract role) and people in their 20s are stereotyped as low in construal level (less suited for the abstract role).

For employee religion, we observed a significant condition effect for Buddhists who were favored for the abstract role (MM_{diff} = .03, p = .015). This is consistent with our prior findings that Buddhists are stereotyped as higher in average construal level (more abstract) than most other religious groups.

For employee gender, preferences did not vary by role condition for either women (MM_{diff} = -.01, p = .207) or men (MM_{diff} = .01, p = .208). For employee race, we observed no significant effect of condition across all racial groups (all $ps \geq .076$).

Table 2

Study 4 Conjoint Analysis Average Causal Mediation Effects (ACMEs)

Target Feature	Abstract Role ($N = 401$)		Concrete Role ($N = 405$)		Condition Effect	
	MM (SE)	*p (vs. .5)*	*MM (SE)*	*p (vs. .5)*	MM_{diff} *(SE)*	*p*
Occupation						
CEO	.73 (.01)	< .001**	.40 (.01)	< .001**	.33 (.02)	< .001**
Doctor	.51 (.01)	.238	.50 (.01)	.803	.01 (.02)	.529
Firefighter	.31 (.01)	< .001**	.43 (.01)	< .001**	-.12 (.02)	< .001**
Scientist	.56 (.01)	< .001**	.58 (.01)	< .001**	-.02 (.02)	.232
Support/Admin	.39 (.01)	< .001**	.58 (.01)	< .001**	-.20 (.02)	< .001**
Age						
25	.46 (.01)	< .001**	.51 (.01)	.483	-.05 (.01)	.001**
35	.51 (.01)	.170	.51 (.01)	.282	.00 (.01)	.812
45	.53 (.01)	< .001**	.50 (.01)	.898	.03 (.01)	.013*
55	.50 (.01)	.958	.48 (.01)	.084	.02 (.01)	.229
Religion						
Buddhist	.52 (.01)	.026*	.49 (.01)	.229	.03 (.01)	.015*
Christian	.49 (.01)	.540	.50 (.01)	.829	-.01 (.01)	.552
Hindu	.51 (.01)	.456	.50 (.01)	.674	.00 (.01)	.786
Jewish	.51 (.01)	.580	.51 (.01)	.136	-.01 (.01)	.517
Muslim	.47 (.01)	.003**	.49 (.01)	.326	-.02 (.01)	.134
Gender						
Man	.48 (.01)	.001**	.48 (.01)	< .001**	.01 (.01)	.208
Woman	.52 (.01)	.001**	.52 (.01)	< .001**	-.01 (.01)	.207
Race						
African American	.51 (.01)	.186	.49 (.01)	.489	.02 (.01)	.155
Asian American	.50 (.01)	.701	.52 (.01)	.059	-.01 (.01)	.280
Latino American	.49 (.01)	.495	.48 (.01)	.042*	.01 (.01)	.365
Native American	.50 (.01)	.581	.52 (.01)	.045*	-.02 (.01)	.076
White American	.50 (.01)	.643	.49 (.01)	.218	.01 (.01)	.624

Note. *$p < .05$. **$p < .01$.

Discussion

We found evidence aligning with our prediction that people use construal stereotypes to evaluate individual targets based on their group memberships. Participants sorted candidates into more concrete or more abstract roles based on prior occupation, age, and religion in ways that are consistent with previously observed construal level stereotypes. These effects did not line up perfectly with the construal level stereotypes observed in our studies, but demand characteristics and other factors are likely at play (e.g., construal level stereotypes can't explain every pattern in the data, such as the general preference for women candidates across conditions). Nevertheless,

the results suggest that people do take group membership into consideration when deciding who to assign to abstract versus concrete roles.

Study 5

Study 5 aimed to replicate the findings of Study 4 in a more ecologically valid context. Again, participants were asked to select a candidate for a role that demanded either high or low construal level tendencies. To design and finalize our study manipulations and stimuli, we conducted a series of pilot studies before collecting Study 5 data. For an overview of our pilot studies, see SM12 in our Supplemental Material.

Method

Participants

One thousand thirty-nine participants completed our survey (50% men, 69% White, age: $M = 39.65$, $SD = 11.48$). We posted the study on Prolific for 1000 participants (see preregistration: https://osf.io/z6e7b/?view_only=19fbbb010a134e47b1872b0a3e48f911). We preregistered analyzing the data with and without removing incomplete responses and those who failed three attention checks. Results are consistent whether or not we limit our examination to only the participants who passed all preregistered checks (N = 885). For consistency with prior studies, we report the results with the raw data here.

Procedure

Participants were asked to read an email that they were to imagine they had received from a friend who worked at the same company but a different branch. The email asked participants to help their friend select an employee for a role. Participants were randomly assigned to read a description describing the role as requiring abstract versus concrete thinking,

using the same descriptions used in Study 4. Participants were then directed to view two employee profiles and asked to choose who they believed was best for the role.

The two profiles participants saw were developed to look like the employee profiles used by popular human resources software. They listed the roles that each candidate occupied along with some biographical information. Other than varying names (both women), information was consistent across profiles with the exception of biographical information which signaled candidate age, religion, and class. Building on the results of the prior studies, the information provided implied that the high construal candidate was around 45 years old, Buddhist, and from an upper-class background. The low construal profile suggested this candidate was around 27 years old, atheist, and from a lower-class background. Full study materials are available in SM13 of the Supplemental Material.

We counterbalanced the ordering of all profiles (which profile showed the high or low construal level information and whether this profile was on the right or left of the page). Results are consistent when running our analyses as a binomial regression and controlling for order.

After making their choice, we presented participants with a checklist of the attributes included on the profile they selected and asked them "What information from her profile did you use to make your decision? Select all that apply."

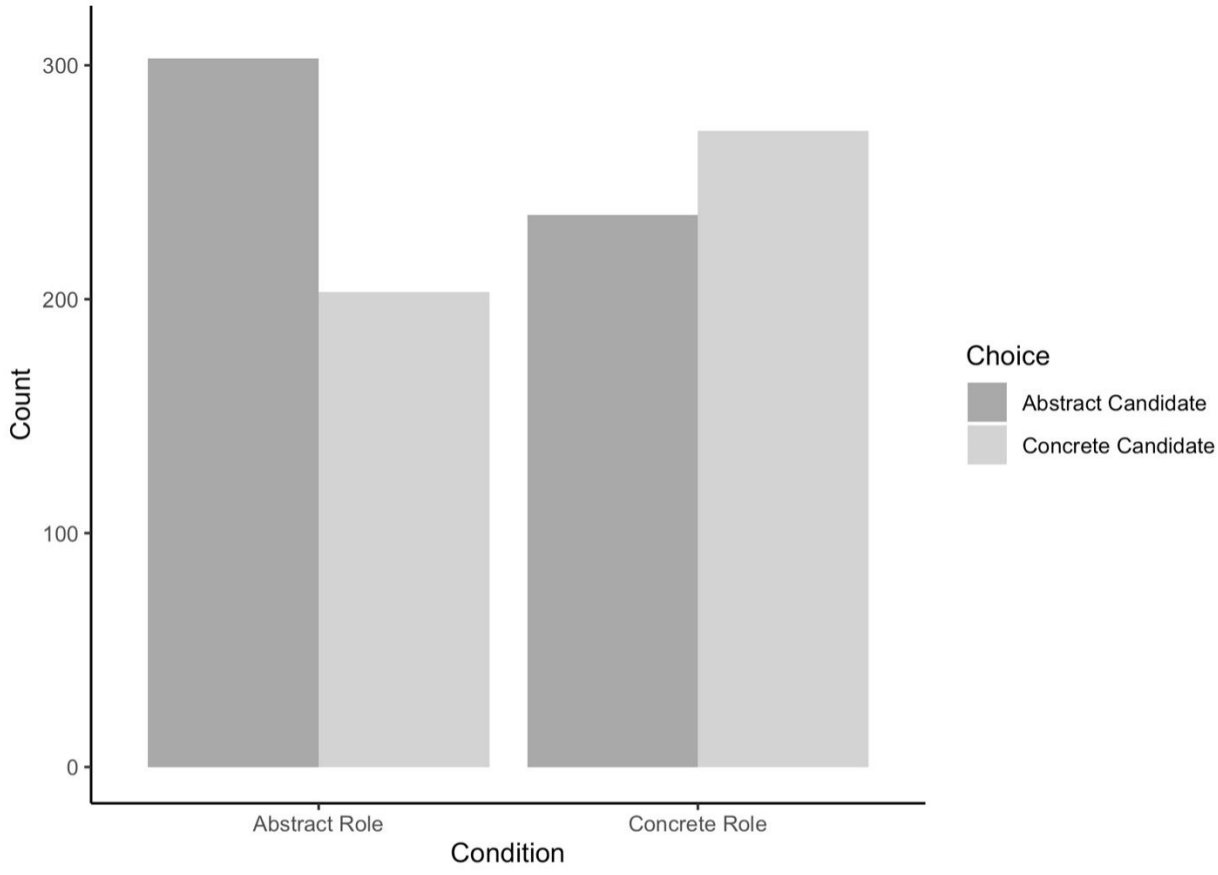
Results

As preregistered, we conducted a chi-square test of independence to see if there is a significant association between our role condition predictor variable and candidate choice outcome variable. The chi-square test showed that there was a significant association between condition and candidate choice, X^2 (1, N = 1039) = 17.81, p < .001.

Figure 7 shows the results of candidate choice by condition. Participants in the abstract role condition chose the candidate whose identities aligned with stereotypes about high construal level tendencies (i.e., 45 years old, Buddhist, and from an upper-class background) 59.88% of the time. Participants in the concrete role condition chose the candidate whose identities aligned with stereotypes about low construal tendencies (i.e., 27 years old, atheist, and from a lower-class background) 53.54% of the time. We discuss potential explanations for this asymmetry in the General Discussion.

Figure 7

Study 5 Results



Although we did not preregister specific analyses, we next analyzed the information participants said that they used to make their choice. From a list where participants were able to select multiple responses, we created a binary variable differentiating participants who said they used information related to the age, class, and religion indicators we included in the profiles. 78.92% of participants indicated that they used at least one identity-indicating piece of information to make their decision. The most commonly used identity-indicating piece of information was belonging to an employee group that indicated that they were either Buddhist or atheist (37.82%). The next most commonly used identity-indicating piece of information was the year when they graduated college, indicating age (33.78%). Class-indicating information was also used when signaled by belonging to alumni association for a preparatory school or a public high school (28.29%) and their hobby being a member of a yacht club or volunteer softball league (21.56%). The least used identity-indicating piece of information was the year when they graduated high school, which indicated both age and class (10.49%).

Although there was no one piece of information which a majority of participants indicated they used in their decision, a clear majority used at least one piece of information, suggesting that, in various combinations, information about candidate religion, age, and class, were used in allocating people to high or low construal roles. However, we did not observe a difference in the significance of our primary chi-square test and overall pattern of results when looking just at people who did versus did not say they used identity-indicating pieces of information in their decision, suggesting that participants may have used this information whether or not they recognized or reported it.

Discussion

Study 5 found additional support for the prediction that construal level stereotypes influence role allocation decisions in work contexts. Findings closely aligned with the results of Study 4. By moving beyond conjoint analysis and providing participants with more ecologically valid stimuli, we provide further evidence that construal level stereotypes likely impact people's thoughts and behavior.

General Discussion

Across five studies, we find: 1) There are widely shared and consistent stereotypes about groups' construal level; 2) Construal level stereotypes are related to, but also distinct from, other relevant stereotypes; and 3) Construal level stereotypes correspond with role allocation decision patterns. While construal level stereotypes were related to other stereotype dimensions (competence and agency), as well as power, there was sufficient systematic differentiation between these stereotypes to suggest that people hold specific beliefs about the construal level tendencies of different groups. Taken together, this work introduces a new way of thinking about construal level (as a dimension of social cognition and intergroup differentiation) and reveals the potential for construal level stereotypes to limit the opportunities certain individuals obtain based on their group membership and create disparities between these groups within organizations—further entrenching inequalities in society.

Theoretical Implications

Extending the construal level literature–which has primarily focused on the causes and consequences of *individuals'* construal—we explore the role of perceived construal in *intergroup* contexts. We demonstrate that groups, in addition to individuals, are at least *perceived* to have

more concrete or more abstract construals. Additionally, we find that a correlate of individual construal level–power (e.g., Smith & Trope, 2006)– also corresponds to group-based judgments of construal, such that groups with greater social standing were on average more likely to be seen as abstract thinkers. This may indicate that individuals generalize individual construal tendencies within certain roles to perceptions of entire social groups. Still, given the many cases where perceptions of group-based power and construal level stereotypes diverged in Study 3 (i.e., for Buddhists, spiritual gurus, socialists, machines, police officers, lawyers, etc.), individuals also seem to form beliefs of others' mental representations apart from these associations.

Our work on construal level stereotypes contributes to regulatory scope theory (Lee & Fujita, 2023; Trope et al., 2021), which theorizes about the psychological (e.g., goals, representations) and social (e.g., roles, division of labor) tools that help people expand or contract their construal level to enable adaptive functioning. We find that construal level stereotypes shape person perception in ways that may limit which social roles people are viewed as eligible to occupy or what tasks they are perceived suited to perform.

Interestingly, in our last two studies, we found an asymmetry between assigning individuals from groups stereotyped as high or low in construal into abstract versus concrete roles. In both cases, participants were more selective in placing individuals in an abstract role compared to placing individuals in a concrete role (based on age and religion in Study 4, and a combination of age, religion, and social class in Study 5). This asymmetry may suggest that individuals view abstract cognition as more rare and valuable than concrete cognition, or that individuals believe that people can more easily shift from more abstract cognition to more concrete cognition compared to a move in the other direction. Alternatively, individuals' representations of groups stereotyped as more concrete may themselves be more concrete,

narrow, and fixed compared to their representations of groups stereotyped as more abstract. If this were the case, groups stereotyped as more abstract (versus more concrete) may be seen as having greater flexibility, generally, allowing them greater latitude to assume different roles. Disentangling these and other possibilities is a fruitful area for future research.

We also contribute to the group stereotypes literature by adding nuance to our understanding of the beliefs people hold about the cognitive tendencies of different groups. While stereotypes of groups' warmth and competence, agency, beliefs, and communality form the fundamental building blocks for how groups are regarded and treated, these stereotype dimensions are less able to produce predictions about how individual group members may be sorted into specific roles based on cognitive style rather than ability. We find, for instance, that there are many groups who are assumed to be higher (e.g., spiritual gurus, Buddhists, ministers/preachers) and lower (e.g., lawyers, firefighters, police officers) in construal level than what their perceived competence or agency, alone, would suggest. As such, our effort to understand how people think about the construal level of others also refines our understanding of the stereotypes people hold and use. While it is beyond the scope of the current paper to investigate why certain groups are viewed as *uniquely abstract* or *uniquely concrete* thinkers, in ways that diverge from other group perceptions, it may connect to the degree to which perceivers envision these groups as experiencing high versus low verticality (i.e., metaphorically existing "on a higher plane" versus "on the ground"). Indeed, experiences of greater verticality have been shown to increase actual abstract (versus concrete) processing within individuals (Slepian et al., 2015), and this association may also inform group stereotypes.

Practical Implications

Our studies suggest that construal level stereotypes may impact role allocation decisions at work. Participants indicated a strong preference to place people who were in their 40's, Buddhist, a former CEO, and/or from an upper-class background in an abstract role (relative to a concrete role). Participants preferred candidates who were in their 20's, Atheist, a former support/administrative staff person, and/or from a lower-class background for a concrete role (relative to an abstract role). Like with other group-based stereotypes, we do not expect construal level stereotypes to explain the entirety of people's role allocation decisions, nor do we think that the group identities we studied are the only cues that people use to determine the construal level tendencies of an individual. Still, participants' spontaneous decisions were consistent with the construal level stereotypes reported by participants in our previous studies. Interestingly, despite recent evidence and theorizing suggesting that individuals can strategically alter their own construal level in order to fit certain task demands (Nguyen et al., 2019; Trope et al., 2021), our work shows how construal level stereotypes may actually work to constrain individuals' opportunities to show their ability to adapt to situations and roles that require more abstract or more concrete cognition. This constraining effect may also serve to reinforce and thus entrench construal level stereotypes even further. Managers should be aware of these stereotypes and evaluate whether they are impacting the opportunities they give people in the workplace.

