RESEARCH ARTICLE OPEN ACCESS

Consistent Facial Cues to Social Class Across Two Different Western Contexts

R. Thora Bjornsdottir[1,2,3] 🄳 | McLean Morgan[3] | Harpa Lind Hjördísar Jónsdóttir[4] | Ragna Benedikta Garðarsdóttir[4] | Nicholas O. Rule[3]

[1]Division of Psychology, University of Stirling, Stirling, United Kingdom of Great Britain and Northern Ireland | [2]Department of Psychology, Royal Holloway, University of London, Egham, United Kingdom of Great Britain and Northern Ireland | [3]Department of Psychology, University of Toronto, Toronto, Canada | [4]Faculty of Psychology, University of Iceland, Reykjavík, Iceland

Correspondence: R. Thora Bjornsdottir (thora.bjornsdottir@stir.ac.uk)

ABSTRACT

Individuals form impressions of others' social-class standing from nonverbal information, including facial appearance. Whether the facial cues relating to (perceptions of) social class generalize across different contexts and class measures (e.g., income and subjective status) remains unknown. We tested which facial cues relate to actual and perceived social class using multiple social-class measures in two contexts: Canada (using contemporary lab-based photos) and Iceland (using mid-20th-century yearbook photos). Results show that facial appearance reveals and predicts impressions of social class broadly (vs. only for specific measures). Greater facial Attractiveness (attractiveness/competence/health) and Positivity (affect/warmth) related to higher social-class standing in both contexts, suggesting that social class influences facial appearance similarly in different environments. Attractiveness also primarily explained social-class perceptions. Validity and utilization of other cues, however, differed between contexts, and we observed perception accuracy only for Canadian targets. These findings provide a more complete understanding of accuracy and bias in perceiving social class.

1 | Introduction

Social class exerts a substantial influence on people's lives, shaping aspects ranging from life outcomes to social interactions (Adler et al. 1994; Stephens et al. 2014). Moreover, individuals quickly form (somewhat accurate) impressions of others' social class from nonverbal information (e.g., Bjornsdottir et al. 2024; Kraus et al. 2019; Kraus and Keltner 2009), including facial appearance (Bjornsdottir and Rule 2017). In the face, attractiveness and affect inform accurate impressions of social-class standing (Bjornsdottir and Rule 2017) but also bias these impressions (Bjornsdottir and Beacon 2024; Bjornsdottir and Rule 2020).

Understanding the cues relating to both actual and perceived social class may provide crucial insight into both how social class affects appearance and how perceivers' biased judgements may be interrupted – each of which could inform efforts to reduce inequality.

Research tying facial appearance to actual and perceived social class (Bjornsdottir and Rule 2017) has been limited, however, by using only one measure of social class (income), focusing on only the extreme ends of the social-class spectrum (rich, poor), and considering only one cultural, geographic, and socioeconomic context (North America). The current work addressed these

critical gaps to better understand how facial appearance relates to both actual and perceived social-class standing, testing the generalizability of the facial cues involved in (both accurate and biased) social-class perception in two different contexts, notably varying in their degree of inequality: Canada and Iceland.

1.1 | Social Class Across Contexts

Social class as an aspect of identity stems from differences in objective resources and corresponds to subjective perceptions of relative rank (see Côté 2011). One can therefore operationalize social class in many ways: by education, income, occupational prestige, social-class group membership (e.g., working class, middle class) or subjective socioeconomic ranking. These facets all interrelate, with objective measures of one's class predicting one's self-identified social-class group membership, for example. Which objective measure predicts this most strongly varies across contexts and groups, however (Cohen et al. 2017; Jackman and Jackman 1973). Moreover, although some aspects that determine social-class standing vary across regions, nations and cultures – such as economic inequality; other aspects of class show more consistency across different contexts – such as occupational prestige (e.g., Hughes et al. 2024; Inkeles and Rossi 1956; Kye and Seol 2022; Treiman 1977).

Regardless of the exact operational definition of social class, it clearly asserts a profound influence on people's lives across contexts. The most obvious effects of social class relate to differences in resources, which result in differences in both environment (e.g., neighbourhoods and schools; Ridgeway and Fisk 2012; Stephens et al. 2014) and major life outcomes (e.g., poorer physical and mental health, increased mortality and lower overall well-being among individuals of lower social-class standing; Adler et al. 1994; Marmot 2003; Singh-Manoux et al. 2003). Indeed, although countries with stronger social-support systems and less inequality enjoy less pronounced class disparities, lower social-class standing remains a fundamental cause of ill health, such that people lower in social class experience poorer health and well-being across different nations and socioeconomic contexts (e.g., Halldórsson et al. 1999; Mazzuco and Suhrcke 2011; Olafsdottir 2007).

Different levels of social-class standing furthermore carry distinct stereotypes. Overall, people imagine higher-class individuals as intelligent and competent and lower-class individuals as unintelligent, lazy, and even less human (Durante et al. 2017; Loughnan et al. 2014; Varnum 2013) – though not in all contexts (e.g., post-communist nations; Grigoryan et al. 2020). Such stereotypic associations elicit particular responses (e.g., higher- vs. lower-class signals in speech and appearance evoke more favourable impressions; Kraus et al. 2019; Oh et al. 2020) and can influence education and employment opportunities (e.g., Rivera 2012; Rivera and Tilcsik 2016; Stephens et al. 2014), demonstrating how class stereotypes contribute to inequality (see Durante and Fiske 2017). Social class – and the *perception* of social class – thus influences both micro- and macro-scopic aspects of people's lives, including facial appearance (Bjornsdottir and Rule 2017) and impressions based on facial appearance (e.g., Bjornsdottir and Rule 2020).

1.2 | First Impressions from Faces

Faces serve as one particularly rich information source for social judgements: Perceivers rapidly and often automatically judge others from their faces (e.g., Rule et al. 2009; Zebrowitz 1997), forming impressions of diverse attributes (e.g., attractiveness, health, personality, social-group memberships; Henderson et al. 2016; Jaeger et al. 2024; Tskhay and Rule 2013) that influence their behaviour. For example, face-based first impressions can predict decisions as important as criminal sentencing (Blair et al. 2004; Wilson and Rule 2015), voting (Olivola and Todorov 2010; Rule et al. 2010), and hiring (Rule et al. 2016).

According to the ecological theory of social perception, perceivers should derive useful information about people from the environment, enabling them to adapt to potentially valuable social information (McArthur and Baron 1983); a degree of accuracy in social perception should therefore be expected. Indeed, perceivers demonstrate some accuracy for a variety of social judgements from nonverbal cues (e.g., personality judgements from cues in dyadic interactions; Huelsnitz et al. 2020), including facial appearance (e.g., of emotion, Bänziger 2016; of social-group membership; Tskhay and Rule 2013). Despite showing some accuracy, face-based impressions are also frequently biased (note that accuracy and bias are not mutually exclusive; e.g., Freeman et al. 2022; see also West and Kenny 2011). Indeed, various systematic biases in face perception stem from the overgeneralization of particularly adaptive judgements (related to health/fitness, emotion, familiarity and age; Zebrowitz 2017). For instance, childlike traits are readily ascribed to baby-faced individuals (Zebrowitz and Montepare 1992), which can affect social outcomes (Keating et al. 2003). Perceivers also demonstrate halo effects, attributing more favourable traits to attractive individuals (e.g., socially desirable personalities, Dion et al. 1972), and use stereotypes to inform judgements of social-group membership (e.g., Bin Meshar et al. 2021).

1.3 | Accurate and Biased Face-Based Impressions of Social Class

Research demonstrates that perceivers can detect others' social class (defined via income) from their facial appearance more accurately than chance guessing (Bjornsdottir and Rule 2017), aligning with findings demonstrating the legibility of social class or status from other nonverbal cues, such as bodily appearance, interpersonal engagement, accent and posture (Bjornsdottir et al. 2024; Kraus and Keltner 2009; Kraus et al. 2019; Schmid-Mast and Hall 2004). Social class thus appears to leave its mark on various aspects of individuals' nonverbal behaviour. Importantly, past research tested the visibility of social class from faces with two types of photographs: standardized neutrally posed photos of East Asian and White Canadian undergraduates taken in a lab, and ambient photos from White Americans' online dating profiles that varied in affective expression (e.g., some smiled, others were neutral; Bjornsdottir and Rule 2017). Perceivers appeared to employ social-class stereotypes and categorized more attractive and more positive-looking faces as *rich* more often than *poor* across both stimulus sets. Attractiveness and affect moreover contained a kernel of truth: Rich targets appeared significantly more attractive than poor targets in the online dating profiles, and

rich individuals had more positive resting facial affect than poor individuals among the neutral faces.

Such differences in facial affect align with well-documented class differences in well-being (e.g., Miech and Shanahan 2000; Stansfeld and Marmot 1992; Tan et al. 2020). These class-based well-being differences furthermore may become ingrained in the face, following research suggesting that dispositional affect may become reflected in the neutral face over time (Adams et al. 2016; Malatesta et al. 1987). Research also demonstrates that both physical and mental health can be detected through differences in neutral facial affect, with unhealthy individuals appearing more negative than healthy individuals (Daros et al. 2016; Sarolidou et al. 2019). One of the major consequences of social-class standing – well-being – may plausibly become reflected in facial appearance, thereby subtly revealing individuals' social-class standing.

Attractiveness also connects perceptions of social class to well-being and health. Attractiveness positively relates to health impressions (e.g., Jones et al. 2001; Rhodes et al. 2007) and to personal income (Judge et al. 2009; Shin et al. 2018; see also Harper 2000). Thus, attractiveness might constitute a second means through which one's overall wellbeing proffers cues to social-class judgements. Perceived attractiveness may furthermore reflect cultural aspects of social class (i.e., cultural capital; Bourdieu 1973). That is, because middle- and upper-class tastes define norms (Ridgway and Fisk 2012), this may affect perceptions of attractiveness based on self-presentation (e.g., grooming and makeup).

Importantly, although facial attractiveness and affect may enable somewhat accurate social-class impressions, social-class judgements from faces also contain bias. For example, although subtle differences in resting affect may provide valid cues to social class, posed facial expressions can mask social-class standing and shift class perceptions (including of the same individual) in line with valenced social-class stereotypes (Bjornsdottir and Rule 2017, 2020; Bjornsdottir and Beacon 2024). Similarly, whereas there may be actual class differences in healthy and attractive facial appearance, manipulating faces' apparent health and attractiveness via complexion affects social-class impressions (Bjornsdottir and Beacon 2024), corresponding to both specific social-class stereotypes and broader halo effects (Dion et al. 1972; Kalick 1988). Recent research also shows that specific facial features that drive subjective impressions of social class (e.g., mouth corner curvature, facial width, complexion lightness and warmth) also drive impressions of specific social-class stereotypes (e.g., competence and trustworthiness; Bjornsdottir, Hensel, et al. 2024), and other work highlights how stereotypes tying social class to gender and race/ethnicity bias face-based social-class judgements (Bjornsdottir and Beacon 2024; Freeman et al. 2011; Lei and Bodenhausen 2017). It is therefore crucial not just to explore facial cues that reflect *actual* social class and enable its detection from facial appearance, but also to understand the cues *biasing perception*.