Limitations and Future Directions

While our paper is an early but thorough foray into a largely unexplored research area, there are limitations related to our measure of construal level, correlations between construal level and other stereotypes, our use of online panels, and uncertainty regarding the effects of

group membership. These limitations are described below, as well as suggestions for future research.

Construal Level Stereotypes Measure

Following past research (Burrus & Roese, 2006), our measure of construal level (stereotypes) combines perceptions of construal level (e.g., why vs. how) and psychological distance (long-term vs. short-term). Previous research has found distinct effects of construal level and psychological distance in the context of affect-based evaluations (e.g., Williams et al., 2014). Given our focus is on stereotyping, however, it is likely that people hold generalized attitudes which blur distinctions (Sherman et al., 2000). As reported in the manuscript and Supplemental Material (SM1 – 3), our measures hung together reasonably well, with reliability comparable to existing measures of other established stereotypes. Also, general patterns of construal stereotypes remained the same when we examined dimensions of construal level only (i.e., why vs. how and big picture vs. details) without psychological distance. We encourage future research to examine alternate measures to determine whether the conceptual distinctions between construal level and psychological distance are more meaningful to stereotypes than we found.

Our measures (Studies 1-3) and manipulations (Studies 4-5) also reflect the assumption that people hold generalized perceptions of groups' construal level falling along a single continuum (i.e., from more abstract to more concrete). We reasoned this was an appropriate methodological choice given that stereotypes serve to simplify our cognitions (Sherman et al., 2000) and our focus on general construal level tendencies for a large number of target groups. Significant results in Studies 4 and 5 whereby participants sorted individuals from different groups into roles that were described as abstract (and not concrete) or concrete (and not abstract) are consistent with our reasoning. However, recent work has found small to moderate positive

correlations between trait measures of abstraction and concreteness (Yin et al., 2025), and that individuals can hold both abstract and concrete mental representations of the same object (Grossmann et al., 2024). Future research may explore whether perceptions of abstraction and concreteness along one continuum versus as separate dimensions may be more or less applicable to individuals' actual cognition versus perceptions of different groups' cognition.

In addition, we exclusively measured descriptive beliefs about "the extent to which" different groups think more abstractly or concretely in our first three studies. This measure of beliefs about construal level tendencies (i.e., frequency) may also pick up on alternate beliefs like those regarding construal level ability. While we assume beliefs about construal level frequency and ability are likely linked, particularly given the consistency between groups stereotyped as high or low in construal level in Studies 1 through 3 and participants' selection decisions in Studies 4 and 5, explicitly measuring beliefs about ability may reveal the role of construal level stereotypes in dehumanization (e.g., Kteily et al., 2015; Schroeder & Epley, 2016). In our Studies 2 and 3, the groups most strongly stereotyped as thinking concretely clustered homeless people, mentally handicapped people, poor people, and factory workers with apes/monkeys, dogs, cats, and machines. It is possible that these construal level stereotypes are being applied to justify inequalities in society (Sidanius & Pratto, 2001), but these stereotypes could also play a role in perpetuating these inequalities.

It is interesting to reason about when construal level stereotypes may be most utilized, and for which group categories. Although participants seemed generally comfortable sharing construal level stereotypes, demand characteristics may have impacted participants' willingness to stereotype certain groups (e.g., race and gender; Plant & Devine, 1998). However, our particular pattern of results also suggests that individuals may hold an intuition about the

antecedents of group cognition— one that is mirrored in construal level theory's explanation of individuals' mental representations— that is, construal level is shaped by chronic and situational factors. Indeed, we find that participants indicated more pronounced intergroup distinctions in construal level stereotypes (Studies 1-3) and made more discriminating construal level role allocation decisions (Studies 4 and 5) for group designations that either 1) provide information about the *chronic content* of members' ideological beliefs and practices (i.e., within the religious and spiritual categories), or 2) provide information about the *specific context* of members' day-to day experiences, namely their life stage (age), life circumstance (class), and tasks and responsibilities (profession).

Aligned with our goals for this initial foray into whether construal level stereotypes exist, are distinct, and to what effect, the present studies use broad measures and descriptions of construal level so that they can be applied across many contexts and group categories. However, this design choice may have contributed to why we don't detect gender differences in construal level stereotypes unlike other recent scholarship in this area (Dodson et al., 2025). One marked methodological difference is that Dodson and colleagues specify the content (i.e., "strategic" versus "meticulous") or context (i.e., "a typical male/female fundraiser") of abstract and concrete cognition for men and women in many of their studies. Although limited, the current work does provide suggestive evidence that more contextual information may result in stronger associations between gender and construal level. In our first three studies, there were no differences in the perceived construal level of men and women. However, in Studies 2 and 3, when we measure the construal level stereotypes of men and women situated within particular roles— *fathers and mothers*— participants made greater distinctions between these groups (although these did not reach significance in Study 3). While beyond the scope of the current paper, we encourage future

research to investigate whether incorporating more contextual information about the specific nature of abstract and concrete thinking and/or the specific setting for this cognition may increase construal level stereotyping for additional group categories (i.e., race, gender, political affiliation).

It is also noteworthy that in our studies, social groups that are frequently associated with one another showed distinct construal level stereotypes (e.g., men are associated with both CEOs and police officers, but the construal level stereotypes of these groups diverge). Although we deliberately disaggregated the effect of individual identities in Study 4, future research should examine this issue taking an intersectional approach (e.g., are the construal level stereotypes of a Black woman police officer different from those of a White man police officer?).

Correlations with Other Stereotypes

We predicted and observed significant correlations between construal level stereotypes and stereotypes about competence, agency, and power. Divergence in these stereotypes was more apparent in certain social groups than others. Although we find evidence that these stereotypes are not reducible to one another, they are clearly related, and we cannot draw definitive boundaries between them. Again, it is also not our intention to say that construal level stereotypes should be added to the fundamental frameworks of stereotyping we examined (e.g., we are not arguing that the stereotype content model should incorporate construal level stereotypes as a third dimension). Rather, the construal level stereotypes we examine add valuable nuance to existing models. We encourage researchers to examine stereotypes about additional cognitive tendencies (e.g., beliefs about the tendency of various social groups to hold a growth vs. fixed mindset; e.g., Rattan & Dweck, 2010).

Limitations to External Validity

We were interested in the opinions of the general public and recruited participants from widely-used online panels (Buhrmester et al., 2018). However, these panels are not fully representative and were limited to participants in the U.S. To enhance external validity, we encourage the replication of our studies across more international samples (adapting the list of target groups to the local context), perhaps also examining the relationship between culture and the construal level stereotypes of different groups. For example, the U.S. is among the most short-term oriented national cultures (Hofstede & Hofstede, 2001), possibly making abstract construal rare in our studies. This could strengthen selection bias when selecting for more abstract roles. In cultural contexts high on long-term orientation, such as Japan and China (Hofstede & Hofstede, 2001), bias in favor of groups stereotyped as higher construal may be attenuated for such roles. Additionally, associations between certain groups (i.e., spiritual gurus) and ideas of existing on a higher dimension, for example, may look different across cultures, shifting how construal level stereotypes are formed.

We also encourage field-based replications of our Study 4 using working hiring managers to see whether the biases we observed emerge in real-world organizations. Although the conjoint analysis design of our Study 4 experiment builds on existing research (e.g., Caruso et al., 2009) and helps us simultaneously test effects based on multiple identities, it does not reflect how role allocation or hiring decisions actually get made. Although we were unable to find it, archival data may exist which shows the relative representation of different social groups within professions clearly delineated along lines of high vs. low construal level.

Uncertain Effects of Perceiver Identity

Finally, because our measure of participant group membership in Studies 2 and 3 were unreliable, we cannot test with great certainty whether there are significant effects of perceiver identity on construal level stereotypes (although we provide this analysis in SM8 of the Supplemental Material). Given the general association between stereotypes about the tendency to think abstractly and positive stereotypes regarding competence and power, we would informally predict a general positive main effect of ingroup membership on construal level stereotypes. Future research should test this possibility.

Conclusion

This work bridges and advances two major literature streams in social and cognitive psychology: research on construal level and research on group-based stereotypes and discrimination. Our findings reveal how construal level stereotypes may limit the opportunities that members of different groups may experience in life. We hope that further study of this topic will shed additional light on the causes and consequences of these beliefs.

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Construal Level Stereotypes:

Perceived Differences in Groups' Abstract versus Concrete Cognitive Tendencies

Supplemental Material

SM1 – Study 1 Descriptives and Reliabilities

Study 1 Construal Level Stereotypes Group Level Descriptives and Reliabilities

Target Group	*M*	*SD*	Reliability (α)
Age			
children	-0.11	2.90	0.76
teenagers	0.04	2.65	0.77
the elderly	0.86	2.34	0.70
adults	1.40	1.88	0.74
Class			
poor people	-0.44	2.82	0.84
lower class people	-0.18	2.77	0.86
blue-collar workers	0.19	2.63	0.87
middle class people	1.00	1.96	0.78
white-collar workers	1.36	2.09	0.75
upper class people	1.92	1.87	0.62
rich people	2.01	1.89	0.57
Ethnicity			
Black/African Americans	0.58	2.32	0.80
Latino/Hispanic Americans	0.72	2.20	0.78
Indian Americans	1.07	2.02	0.78
Middle Eastern/Arab Americans	1.08	1.96	0.74
White Americans	1.16	2.06	0.78
Asian Americans	1.20	1.96	0.62
Native Americans	1.51	1.94	0.73
Gender			
men	1.00	2.09	0.70
women	1.07	2.07	0.68
Politics			
liberals	1.26	2.15	0.71
conservatives	1.27	2.18	0.72
Republicans	1.29	2.20	0.74
Democrats	1.38	2.06	0.70
Profession			
musicians	0.39	2.56	0.79
students	0.44	2.53	0.78
artists	0.52	2.61	0.77
lawyers	0.57	2.57	0.69
athletes	0.71	2.48	0.73
doctors	0.82	2.51	0.73
scientists	1.36	2.30	0.58
leaders	2.09	1.71	0.43
Religion			
atheists	0.89	2.30	0.78
Muslims	1.13	2.03	0.74
Jews	1.51	1.88	0.67
Hindus	1.64	1.89	0.78
Buddhists	2.05	1.95	0.75
Christians	2.07	1.90	0.70

Note. Scale reliabilities are Cronbach alphas.

SM2 – Study 2 Descriptives and Reliabilities

Study 2 Group Level Descriptives and Reliabilities

Target Group	N	Construal Level			Competence			Warmth			Agency			Beliefs			Communality		
		M	*SD*	(α)	*M*	*SD*	(α)	*M*	*SD*	(α)	*M*	*SD*	(r)	*M*	*SD*	(r)	*M*	*SD*	(r)
Age																			
infants	110	-2.92	2.1	0.57	-1.82	2.39	0.84	-0.68	1.96	0.28	-3.19	2.31	0.6	-0.55	1.98	0.32	2.81	2.11	0.42
teenagers	109	-1.72	2.23	0.55	-0.03	1.85	0.57	0.04	1.79	0.51	0.15	2.44	0.47	2.83	1.84	0.72	-0.45	1.92	0.54
children	113	-1.6	2.19	0.46	-0.02	2.02	0.67	0.83	1.46	0.11	-1.64	2.39	0.37	1.5	2.11	0.47	1.88	1.93	0.28
people in their 20's	113	-1.27	1.97	0.49	0.99	1.85	0.62	0.75	1.46	0.04	0.58	2.22	0.49	3.09	1.43	0.47	0.04	2.05	0.64
elderly	112	-0.38	2.23	0.59	0.6	1.93	0.72	-0.14	1.52	0.31	-2.22	2.1	0.66	-2.85	1.74	0.46	2.39	1.83	0.65
people in their 70's	112	-0.24	2.2	0.63	0.98	1.76	0.74	0.08	1.49	0.24	-1.26	2.23	0.68	-2.44	2.16	0.58	1.99	1.97	0.62
people in their 30's	110	0.12	1.77	0.63	1.8	1.41	0.79	1.35	1.19	0.47	1.13	1.62	0.36	1.75	1.68	0.52	1.05	1.46	0.33
people in their 60's	112	0.4	2.2	0.63	1.63	1.81	0.77	0.66	1.41	0.13	-0.65	2.21	0.62	-2.49	1.78	0.66	2.09	1.84	0.71
people in their 50's	112	0.79	2.09	0.63	2.18	1.48	0.8	0.98	1.47	0.57	0.88	1.8	0.51	-1.47	1.91	0.49	1.37	1.6	0.51
adults	110	0.84	1.9	0.64	1.96	1.33	0.88	1.5	1.26	0.56	1.85	1.71	0.59	0.29	1.61	0.52	0.69	1.6	0.48
people in their 40's	111	1.21	1.81	0.65	2.04	1.44	0.76	1.42	1.29	0.5	1.56	1.42	0.44	-0.36	1.65	0.41	1.11	1.65	0.56
Class																			
poor people	112	-1.96	2.27	0.74	-1.12	2.4	0.91	-0.06	1.72	0.71	-2.72	2.13	0.7	0.05	1.96	0.37	0.32	2.17	0.75
lower class people	110	-1.7	2.11	0.71	-1.01	2.33	0.88	-0.31	1.74	0.58	-2.42	2.04	0.63	-0.17	2	0.49	0.16	2.11	0.7
blue collar workers	110	-1.01	2.38	0.74	1.55	1.75	0.78	0.77	1.35	0.33	-0.13	2.04	0.44	-0.76	2.07	0.59	1.39	1.75	0.56
working class people	114	-0.8	2.09	0.69	1.22	1.86	0.84	0.72	1.57	0.55	-0.61	2.04	0.42	-0.57	2.27	0.74	1.58	1.65	0.61
middle class people	113	0.29	1.75	0.64	1.83	1.35	0.85	1.28	1.31	0.61	0.62	1.72	0.54	-0.07	1.78	0.55	1.49	1.44	0.59
white collar workers	112	1.08	1.86	0.56	2.55	1.5	0.87	1.22	1.45	0.38	2.02	1.88	0.72	0.44	1.74	0.33	0.56	1.78	0.59
rich people	113	1.77	2.06	0.52	2.94	1.38	0.74	0.52	1.48	0.27	3.89	1.35	0.75	-0.69	2.3	0.47	-1.51	2.3	0.76
upper class people	113	1.77	2.05	0.62	2.73	1.53	0.75	0.5	1.46	0.32	3.27	1.65	0.81	-0.47	2	0.24	-0.82	2.24	0.69
Ethnicity/Nationality																			
Latino/Hispanic Americans	110	-0.17	1.78	0.59	1.02	1.83	0.77	0.8	1.55	0.51	0.16	1.89	0.47	-0.44	1.86	0.2	0.81	2.05	0.78
Africans	113	-0.09	1.53	0.45	0.7	2.03	0.83	0.39	1.41	0.13	-0.02	1.91	0.39	0.03	2.03	0.5	0.07	2.19	0.78
immigrants	111	0.04	2.11	0.61	0.12	1.99	0.82	0.35	1.52	0.43	-1.27	2.01	0.35	-0.03	2.03	0.37	0.28	2.31	0.85
Black/African Americans	110	0	1.94	0.62	1.24	2.01	0.81	0.64	1.55	0.31	0.67	1.99	0.37	1.33	1.75	0.32	0.03	2.36	0.82

people born in the US	111	0.31	2.19	0.66	1.85	1.52	0.72	1.18	1.38	0.43	2.28	1.73	0.67	0.57	1.61	0.34	0.7	1.88	0.69
Asians	111	0.34	1.87	0.5	2.66	1.5	0.62	0.82	1.56	0.34	0.63	2.53	0.63	-0.81	2.12	0.44	1.52	2.04	0.66
White Americans	110	0.46	1.63	0.5	2.22	1.56	0.76	1.18	1.59	0.46	2.71	1.64	0.49	-0.56	2.07	0.52	0.4	2.24	0.83
Asian Americans	112	0.52	1.63	0.3	2.5	1.61	0.78	0.93	1.47	0.5	0.41	2.07	0.54	-0.47	2	0.46	1.24	1.85	0.65
Europeans	110	0.65	1.6	0.51	2.39	1.49	0.85	1.27	1.56	0.65	1	1.92	0.69	1.43	1.84	0.57	1.16	1.89	0.72
Middle Eastern/Arab Americans	112	0.7	1.83	0.68	1.02	1.62	0.82	-0.04	1.39	0.23	1.28	1.98	0.67	-2.15	2.08	0.47	-0.85	2.14	0.85
Native Americans	112	0.82	2.34	0.77	0.85	2.2	0.85	0.65	1.73	0.52	-1.34	2.47	0.73	-1.03	2.13	0.41	1.7	2.06	0.67
Indian Americans	109	0.84	1.84	0.55	1.81	1.73	0.8	0.86	1.5	0.34	-0.61	1.92	0.53	-1.29	1.98	0.41	1.63	1.85	0.64
Gender/Sexuality																			
mothers	109	0.07	2.34	0.69	2.72	1.63	0.82	2.37	1.29	0.38	0.4	2.27	0.58	-0.56	1.71	0.28	3.17	1.61	0.58
gender non-conforming people	113	0.09	2.27	0.75	0.24	2.17	0.82	0.39	1.63	0.19	-0.83	2.31	0.62	3.55	1.76	0.82	0.48	2.35	0.81
men	111	0.29	1.68	0.43	2.38	1.41	0.83	1.11	1.29	0.29	2.95	1.63	0.7	-0.38	1.56	0.33	-0.17	1.53	0.38
women	112	0.44	1.81	0.36	1.97	1.66	0.81	1.3	1.32	0.38	-0.34	2.13	0.68	1.11	1.59	0.27	1.7	1.66	0.41
heterosexual people	114	0.6	1.6	0.65	2.04	1.58	0.92	1.44	1.37	0.55	1.91	1.65	0.6	-0.47	1.79	0.54	0.91	1.57	0.59
LGBTQ people	113	0.6	2.32	0.75	1.54	1.93	0.8	1.19	1.59	0.21	0.16	2.06	0.39	3.28	1.88	0.75	1	2.31	0.77
fathers	112	0.89	1.86	0.5	2.5	1.49	0.83	2.19	1.36	0.41	2.69	1.54	0.77	-0.93	1.85	0.41	1.72	1.81	0.41
Non-Human																			
robots	112	-3.06	2.22	0.79	1.87	2	0.55	-0.69	2	0.26	-1.09	2.88	0.66	1.95	1.37	-0.04	0.61	2.42	0.67
machines	110	-3.04	2.27	0.73	1.71	2.11	0.47	-1.17	2.42	0.52	-0.65	3.17	0.72	1.39	1.9	0.24	1.06	2.12	0.53
dogs	110	-2.81	2.19	0.61	1.19	2.04	0.69	1.64	1.37	0.29	-1.02	2.41	0.5	-0.76	1.7	0.23	2.35	1.97	0.67
cats	112	-2.63	2.34	0.72	2.18	1.9	0.79	0.54	1.77	0.34	1.14	2.7	0.71	-0.4	1.61	0.31	0.21	2.19	0.61
apes/monkeys	112	-2.56	2.35	0.75	-0.17	2.27	0.75	-0.32	1.89	0.58	0.14	2.73	0.5	-1.35	1.82	0.41	-0.94	2.16	0.62
Other/Stigmatized																			
homeless people	111	-2.36	1.99	0.54	-1.86	2.15	0.85	-0.89	1.83	0.58	-2.8	2.27	0.63	-0.07	1.69	0.23	-0.82	2.36	0.77
mentally handicapped people	113	-1.18	2.5	0.76	-1.45	2.35	0.87	0.11	1.66	0.53	-2.92	2.19	0.72	-0.37	1.68	0.32	1.53	2.19	0.65
convicted felons	112	-1.18	2.48	0.73	-1.35	2.15	0.74	-1.09	1.68	0.4	1	2.47	0.53	0.46	1.83	0.38	-3.13	2.23	0.87
obese people	109	-0.91	1.82	0.62	-0.74	2.06	0.8	-0.06	1.52	0.57	-1.91	1.95	0.58	0.11	1.66	0.5	0.69	1.69	0.62
physically attractive people	112	-0.8	2.08	0.62	1.69	1.47	0.56	0.78	1.26	0.29	2.66	1.49	0.71	1.54	1.59	0.51	-0.19	1.79	0.66

physically handicapped people	112	-0.74	2.34	0.75	0.39	2.08	0.81	0.73	1.69	0.59	-1.95	2.2	0.82	0.42	1.96	0.56	2.2	1.84	0.72
physically unattractive people	110	0.41	2.1	0.67	-0.14	1.57	0.63	0.22	1.44	0.49	-2.1	1.97	0.77	-0.12	1.38	0.36	0.94	1.75	0.68
Politics																			
Republicans	111	0.09	2.33	0.59	0.63	2.28	0.72	-0.11	1.95	0.42	2.31	2.25	0.78	-3.29	2.45	0.75	-1.24	2.99	0.91
fascists	111	0.18	2.5	0.71	-0.07	1.92	0.67	-0.54	1.57	0.21	3.06	2.09	0.76	-1.4	3.02	0.66	-2.95	2.36	0.9
liberals	111	0.6	2.32	0.73	1.54	2	0.73	1.01	1.75	0.3	0.98	2.05	0.56	3.59	1.53	0.41	0.37	2.68	0.85
conservatives	113	0.67	2.35	0.69	1.66	1.96	0.71	0.45	1.92	0.36	2.15	2.13	0.72	-3.07	2.53	0.7	-0.23	2.77	0.82
communists	111	0.73	2.62	0.69	0.39	2.05	0.69	-0.33	1.74	0.18	2.18	2.47	0.68	-0.01	2.84	0.53	-2.24	2.37	0.8
Democrats	113	0.78	2.2	0.67	1.62	1.71	0.68	1.09	1.77	0.51	1.03	2.04	0.58	3.11	1.62	0.33	0.45	2.59	0.86
socialists	112	0.87	2.54	0.71	0.88	2.17	0.74	0.35	1.82	0.37	1.15	2.15	0.42	2.65	1.86	0.33	-0.43	2.86	0.88
Profession																			
janitors	112	-2.42	2.16	0.83	0.19	2.03	0.79	0.28	1.34	0.31	-2.41	2.1	0.7	-1.32	1.78	0.45	2.16	1.54	0.46
service workers	110	-2.05	2.28	0.79	0.62	2.25	0.87	0.46	1.65	0.54	-1.52	2.22	0.58	0.47	1.62	0.28	1.67	1.6	0.52
factory workers	113	-2.01	2.14	0.69	0.53	2.1	0.86	0.42	1.48	0.47	-1.17	2.17	0.55	-1.08	1.96	0.45	1.41	1.58	0.45
plumbers	110	-1.98	2.28	0.76	1.73	1.81	0.8	0.77	1.56	0.6	0.31	1.86	0.61	-0.8	1.85	0.42	1.22	1.71	0.6
police officers	108	-1.65	2.21	0.69	1.62	1.84	0.67	0.58	1.74	0.36	3.46	1.85	0.68	-1.93	2.25	0.43	-0.88	2.9	0.77
firefighters	113	-1.38	2.31	0.66	2.99	1.56	0.8	2.37	1.42	0.53	2.42	1.54	0.4	-0.23	2.15	0.51	3.23	1.51	0.52
support/ administrative staff	110	-1.01	2.63	0.79	1.55	1.93	0.81	0.65	1.56	0.17	-0.69	2.63	0.75	0.35	1.84	0.31	1.88	1.8	0.52
followers	113	-1	2.78	0.78	-0.72	2.2	0.8	-0.21	1.96	0.53	-2.6	2.69	0.83	-0.28	2.56	0.69	0.74	2.29	0.62
lawyers	111	-0.81	2.27	0.53	3.32	1.39	0.79	0.76	1.33	0	3.85	1.37	0.61	0.25	2.01	0.32	-1.44	2	0.45
artists	108	-0.77	2.3	0.62	1.6	1.59	0.66	1.13	1.34	0.24	-0.57	1.97	0.39	2.58	1.7	0.36	1.76	1.61	0.54
musicians	112	-0.66	2.37	0.61	2.42	1.44	0.65	1.69	1.34	0.33	0.73	2.25	0.59	1.95	1.82	0.4	1.72	1.53	0.48
athletes	112	-0.57	2.34	0.61	2.4	1.39	0.5	1.92	1.35	0.38	3.71	1.5	0.56	1.65	1.75	0.31	0.67	2.14	0.59
students	111	-0.36	2.46	0.65	1.46	1.61	0.69	1.02	1.48	0.5	0.23	2.26	0.45	2.34	1.7	0.5	1.22	1.86	0.51
doctors	113	0.18	2.06	0.48	3.68	1.28	0.82	2.24	1.37	0.52	2.53	1.69	0.36	0.82	1.8	0.29	2.8	1.73	0.62
teachers	111	0.22	2.2	0.6	2.93	1.42	0.77	2.05	1.36	0.54	0.76	2.05	0.52	0.65	1.75	0.21	2.66	1.79	0.66
managers	111	0.35	2.21	0.57	2.44	1.49	0.78	1.32	1.3	0.35	3.29	1.39	0.71	-0.43	1.7	0.3	-0.12	1.76	0.44
scientists	113	0.71	2.31	0.46	3.07	1.32	0.53	2.31	1.23	0.03	1.95	2.17	0.51	2.4	1.66	0.26	2.47	1.98	0.65
CEOs	113	2.37	1.96	0.52	3.52	1.55	0.8	0.79	1.79	0.46	3.95	1.48	0.69	0.04	2.34	0.34	-1.13	2.38	0.77

leaders	112	2.38	1.88	0.56	2.35	1.63	0.57	2.22	1.23	0.22	3.78	1.38	0.68	0.4	1.91	0.35	0.1	2.08	0.49
Religion																			
atheists	113	-0.24	2.43	0.72	1.31	1.9	0.68	0.74	1.52	0.05	1.36	2.09	0.54	2.92	1.86	0.36	0.28	2.52	0.76
Muslims	113	0.86	1.82	0.62	1	1.8	0.75	-0.14	1.52	0.2	1	2.13	0.64	-2.61	2.3	0.63	-0.93	2.56	0.85
Jews	112	1.31	1.89	0.51	2.61	1.55	0.79	0.88	1.52	0.22	1.09	2.38	0.52	-1.35	2.35	0.55	0.53	2.59	0.79
Hindus	109	1.34	1.85	0.64	1.64	1.94	0.9	0.86	1.48	0.31	-0.63	2.12	0.55	-1.64	2.1	0.49	1.79	1.94	0.69
Christians	112	1.37	1.91	0.51	1.19	1.58	0.57	0.63	1.58	0.19	1.31	2.17	0.61	-2.86	2.07	0.61	0.98	2.3	0.81
Buddhists	110	2.58	2.05	0.71	1.9	1.75	0.83	1.39	1.21	0.11	-1.88	1.93	0.51	-1.42	2.01	0.32	3.14	1.85	0.68
Spiritual																			
psychics	113	0.06	2.51	0.58	0.69	2.21	0.68	0.27	1.78	0.48	0.85	2.2	0.38	0.66	2.15	0.32	-0.59	2.29	0.51
ministers/preachers	112	1.84	2.03	0.6	1.96	1.72	0.78	1.05	1.41	-0.1	1.18	2.13	0.55	-2.95	2.16	0.64	1.32	2.44	0.75
spiritual gurus	112	2.6	2.02	0.65	1.51	1.82	0.67	0.87	1.63	0.19	-0.4	2.52	0.57	-0.11	2.6	0.56	1.33	2.31	0.52

Note. Reliabilities for three-item Construal Level, Competence, and Warmth scales are Cronbach alphas. Reliabilities for two-item Agency, Beliefs, and Communality are Pearson correlations.

SM3 – Study 3 Descriptives and Reliabilities

Study 3 Group Level Descriptives and Reliabilities

Target Group	N	Construal Level			Power		Liking	
		M	*SD*	Reliability (α)	*M*	*SD*	*M*	*SD*
Age								
teenagers	110	0.15	2.8	0.81	6.34	2.49	6.34	2.49
infants	110	0.36	2.92	0.82	6.06	2.66	6.06	2.66
people in their 20's	109	0.54	2.68	0.82	6.05	2.17	6.05	2.17
children	110	0.68	2.76	0.73	6.05	2.73	6.05	2.73
people in their 70's	110	0.72	2.46	0.72	5.51	2.16	5.51	2.16
adults	110	1.22	1.83	0.65	4.78	1.91	4.78	1.91
elderly	109	1.27	2.21	0.72	5.52	2.01	5.52	2.01
people in their 60's	109	1.31	2.16	0.66	5.1	2.16	5.1	2.16
people in their 40's	108	1.34	2.01	0.75	5.25	1.91	5.25	1.91
people in their 50's	108	1.43	2.19	0.71	4.95	1.89	4.95	1.89
people in their 30's	110	1.79	2.11	0.78	5.38	2.07	5.38	2.07
Class								
poor people	111	-0.17	2.99	0.89	7.39	2.59	7.39	2.59
blue collar workers	111	-0.02	2.89	0.86	5.79	2.04	5.79	2.04
lower class people	109	0.47	2.49	0.83	6.37	2.57	6.37	2.57
working class people	109	0.67	2.57	0.81	5.68	2.16	5.68	2.16
middle class people	110	1.51	1.94	0.75	5.34	1.94	5.34	1.94
white collar workers	109	1.57	1.85	0.64	4.79	2.07	4.79	2.07
rich people	111	1.8	2.24	0.62	3.16	2.81	3.16	2.81
upper class people	110	1.82	1.75	0.47	3.41	2.59	3.41	2.59
Ethnicity/Nationality								
Latino/Hispanic Americans	109	0.95	2.21	0.76	5.85	2.08	5.85	2.08
Africans	108	1.01	1.96	0.67	6.07	2.18	6.07	2.18
Black/African Americans	109	1.16	2	0.6	5.79	2.37	5.79	2.37