1.4 | The Current Research

We focused the current research on the aspects of facial appearance that cue social class, taking a lens model approach (Brunswik 1956). That is, we examined which aspects of appear-

ance *validly* cue social class (relate to actual social-class standing) and which cues perceivers *utilize* in their judgements (relate to perceived social-class standing). Together, this approach aimed to develop a more thorough understanding of both accuracy and bias in social-class perception.

As noted above, previous research shows that perceivers readily judge others' social class from facial appearance, use appearance cues related to attractiveness and affect to inform their judgements, and thereby distinguish North American individuals of high and low income better than chance. That research, however, provided only the first steps in understanding how perceived and actual social-class standing relates to facial appearance. The current research addressed the prior work's various limitations and expanded its scope by testing the valid and utilized facial cues to social class (a) in two different Western contexts, (b) by operationalizing social class in a variety of ways and (c) by measuring social class across its full spectrum.

1.4.1 | Context

Because the correlates and consequences of social class (e.g., stereotypes, health; Grigoryan et al. 2020; Olafsdottir 2007) differ across regions and cultures, social class could distinctly affect or relate to facial appearance in different contexts. We therefore investigate social-class perceptions using targets and perceivers from two contexts: Canada and Iceland.

Canada and Iceland, although both Western cultures, importantly differ in both their degree of economic inequality and in how they define social class. As noted above, outcomes such as health show less class disparity in places with lower economic inequality (e.g., Olafsdottir 2007), suggesting that facial appearance may relate to class more strongly in a context with greater inequality (here, Canada) versus less (here, Iceland; The World Bank 2017). Additionally, the two nations define social class somewhat differently. For example, income strongly determines social class in North America (Cohen et al. 2017), whereas occupational prestige has historically determined social-class standing in Iceland (Björnsson et al. 1977; Broddason and Webb 1975; Thorlindsson 1988; though this may have changed with increasing economic inequality; Oddsson 2010, 2022). Given these differences, there may be variation in facial cues relating to actual and perceived social class. A further contextual difference in our specific stimulus sample is timepoint: We used modern-day Canadian photos and mid-20th-century Icelandic photos.

1.4.2 | Operationalizing Social Class

Though different class measures (which interrelate; e.g., Andersson 2022; Diemer et al. 2013; Geyer et al. 2006) may individually predict various outcomes to different degrees, they should tap the same latent construct of social class, thus better predicting the various correlates of social-class standing when examined together. Indeed, whereas one measure of social class may provide an idea of how facial appearance makes social-class detection possible, multiple measures assessing social class's underlying construct should better interrogate how class manifests in the face. Similarly, multiple measures of perceived social class should

provide a clearer picture of what facial cues predict social-class impressions. We therefore asked targets (perceivers) to report (evaluate) multiple social-class measures.

1.4.3 | The Social-Class Spectrum

Although previous work focused on categorical (i.e., rich and poor) judgements of individuals high and low on the social-class spectrum (Bjornsdottir and Rule 2017), most individuals belong somewhere in the middle of the class spectrum, rather than the ends (e.g., Savage et al. 2013). For instance, 70% of Americans self-identify as "middle class" (Northwestern Mutual 2017). Moreover, whereas perceivers can make graded (vs. binary) social-class judgements from facial appearance (Bjornsdottir and Rule 2020), it remains unknown whether the face *reflects* gradations in social-class standing. Given that outcomes such as well-being and health vary along the social-class gradient (e.g., Adler et al. 1994; Marmot et al. 1991), we anticipated that facial appearance would also reflect gradations in social-class standing, collecting detailed social-class information from targets and obtaining social-class judgements from perceivers along multipoint scales.

1.4.4 | Cues

Drawing on earlier work, we examined affect (i.e., emotional valence) and the related trait of warmth, which positively correlated with both actual and perceived social class (Bjornsdottir and Rule 2017, 2020). These cues also relate to social-class differences in happiness and well-being (e.g., Diener and Biswas-Diener 2002; Haushofer and Fehr 2014) and to stereotypes that higher social-class standing brings greater happiness (Aknin et al. 2009). Attractiveness and health have also served as valid and utilized cues (Bjornsdottir and Beacon 2024; Bjornsdottir and Rule 2017) and relate to social-class differences in health (e.g., Marmot et al. 1991) and to stereotypes of higher-class individuals as attractive (e.g., Kalick 1988).

We also tested competence, which stereotypically relates to higher social class (Durante et al. 2017), and both dominance and facial maturity, which relate to career success – at least in particular domains (i.e., business and the military; Mueller and Mazur 1996; Rule and Ambady 2011). Shared facial features furthermore drive social-class, competence, dominance and warmth perceptions (in a Western context; Bjornsdottir, Hensel, et al. 2024). Finally, we tested gender typicality (women's femininity, men's masculinity), which varies by social class among women (at least in terms of behaviour; McGinn and Oh 2017).

Overall, the current work allowed us to provide a comprehensive test of social-class judgements from facial appearance by testing targets from two different contexts, operationalizing social class using multiple measures, and using multipoint rather than dichotomous measures of social-class standing.

2 | Study 1

We began by examining the facial cues that relate to actual and perceived social class in Canada. We collected four measures

of class: social-class category (e.g., middle class), subjective social status (measured on a ladder with numbered rungs), family income and parental education; measuring each using a multipoint scale to reflect social class's graded (rather than dichotomous) nature. We tested the association between actual and perceived social class and examined how affect, attractiveness, competence, dominance, facial maturity, gender typicality (masculinity/femininity), health and warmth relate to both. We hypothesized that perceivers' ratings of targets' social class would positively relate to targets' self-reported social class (preregistered: https://osf.io/cjx3m/; data collected February 2020), furthermore anticipating that the four social-class measures would load onto one latent variable. We anticipated that a composite of attractiveness, health and competence and a composite of affect and warmth would mediate the relation between self-reported and perceived social class (preregistered: https://osf.io/xphfv/; data collected June 2020) based on pilot findings (see Study S1 in Supplementary Material). We ran these as separate studies but report them together for concision.

2.1 | Method

2.1.1 | Transparency and Openness

In this and all studies reported in the article and Supplementary Material, we report how we determined sample sizes, all data exclusions, all manipulations and all measures. We preregistered the study designs and analyses, and noted where analyses deviate from the preregistered plans. Materials (other than target images, which we do not have consent to share), data, analysis code and a read-me file are available on the Open Science Framework (OSF; https://osf.io/6xeap/). We analysed data using R version 4.3.0 (R Core Team 2023). All studies received ethical approval from the University of Toronto, and participants were treated in accordance with the Declaration of Helsinki.

2.1.2 | Stimuli

We obtained photos of 493 Canadian undergraduates (302 women, 191 men; $M_{age} = 19.25$ years, $SD = 1.92$; 223 East Asian, 110 White/Caucasian, 49 Southeast Asian, 32 mixed-race, 34 South Asian, 18 Middle Eastern, 12 Black/African, 10 Hispanic/Latinx, 1 First Nations, 4 unreported ethnicity/race)[1] posing neutral expressions. This sample size afforded over 99% power in target-level regressions and structural equation models (SEM; Wang and Rhemtulla 2021) and over 90% power in mediations (Schoemann et al. 2017), anticipating the average effect size in social psychology ($r = 0.21$; Richard et al. 2003). We collected these targets from a database of photos taken in the lab, excluding photos of individuals with headwear, facial piercings or large earrings, and facial hair that could mask subtle differences in emotional expressions. All images appeared in colour, standardized in height and cropped around the top of the head, bottom of the chin, and around the ears (Figure 1; note that we piloted this study using the stimuli displayed in grayscale, see Study S1, but ran the current study with colour photos for greater external validity).

All targets reported their subjective social class by placing themselves in one of the following five categories (based on
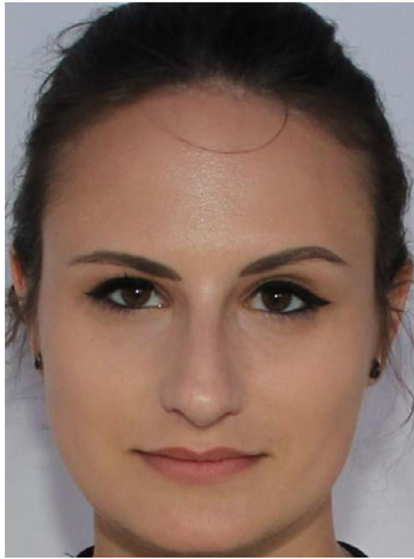
FIGURE 1 | Sample Canadian Neutral Stimulus from Study 1. *Note.* Photo depicts a volunteer whose image was not used in the studies. Reproduced with permission.

previous research; Stellar et al. 2012): *lower class, lower-middle class, middle class, upper-middle class* and *upper class*. A subset of 453 targets also reported their subjective social class using the MacArthur scale of subjective social status (Adler et al. 2000). This scale presents participants with a 10-rung ladder, explaining that people at the top of the ladder have the most money, most education and best jobs; whereas people at the bottom have the least money, least education and worst or no jobs. Participants placed themselves on the ladder to indicate where they believe they rank relative to others in their country. Finally, a subset of 473 targets also reported their annual family income on a 7-point scale (choosing from *under $20,000, $20,000–39,000, $40,000–59,999, $60,000–79,999, $80,000–99,999, $100,000–150,000,* or *over $150,000*) and 453 reported their parents' highest degree of education on a 6-point scale (choosing from *did not finish high school, high school, college degree, bachelor's degree, master's degree* or *doctoral degree*). A subset of 376 targets also reported the number of years lived in Canada, included as an exploratory control variable.

2.1.3 | Participants

We recruited 484 North American participants using Amazon Mechanical Turk (MTurk) to rate social class (randomly assigning them to provide ratings of one of the four measures of social class) and 1,084 participants to rate affect, attractiveness, competence, dominance, facial maturity, femininity, health, masculinity or warmth. Each participant rated a random subset of ¼ of the targets (see Procedure), resulting in an average of 30 participants rating each target on each social-class measure and cue. This sample size of participants has produced good interrater reliability (e.g., Bjornsdottir and Rule 2020; Tskhay and Rule 2015) and stable averages across a variety of first impressions in previous research (Hehman et al. 2018). All participants provided informed consent.

2.1.4 | Procedure

2.1.4.1 | Social-class judgements.
We randomly assigned participants to rate the targets' social-class category, subjective social class, family income or parental education. Each participant rated a random subset of 124 targets (¼ of the total target sample, to reduce rating fatigue) in random order at their own pace. For each measure of social class, we instructed participants to categorize or rate the faces according to their first impressions. We introduced participants judging targets' social-class category to the five subjective social class categories (*lower class, lower-middle class, middle class, upper-middle class* or *upper class*) before they categorized the targets in response to the question "What is this person's social class/socioeconomic status?" We introduced the participants rating targets' subjective social status to the MacArthur scale of subjective social status, and they then rated each target from 1 (*Least money, least education, least respected job or no job*) to 10 (*Most money, most education, most respected job*) in response to "What is this person's social class/socioeconomic status?" The participants judging income rated each target's family income from 1 (*lowest income*) to 7 (*highest income*) in response to "What is this person's family income?" Similarly, participants rating education responded to the question "How educated are this person's parents?" from 1 (*least educated*) to 6 (*most educated*).