people born in the US	111	1.24	1.98	0.74	5.17	2.16	5.17	2.16
Indian Americans	109	1.24	1.79	0.62	5.88	2.1	5.88	2.1
Asian Americans	106	1.31	2.04	0.66	4.96	1.92	4.96	1.92
immigrants	109	1.31	1.75	0.44	6.41	2.04	6.41	2.04
Asians	110	1.37	1.82	0.52	5.11	1.98	5.11	1.98
Middle Eastern/Arab Americans	109	1.43	1.94	0.71	5.77	1.97	5.77	1.97
Europeans	112	1.61	1.67	0.73	4.94	2.03	4.94	2.03
Native Americans	109	1.64	2.17	0.83	6	2.85	6	2.85
White Americans	109	1.83	1.75	0.62	4.53	2.54	4.53	2.54
Gender/Sexuality								
mothers	107	1.14	2.26	0.72	4.74	2.35	4.74	2.35
gender non-conforming people	108	1.24	2.15	0.74	5.91	2.37	5.91	2.37
men	110	1.31	2.15	0.71	4.53	2.23	4.53	2.23
women	110	1.57	2.01	0.68	5.06	2.14	5.06	2.14
fathers	108	1.6	2.06	0.7	5.04	2.22	5.04	2.22
LGBTQ people	111	1.68	1.93	0.74	5.88	1.99	5.88	1.99
heterosexual people	109	1.82	1.9	0.8	4.7	2.26	4.7	2.26
Non-Human								
machines	110	-0.59	3.28	0.92	6.36	2.92	6.36	2.92
apes/monkeys	110	-0.54	3.17	0.88	7.51	2.87	7.51	2.87
cats	109	-0.42	3	0.85	6.79	2.72	6.79	2.72
robots	109	-0.31	3.12	0.86	6.41	2.9	6.41	2.9
dogs	109	0.1	2.8	0.77	6.3	2.75	6.3	2.75
Other/Stigmatized								
homeless people	108	-0.52	2.99	0.86	7.65	2.75	7.65	2.75
mentally handicapped people	107	-0.26	2.68	0.86	6.88	2.51	6.88	2.51
convicted felons	111	0.46	2.92	0.86	6.73	2.92	6.73	2.92
physically attractive people	110	0.48	2.24	0.73	4.72	2.16	4.72	2.16
physically handicapped people	107	0.55	2.44	0.77	6.15	2.36	6.15	2.36
obese people	111	0.61	2.59	0.86	5.78	2.41	5.78	2.41

physically unattractive people	110	1.15	2.19	0.77	6.06	2.27	6.06	2.27
Politics								
fascists	110	1.18	2.25	0.73	5.86	2.41	5.86	2.41
Republicans	109	1.33	2.21	0.79	4.65	2.26	4.65	2.26
conservatives	110	1.44	1.9	0.59	5.24	2.15	5.24	2.15
Democrats	110	1.44	1.87	0.62	5.06	2.17	5.06	2.17
liberals	108	1.61	2.05	0.65	5.18	2.04	5.18	2.04
communists	109	1.94	2.09	0.69	6.04	2.4	6.04	2.4
socialists	110	2.11	1.81	0.63	5.83	2.48	5.83	2.48
Profession								
factory workers	108	-0.43	3.09	0.88	6.14	1.96	6.14	1.96
janitors	110	-0.16	3.17	0.93	6.5	2.24	6.5	2.24
support/administrative staff	109	0.17	2.74	0.87	5.81	2.07	5.81	2.07
police officers	109	0.26	2.75	0.84	4.96	2.13	4.96	2.13
plumbers	108	0.31	2.74	0.88	5.68	2.1	5.68	2.1
service workers	110	0.42	2.74	0.89	5.9	2.23	5.9	2.23
firefighters	108	0.45	2.52	0.72	5.07	2.15	5.07	2.15
followers	108	0.62	2.64	0.78	5.76	2.21	5.76	2.21
musicians	107	0.64	2.34	0.69	5.33	2.13	5.33	2.13
students	110	0.68	2.44	0.76	5.93	2.31	5.93	2.31
artists	108	0.9	2.19	0.6	5.65	2.13	5.65	2.13
doctors	108	1	2.42	0.69	4.01	2.71	4.01	2.71
lawyers	111	0.98	2.26	0.62	4.45	2.47	4.45	2.47
athletes	109	1.09	2.46	0.71	4.56	2.58	4.56	2.58
teachers	108	1.13	2.26	0.74	5.26	2.24	5.26	2.24
scientists	109	1.42	2.27	0.59	4.43	2.41	4.43	2.41
managers	108	1.71	2.09	0.68	4.66	2.24	4.66	2.24
leaders	110	2.25	1.78	0.47	3.54	2.44	3.54	2.44
CEOs	109	2.43	1.71	0.44	3.17	2.69	3.17	2.69
Religion								
atheists	110	1.18	2.46	0.76	5.32	1.97	5.32	1.97
Jews	108	1.62	1.86	0.56	4.6	2.02	4.6	2.02

Hindus	108	1.67	2.01	0.72	5.46	1.95	5.46	1.95
Muslims	110	1.87	1.95	0.79	5.81	2.04	5.81	2.04
Christians	109	2.24	1.93	0.6	4.66	2.34	4.66	2.34
Buddhists	107	2.6	1.67	0.62	5.73	2.13	5.73	2.13
Spiritual								
psychics	108	1.16	2.25	0.68	5.93	2.34	5.93	2.34
spiritual gurus	110	2.43	1.81	0.69	5.49	2.24	5.49	2.24
ministers/preachers	110	2.45	1.81	0.73	4.9	2.16	4.9	2.16

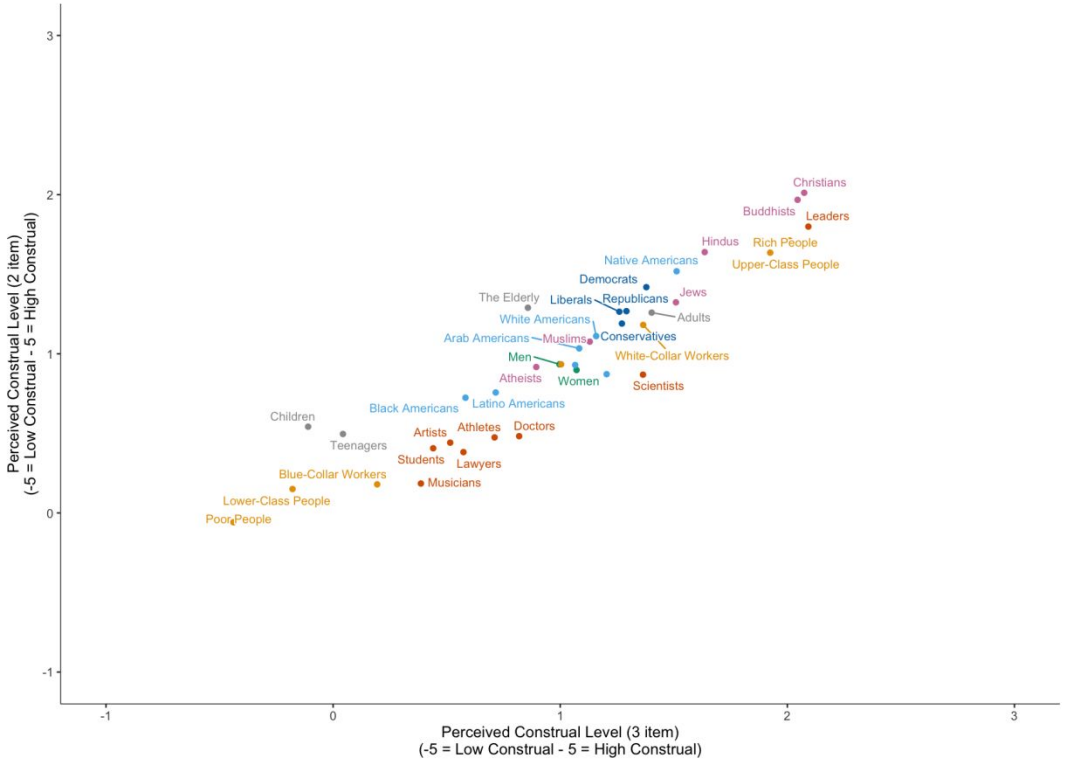
Note. Scale reliabilities are Cronbach alphas.

SM4 - Studies 1 - 3 Group Means Excluding "Long Term"

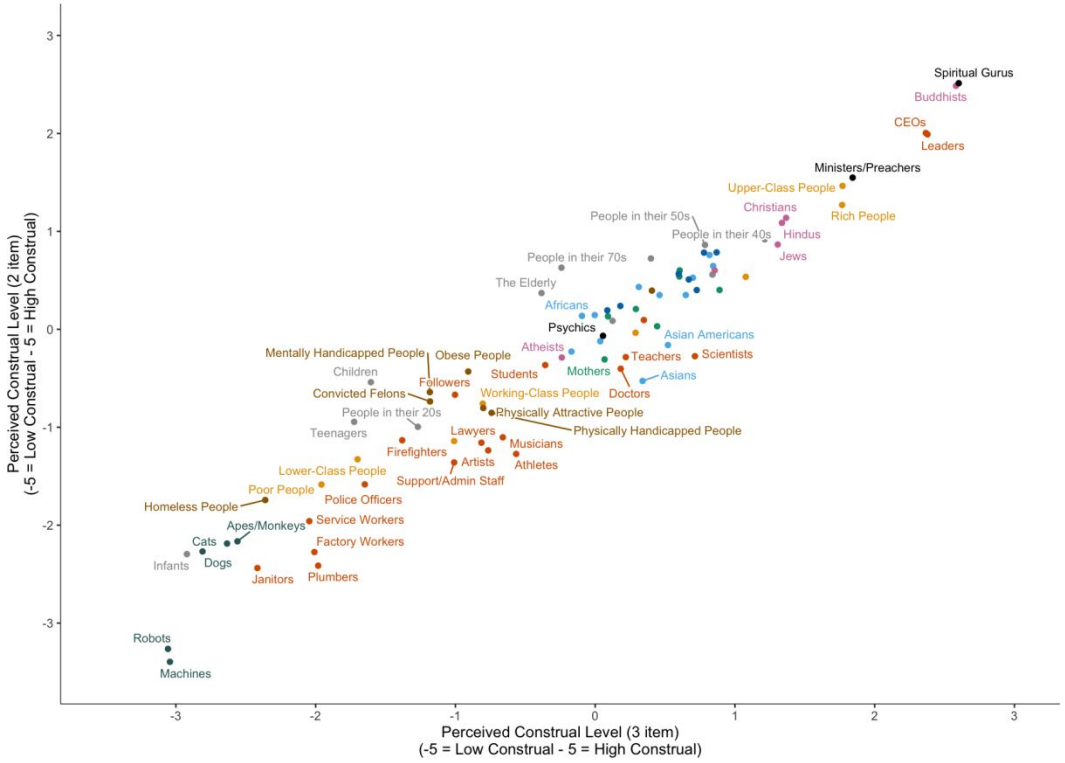
The following figures show how group level means for construal level stereotypes differ when they are based on our three-item composite (used in the paper), combining a) the details versus the big picture, b) short-term versus long-term goals , and c) how something gets done versus why something gets done, versus a two-item composite excluding the second item (short-term versus long-term goals). The figures below visually show the very strong correlation in group means across the two permutations of this measure (Study 1: r = .93, Study 2: r = .96, Study 3: r = .96).

Divergences are minor, but one example that is consistent across studies concerns the target group children, whose construal level stereotype scores increase when the short-term versus long-term item is removed. Stereotypes about scientists show the opposite pattern, where their construal level stereotype scores decrease when the short-term versus long-term item is removed. Looking across the data and the strong item-level reliability scores observed across studies, however, the evidence supports our prediction that people hold general construal level stereotypes that capture coherent attitudes across our three items, and that the distinctions between construal level and psychological distance do not meaningfully change the analyses presented in the paper.

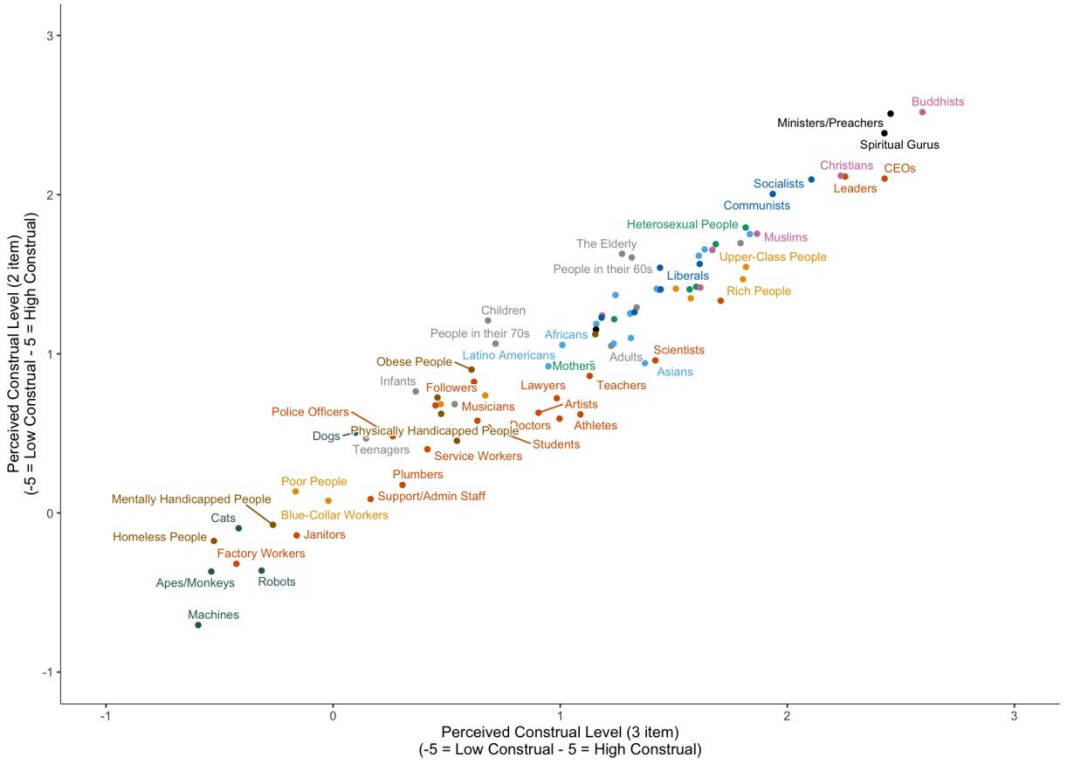
Study 1 Construal Level Stereotypes



Study 2 Construal Level Stereotypes



Study 3 Construal Level Stereotypes



SM5 - Studies 1 - 3 Intraclass Correlation Coefficients

To assess the extent to which the effect of responding to different target groups explained variance in our data, we examined the intraclass correlation coefficients (ICCs) of the variables included in Studies 1-3. Although this is not a common practice for stereotypes research, examining the ICCs for target group a) helps to test whether target group explains a non-zero proportion of variance within our data, and b) provides an indication of the extent to which participants' responses resembled each other when evaluating the same target group. We calculated ICCs by examining a baseline linear mixed model with random intercepts for participant and target group. We then conducted exactRLRT tests (https://www.ssc.wisc.edu/sscc/pubs/MM/MM_TestEffects.html#test-of-random-parameters) to confirm that the observed variance explained by target group was significantly different from zero. Results are presented in the table below:

Target Group Intraclass Correlation Coefficients for Studies 1 - 3

Stereotype	*S1 CL*	*S2 CL*	*S2 COMP*	*S2 WARM*	*S2 AGNC*	*S2 BELIEF*	*S2 COMM*	*S3 CL*	*S3 PWER*	*S3 LIKING*
ICC	*0.073*	*0.284*	*0.307*	*0.263*	*0.441*	*0.412*	*0.283*	*0.093*	*0.120*	*0.065*
exactRLRT p-value	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*	*< .001*

Note. S1 = Study 1, S2 = Study 2, S3 = Study 3, CL = Construal Level, COMP = Competence, WARM = Warmth, AGNC = Agency, BELIEF = Beliefs, COMM = Communion, PWER = Power, LIKING = Liking

Several things are worth noting in evaluating these ICCs. In terms of magnitude, the observed ICCs are significantly greater than zero, but across all the measures we examined, these ICCs were significantly lower than the thresholds typically applied to ICCs in the context of interrater reliability or groups research. Although we cannot say definitively, we see multiple potential explanations for this. First, in studies using ICCs to compare independent coders, or

agreement within teams, there is often communication between trained raters and a shared goal of agreement, explicit or implicit, which can foster convergent raters' responses. In the context of stereotypes, we can expect variance in biases, self-presentation concerns, and other factors, to create variation in participants' responses.

The second finding of note in these ICCs is variation in magnitude between studies. Although we do not have a definitive explanation for why ICCs in Study 2 are the highest, our best potential explanation has to do with the fact that participants were rating only 10 groups (as opposed to 38 in Study 1 and 15 in Study 3). Rating more groups may have a homogenizing effect on people's ratings.

The third finding concerns differences in ICCs between stereotypes within studies. In Study 2, the ICC for our construal level stereotypes was lower than the ICC for stereotypes about competence, agency, and beliefs, but higher than that for stereotypes about warmth and effectively equal to that for stereotypes about communion. In Study 3, the ICC for our construal level stereotypes was lower than for stereotypes about power, but higher than for ratings about liking. From this, we conclude that the strength of construal level stereotypes does not fall outside what would be expected looking at other frequently studied stereotypes.

In summary, these findings show that the effect of target group explains a non-zero proportion of variance in our data. Even so, the ICCs are relatively low, suggesting a high degree of noise in our data (see also the SDs in tables S1, S2, and S3). Despite this, our consistency analyses, presented at the end of Study 3, suggest that when it comes to construal level stereotypes there is a strong signal amidst this noise.

SM6 - Studies 1 - 3 Linear Mixed Models with Target Group as a Fixed Effect

Across Studies 1 - 3, we ran additional linear mixed models looking at construal level stereotypes with target group as a fixed effect and participants as random intercepts. This allowed us to examine whether group ratings differed significantly and systematically from one another while accounting for the crossed nature of the data. To run these models with target group as a categorical predictor, we had to specify a reference group. We selected "adults" as the most generic group among the groups we measured. Coefficients are presented in the table below.

Target Group Fixed Effect Coefficients for Studies 1 – 3

Target Group	Study 1	Study 2	Study 3
(Intercept)	1.42***	0.81***	1.25***
Age			
infants		-3.67***	-1.07***
children	-1.52***	-2.44***	-0.87***
teenagers	-1.36***	-2.57***	-1.07***
people in their 20's		-2.08***	-0.77**
people in their 30's		-0.59*	0.24
people in their 40's		0.49	0.22
people in their 50's		-0.03	0.06
people in their 60's		-0.48	-0.08
people in their 70's		-1.08***	-0.35
elderly	-0.56***	-1.15***	0.00
Class			
poor people	-1.85***	-2.88***	-1.39***
lower class people	-1.59***	-2.56***	-0.77**
blue collar workers	-1.22***	-1.84***	-1.23***
working class people		-1.59***	-0.62**
middle class people	-0.40***	-0.55*	0.14
white collar workers	-0.04	0.26	0.39
rich people	0.59***	0.97***	0.58*
upper class people	0.51***	0.89**	0.51*
Ethnicity/Nationality			
Latino/Hispanic Americans	-0.69***	-1.01***	-0.47*
Africans		-0.88**	-0.08
immigrants		-0.77**	0.15
Black/African Americans	-0.83***	-0.79**	-0.11
people born in the US		-0.54	-0.03
Asians		-0.36	0.06

White Americans	-0.25*	-0.29	0.37
Asian Americans	-0.21*	-0.31	0.10
Europeans		-0.18	0.30
Middle Eastern/Arab Americans	-0.32**	-0.13	0.11
Native Americans	0.10	0.04	0.41
Indian Americans	-0.34**	0.07	0.19
Gender/Sexuality			
mothers		-0.78**	0.07
gender non-conforming people		-0.64*	-0.07
men	-0.41***	-0.51	-0.08
women	-0.34**	-0.27	0.24
heterosexual people		-0.20	0.55*
LGBTQ people		-0.33	0.33
fathers		0.08	0.36
Non-Human			
robots		-3.80***	-1.65***
machines		-3.87***	-1.83***
dogs		-3.70***	-1.24***
cats		-3.54***	-1.49***
apes/monkeys		-3.45***	-1.80***
Other/Stigmatized			
homeless people		-3.19***	-1.69***
mentally handicapped people		-2.10***	-1.34***
convicted felons		-2.01***	-1.03***
obese people		-1.69***	-0.78***
physically attractive people		-1.53***	-0.57*
physically handicapped people		-1.54***	-0.71**
physically unattractive people		-0.37	-0.20
Politics			
Republicans	-0.13	-0.73**	0.12
fascists		-0.59*	0.02
liberals	-0.15	-0.10	0.51*
conservatives	-0.14	-0.17	0.21
communists		-0.08	0.46
Democrats	-0.04	-0.05	0.34
socialists		0.13	0.86***
Profession			
janitors		-3.27***	-1.57***
service workers		-2.81***	-0.89***
factory workers		-2.78***	-1.57***
plumbers		-2.89***	-0.98***
police officers		-2.43***	-0.97***
firefighters		-2.25***	-0.78**
support/administrative staff		-1.84***	-0.99***
followers		-1.86***	-0.61*
lawyers	-0.84***	-1.62***	-0.32
artists	-0.90***	-1.57***	-0.38
musicians	-1.03***	-1.48***	-0.46
athletes	-0.70***	-1.31***	-0.25
students	-0.97***	-1.17***	-0.53*
doctors	-0.58***	-0.66*	-0.27
teachers		-0.63*	-0.06
managers		-0.43	0.41

scientists	-0.05	-0.17	0.20
CEOs		1.46***	1.23***
leaders	0.69***	1.64***	0.98***
Religion			
atheists	-0.51***	-1***	0.11
Muslims	-0.29**	0.03	0.59*
Jews	0.10	0.48	0.42
Hindus	0.22*	0.59*	0.56*
Christians	0.67***	0.61*	1.08***
Buddhists	0.63***	1.89***	1.49***
Spiritual			
psychics		-0.90**	-0.01
ministers/preachers		1.08***	1.33***
spiritual gurus		1.87***	1.03***

Note: Reference group is "adults", * $p < .05$, ** $p < .01$, *** $p < .001$

Aligning with the findings presented in Figures 1, 2, and 3, we observed significant differences between construal level stereotype ratings of the group "adult" and numerous other groups we examined. We also observed no significant effects when looking at groups that strongly overlap with the group "adults" (e.g., people in their 30s through 60s, other broad categories like men and women). Although there are too many comparisons to go into detail, these findings support the general finding in the paper that people do have differentiated and systematic construal level stereotypes, and that this persists after accounting for participant-level variance.

SM7 - Studies 2 & 3 Correlations Between Stereotypes Within Groups

As preregistered, we examined the correlations between construal level stereotypes and each of the other stereotypes we examined in Studies 2 and 3, within group. Paralleling the analyses in SM9, we generally observed a positive relationship between these stereotypes within each group. Significant ($p < .05$) correlations are presented in the table below.

Studies 2 & 3 Correlations Between Construal Level Stereotypes and Other Stereotypes Within Target Groups

Target Group	S2 CL x COMP	S2 CL x WARM	S2 CL x AGENC	S2 CL x BELIEF	S2 CL x COMM	S3 CL x POWER	S3 CL x LIKING
Age							
infants	0.20		0.30		-0.20	0.23	
children	0.46		0.21			0.34	
teenagers	0.29	0.25			0.24	0.50	0.55
adults	0.21	0.33	0.28		0.27		
people in their 20's	0.20	0.22		-0.26	0.41		0.33
people in their 30's		0.27	0.28		0.30		
people in their 40's	0.30	0.36			0.27		0.30
people in their 50's		0.21	0.20				0.29
people in their 60's							0.26
people in their 70's	0.22	0.28		0.37			0.36
elderly	0.20		0.29	0.27			0.23
Class							
poor people	0.36		0.43		0.26	0.55	
lower class people	0.36		0.50		0.26	0.46	
blue collar workers	0.31		0.41	0.43		0.31	0.22
working class people	0.42		0.42	0.27	0.23	0.35	
middle class people	0.22		0.29			-0.24	
white collar workers	0.22	0.21					0.47
rich people	0.24				0.19		0.28
upper class people	0.33	0.25			0.19	-0.28	0.33
Ethnicity/Nationality							
Latino/Hispanic Americans	0.41	0.23	0.22				0.29
Africans	0.52	0.40		0.22	0.40	0.29	0.36
immigrants			0.29	0.28		0.24	
Black/African Americans		0.23			0.30	0.38	
people born in the US	0.36	0.41			0.35		0.25
Asians							
White Americans	0.27	0.38		0.30	0.31	-0.27	0.23
Asian Americans	0.21	0.42	0.23				
Europeans	0.31	0.21			0.25		0.23
Middle Eastern/Arab Americans	0.20			0.24			0.35

Native Americans	0.45	0.30	0.37		0.32	0.24	0.38
Indian Americans	0.27	0.30					
Gender/Sexuality							
mothers			0.22				
gender non-conforming people	0.19				0.19	0.36	0.51
men		0.31		0.27	0.30		0.33
women	0.23	0.22		0.22	0.20		
heterosexual people							
LGBTQ people	0.46	0.41			0.53		0.49
fathers	0.24	0.31			0.28	-0.21	0.21
Non-Human							
robots		0.34				0.43	0.36
machines		0.37	0.31			0.22	0.44
dogs			0.40	0.41		0.25	-0.21
cats		0.40		0.19	0.29	0.56	
apes/monkeys	0.24			0.31	0.35	0.61	
Other/Stigmatized							
homeless people	0.37		0.38			0.56	0.20
mentally handicapped people	0.41		0.55	0.23		0.39	
convicted felons	0.36	0.46			0.41	0.68	0.59
obese people	0.47	0.32	0.21		0.33	0.27	0.43
physically attractive people				-0.19		-0.31	
physically handicapped people			0.34				
physically unattractive people	0.26	0.24	0.21				0.24
Politics							
Republicans	0.37	0.39		0.33	0.45	-0.52	
fascists	0.29					0.37	0.50
liberals	0.38	0.41	-0.23		0.40		0.33
conservatives	0.36	0.37		0.29	0.48	-0.46	
communists	0.23					-0.40	
Democrats	0.41	0.55			0.59		0.55
socialists	0.24	0.21					0.37
Profession							
janitors	0.26		0.66	0.55			
service workers	0.38	0.32	0.41		0.25	0.27	
factory workers	0.26	0.24	0.24	0.36		0.42	
plumbers		0.28		0.27			0.32
police officers	0.23	0.46	-0.31	0.38	0.38		0.64
firefighters		0.19		0.23			
support/administrative staff			0.35				
followers	0.36		0.52	0.33		0.38	0.37
lawyers	-0.24	0.23	-0.19	0.23	0.37	-0.46	0.58
artists			0.21			0.24	
musicians							
athletes					0.23		
students	0.28		0.40		0.35		
doctors		0.36		0.30		-0.25	0.29
teachers							
managers		0.19			0.27		0.26
scientists						-0.24	
CEOs	0.36						
leaders	0.29	0.19	0.21	0.24			0.21
Religion							

atheists	0.19	0.31		0.30		0.31
Muslims	0.34		0.20			0.26
Jews	0.28					
Hindus		0.20		0.24	0.23	0.40
Christians	0.26	0.33		0.43	0.19	
Buddhists		0.29	-0.21	0.41		0.24
Spiritual						
psychics				0.32	0.39	0.37
ministers/preachers	0.26	0.21				
spiritual gurus	0.26	0.25				

Note. S2 = Study 2, S3 = Study 3, CL = Construal Level, COMP = Competence, WARM = Warmth, AGENC = Agency, BELIEF = Beliefs, COMM = Communion, POWER = Power, LIKING = Liking; only significant ($p < .05$) correlation coefficients are displayed.

SM8 - Studies 2 & 3 Group Membership Effects

In Studies 2 and 3, we concluded our surveys by asking participants if they identified as members of the groups we examined. We excluded certain groups (e.g., infants, monkeys/apes) from these questions. We then compared the mean construal level stereotypes of each group looking at self-identified ingroup and outgroup members and present the results of both Study 2 and 3 in the table below. The general finding of this analysis is that where significant differences between self-identified ingroup and outgroup members exist, ingroup members rate themselves as higher in construal level stereotypes than outgroup members. However, we strongly advise against overinterpreting this finding, for multiple reasons. The first, shown in the table below, concerns the relatively small and uneven cell sizes. For example, in both studies, self-identified Arab Americans rated themselves as significantly higher in construal level stereotypes than non-Arab Americans, but this was on the basis of only 1 self-identified Arab American in Study 2, and only 19 in Study 3.

Furthermore, we noticed some discrepancies between how participants responded to these items and how they responded to similar questions in the demographics sections that followed, especially in Study 3. For example, in Study 3, 40% of participants who self-identified as a woman in the ingroup question, later identified as a man in the demographics. Also in Study 3, 26% of our sample self-identified as firefighters, an unlikely high percentage, and much larger than the 3% reported in Study 2. Although we did not find such large discrepancies across all of the demographics we observed, these cases offer reason to not overinterpret these findings. We believe that these discrepancies may be attributable to survey fatigue as the ingroup selection question came at the very end of a long survey, so we encourage future research interested in the effects of group identification on construal level (or other) stereotypes, to design their questionnaires in ways that minimize these risks.

Studies 2 and 3 Group Membership Effects

Target Group	S2 N Out	S2 N In	S2 Mean Out	S2 Mean In	S2 In > Out	S2 *t*	S2 *p*	S3 N Out	S3 N In	S3 Mean Out	S3 Mean In	S3 In > Out	S3 *t*	S3 *p*
Age														
people in their 20's	83	24	-1.542	-0.556	1	-2.514	.016	62	44	-0.419	1.803	1	-4.517	< .001
people in their 30's	61	43	-0.126	0.504		-1.832	.070	52	54	1.269	2.185	1	-2.274	.025
people in their 40's	76	28	1.096	1.583		-1.194	.238	63	42	0.735	2.159	1	-4.022	< .001
people in their 50's	90	16	0.785	1.292		-0.768	.452	75	30	1.093	2.222	1	-2.776	.007
people in their 60's	95	12	0.337	1.194		-1.485	.158	69	35	0.667	2.419	1	-4.342	< .001
people in their 70's	101	4	-0.373	2.583		-2.935	.054	80	29	-0.096	2.943	1	-8.876	< .001
elderly	102	7	-0.369	-0.762		0.435	.677	68	38	0.618	2.412	1	-4.665	< .001
Class														
poor people	84	24	-2.254	-0.819	1	-2.133	.042	64	42	-0.75	0.563	1	-2.281	.025
lower class people	79	26	-1.827	-1.372		-0.897	.375	66	42	-0.136	1.389	1	-3.168	.002
blue collar workers	82	24	-1.333	0.014	1	-2.229	.033	70	41	-0.986	1.626	1	-4.981	< .001
working class people	32	78	-1.031	-0.662		-0.793	.432	16	89	0.354	0.67		-0.503	.620
middle class people	29	78	0.08	0.333		-0.859	.393	30	76	1.044	1.632		-1.513	.135
white collar workers	49	57	0.599	1.456	1	-2.353	.021	48	58	0.965	2.04	1	-3.026	.003
rich people	103	5	1.702	3.333		-1.866	.128	82	28	1.419	2.917	1	-4.361	< .001
upper class people	101	7	1.802	2.19		-0.444	.671	69	40	1.135	2.917	1	-6.412	< .001
Ethnicity/Nationality														
Latino/Hispanic Americans	92	11	-0.348	1.152	1	-2.387	.035	70	35	0.043	2.686	1	-8.099	< .001
Africans	93	12	-0.254	0.528		-1.527	.150	80	22	0.508	2.636	1	-5.459	< .001
immigrants	97	7	-0.003	-0.238		0.248	.811	78	27	0.902	2.556	1	-5.277	< .001
Black/African Americans	93	14	-0.201	1.452	1	-2.651	.018	71	34	0.7	2.304	1	-4.106	< .001
people born in the US	9	98	0.667	0.296		0.465	.653	5	100	1.333	1.197		0.139	.895
Asians	102	4	0.356	0.583		-0.12	.912	82	26	0.927	2.756	1	-6.112	< .001
White Americans	27	77	0.222	0.528		-0.83	.411	19	88	1.912	1.822		0.216	.831
Asian Americans	96	9	0.441	1.778		-2.022	.074	79	25	0.983	2.453	1	-3.677	.001
Europeans	88	18	0.424	1.685	1	-2.529	.020	77	32	1.351	2.177	1	-2.517	.014
Middle Eastern/Arab Americans	109	1	0.676	3		*NA*	*NA*	89	19	0.948	3.474	1	-6.758	< .001
Native Americans	99	7	0.744	3.19	1	-3.214	.014	57	49	0.626	2.816	1	-6.149	< .001
Indian Americans	98	3	0.915	1.222		-0.195	.863	89	15	1.097	2.089		-1.898	.073
Gender/Sexuality														
mothers	77	31	0.087	0.075		0.023	.982	70	35	0.752	2	1	-2.695	.009
gender non-conforming people	106	5	0.013	1.667		-2.187	.083	77	25	0.597	3.213	1	-8.059	< .001
men	43	62	0.116	0.43		-0.942	.349	30	78	0.744	1.466		-1.824	.072
women	51	55	0.654	0.382		0.758	.450	54	53	1.272	1.761		-1.267	.208