Participants saw targets one at a time in random order, and each response scale had the same number of response options as targets used in their self-reports, albeit with more abstract labels (e.g., *lowest income* rather than *under $20,000*) to prevent perceivers from anchoring to a specific income or education level. After completing the ratings, participants answered an attention-check question (asking them to indicate what they rated: education, income, or social class/socioeconomic status), provided demographic information, and reported whether any stimuli failed to load and whether they provided any ratings without viewing the stimuli.

2.1.4.2 | Cue judgements.
We instructed participants that they would view a series of faces and rate them based on their first impressions. We randomly assigned participants to rate the targets on one of either affect, attractiveness, competence, dominance, facial maturity, femininity, health, masculinity or warmth. They rated a random subset of 124 targets in random order at their own pace. For participants rating affect, they responded to the question "How does this person feel right now?" from 1 (*negatively*) to 7 (*positively*). For those rating facial maturity, they rated targets from 1 (*babyish*) to 7 (*mature*) in response to "How mature is this person's face?" For all other ratings, participants rated targets from 1 (*not at all*) to 7 (*very*) in response to "How attractive [healthy, masculine, feminine, warm, competent, dominant] is this person?" After rating the faces, participants provided demographic information and reported any issues with stimuli loading.

2.1.5 | Data Exclusions

We first excluded the data of participants who failed the attention check ($n_{\text{social class}}$ = 64), reported having trouble viewing the stimuli or responding without waiting for stimuli to load (*n*

TABLE 1 | Rotated Factor Loadings for Actual and Perceived Social Class of Canadian Neutral Targets in Study 1.

Social Class Measure	Actual Social Class	Perceived Social Class
Family income	0.52	0.90
Parental education	0.36	0.79
Social-class category	0.91	0.93
Subjective social status	0.74	0.87
Proportion variance	44%	76%

TABLE 2 | Rotated Factor Loadings for Trait Judgements of Study 1 and 2 Targets.

Trait	Attractiveness	Positivity	Power
Affect	−0.07	**1.03**	−0.01
Attractiveness	**0.92**	−0.10	−0.03
Competence	**0.75**	−0.10	−0.004
Dominance	0.02	−0.17	**0.91**
Facial maturity	−0.14	0.15	**0.41**
Gender typicality	0.21	0.13	0.21
Health	**0.70**	0.21	0.09
Warmth	0.10	**0.76**	−0.20

Note. Bold values indicate traits included in that composite.

$_{\text{social class}}$ = 34, n_{cues} = 203) or responded identically to all targets ($n_{\text{social class}}$ = 6, n_{cues} = 6).[2] This resulted in 397 participants (204 female, 193 male; M_{age} = 40.74 years, SD = 12.96; 290 White/Caucasian, 53 Black/African, 17 Hispanic/Latinx, 15 East Asian, 7 Southeast Asian, 6 South Asian, 4 mixed-race, 2 Native American/First Nations, 1 Middle Eastern, 2 unreported ethnicity/race) judging social class and 876 participants (455 female, 420 male, 1 other; M_{age} = 40.15 years, SD = 13.12; 625 White/Caucasian, 106 Black/African, 49 Hispanic/Latinx, 36 East Asian, 19 Native American/First Nations, 14 South Asian, 8 Southeast Asian, 3 Pacific Islander, 2 Middle Eastern, 4 unreported ethnicity/race) rating cues. On average, 24.81 participants (SD = 4.78) rated each target on each social-class measure (ranging from 22.25 for education to 27.25 for subjective social status), and 24.33 participants (SD = 4.53) rated each target on each cue (ranging from 21.50 for competence to 26.50 for each of affect and warmth). Participants showed high interrater reliability across all judgements (ICCs range: 0.88–0.99; we calculated ICCs using the *psych* package in R and reported ICC2k, the value for average random raters; Revelle 2024), allowing us to average perceivers' ratings for each target.

2.2 | Results

2.2.1 | Social-Class Judgement Accuracy

2.2.1.1 | Factor analysis. We first tested whether the four measures of social class comprised one latent variable, separately for actual (self-reported) social class and perceived social class. We began by conducting a parallel analysis, which suggested a one-factor solution for both actual and perceived social class. An exploratory factor analysis with promax rotation demonstrated that social-class category, subjective social status and family income all loaded strongly, and parental education loaded moderately, onto this factor (Table 1).[3] As preregistered, we therefore treated targets' actual and perceived social class as latent variables and assessed the association between them using SEM (simultaneously functioning as a confirmatory factor analysis), using the *lavaan* package (Rosseel 2012).

2.2.1.2 | SEM. Actual social class predicted perceived social class, β = 0.13, Z = 2.46, p = 0.01, and the overall model fit the data well, SRMR = 0.03, RMSEA = 0.06, 90% CI [.04, 0.08], TLI = 0.98, AIC = 7272, BIC = 7341.[4] Adjusting for targets' years in Canada in an exploratory step strengthened the path between actual and perceived social class, β = 0.16, Z = 2.58, p = 0.01. (See

Supplementary Material for tests of moderation by gender and ethnicity in the accuracy and cue analyses of both studies.)

2.2.2 | Cue Validity and Utilization

2.2.2.1 | Factor analysis. We anticipated that some cue ratings would strongly interrelate, so we performed a factor analysis to determine whether to combine them. Prior to this, we averaged femininity and masculinity ratings, given their strong negative correlation (r = −0.98), to form a Gender Typicality composite score (for women's faces, we averaged femininity with reverse-coded masculinity whereas, for men's faces, we averaged masculinity and reverse-coded femininity). We then performed a parallel analysis to determine the number of factors, followed by an exploratory factor analysis using promax rotation to explore the factor structure. Importantly, we performed this analysis using ratings of both the targets here and in Study 2 (see below) to enable comparison of cue validity and utility across the two target sets. These analyses revealed three factors (Attractiveness, Positivity and Power, explaining 61% of the variance; Table 2) that align well with the youthfulness-attractiveness, approachability, and dominance factors identified as central to face perception in previous work (Sutherland et al. 2013; Vernon et al. 2014). We averaged traits with loadings of at least 0.40 into composites, using these composites along with Gender Typicality, which did not strongly load onto any of the factors, as the cues in the subsequent analyses.

2.2.2.2 | SEM. To assess the utility and validity of Attractiveness, Positivity, Power and Gender Typicality, we tested them as simultaneous mediators between targets' actual and perceived social class in an SEM. Note that we do not intend this as a *causal* model but, rather, employ mediation to demonstrate which cues help to explain accuracy, reporting each cue's validity and utilization in line with a lens model approach (Brunswik 1956). The model fit the data well, SRMR = 0.03, RMSEA = 0.05, 90% CI [.04, 0.07], TLI = 0.97, AIC = 9322, BIC = 9466, fully mediating the association between actual and perceived social class (Figure 2; see Table S1 in Supplementary Material for covariance matrix). The path through Attractiveness was significant, β = 0.09, Z = 2.07, p = 0.04 (i.e., this cue was both valid and utilized),
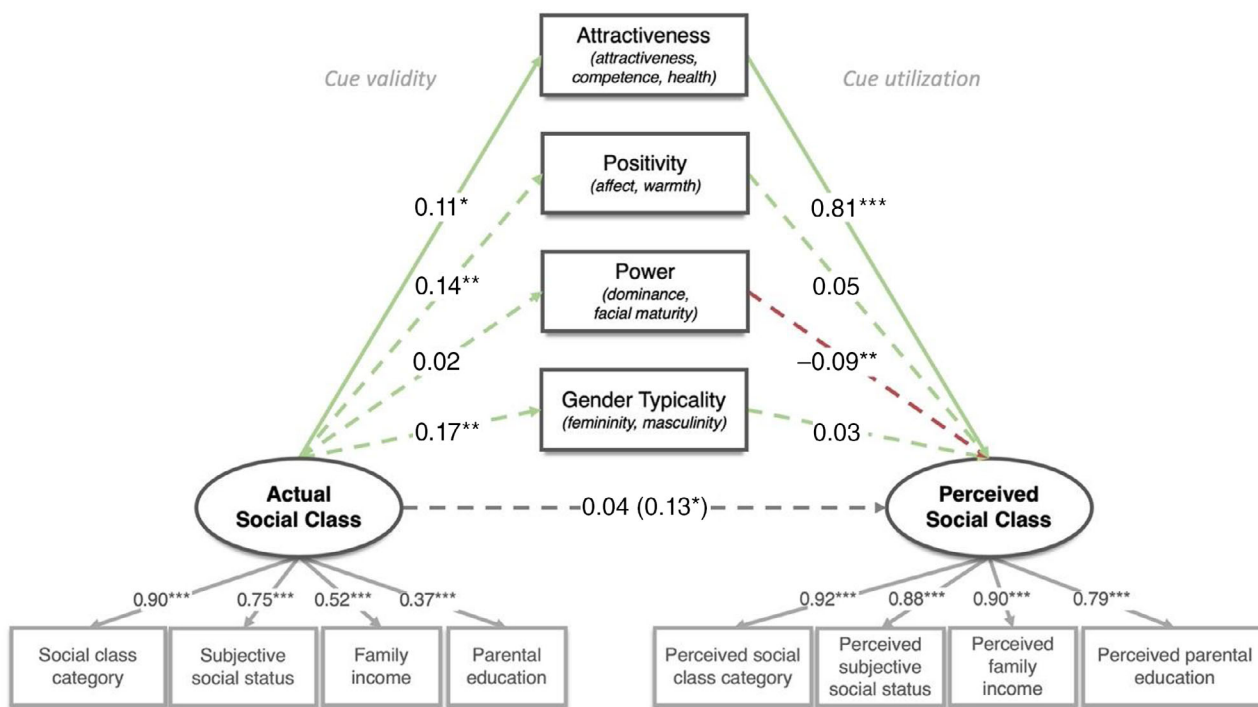
FIGURE 2 | SEM of the Association Between Canadian Neutral Targets' Self-Reported and Perceived Social Class With Attractiveness, Positivity, Power and Gender Typicality as Mediators in Study 1. *Note.* Solid lines denote significant mediation paths; dashed lines denote nonsignificant mediation paths and direct effect. Green lines indicate positive relations with cues; red lines indicate negative relations with cues. Values are standardized coefficients (βs). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

with greater Attractiveness positively related to higher actual and perceived social class.

No other paths reached significance, $|\beta|s \leq 0.006$, $|Z|s \leq 1.18$, ps ≥ 0.24, though both Positivity and Gender Typicality were valid cues, and Power was a utilized cue (with more powerful appearance predicting lower judgements of social class). However, exploratory tests of each mediator individually (vs. in one multiple-mediation model) revealed Positivity and Gender Typicality as significant mediators on their own. That is, each were both valid and utilized cues to social class (with more positive and gender-typical appearance related to higher actual and perceived social class), but their utility was suppressed when accounting for Attractiveness (see Table S2).

2.3 | Discussion

Here, we found a significant association between targets' self-reported and perceived social class, indicating that neutral faces convey individuals' social class across a variety of measures (to some degree – accuracy was, of course, not perfect). This pattern replicates and extends previous findings that used only a single social-class measure (Bjornsdottir and Rule 2017). The relation furthermore strengthened when adjusting for targets' years of residency in Canada, suggesting that a cultural match between targets and perceivers may facilitate accuracy.