heterosexual people	11	98	0.515	0.588		-0.17	.868	28	79	2.083	1.709	0.864	.392
LGBTQ people	92	15	0.562	0.733		-0.228	.822	70	39	1.119	2.726	1 -5.155	< .001
fathers	81	25	0.695	1.347		-1.559	.127	51	54	0.824	2.333	1 -3.965	< .001
Non-Human													
dogs	56	53	-3.054	-2.654		-0.968	.335	37	70	-0.459	0.443	-1.584	.118
cats	63	46	-2.63	-2.674		0.095	.925	51	54	-0.752	-0.222	-0.907	.366
Other/Stigmatized													
homeless people	103	3	-2.424	1.556		-1.74	.222	85	16	-1.224	2.562	1 -8.023	< .001
mentally handicapped people	102	4	-1.271	-0.083		-0.684	.541	86	19	-0.953	2.649	1 -9.677	< .001
convicted felons	105	4	-1.365	3		-2.426	.091	77	32	-0.597	2.917	1 -8.668	< .001
obese people	85	21	-0.902	-1.063		0.335	.740	70	40	-0.243	2.067	1 -5.17	< .001
physically attractive people	64	42	-1.135	-0.373		-1.892	.062	48	59	-0.424	1.096	1 -3.774	< .001
physically handicapped people	101	6	-0.855	-0.167		-0.464	.661	90	16	0.122	2.667	1 -6.289	< .001
physically unattractive people	94	14	0.305	1.095		-1.055	.308	70	39	0.824	1.726	1 -2.084	.040
Politics													
Republicans	77	29	-0.584	1.736	1	-5.64	< .001	50	59	0.353	2.153	1 -4.518	< .001
fascists	105	4	0.124	1.833		-2.044	.118	78	31	0.603	2.688	1 -5.812	< .001
liberals	54	54	-0.241	1.481	1	-4.102	< .001	47	57	0.901	2.135	1 -3.11	.003
conservatives	53	53	-0.465	1.78	1	-5.595	< .001	53	51	0.585	2.242	1 -5.089	< .001
communists	105	1	0.743	3.333		*NA*	*NA*	75	30	1.436	3.089	1 -4.709	< .001
Democrats	47	61	-0.121	1.514	1	-3.827	< .001	45	61	0.607	1.995	1 -3.878	< .001
socialists	95	15	0.825	1.6		-1.143	.267	68	37	1.721	2.73	1 -3.119	.002
Profession													
janitors	107	0	-2.492	*NA*	*NA*	*NA*	*NA*	86	23	-0.977	2.841	1 -8.017	< .001
service workers	88	18	-2.22	-1.574		-1.123	.272	57	51	-0.965	2	1 -6.735	< .001
factory workers	102	7	-2.111	-0.619		-1.175	.283	78	27	-1.479	2.63	1 -10.91	< .001
plumbers	106	2	-2.079	3.5		-6.486	.078	81	25	-0.527	2.813	1 -8.671	< .001
police officers	103	2	-1.725	1.5		-1.747	.326	89	19	-0.262	2.544	1 -5.494	< .001
firefighters	106	3	-1.497	2.667	1	-6.737	.010	78	28	-0.444	2.738	1 -8.713	< .001
support/administrative staff	81	24	-1.395	0.042	1	-2.189	.036	56	50	-0.583	0.873	1 -2.874	.005
followers	83	27	-1.157	-0.864		-0.505	.616	54	49	-0.117	1.354	1 -2.991	.003
lawyers	104	1	-0.881	1.333		*NA*	*NA*	80	26	0.271	2.987	1 -6.806	< .001
artists	86	19	-0.853	-0.263		-0.967	.343	64	39	0.422	1.607	1 -2.875	.005
musicians	95	16	-0.786	0.104		-1.258	.224	68	37	-0.054	1.883	1 -4.349	< .001
athletes	95	15	-0.688	0.111		-1.171	.257	70	38	0.276	2.658	1 -5.725	< .001
students	90	17	-0.674	1.137	1	-3.302	.003	84	21	0.353	1.762	1 -2.278	.030
doctors	105	2	0.137	2.667	1	-12.39	< .001	79	28	0.392	2.679	1 -6	< .001
teachers	97	9	0.192	0.444		-0.292	.777	73	32	0.635	2.26	1 -3.893	< .001
managers	77	30	-0.074	1.267	1	-3.01	.004	46	57	0.913	2.485	1 -4.067	< .001

scientists	100	8	0.613	2		-1.667	.133	78	29	0.863	2.816	1	-5.242	< .001
CEOs	97	9	2.333	3.259		-1.585	.143	81	27	2.222	3.099	1	-2.898	.005
leaders	77	32	2.16	2.719		-1.372	.176	68	36	1.853	3.139	1	-4.27	< .001
Religion														
atheists	74	34	-0.797	1.108	1	-4.251	< .001	61	46	0.355	2.261	1	-4.453	< .001
Muslims	106	1	0.802	0		*NA*	*NA*	94	14	1.645	3.048	1	-3.847	.001
Jews	98	8	1.221	2.458		-1.632	.142	86	18	1.442	2.5	1	-3.204	.002
Hindus	105	1	1.352	3.667		*NA*	*NA*	85	18	1.435	2.481	1	-2.526	.016
Christians	67	41	0.866	2.276	1	-4.311	< .001	34	72	2.039	2.333		-0.703	.485
Buddhists	106	2	2.588	1.167		2.638	.176	93	12	2.43	3.583	1	-3.397	.003
Spiritual														
psychics	98	7	-0.061	2.762	1	-4.013	.004	82	23	0.683	2.638	1	-5.231	< .001
ministers/preachers	105	1	1.873	2.667		*NA*	*NA*	81	25	2.366	2.813		-1.255	.215
spiritual gurus	101	6	2.564	3.111		-0.863	.420	81	27	2.346	2.667		-0.927	.358

Note. S2 = Study 2, S3 = Study 3, Out = participant identified as an outgroup member, In = participant identified as an ingroup member, In > Out columns are coded 1 if mean construal level stereotypes are significantly ($p < .05$) higher for ingroup members than outgroup members, blank if otherwise.

SM9 - Studies 2 & 3 Linear Mixed Model with Other Stereotypes as Fixed Effects

Given the crossed nature of the data in Studies 2 and 3, in which participants rated multiple target groups (10 in Study 2, 15 in Study 3) selected randomly from the full set of 85 groups, we also analyzed the relationship between construal level stereotypes and the other stereotypes we measured using linear mixed models. We ran separate models for each alternative stereotype, predicting the construal level stereotype ratings from the same study, with random intercepts for both group and participant. Coefficients and significance values can be seen in the table below.

Studies 2 and 3 Linear Mixed Model Coefficients With Other Stereotypes Predicting Construal Level Stereotypes as a Fixed Effect

Predictor	Competence	Warmth	Agency	Beliefs	Communion	Power	Liking
b	.261	.194	.117	.072	.145	.173	.073
p	< .001	< .001	< .001	< .001	< .001	< .001	< .001

These findings may appear to diverge from the findings in the paper, where we only found significant relationships between construal level stereotypes and competence, agency, and power, but they are in fact testing different things. The focal analyses presented in the paper test whether groups that are rated relatively high or low in construal level are also rated relatively high or low in the other stereotypes we measured. These analyses presented in the table above are closer conceptually to the correlations between construal level stereotypes and other stereotypes within groups presented in SM7 above in that here we are looking at the relationship between stereotypes *controlling* for the effect of target group, rather than focusing on the effect of target group. Nevertheless, these findings support our conclusion that, although related to

other stereotypes, construal level stereotypes do not appear to be reducible to more frequently used measures of stereotypes.

An additional takeaway from these findings appears to be that, at the item level, the more participants rate a given target as high in construal level (i.e., tending towards more abstract thinking), the more they also rate them as competent, warm, agentic, liberal, communal, powerful, and viewed more positively. Although we do not see this same effect at the group level (i.e., there are plenty of groups rated low in construal level, but high in warmth, liberalism, communality, or liking), they comport with the overarching finding of this work (i.e., in Study 5) and other research (e.g., Crouzevialle, Schmid & Trope, 2023) that people have an overall preference for high construal level tendencies.

SM10 - Study 4 Role Manipulations

Abstract Role

The position you are sorting for requires someone who can take a **big picture view** of things, as opposed to a detailed view. Instead of thinking about the project's short-term goals, they will be responsible for focusing on the project's **long-term goals** and thinking primarily about the project's **overarching purpose** (i.e., why things should get done, and not how things will get done).

Concrete Role

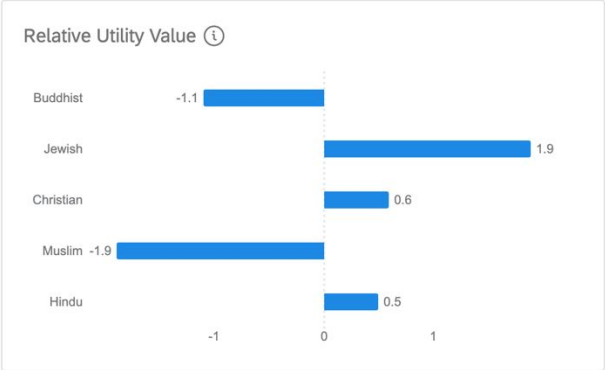
The position you are sorting for requires someone who can take a **detailed view** of things, as opposed to a big picture view. Instead of thinking about the project's long-term goals, they will be responsible for focusing on the project's **short-term goals** and thinking primarily about the project's **implementation** (i.e., how things will get done, and not why things should get done).

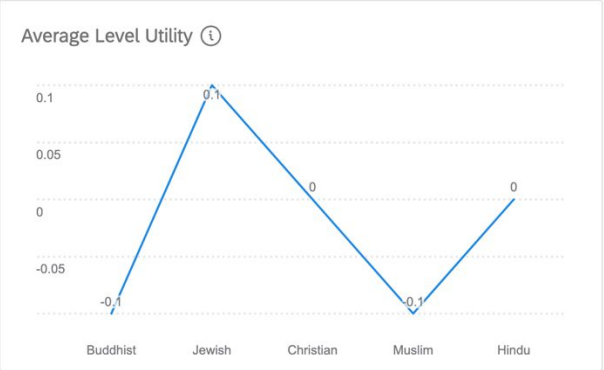
SM11 – Study 4 Qualtrics Conjoint Analyses

On the next several pages, we provide screenshots of Qualtrics' internal conjoint analysis, displaying utility scores. These analyses reveal the relative importance of each feature, the relative and average utility scores of each level within each feature, and an "optimal package" summarizing the candidate with the highest rated level within each feature. The general findings align with the analyses presented in the manuscript, such that in the high construal level role (versus low construal level role), participants favored candidates with characteristics positively associated with the construal level stereotypes observed in Studies 1 – 3. For example, for the high (versus low) construal role, participants favored a candidate who was 45 (vs. 35), Buddhist (vs. Jewish), and formerly employed as a CEO (vs. a Scientist).

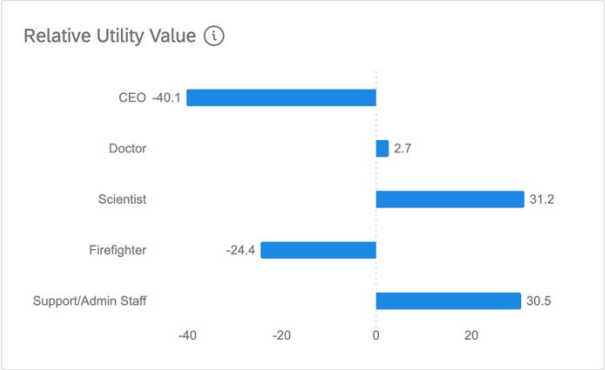
Low Construal Level Role

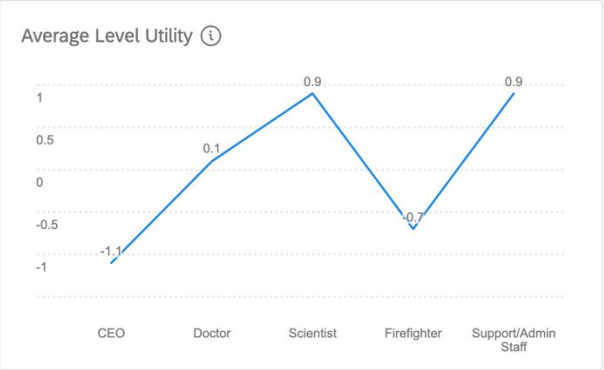
Religion:



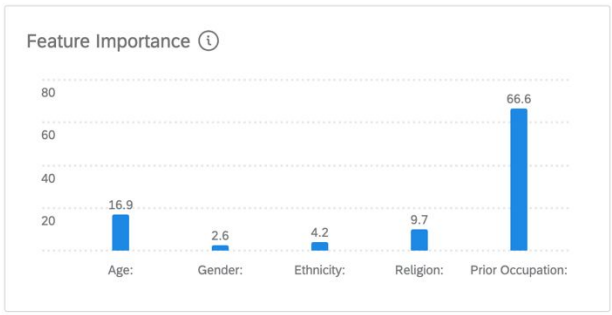


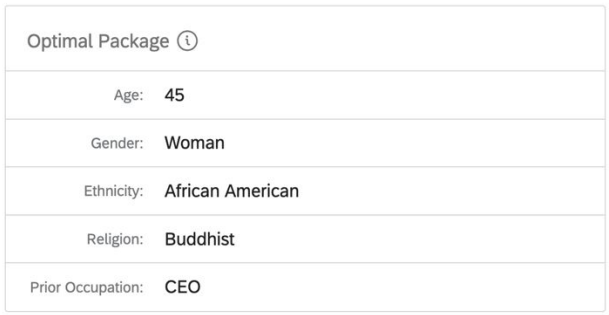
Prior Occupation:



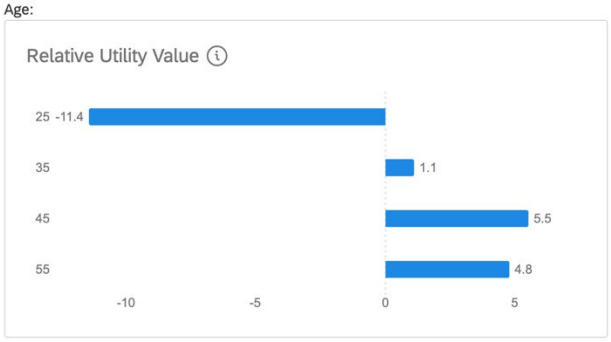


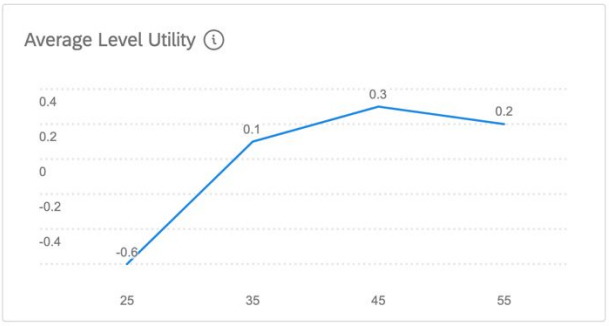
High Construal Level Role



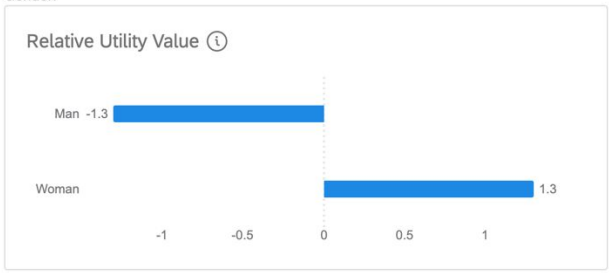


Age:

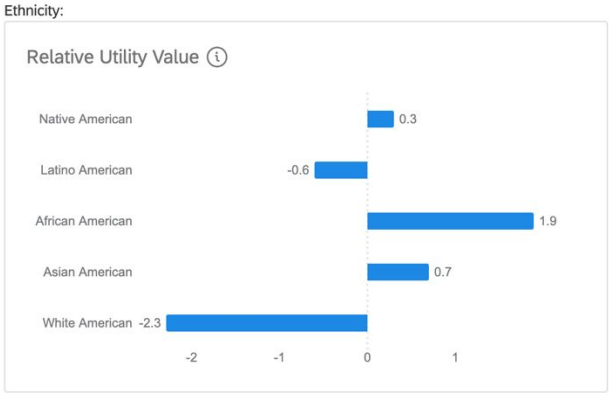


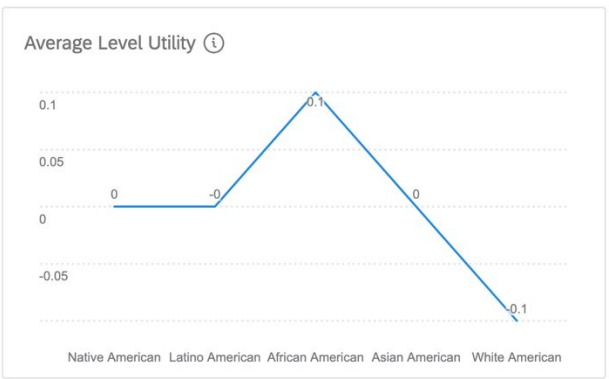


Gender:

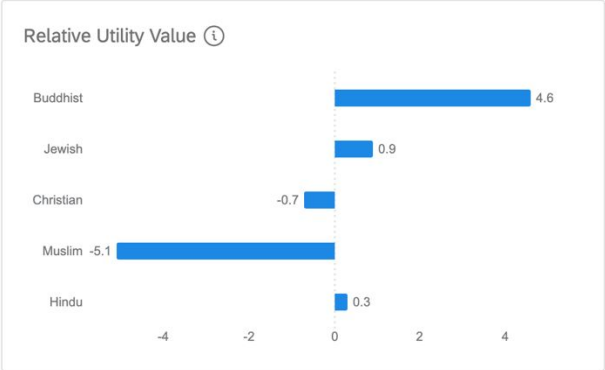


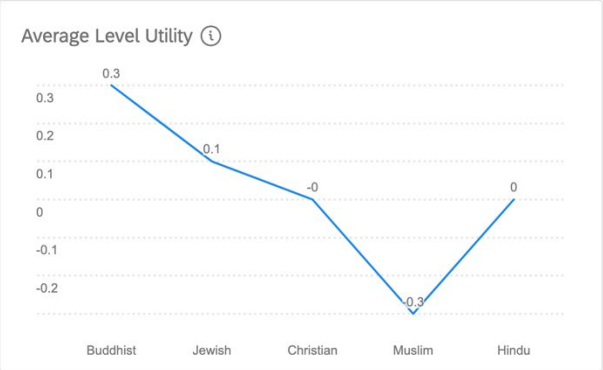
Ethnicity:



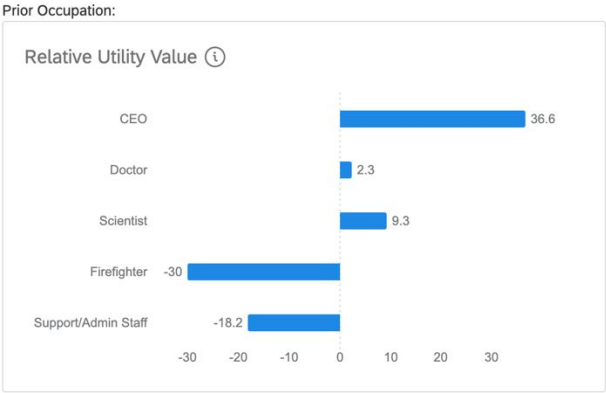


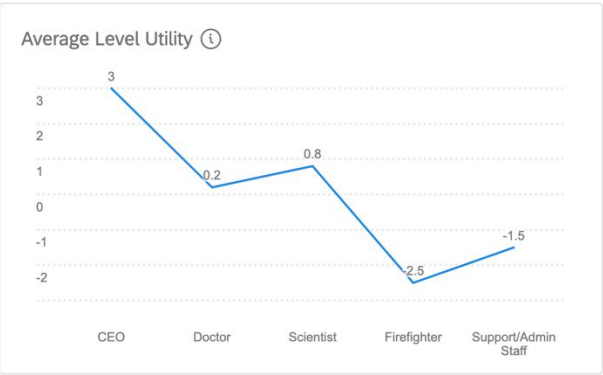
Religion:





Prior Occupation:





SM12 - Study 5 Pilot Studies

We conducted a series of four pilot studies on Prolific to design our study manipulations and stimuli for Study 5. The general design for all pilots included participants filling an internal role at a fictional company. Participants viewed resumes or employee profiles that were designed to reflect group memberships that were associated with high or low construal level based on our findings from Studies 1-3. Full pilot study surveys and data are available upon request.

In Pilot Study A, 114 participants were presented with the resume of Julia Clark, whose resume either indicated high construal level (former CEO, in her 40s, Buddhist, and upper-class) or low construal level (former administrative assistant, in her 20s, Atheist, and lower-class). The required construal level of the open role was left unspecified. Participants indicated the degree to which Julia's resume indicated that she was a more abstract or concrete thinker (using a similar 3-item measure of construal level as in our Studies 1-3). We observed no significant difference in the perceived construal level of the resumes between conditions (p = .281). We were unable to determine if participants in this study were not generating stereotypes based on the identity of the candidate (as observed in Studies 1 through 3) or if these were being muted due to self-presentation concerns.

In Pilot Study B and subsequent pilot studies, we sought to reduce the potential of self-presentation concerns obscuring people's construal level stereotypes by placing them in a forced-choice scenario. We asked 658 participants to fill a role that either required abstract or concrete cognition. Participants were told, "In reviewing the committee's current membership and needs, you seek to prioritize finding someone who can take a [detailed / big picture] view of things, as opposed to a [big picture / detailed] view. Instead of thinking about the committee's [long-term / short-term] goals, this committee member will be responsible for focusing on [short-term / long-term] goals and thinking primarily about the committee's [task implementation (i.e., how things

will get done, and not why things should get done) / overarching purpose (i.e., why things should get done, and not how things will get done)].”

Participants were presented with two internal candidates– Julia Clark or Rachel Mitchell – whose group memberships indicated high construal level or low construal level (see below), and were asked to select one employee for the open role in a forced-choice design.

Rachel Mitchell

[redacted]@[redacted].com

RECENT PROFESSIONAL EXPERIENCE

Allied Global Group
Engagement Consultant
Developed client success initiatives by crafting comprehensive support frameworks that enhanced cross-team collaboration and leveraged data-driven insights to empower clients and drive retention.

LexCorp
User Experience Specialist
Worked on multi-platform initiatives that enhanced user experience; applied user research and iterative prototyping to create intuitive interface solutions, ensuring design strategies aligned with user needs and business objectives.

Hansen-Collins
Administrative Assistant
Provided administrative support for leadership in customer experience startup.

EDUCATION& CERTIFICATIONS

Bachelor of Arts
Major: American Literature
University of Wisconsin-Madison
Graduated: June 2020

Chickasaw High School Graduated: May 2016

EXTRACURRICULAR ACTIVITIES

Financial Secretary
Allied Global Group, Atheist Employee Group

Member
UW-Madison First-Generation & Low-Income Students Alumni Network

Member
Pinetree Volunteer Softball League

JULIA CLARK

[redacted]@[redacted].com | [redacted]-[redacted]-[redacted]

RECENT WORK EXPERIENCE

Engagement Consultant, Allied Global Group
- Worked on engagement strategies by delivering end-to-end frameworks that maximized cross-functional interaction
- Leveraged scalable methodologies to empower stakeholders

Experience Consultant, Pinnacle Partners
- Collaborated on omni-channel engagement opportunities that elevated brand visibility
- Utilized data-driven insights to inform impactful engagement tactics, ensuring the strategic alignment of initiatives with client goals and market dynamics

CEO, Fusion Solutions
- Led customer engagement start-up focusing on optimizing customer experience

EDUCATION

B.A. English 2002
University of Illinois Urbana Champaign

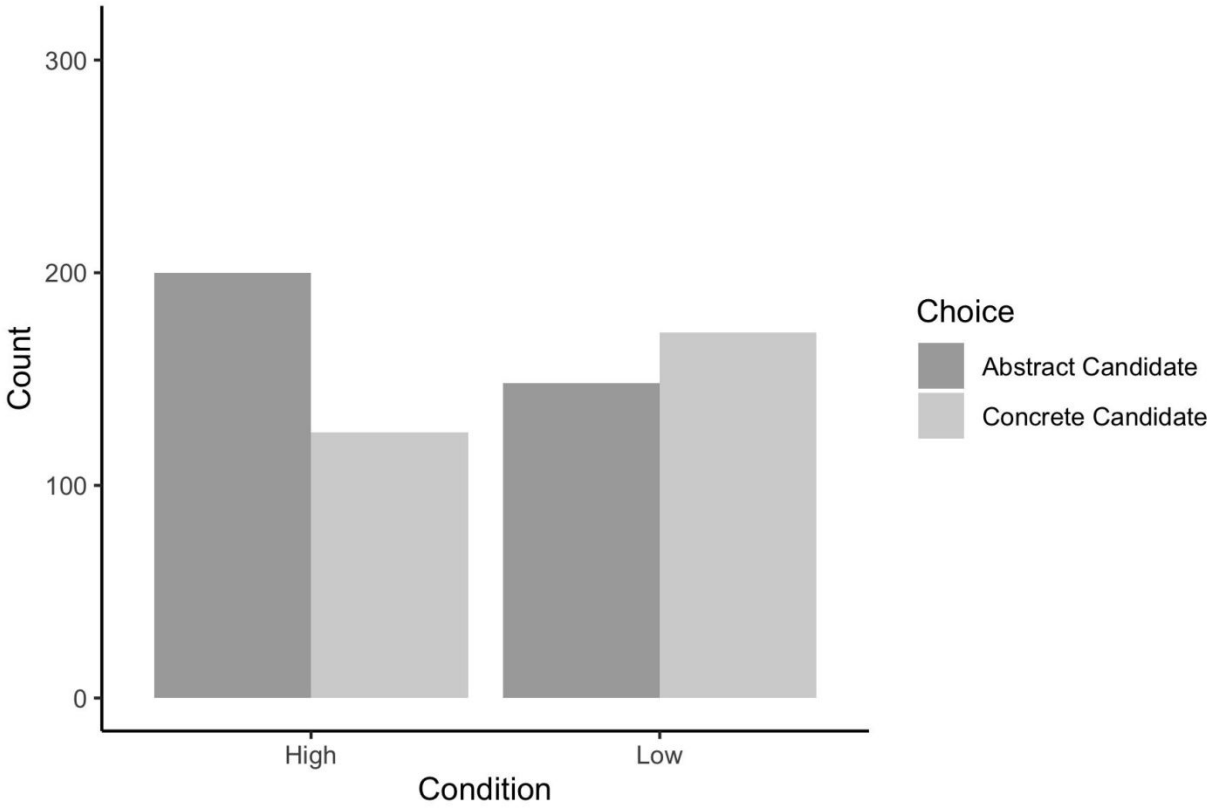
1998
Canterbury Preparatory School

ACTIVITIES

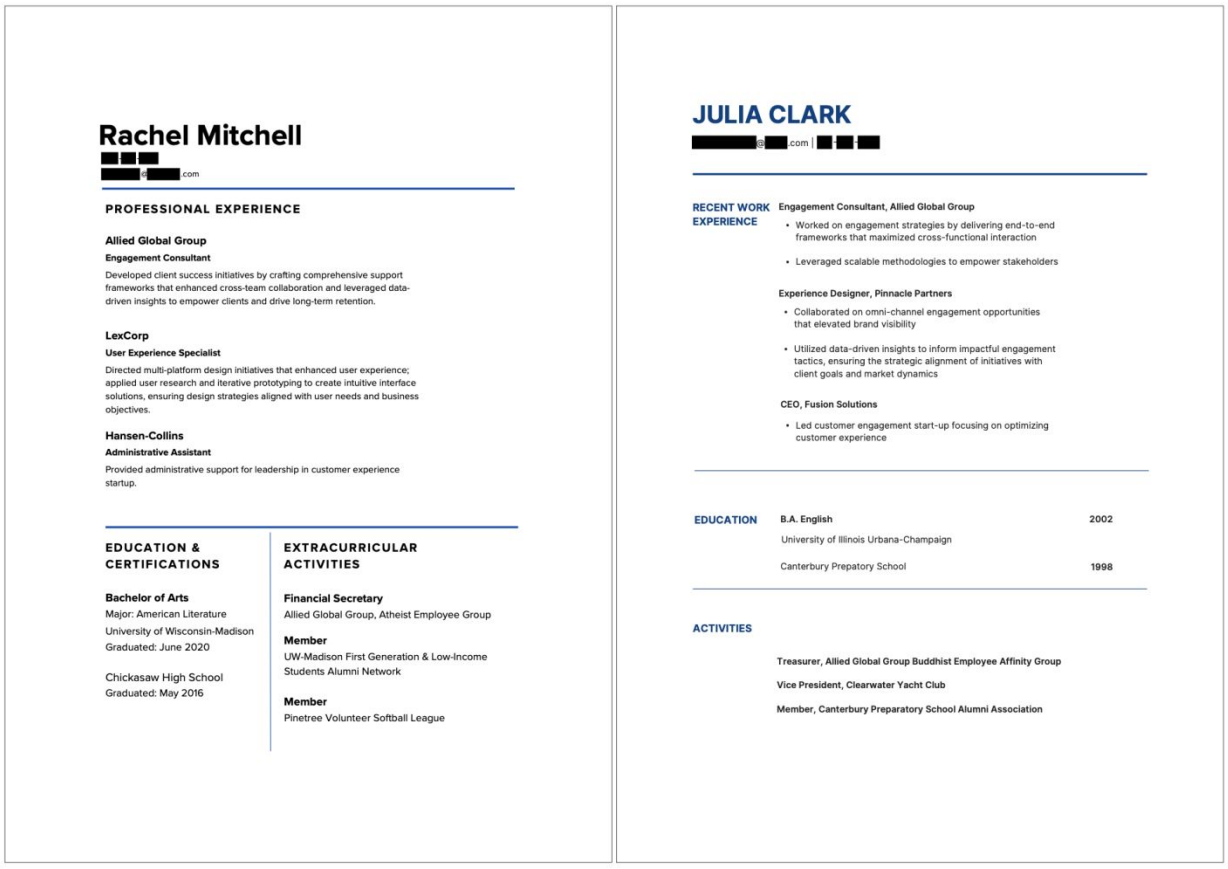
Treasurer, Allied Global Group Buddhist Employee Affinity Group
Vice President, Clearwater Yacht Club

Member, Canterbury Preparatory School Alumni Association

The presentation order of candidate name and high versus low construal level resume information were counterbalanced. Results of a chi-square test showed a significant association between condition and candidate choice in the expected direction for both conditions, X^2 (1, N = 658) = 14.56, $p < .001$. Although we observed effects in the predicted direction, we were concerned that participants may have also been influenced by differences in the formatting of the two resumes.