Most central, these data show that facial appearance reflects social class broadly, not simply the one facet of social class examined in previous work (income). Not only did targets'

four self-reported measures of class load onto one factor, but perceptions of each facet strongly interrelated – indicating that perceivers detect underlying class regardless of which facet they evaluate (e.g., class category and income). These data fit past research showing that no single measure fully encompasses social class and that different facets of a person's class standing can independently contribute to the various class-based differences in life outcomes (e.g., health; Diemer et al. 2013; Geyer et al. 2006).

Moreover, the results demonstrate that the face reflects (and perceivers detect) social-class gradients rather than just extreme differences. Indeed, perceivers' judgements did not cluster at the scale ends but, rather, distributed along the range of each scale in normal distributions resembling the real-world base rates for social-class standing (see Figure S1 in Supplementary Material). This result parallels those describing the impact of class on health, in which class differences in health follow a gradient (e.g., Adler et al. 1994).

These findings also replicate what we observed in the pilot test using grayscale versions of the target images (see Study S1). This suggests that facial coloration may provide little additional information about targets' social-class standing beyond the cues available in the grayscale photographs (face shape, skin lightness and contrast, self-presentation). This pattern aligns with previous research finding that perceivers rely more strongly on shape than colour cues when judging others' health (Jones 2018), but stands in some contrast to recent findings showing that complexion manipulations affect social-class impressions (albeit in a two-alternative forced-choice design; Bjornsdottir and Beacon 2024).

Finally, we found that Attractiveness (a composite of attractiveness, competence, and health) primarily explains how targets' actual and perceived social class relate. Targets' Positivity (affect and warmth) and Gender Typicality also contributed to accurate perceptions of social class, though their utilization in perceptions fell below traditional levels of significance when accounting for Attractiveness. Targets self-reporting higher social class thus appeared more attractive, more positive, and more gender-typical; and more attractive, positive and gender-typical targets seemed higher in social class. These associations replicate and extend patterns found in previous research with faces from American online dating profiles (with attributes related to Attractiveness relating to actual and perceived social class, and Positivity to perceived social class) and from other Canadian neutral faces obtained in a lab (in which affect correlated with actual and perceived social class, and Attractiveness correlated with perceived social class; Bjornsdottir and Rule 2017), suggesting that these cues persist across samples, robustly and reliably indicating individuals' social class.

3 | Study 2

Here, we assessed social-class perceptions of targets from a context with a different degree of economic inequality and that defines social class differently: Iceland (e.g., Björnsson et al. 1977). We also employed stimuli that differed from those in Study 1: mid-20th-century photos from Icelandic school alumni yearbooks. These photos were necessarily less standardized than those taken in a lab in Study 1 (e.g., included natural variations in affect) but, crucially, the yearbooks reported information that revealed individuals' social class. We hypothesized that perceived social class would positively relate to targets' self-reported social class, in line with Study 1. We tested this in two groups of perceivers: North American (preregistered: https://osf.io/64rpw/; data collected August 2018) and Icelandic (preregistered: https://osf.io/yrghx/; data collected August 2022–December 2022). We also examined how the same cues tested in Study 1 related to both actual and perceived social class (preregistered: https://osf.io/nq76e/; data collected August 2018).[5] Similar to Study 1, we originally ran these as separate studies but report them together for concision.

3.1 | Method

3.1.1 | Stimuli

We collected the secondary-school graduation portraits of 330 White Icelandic men ($n = 196$) and women ($n = 134$) from volumes II–IV of *Æviskrár MA-Stúdenta*. The books were published between 1989 and 1991 and contain self-submitted facial photographs and biographical information about each student who graduated from the secondary-school Menntaskólinn á Akureyri in the years 1945–1968. We collected the photographs of all individuals who graduated between 1945 and 1964 (i.e., a 20-year timespan) who submitted their graduation portrait as their photo, excluding those wearing glasses and those with facial hair. We chose these criteria so that all targets would be of similar age ($M = 20.65$ years, $SD = 1.43$) and dress in their photos (i.e., wearing uniform graduation attire). The target sample size afforded over 97% power in target-level regressions and 94% power in target-

level SEMs (Wang and Rhemtulla 2021) and over 80% power for mediations (Schoemann et al. 2017), anticipating the average effect size in social psychology ($r = 0.21$; Richard et al. 2003).

All originally grayscale, we cropped the photos below the graduation cap, around the bottom of the chin, and around the ears, standardizing the images' width (Figure 3). Eye gaze and head angle varied, so we coded each to use as exploratory control variables (looking at the camera vs. not, head facing straight-on vs. not). Because the photos were self-submitted, they also varied in quality. We therefore obtained ratings of each photo's quality from a set of 100 undergraduate perceivers (75 female, 25 male; $M_{age} = 19.73$ years, $SD = 3.42$; 49 East Asian, 13 South Asian, 10 White/Caucasian, 6 Black/African, 5 Southeast Asian, 3 Hispanic/Latinx, 3 Middle Eastern, 7 mixed-race, 1 other, 3 unreported race/ethnicity) to account for photo quality in the analyses.[6]

Each target's biography listed their parents' occupations, which we used to quantify the target's social class in two ways. First, we coded occupational class by categorizing each occupation into one of the six occupational-class categories outlined by Björnsson et al. (1977) in their analysis of social inequality in Iceland (with these categorizations verified by two Icelandic coders). Second, we coded occupational prestige by recruiting two older Icelandic adults blind to the study's aims to rate each occupation from 1 (*least prestigious*) to 6 (*most prestigious*), with occupation names and the rating scale presented in Icelandic (see Figure S2 for distributions). Raters resolved disagreements by discussing their ratings to reach a consensus. We then used the higher category and prestige rating of the two parents' occupations to represent the target's social class (similar to Erikson and Goldthorpe 1992). Target biographies also included each target's birthplace, which we coded as urban (i.e., Reykjavík, the only city) or rural to include as an exploratory control variable.

3.1.2 | Participants

As in Study 1, we recruited a minimum of 30 participants to rate each target on each social-class measure or cue. Due to the large number of targets, perceivers rated a random subset of 110 targets (1/3 of the 330) in random order on one of the two social-class measures (class category and occupational prestige) or one of the nine cues (affect, attractiveness, competence, dominance, facial maturity, femininity, health, masculinity and warmth). We recruited two samples of at least 180 participants each to provide social-class judgements: (a) an initial sample of North American perceivers through MTurk and (b) a sample of Icelandic perceivers through the University of Iceland participant pool (recruited over the duration of one academic term). For the cue judgements, we recruited only North American participants (817 via MTurk) because recent research shows minimal regional variation in first impressions of these kinds of attributes (Hester et al. 2021). All participants provided informed consent.

3.1.3 | Procedure

3.1.3.1 | Social-class judgements. We instructed participants to rate either targets' social class/socioeconomic status
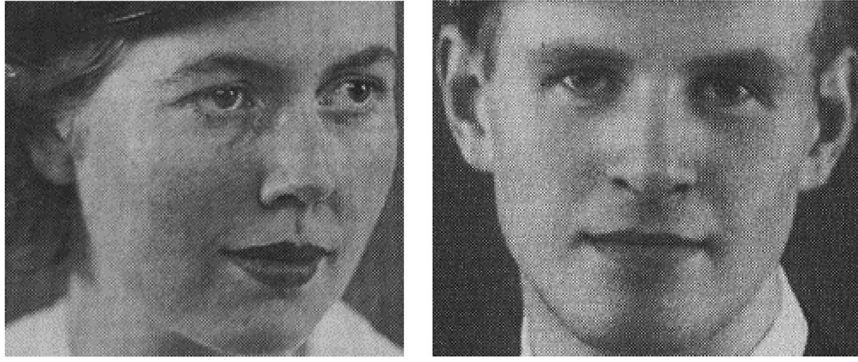
FIGURE 3 | Sample Icelandic Yearbook Stimuli from Study 2. *Note.* Example stimuli reproduced with permission.

(SES), which corresponds to parental occupational class, or their parental occupational prestige, based on their first impressions. Participants rating social class rated each target from 1 (*lower class*) to 6 (*upper class*), responding to the question 'What is this person's social class/socioeconomic status?' Participants rating parental occupational prestige responded to 'This person comes from a family whose occupations are…' from 1 (*least prestigious*) to 6 (*most prestigious*).

The scales had the same number of response options as those used to code the participants' self-reported information, albeit with more abstract labels, to avoid anchoring to a specific occupational-class description. Participants ended the study by providing demographic information, reporting whether any stimuli did not load, and indicating whether they provided any ratings before viewing the stimuli. Icelandic participants also gave open-ended responses to a question asking them how they defined social class, which we do not analyse here. All materials appeared in English for the first sample and Icelandic for the second sample (see Materials file on OSF for translations).

3.1.3.2 | Cue judgements. We randomly assigned participants to rate the targets on one of the nine traits, instructing them to base their ratings on their first impressions. Participants rated each face from 1 (*not at all*) to 7 (*very*) at their own pace in response to the question 'How attractive [healthy, masculine, feminine, warm, competent, dominant] is this person?'; from 1 (*babyish*) to 7 (*mature*) in response to 'How mature is this person's face?'; or from 1 (*negatively*) to 7 (*positively*) in response to 'How is this person feeling right now?' After rating the faces, participants provided demographic information and reported any problems with stimuli loading.

3.2 | Results

3.2.1 | Data Exclusions

3.2.1.1 | Social-class judgements. Although 180 North American participants provided complete data, we excluded 15 who reported trouble viewing the stimuli or providing answers before stimuli loaded, and seven with Global Positioning System (GPS) coordinates matching those of known data farms (Bai 2018), leaving a sample of 158 participants (79 female, 79 male; M_{age} = 36.09 years, SD = 12.11; 113 White/Caucasian, 16

Black/African, 13 Hispanic/Latinx, 6 East Asian, 3 Southeast Asian, 2 Native American/First Nations, 2 South Asian, 1 mixed-race, 1 Pacific Islander, 1 other or unreported ethnicity/race). On average, 26.33 participants (SD = 4.35) rated each target on each social-class measure (25.33 for social class, 27.33 for prestige). Participants showed good interrater reliability (ICC range: 0.84–0.88), allowing us to average the participant ratings and perform target-level analyses.

Of the 225 Icelandic-speaking participants who completed the study, we excluded two who reported issues with the images loading and four who responded identically to all targets (remaining n = 219; 154 women, 58 men, 7 other or unspecified gender; M_{age} = 27.41 years, SD = 10.22). An average of 36.49 participants (SD = 4.99) rated each target on each social-class measure (35.00 for social class, 37.99 for prestige). Participants showed high interrater reliability for both social-class background and occupational-prestige judgements (ICCs = 0.94).

3.2.1.2 | Cue judgements. We excluded 54 participants who reported trouble viewing the images, four who responded identically to all stimuli, and 22 whose GPS coordinates matched those of data farms (Bai 2018), leaving 745 participants (402 female, 342 male, 1 other; M_{age} = 37.60 years, SD = 12.10; 506 White/Caucasian, 75 Black/African, 39 East Asian, 39 Hispanic/Latinx, 32 Native American/First Nations, 18 mixed-race, 14 South Asian, 9 Southeast Asian, 4 Middle Eastern, 9 other or unreported ethnicity/race), with an average of 27.59 participants (SD = 4.46) rating each target on each cue (ranging from 26.49 for facial maturity to 30.18 for attractiveness). Participants showed high interrater reliability for the ratings (ICCs range: 0.87–0.99); we therefore averaged the participants' ratings for each cue.

3.2.2 | Social-Class Judgement Accuracy

3.2.2.1 | North American perceivers. Because Study 2 included only two measures of targets' social class (parental occupational class, parental occupational prestige), we correlated rather than factor analysed them; they strongly correlated for both actual, $r_s(328)$ = 0.79, $p < 0.001$, and perceived class, $r(328)$ = 0.69, $p < 0.001$. We therefore averaged them and regressed the composite Perceived Social Class variable onto the composite Actual Social Class variable to assess how much targets' background social class was visible in their faces, revealing a nonsignificant
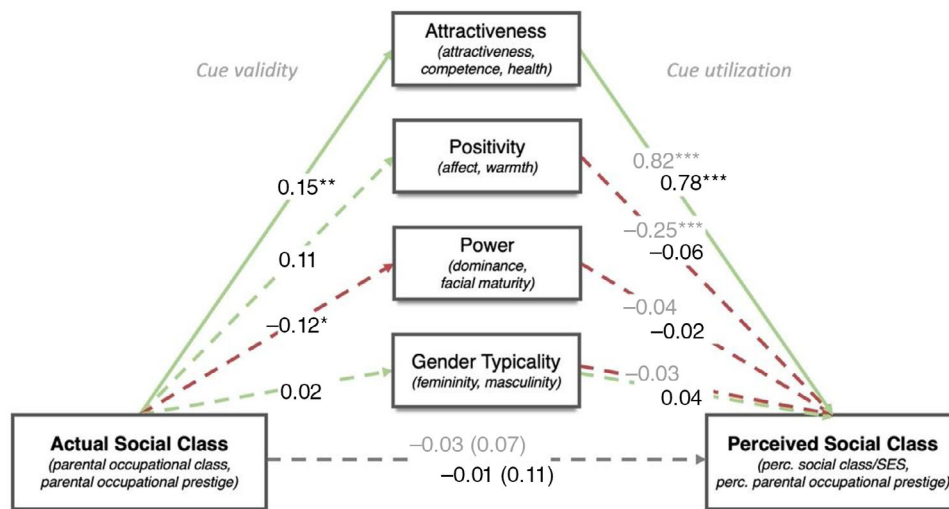
FIGURE 4 | Path Model of the Association Between Icelandic Yearbook Targets' Self-Reported and Perceived Social-Class Background With Attractiveness, Positivity, Power and Gender Typicality as Mediators in Study 2. *Note.* On the right and bottom, values for North American perceivers appear in lighter grey; values for Icelandic perceivers appear in darker grey. Solid lines denote significant mediation paths; dashed lines denote nonsignificant mediation paths and direct effect. Green lines indicate positive relations with cues; red lines indicate negative relations with cues. Values are standardized coefficients (βs). perc. = perceived. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

positive association, $\beta = 0.07$, $Z = 1.28$, $p = 0.20$,[7] that remained unchanged when adjusting for urban/rural birthplace, eye gaze, head tilt and photo quality, $\beta = 0.07$, $Z = 1.29$, $p = 0.20$.

3.2.2.2 | Icelandic perceivers. Targets' social class/SES and occupational-prestige ratings strongly correlated, $r(328) = 0.82$, $p < 0.001$, so we averaged them to create a composite Perceived Social Class score for each target, as above, which we regressed onto Actual Social Class (the average of targets' actual parental occupational class and parental occupational prestige), revealing a nonsignificant positive relation, $\beta = 0.11$, $Z = 1.94$, $p = 0.052$. Adjusting for urban/rural birthplace, eye gaze, head tilt, and photo quality minimally changed this result, $\beta = 0.10$, $Z = 1.91$, $p = 0.056$. (See Supplementary Material for an accuracy comparison between the two samples.)

3.2.3 | Cue Validity and Utilization

Recall that we included these targets' trait ratings in the factor analysis described in Study 1; thus, we used the same composite cues as with the Canadian neutral targets: Attractiveness, Positivity, Power and Gender Typicality. We again tested them as mediators of the association between Actual Social Class and Perceived Social Class here using path analysis (because we used averaged composite variables rather than latent variables for social class). As in Study 1, we do not intend the mediation model as a causal model but rather view it as a kind of lens model.

3.2.3.1 | North American perceivers. The model fit the data adequately, SRMR = 0.03, RMSEA = 0.10, 90% CI [0.02, 0.21], TLI = 0.90, AIC = 1935, BIC = 2007 (Figure 4; see Table S1 for covariance matrix). The path through Attractiveness was significant, $\beta = 0.12$, $Z = 2.69$, $p = 0.007$, with Attractiveness positively relating to both Actual Social Class and Perceived Social Class (i.e., a valid and utilized cue). The other paths did not

reach significance, |β|s ≤ 0.03, |Z|s ≤ 1.82, ps ≥ 0.07, though Power (negatively) was a valid cue, and Positivity was utilized (negatively). However, exploring models with individual mediators revealed that this utilization of Positivity was a suppression artefact of accounting for Attractiveness (Positivity was not a utilized cue). On its own, Positivity emerged as a positive valid cue (echoing Study 1), and Gender Typicality served as a positive utilized cue on its own (see Table S3). Altogether, despite no significant total or direct effect, we found a significant indirect effect between Actual Social Class and Perceived Social Class via Attractiveness. Including target birthplace (urban/rural), eye gaze, head tilt and photo quality in the model did not change the pattern or significance of any associations.

3.2.3.2 | Icelandic perceivers. The mediation model fit the data adequately, SRMR = 0.03, RMSEA = 0.10, 90% CI [0.02, 0.21], TLI = 0.91, AIC = 2046, BIC = 2118 (Figure 4). The path through Attractiveness was significant, $\beta = 0.12$, $Z = 2.69$, $p = 0.007$, with Attractiveness positively relating to both Actual Social Class and Perceived Social Class (i.e., a valid and utilized cue). No other mediation paths reached significance, |β|s ≤ 0.007, |Z|s ≤ 1.12, ps ≥ 0.26 (Power was valid but not utilized, and neither Positivity nor Gender Typicality were valid or utilized). Including target birthplace (urban/rural), eye gaze, head tilt and photo quality did not change this pattern. Testing models with individual mediators in an exploratory step revealed Positivity as both significantly valid and utilized, and Gender Typicality as utilized (all positive associations; see Table S3).

3.3 | Discussion

Here, we found a nonsignificant positive association between targets' actual and perceived social class, indicating that perceivers did not accurately detect the Icelandic yearbook targets' social-class background. This contrasts with the results of Study 1, in

which the Canadian neutral targets' actual and perceived social class significantly related. This nonsignificant finding may be partially attributable to the lower power in this study, compared to Study 1, which had a larger target sample. More importantly, as in Study 1, higher-class targets appeared more attractive and (when tested on their own) more positive, implicating these cues as consistent across contexts, photo types and specific definitions of social class. Attractiveness furthermore mediated the association between Actual Social Class and Perceived Social Class in this Icelandic target sample, as it did with the Canadian targets in Study 1.

Examining exploratory models with single mediators also revealed that, when not accounting for Attractiveness, Gender Typicality served as a utilized cue (with more gender-typical targets perceived as higher in class) and Positivity was not only significantly valid but also correctly utilized by the Icelandic perceivers. North American perceivers may have failed to use Positivity here (in contrast to Study 1) because the old-fashioned or foreign appearance of the photos led them to use a different strategy to judge social class. That is, the North American perceivers may have employed stereotypes about what signalled higher social class in previous generations (e.g., dignity and stoicism), rather than using the stereotypical association between higher social-class standing and greater happiness. Alternatively, assumptions about health or attractiveness relating more strongly to social class in the past may have led them to rely almost solely on Attractiveness in their judgements. These speculations aside, North American perceivers' apparent strategy difference for the Icelandic photos remains an empirical question (see Study S4).

4 | General Discussion

This investigation examined the aspects of facial appearance that cued social class, exploring both what served as valid cues (related to actual social class) and what served as utilized cues (related to perceived social class) to more thoroughly understand accuracy and bias in social-class perception. The primary aims of the current work were to expand existing research on social-class judgements to (a) more than one context, (b) multiple measures of social class and (c) beyond the extreme ends of the social-class spectrum.

Across two different contexts and using two kinds of facial stimuli, we found that people's perceptions of various facets of social class strongly interrelate, tapping one latent construct. This suggests that laypeople (unlike social scientists) do not distinguish facets of social class when forming impressions of others. This applied to targets originating from contexts that define and measure social class differently (Canada and Iceland), using standardized and ambient stimuli, and echoes what research on judgements of whole persons has found (Bjornsdottir et al. 2024), highlighting the potential generalizability of these findings. Future research in a greater number of contexts (e.g., post-communist nations, non-Western cultures, and a broader range of ethnicities) might operationalize social class in yet other ways.

Most central, we observed consistency in the facial cues reflecting the Canadian and Icelandic targets' social-class standing. Attractiveness (attractiveness, competence and health) and Positivity

(affect and warmth) reflected targets' social-class standing across these two different contexts (and their respective photo types) such that targets from higher-class backgrounds appeared more attractive/healthy/competent and positive/warm. This pattern aligns with previous studies using two separate North American stimulus sets (neutral lab-based Canadian, ambient American; Bjornsdottir and Rule 2017), suggesting the robustness of these cues, at least among Western cultures. The cues' validity furthermore aligns with well-documented class differences in health and wellbeing (e.g., Diener and Biswas-Diener 2002; Singh-Manoux et al. 2003), and with research demonstrating that facial appearance reflects health and affective habits (e.g., Adams et al. 2016; Henderson et al. 2016). Indeed, much as social class influences health and well-being (e.g., Halldórsson et al. 1999; Olafsdottir 2007), it also seems to influence facial appearance. These facial cues moreover related to social class similarly in Iceland and Canada, suggesting that – despite their differing degrees of inequality and the differences in stimulus time period – social class nonetheless manifests similarly in facial appearance. It is worth noting that Positivity did not relate to actual social class as strongly among the ambient Icelandic photos, which varied in their emotion expression (Positivity was a valid cue but fell below significance when accounting for Attractiveness), compared to the standardized neutral Canadian photos. This may be because variations in posed emotion expressions (e.g., some individuals smiling, and others neutral) may not reveal social class as clearly as the differences in resting affect in neutral faces (indeed, emotion expressions can mask differences in resting affect and obscure this social-class cue; e.g., Bjornsdottir and Rule 2017).

Perceivers' use of facial cues showed some consistency across both perceiver and stimulus samples. Consistent with previous work (Bjornsdottir and Rule 2017), perceivers primarily utilized Attractiveness to inform their impressions, judging more attractive, healthy and competent-looking faces as higher in social class. This primary reliance on Attractiveness when inferring social class lends further support to recent evidence demonstrating the strength of stereotypes in biasing social-class judgements from faces (Bjornsdottir and Beacon 2024; Bjornsdottir, Hensel, et al. 2024). Although we found actual social-class differences in Attractiveness in both stimulus sets, as noted above, perceivers substantially over-relied on Attractiveness to inform their judgements. This indicates that the strength of stereotypes associating attractiveness, health and competence with higher social class goes well beyond a kernel of truth (i.e., actual class differences in health).