In Pilot Study C, we edited the formatting of our stimuli to be more consistent across resumes. Using the same role manipulation as in Pilot Study B, we asked 876 participants to choose between two resumes to select participants into a high or low construal role:



Rachel Mitchell

[redacted].com

PROFESSIONAL EXPERIENCE

Allied Global Group
Engagement Consultant
Developed client success initiatives by crafting comprehensive support frameworks that enhanced cross-team collaboration and leveraged data-driven insights to empower clients and drive long-term retention.

LexCorp
User Experience Specialist
Directed multi-platform design initiatives that enhanced user experience; applied user research and iterative prototyping to create intuitive interface solutions, ensuring design strategies aligned with user needs and business objectives.

Hansen-Collins
Administrative Assistant
Provided administrative support for leadership in customer experience startup.

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Graduated: June 2020

Chickasaw High School
Graduated: May 2016

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Member
UW-Madison First Generation & Low-Income Students Alumni Network

Member
Pinetree Volunteer Softball League

JULIA CLARK

[redacted].com | [redacted]

RECENT WORK EXPERIENCE

Engagement Consultant, Allied Global Group
- Worked on engagement strategies by delivering end-to-end frameworks that maximized cross-functional interaction
- Leveraged scalable methodologies to empower stakeholders

Experience Designer, Pinnacle Partners
- Collaborated on omni-channel engagement opportunities that elevated brand visibility
- Utilized data-driven insights to inform impactful engagement tactics, ensuring the strategic alignment of initiatives with client goals and market dynamics

CEO, Fusion Solutions
- Led customer engagement start-up focusing on optimizing customer experience

EDUCATION

B.A. English 2002
University of Illinois Urbana-Champaign

Canterbury Prepatory School 1998

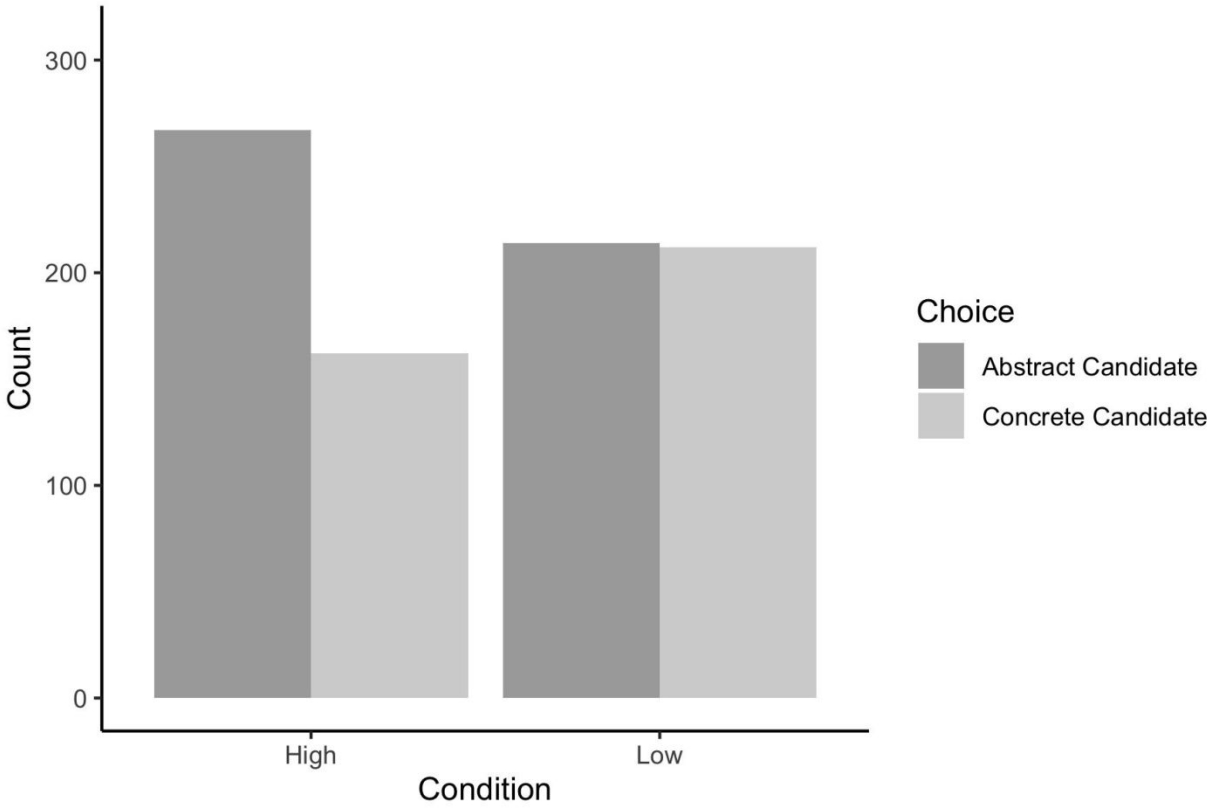
ACTIVITIES

Treasurer, Allied Global Group Buddhist Employee Affinity Group

Vice President, Clearwater Yacht Club

Member, Canterbury Preparatory School Alumni Association

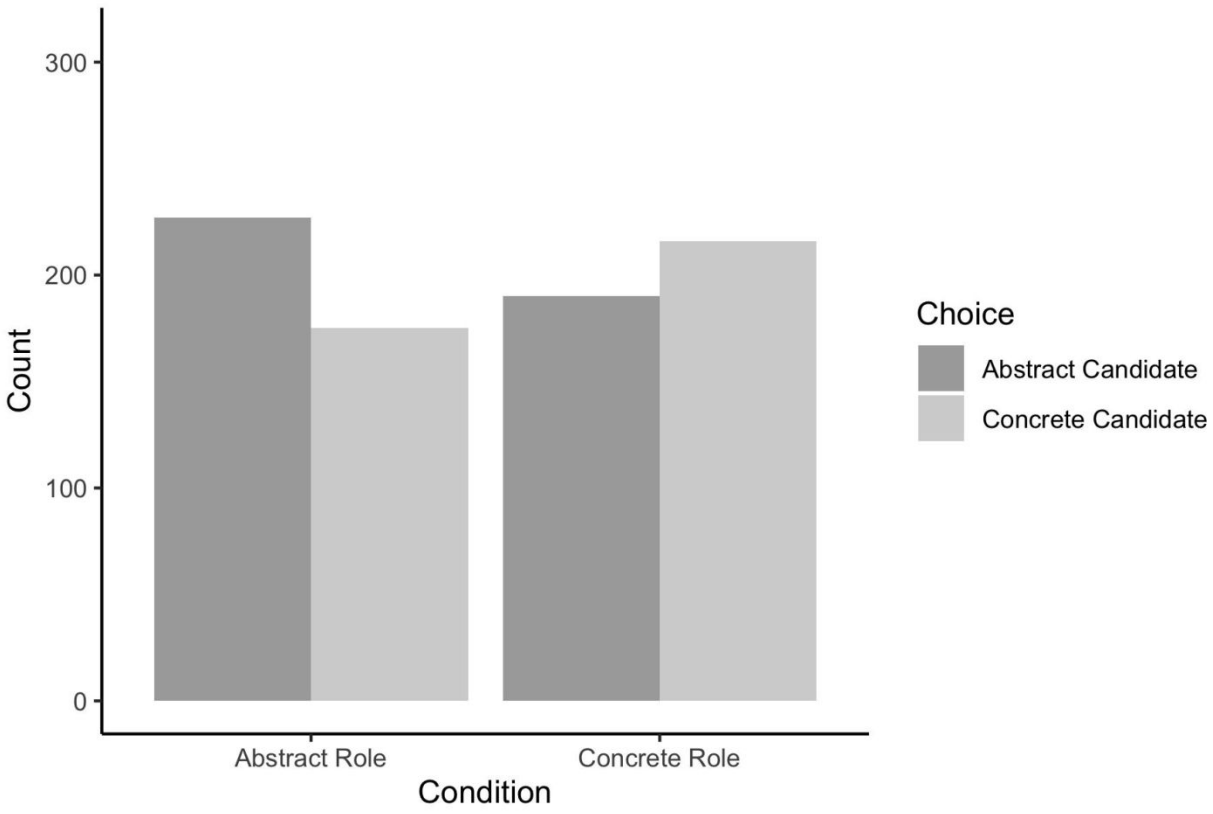
Results of a chi-square test showed that there was a significant association between condition and candidate choice, X^2 (1, N = 876) = 12.03, p < .001. However, although participants chose the high construal candidate 62% of the time in the abstract role condition, they did not show the expected choice in the concrete role condition, choosing the low construal candidate 50% of the time.



Examining participants' selections of what resume information they used to make their decision indicated that participants' decisions were largely anchored on candidates' employment history (i.e., whether the candidate was a former CEO versus former administrative assistant).

In Pilot Study D, we followed the same procedure and stimuli used in Study 5 (see below). In doing so, we enhanced ecological validity, having the role manipulation come in the form of an email request and replacing resumes with screenshots of employee profiles that were modeled after real HR software to remove any differences in formatting and job description language. Furthermore, we removed former occupation information and only presented cues of age, religion, and class as a more conservative test of whether participants use group memberships to shape role allocation decisions. We collected a sample of 826 participants. Results of a chi-square test showed that there was a significant association between condition and candidate choice, X^2 (1, N = 826) = 7.18, p = .007. Participants chose the high construal candidate 56% of the time in the abstract role condition and chose the low construal candidate

53% of the time in the concrete role condition.



Observing a consistent pattern of effects and having felt like we addressed some of the issues with our earlier pilots (e.g., weak ecological validity, inconsistencies between candidate profiles, prior occupation [CEO vs. administrative assistant] having a potentially outsized role on decisions), we ran Study 5 as a preregistered replication of Pilot Study D.

SM13 - Study 5 Role Manipulations & Employee Profiles

Abstract Role

Imagine that you work at a company called Allied Global.

One day, you receive the following email from an old friend, Alex, who works in a different branch than you.

> Hi,
>
> I hope you're well! Do you have a second to help me with a quick decision?
>
> I've been asked to pick between two people at my work to be on a committee. I've been told to **prioritize finding someone who can take a big picture view of things**, as opposed to a detailed view. Instead of thinking about the committee's short-term goals, this committee member will be **responsible for focusing on long-term goals and thinking primarily about the committee's overarching purpose** (i.e., why things should get done, and not how things will get done).
>
> The tricky part is I've been asked to decide between two employees who I don't know very well. I know you don't know them either, but I've attached screenshots of their profiles here. Could you share your quick reaction on who you think would be better for this role?
>
> Thanks!
> Alex

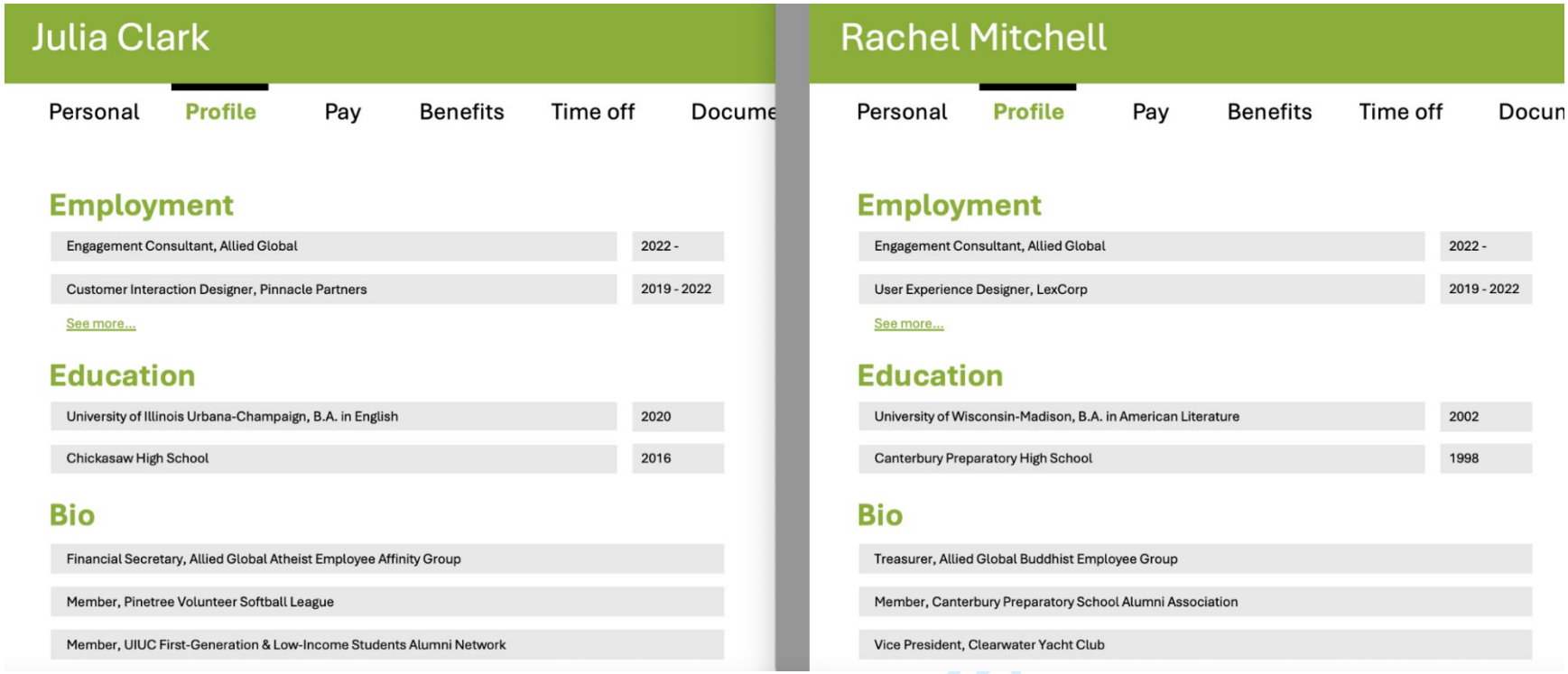
Concrete Role

Imagine that you work at a company called Allied Global.

One day, you receive the following email from an old friend, Alex, who works in a different branch than you.

> Hi,
>
> I hope you're well! Do you have a second to help me with a quick decision?
>
> I've been asked to pick between two people at my work to be on a committee. I've been told to **prioritize finding someone who can take a detailed view of things**, as opposed to a big picture view. Instead of thinking about the committee's long-term goals, this committee member will be **responsible for focusing on short-term goals and thinking primarily about the committee's task implementation** (i.e., how things will get done, and not why things should get done).
>
> The tricky part is I've been asked to decide between two employees who I don't know very well. I know you don't know them either, but I've attached screenshots of their profiles here. Could you share your quick reaction on who you think would be better for this role?
>
> Thanks!
> Alex

Employee Profiles



Given the information available to you, which employee would you recommend for the committee position?

Remember, you are being asked to select the candidate who is best at taking a **[big picture/detailed]** view of things.

- Julia Clark
- Rachel Mitchell

Note: Profiles were counterbalanced such that participants were randomly assigned to view a pair of profiles that varied in terms of which name was associated with which attributes, and which profile appeared on the left or right.