We also found that perceivers utilized Positivity in their judgements of social class, at least when judging faces from their own context (i.e., North Americans judging the Icelandic faces did not utilize Positivity). This perception of more positive and warm-looking faces as higher in social class aligns with previous findings (Bjornsdottir and Beacon 2024; Bjornsdottir and Rule 2017, 2020), underscoring the robustness of associations between high social class and greater well-being or positive emotion (at least in Western contexts). However, we found that the utilization of Positivity dropped below statistical significance when accounting for Attractiveness, indicating that Positivity may not uniquely inform social-class judgements. Finally, perceivers also consistently utilized Gender Typicality in their judgements (though target gender moderated this pattern such that more

feminine targets seemed higher in social class; see Supplementary Material).

There were, however, some variations in both cue utilization and validity across the stimulus samples. For the Canadian targets, Gender Typicality served as a valid cue, with targets of higher social class appearing more gender-typical; this was not the case among the Icelandic targets. Power served as a valid cue for Icelandic targets (with targets of lower social class appearing more dominant and mature) but not Canadian targets. In contrast, perceivers utilized Power when judging Canadian targets (more dominant and mature faces perceived as lower in social class) but not Icelandic targets. The reasons for these variations are difficult to pinpoint, given the multiple differences between the stimuli and their contexts (e.g., socioeconomic and historical context, geographic region, photo standardization and emotion expression, time period), and would require better-matched stimuli across contexts to resolve.

Finally, we also observed variation in the accuracy of social-class judgements. Perceptions of the Canadian targets' social class significantly related to their actual social class (i.e., there was some accuracy in impressions of these targets' social class). Given our inclusion of targets from across the social-class spectrum and use of multiple measures of class, this importantly shows that nuances in social-class standing can be detected with some accuracy and that perceivers detect individuals' overall social class (vs. specific measures or facets of class). This valuably builds on findings showing that perceivers can discern individuals of high and low income from their faces (Bjornsdottir and Rule 2017).

Perceptions of the Icelandic targets' social class did not show significant accuracy, however. Various possibilities might explain the overall lack of significant accuracy. For instance, the Icelandic target sample was smaller than the Canadian target sample, perhaps leaving these tests underpowered. It is also worth considering that the Icelandic target photographs originated from the 1940s–1960s, which may have introduced noise into perceivers' judgements. The differences between the Icelandic and Canadian stimuli, beyond context (e.g., sample size, time period and photo standardization), leave this an open question to be empirically tested with more similar stimulus samples across these contexts.

4.1 | Limitations and Future Directions

Although these results speak to the robustness of the facial cues corresponding to actual and perceived social class, and overcome many of the limitations of past work, several limitations nonetheless remain. First, although we compared perceptions of targets from two different contexts – thereby importantly expanding upon the North American focus of previous research – both contexts were Western. This leaves open the question of how social class manifests and is perceived in non-Western cultures. Considering the different effects that social class appears to have in East Asian compared to Western cultures (e.g., on health, emotion expression and other-orientation; Miyamoto 2017; Miyamoto et al. 2018; Park et al. 2013, 2023), this gap will be highly valuable for future research to address. Indeed, because social class-stereotypes culturally vary (Grigoryan et al. 2020), both the valid and utilized cues to social class may differ.

Furthermore, matching the culture of targets and perceivers will ensure an understanding of the consequences of social-class perception in everyday life.

As noted above, the two target samples in this research differed not only in their geographic and socioeconomic context, but also in their time period, expression (neutral vs. emotionally varying), and photo standardization (standardized vs. ambient). Although the consistent results we found across the two samples emphasize the robustness of the findings, the multiple differences between the samples may have obscured other patterns (i.e., by adding noise). Future work could therefore make more direct comparisons between contexts by collecting more similar stimuli (e.g., from the same time period, the same level of photo standardization) and by ensuring more balanced samples across contexts.

Future research should also explore whether cues to social class from other nonverbal channels are consistent across contexts. For example, the valid and utilized cues to social class from speech (e.g., Kraus et al. 2019; Niu et al. 2024), body appearance (Bjornsdottir et al. 2024) and interpersonal interactions (Kraus and Keltner 2009) remain ripe for investigation in a greater number of socioeconomic and cultural contexts.

5 | Conclusion

Overall, this work helps to provide further insight into the cues explaining both accuracy and bias in impressions of social class from the face. Our results provide evidence that facial appearance reflects the underlying construct of social class (rather than just individual facets) via perceived Attractiveness (attractiveness, health and competence) and Positivity (affect and warmth) among standardized neutral photos of current-day Canadian undergraduate students and among emotionally varying ambient photos of Icelandic young adults from the 1940s–1960s. Thus, parallel to epidemiological findings demonstrating that health and well-being correlate with social class in similar ways across different nations (e.g., Haushofer and Fehr 2014; Mazzuco and Suhrcke 2011; Olafsdottir 2007), social class also seems to influence appearance in similar ways across different (Western) contexts. We furthermore consistently found that perceivers primarily (over-)rely on Attractiveness to inform their judgements of social class, echoing the attractiveness halo effect (e.g., Dion et al. 1972). Yet this overreliance on stereotypes relating attractiveness, health and competence to social class – despite contributing to the accuracy of inferring social class from faces, at least when judging Canadian targets – simultaneously substantially biases social-class impressions. Overall, this research helps to provide a more thorough understanding of how social class manifests in, and is perceived from, faces; thereby informing efforts to understand how first impressions of social-class standing may influence daily interactions and long-term outcomes.

review and editing. **McLean Morgan**: investigation, data curation, writing–review and editing. **Harpa Lind Hjördísar Jónsdóttir**: investigation, methodology, writing – review and editing; **Ragna Benedikta Garðarsdóttir**: investigation, methodology, writing – review and editing. **Nicholas O. Rule**: funding acquisition, methodology, supervision, writing – review and editing.

Ethics Statement

Conflicts of Interest

Data Availability Statement

Endnotes

[1] The preregistrations and data include 496 photos, but we removed data for three photos before analysis: two duplicates of other photos in the dataset (we removed data for the second photo of each target), and one with demographic information that did not match their apparent group memberships. Including data for these photos does not change the results.

[2] Although we list the number of participants excluded for each criterion in these studies, some were excluded for more than one reason.

[3] Although the factor loading for parental education falls below traditional thresholds for inclusion in a factor (i.e., 0.40), excluding parental education from the social-class composite does not change the pattern or significance of results reported below; we therefore include it to provide as thorough a test of the hypotheses as possible.

[4] Though taken under standardized lighting conditions, the photographs varied for a subset of the targets (slightly yellow in hue, darker; $n = 110$); excluding these targets does not change the results, so we report results for all targets.

[5] The yearbooks also included information about targets' *future* social class (education and occupation) because the books were retrospective accounts using photos from the original graduation period. We therefore also explored the visibility of future social class and the cues relating to future social class (see Study S3 in the Supplementary Material).

[6] Instructions to participants were: 'We would like you to rate each picture on its photo quality, ranging from 1 (*very poor quality*) to 7 (*excellent quality*). Note that a blurry or pixelated image would be of poor quality, while a clear image would be of good quality'.

[7] We preregistered a plan to assess accuracy individually for each social-class measure (social class: $r_s = 0.02$, $p = 0.72$; prestige: $r_s = 0.07$, $p = 0.19$). We use the composite variable in the main text to align with the analytic approach of Study 1, however, and preregistered this plan for the Icelandic perceiver sample.

References

Adams, R. B., C. O. Garrido, D. N. Albohn, U. Hess, and R. E. Kleck. 2016. "What Facial Appearance Reveals over Time: When Perceived Expressions in Neutral Faces Reveal Stable Emotion Dispositions." Frontiers in Psychology 7. https://doi.org/10.3389/fpsyg.2016.00986.

Adler, N. E., T. Boyce, M. A. Chesney, et al. 1994. "Socioeconomic Status and Health: The Challenge of the Gradient." *American Psychologist* 49, no. 1: 15–24. https://doi.org/10.1037/0003-066X.49.1.15.

Adler, N. E., E. S. Epel, G. Castellazzo, and J. R. Ickovics. 2000. "Relationship of Subjective and Objective Social Status With Psychological and Physiological Functioning: Preliminary Data in Healthy, White Women." *Health Psychology* 19, no. 6: 586–592. https://doi.org/10.1037/0278-6133.19.6.586.

Aknin, L. B., M. I. Norton, and E. W. Dunn. 2009. "From Wealth to Well-Being? Money Matters, but Less Than People Think." *The Journal of Positive Psychology* 4, no. 6: 523–527. https://doi.org/10.1080/17439760903271421.

Andersson, M. A. 2022. "Seeing Class in Ladders: An Integrated Approach to Subjective Status and Health Inequality." *Sociological Perspectives* 65, no. 3: 608–629. https://doi.org/10.1177/07311214211040538.

Bai, H. 2018. Evidence That a Large Amount of Low Quality Responses on MTurk Can Be Detected with Repeated GPS Coordinates [Blog post]. Retrieved from: https://www.maxhuibai.com/blog/evidence-that-responses-from-repeating-gps-are-random.

Bänziger, T. 2016. "Accuracy of Judging Emotions." In *The Social Psychology of Perceiving Others Accurately*, edited by J. A. Hall, M. Schmid-Mast, and T. V. West, 23–51. Cambridge University Press.

Bin Meshar, M., R. M. Stolier, and J. B. Freeman. 2021. "Facial Stereotyping Drives Judgments of Perceptually Ambiguous Social Groups." *Social Psychological and Personality Science* 13(8): 1221–1229. https://doi.org/10.1177/19485506211062285.

Bjornsdottir, R. T., and E. Beacon. 2024. "Stereotypes Bias Social Class Perception From Faces: The Roles of Race, Gender, Affect, and Attractiveness." *Quarterly Journal of Experimental Psychology* 77(11): 2339–2353. https://doi.org/10.1177/17470218241230469.

Bjornsdottir, R. T., P. R. Connor, and N. O. Rule. 2024. "Social Judgments From Faces and Bodies." Journal of Personality and Social Psychology. http://doi.org/10.1037/pspa0000397.

Bjornsdottir, R. T., L. B. Hensel, J. Zhan, O. G. B. Garrod, P. G. Schyns, and R. E. Jack. 2024. "Social Class Perception Is Driven by Stereotype-Related Facial Features." *Journal of Experimental Psychology: General* 153, no. 3: 742–753. https://doi.org/10.1037/xge0001519.

Bjornsdottir, R. T., and N. Rule. 2017. "The Visibility of Social Class from Facial Cues." *Journal of Personality and Social Psychology* 113: 530–546. https://doi.org/10.1037/pspa0000091.

Bjornsdottir, R. T., and N. O. Rule. 2020. "Negative Emotion and Perceived Social Class." *Emotion (Washington, D.C.)* 20, no. 6: 1031–1041. https://doi.org/10.1037/emo0000613.

Björnsson, S., W. Edelstein, and K. Kreppner. 1977. *Explorations in Social Inequality: Stratification Dynamics in Social and Individual Development in Iceland*. Max-Planck-Inst. für Bildungsforschung.

Blair, I. V., C. M. Judd, and K. M. Chapleau. 2004. "The Influence of Afrocentric Facial Features in Criminal Sentencing." *Psychological Science* 15, no. 10: 674–679. https://doi.org/10.1111/j.0956-7976.2004.00739.x.

Bourdieu, P. 1973. "Cultural Reproduction and Social Reproduction." In *Knowledge, Education, and Cultural Change*. Routledge.

Broddason, T., and K. Webb. 1975. "On the Myth of Social Equality in Iceland." *Acta Sociologica* 18, no. 1: 49–61. https://doi.org/10.1177/000169937501800105.

Brunswik, E. 1956. *Perception and the Representative Design of Psychological Experiments*. University of California Press.

Cohen, D., F. Shin, X. Liu, P. Ondish, and M. W. Kraus. 2017. "Defining Social Class Across Time and Between Groups." *Personality and Social Psychology Bulletin* 43, no. 11: 1530–1545. https://doi.org/10.1177/0146167217721174.

Côté, S. 2011. "How Social Class Shapes Thoughts and Actions in Organizations." *Research in Organizational Behavior* 31: 43–71. https://doi.org/10.1016/j.riob.2011.09.004.

Daros, A. R., A. C. Ruocco, and N. O. Rule. 2016. "Identifying Mental Disorder From the Faces of Women With Borderline Personality Disorder."

Journal of Nonverbal Behavior 40, no. 4: 255–281. https://doi.org/10.1007/s10919-016-0237-9.

Diemer, M. A., R. S. Mistry, M. E. Wadsworth, I. López, and F. Reimers. 2013. "Best Practices in Conceptualizing and Measuring Social Class in Psychological Research." *Analyses of Social Issues and Public Policy* 13, no. 1: 77–113. https://doi.org/10.1111/asap.12001.

Diener, E., and R. Biswas-Diener. 2002. "Will Money Increase Subjective Well-Being?" *Social Indicators Research* 57, no. 2: 119–169. https://doi.org/10.1023/A:1014411319119.

Dion, K., E. Berscheid, and E. Walster. 1972. "What Is Beautiful Is Good." *Journal of Personality and Social Psychology* 24, no. 3: 285–290. https://doi.org/10.1037/h0033731.

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

Durante, F., C. B. Tablante, and S. T. Fiske. 2017. "Poor but Warm, Rich but Cold (and Competent): Social Classes in the Stereotype Content Model." *Journal of Social Issues* 73, no. 1: 138–157. https://doi.org/10.1111/josi.12208.

Erikson, R., and J. H. Goldthorpe. 1992. "Individual or Family? Results From Two Approaches to Class Assignment." *Acta Sociologica* 35, no. 2: 95–105. https://doi.org/10.1177/000169939203500202.

Freeman, J. B., K. L. Johnson, and S. J. Stroessner. 2022. "Accuracy in Social Judgment Does Not Exclude the Potential for Bias." *Behavioral and Brain Sciences* 45: e75. https://doi.org/10.1017/S0140525X2100073X.

Freeman, J. B., A. M. Penner, A. Saperstein, M. Scheutz, and N. Ambady. 2011. "Looking the Part: Social Status Cues Shape Race Perception." *PLoS ONE* 6, no. 9: e25107. https://doi.org/10.1371/journal.pone.0025107.

Geyer, S., Ö. Hemström, R. Peter, and D. Vågerö. 2006. "Education, Income, and Occupational Class Cannot Be Used Interchangeably in Social Epidemiology. Empirical Evidence Against a Common Practice." *Journal of Epidemiology & Community Health* 60, no. 9: 804–810. https://doi.org/10.1136/jech.2005.041319.

Grigoryan, L., X. Bai, F. Durante, et al. 2020. "Stereotypes as Historical Accidents: Images of Social Class in Postcommunist Versus Capitalist Societies." *Personality and Social Psychology Bulletin* 46, no. 6: 927–943. https://doi.org/10.1177/0146167219881434.

Halldórsson, M., A. E. J. M. Cavelaars, A. E. Kunst, and J. P. Mackenbach. 1999. "Socioeconomic Differences in Health and Well-being of Children and Adolescents in Iceland." *Scandinavian Journal of Public Health* 27, no. 1: 43–47. https://doi.org/10.1177/14034948990270011501.

Harper, B. 2000. "Beauty, Stature and the Labour Market: A British Cohort Study." *Oxford Bulletin of Economics and Statistics* 62, no. s1: 771–800. https://doi.org/10.1111/1468-0084.0620s1771.

Haushofer, J., and E. Fehr. 2014. "On the Psychology of Poverty." *Science* 344, no. 6186: 862–867. https://doi.org/10.1126/science.1232491.

Hehman, E., S. Y. Xie, E. K. Ofosu, and G. Nespoli. 2018. "*Assessing the Point at Which Averages Are Stable: A Tool Illustrated in the Context of Person Perception*." https://doi.org/10.31234/osf.io/2n6jq.

Henderson, A. J., I. J. Holzleitner, S. N. Talamas, and D. I. Perrett. 2016. "Perception of Health From Facial Cues." *Philosophical Transactions of the Royal Society B: Biological Sciences* 371, no. 1693: 20150380. https://doi.org/10.1098/rstb.2015.0380.

Hester, N., S. Y. Xie, and E. Hehman. 2021. "Little Between-Region and Between-Country Variance When People Form Impressions of Others." *Psychological Science* 32, no. 12: 1907–1917. https://doi.org/10.1177/09567976211019950.

Huelsnitz, C. O., R. Neel, and L. J. Human. 2020. "Accuracy in Perceptions of Fundamental Social Motives: Comparisons to Perceptions of Big Five Traits and Associations with Friendship Quality." *Personality and Social Psychology Bulletin* 46, no. 1: 3–19. https://doi.org/10.1177/0146167219838546.

Hughes, B. T., S. Srivastava, M. Leszko, and D. M. Condon. 2024. "Occupational Prestige: The Status Component of Socioeconomic Status." *Collabra: Psychology* 10, no. 1: 92882. https://doi.org/10.1525/collabra.92882.

Inkeles, A., and P. H. Rossi. 1956. "National Comparisons of Occupational Prestige." *American Journal of Sociology* 61, no. 4: 329–339. https://doi.org/10.1086/221764.

Jackman, M. R., and R. W. Jackman. 1973. "An Interpretation of the Relation Between Objective and Subjective Social Status." *American Sociological Review* 38, no. 5: 569–582. https://doi.org/10.2307/2094408.

Jaeger, B., W. W. Sleegers, J. Stern, L. Penke, and A. L. Jones. 2024. "Testing Perceivers' Accuracy and Accuracy Awareness When Forming Personality Impressions From Faces." *European Journal of Personality* 8, no. 6: 907–927. https://doi.org/10.1177/08902070231225728.

Jones, A. L. 2018. "The Influence of Shape and Colour Cue Classes on Facial Health Perception." *Evolution and Human Behavior* 39, no. 1: 19–29. https://doi.org/10.1016/j.evolhumbehav.2017.09.005.

Jones, B. C., A. C. Little, I. S. Penton-Voak, B. P. Tiddeman, D. M. Burt, and D. I. Perrett. 2001. "Facial Symmetry and Judgements of Apparent Health: Support for a "Good Genes" Explanation of the Attractiveness–Symmetry Relationship." *Evolution and Human Behavior* 22, no. 6: 417–429. https://doi.org/10.1016/S1090-5138(01)00083-6.

Judge, T. A., C. Hurst, and L. S. Simon. 2009. "Does It Pay to Be Smart, Attractive, or Confident (or All Three)?Relationships Among General Mental Ability, Physical Attractiveness, Core Self-Evaluations, and Income." *Journal of Applied Psychology* 94, no. 3: 742–755. https://doi.org/10.1037/a0015497.

Kalick, S. M. 1988. "Physical Attractiveness as a Status Cue." *Journal of Experimental Social Psychology* 24, no. 6: 469–489. https://doi.org/10.1016/0022-1031(88)90047-9.

Keating, C. F., D. W. Randall, T. Kendrick, and K. A. Gutshall. 2003. "Do Babyfaced Adults Receive More Help? The (Cross-Cultural) Case of the Lost Resume." *Journal of Nonverbal Behavior* 27, no. 2: 89–109. https://doi.org/10.1023/A:1023962425692.

Kraus, M. W., and D. Keltner. 2009. "Signs of Socioeconomic Status: A Thin-Slicing Approach." *Psychological Science* 20, no. 1: 99–106. https://doi.org/10.1111/j.1467-9280.2008.02251.x.

Kraus, M. W., B. Torrez, J. W. Park, and F. Ghayebi. 2019. "Evidence for the Reproduction of Social Class in Brief Speech." *Proceedings of the National Academy of Sciences* 116, no. 46: 22998–23003. https://doi.org/10.1073/pnas.1900500116.

Kye, B., and D.-H. Seol. 2022. "Occupational Prestige in South Korea: Stability and Variations." *Journal of Asian Sociology* 51, no. 4: 355–378.

Lei, R. F., and G. V. Bodenhausen. 2017. "Racial Assumptions Color the Mental Representation of Social Class." Frontiers in Psychology 8. https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00519.

Loughnan, S., N. Haslam, R. M. Sutton, and B. Spencer. 2014. "Dehumanization and Social Class." *Social Psychology* 45, no. 1: 54–61. https://doi.org/10.1027/1864-9335/a000159.

Malatesta, C. Z., M. J. Fiore, and J. J. Messina. 1987. "Affect, Personality, and Facial Expressive Characteristics of Older People." *Psychology and Aging* 2, no. 1: 64–69. https://doi.org/10.1037/0882-7974.2.1.64.

Marmot, M. G. 2003. "Understanding Social Inequalities in Health." *Perspectives in Biology and Medicine* 46, no. 3: S9–S23.

Marmot, M. G., G. D. Smith, S. Stansfeld, et al. 1991. "Health Inequalities Among British Civil Servants: The Whitehall II Study." *Lancet* (London, England), 337, no. 8754: 1387–1393. https://doi.org/10.1016/0140-6736(91)93068-k.

Mazzuco, S., and M. Suhrcke. 2011. "Health Inequalities in Europe: New Insights From European Labour Force Surveys." *Journal of Epidemiology & Community Health* 65, no. 9: 757–763. https://doi.org/10.1136/jech.2009.096271.

McArthur, L. Z., and R. M. Baron. 1983. "Toward an Ecological Theory of Social Perception." *Psychological Review* 90, no. 3: 215–238. https://doi.org/10.1037/0033-295X.90.3.215.

McGinn, K. L., and E. Oh. 2017. "Gender, Social Class, and Women's Employment." *Current Opinion in Psychology* 18: 84–88. https://doi.org/10.1016/j.copsyc.2017.07.012.

Miech, R. A., and M. J. Shanahan. 2000. "Socioeconomic Status and Depression Over the Life Course." *Journal of Health and Social Behavior* 41, no. 2: 162–176. https://doi.org/10.2307/2676303.

Miyamoto, Y. 2017. "Culture and Social Class." *Current Opinion in Psychology* 18: 67–72. https://doi.org/10.1016/j.copsyc.2017.07.042.

Miyamoto, Y., J. Yoo, C. S. Levine, et al. 2018. "Culture and Social Hierarchy: Self- and Other-Oriented Correlates of Socioeconomic Status Across Cultures." *Journal of Personality and Social Psychology* 115, no. 3: 427–445. https://doi.org/10.1037/pspi0000133.

Mueller, U., and A. Mazur. 1996. "Facial Dominance of West Point Cadets as a Predictor of Later Military Rank." *Social Forces* 74, no. 3: 823–850. https://doi.org/10.1093/sf/74.3.823.

Niu, Z., Z. Li, Y. Zhang, Y. Wang, and R. Wang. 2024. "Perceptions of Social Class Through Chinese Speech Cues." *Acta Psychologica* 247: 104324. https://doi.org/10.1016/j.actpsy.2024.104324.

Northwestern Mutual. (2017, June 1). 70% of Americans Identify as Middle Class Despite a Prolonged Decline in Middle-Income Households in the US. Retrieved from http://news.northwesternmutual.com/2017-06-21-70-of-Americans-Identify-as-Middle-Class-Despite-a-Prolonged-Decline-in-Middle-Income-Households-inthe-US.

Oddsson, G. 2010. "Class Awareness in Iceland." *International Journal of Sociology and Social Policy* 30, no. 5/6: 292–312. https://doi.org/10.1108/01443331011054253.

Oddsson, G. 2022. "Class in Iceland." *Current Sociology* 70, no. 5: 761–780. https://doi.org/10.1177/00113921211012740.

Oh, D., E. Shafir, and A. Todorov. 2020. "Economic Status Cues From Clothes Affect Perceived Competence From Faces." *Nature Human Behaviour* 4, no. 3: Article 3. https://doi.org/10.1038/s41562-019-0782-4.

Olafsdottir, S. 2007. "Fundamental Causes of Health Disparities: Stratification, the Welfare State, and Health in the United States and Iceland." *Journal of Health and Social Behavior* 48, no. 3: 239–253. https://doi.org/10.1177/002214650704800303.

Olivola, C. Y., and A. Todorov. 2010. "Elected in 100 Milliseconds: Appearance-Based Trait Inferences and Voting." *Journal of Nonverbal Behavior* 34, no. 2: 83–110. https://doi.org/10.1007/s10919-009-0082-1.

Park, J., S. Kitayama, H. R. Markus, et al. 2013. "Social Status and Anger Expression: The Cultural Moderation Hypothesis." *Emotion (Washington, D.C.)* 13, no. 6: 1122–1131. https://doi.org/10.1037/a0034273.

Park, J., S. Kitayama, and Y. Miyamoto. 2023. "When High Subjective Social Status Becomes a Burden: A Japan–U.S. Comparison of Biological Health Markers." *Personality and Social Psychology Bulletin* 50: 1098–1112. 01461672231162747. https://doi.org/10.1177/01461672231162747.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/.

Revelle, W. 2024. *psych: Procedures for Psychological, Psychometric, and Personality Research*. Evanston, IL: Northwestern University, R package version 2.4.3. https://CRAN.R-project.org/package=psych.

Rhodes, G., S. Yoshikawa, R. Palermo, et al. 2007. "Perceived Health Contributes to the Attractiveness of Facial Symmetry, Averageness, and Sexual Dimorphism." *Perception* 36, no. 8: 1244–1252. https://doi.org/10.1068/p5712.

Richard, F. D., C. F. Bond, and J. J. Stokes-Zoota. 2003. "One Hundred Years of Social Psychology Quantitatively Described." *Review of General Psychology* 7, no. 4: 331–363. https://doi.org/10.1037/1089-2680.7.4.331.

Ridgeway, C. L., and S. R. Fisk. 2012. "Class Rules, Status Dynamics, and "Gateway" Interactions." In *Facing Social Class: How Societal Rank Influences Interaction*, edited by S. T. Fiske and H. R. Markus, 131–151. New York, NY: Russell Sage Foundation.

Rivera, L. A. 2012. "Hiring as Cultural Matching: The Case of Elite Professional Service Firms." *American Sociological Review* 77, no. 6: 999–1022. https://doi.org/10.1177/0003122412463213.

Rivera, L. A., and A. Tilcsik. 2016. "Class Advantage, Commitment Penalty: The Gendered Effect of Social Class Signals in an Elite Labor Market." *American Sociological Review* 81, no. 6: 1097–1131. https://doi.org/10.1177/0003122416668154.

Rosseel, Y. 2012. "lavaan: an R Package for Structural Equation Modeling." *Journal of Statistical Software* 48, no. 2: 1–36. https://doi.org/10.18637/jss.v048.i02.

Rule, N. O., and N. Ambady. 2011. "Judgments of Power from College Yearbook Photos and Later Career Success." *Social Psychological and Personality Science* 2, no. 2: 154–158. https://doi.org/10.1177/1948550610385473.

Rule, N. O., N. Ambady, R. B. Adams Jr., et al. 2010. "Polling the Face: Prediction and Consensus Across Cultures." *Journal of Personality and Social Psychology* 98, no. 1: 1–15. https://doi.org/10.1037/a0017673.

Rule, N. O., R. T. Bjornsdottir, K. O. Tskhay, and N. Ambady. 2016. "Subtle Perceptions of Male Sexual Orientation Influence Occupational Opportunities." *Journal of Applied Psychology* 101, no. 12: 1687–1704. https://doi.org/10.1037/apl0000148.

Rule, N. O., C. N. Macrae, and N. Ambady. 2009. "Ambiguous Group Membership Is Extracted Automatically from Faces." *Psychological Science* 20, no. 4: 441–443. https://doi.org/10.1111/j.1467-9280.2009.02314.x.

Sarolidou, G., J. Axelsson, T. Sundelin, et al. 2019. "Emotional Expressions of the Sick Face." *Brain, Behavior, and Immunity* 80: 286–291. https://doi.org/10.1016/j.bbi.2019.04.003.

Savage, M., F. Devine, N. Cunningham, et al. 2013. "A New Model of Social Class? Findings From the BBC's Great British Class Survey Experiment." *Sociology* 47, no. 2: 219–250. https://doi.org/10.1177/0038038513481128.

Schmid-Mast, M., and J. A. Hall. 2004. "Who Is the Boss and Who Is Not? Accuracy of Judging Status." *Journal of Nonverbal Behavior* 28, no. 3: 145–165. https://doi.org/10.1023/B:JONB.0000039647.94190.21.

Schoemann, A. M., A. J. Boulton, and S. D. Short. 2017. "Determining Power and Sample Size for Simple and Complex Mediation Models." *Social Psychological and Personality Science* 8, no. 4: 379–386. https://doi.org/10.1177/1948550617715068.

Shin, J., E. M. Suh, and D. Jang. 2018. "Mate Value at a Glance: Facial Attractiveness Reveals Women's Waist-to-Hip Ratio and Men's Household Income." *Personality and Individual Differences* 135: 128–130. https://doi.org/10.1016/j.paid.2018.07.014.

Singh-Manoux, A., N. E. Adler, and M. G. Marmot. 2003. "Subjective Social Status: Its Determinants and Its Association With Measures of Ill-health in the Whitehall II Study." *Social Science & Medicine* 56, no. 6: 1321–1333. https://doi.org/10.1016/S0277-9536(02)00131-4.

Stansfeld, S. A., and M. G. Marmot. 1992. "Social Class and Minor Psychiatric Disorder in British Civil Servants: A Validated Screening Survey Using the General Health Questionnaire." *Psychological Medicine* 22, no. 3: 739–749. https://doi.org/10.1017/S0033291700038186.

Stellar, J. E., V. M. Manzo, M. W. Kraus, and D. Keltner. 2012. "Class and Compassion: Socioeconomic Factors Predict Responses to Suffering." *Emotion (Washington, D.C.)* 12, no. 3: 449–459. https://doi.org/10.1037/a0026508.

Stephens, N. M., H. R. Markus, and L. T. Phillips. 2014. "Social Class Culture Cycles: How Three Gateway Contexts Shape Selves and Fuel Inequality." *Annual Review of Psychology* 65: 611–634. https://doi.org/10.1146/annurev-psych-010213-115143.

Sutherland, C. A. M., J. A. Oldmeadow, I. M. Santos, J. Towler, D. Michael Burt, and A. W. Young. 2013. "Social Inferences From Faces: Ambient Images Generate a Three-Dimensional Model." *Cognition* 127, no. 1: 105–118. https://doi.org/10.1016/j.cognition.2012.12.001.

Tan, J. J. X., M. W. Kraus, N. C. Carpenter, and N. E. Adler. 2020. "The Association Between Objective and Subjective Socioeconomic Status and Subjective Well-Being: A Meta-Analytic Review." *Psychological Bulletin* 146, no. 11: 970–1020. https://doi.org/10.1037/bul0000258.

The World Bank. 2017. GINI Index (World Bank Estimate). Retrieved from https://data.worldbank.org/indicator/SI.POV.GINI?end=2017&locations=CA-IS&start=1981&view=chart.

Thorlindsson, T. 1988. "Equality and Educational Opportunity in Iceland." *Scandinavian Journal of Educational Research* 32, no. 1: 9–22. https://doi.org/10.1080/0031383880320102.

Treiman, D. J. 1977. *Occupational Prestige in Comparative Perspective*. Elsevier.

Tskhay, K. O., and N. O. Rule. 2013. "Accuracy in Categorizing Perceptually Ambiguous Groups: A Review and Meta-Analysis." *Personality and Social Psychology Review* 17, no. 1: 72–86. https://doi.org/10.1177/1088868312461308.

Tskhay, K. O., and N. O. Rule. 2015. "Emotions Facilitate the Communication of Ambiguous Group Memberships." *Emotion (Washington, D.C.)* 15, no. 6: 812–826. https://doi.org/10.1037/emo0000077.

Varnum, M. E. W. 2013. "What are Lay Theories of Social Class?" *PLoS ONE* 8, no. 7: e70589. https://doi.org/10.1371/journal.pone.0070589.

Vernon, R. J. W., C. A. M. Sutherland, A. W. Young, and T. Hartley. 2014. "Modeling First Impressions From Highly Variable Facial Images." *Proceedings of the National Academy of Sciences* 111, no. 32: E3353–E3361. https://doi.org/10.1073/pnas.1409860111.

Wang, Y. A., and M. Rhemtulla. 2021. "Power Analysis for Parameter Estimation in Structural Equation Modeling: A Discussion and Tutorial." *Advances in Methods and Practices in Psychological Science* 4, no. 1: 2515245920918253. https://doi.org/10.1177/2515245920918253.

West, T. V., and D. A. Kenny. 2011. "The Truth and Bias Model of Judgment." *Psychological Review* 118, no. 2: 357–378. https://doi.org/10.1037/a0022936.

Wilson, J. P., and N. O. Rule. 2015. "Facial Trustworthiness Predicts Extreme Criminal-Sentencing Outcomes." *Psychological Science* 26, no. 8: 1325–1331. https://doi.org/10.1177/0956797615590992.

Zebrowitz, L. 1997. *Reading Faces: Window to the Soul?* Routledge.

Zebrowitz, L. A. 2017. "First Impressions from Faces." *Current Directions in Psychological Science* 26, no. 3: 237–242. https://doi.org/10.1177/0963721416683996.

Zebrowitz, L. A., and J. M. Montepare. 1992. "Impressions of Babyfaced Individuals Across the Life Span." *Developmental Psychology* 28, no. 6: 1143–1152. https://doi.org/10.1037/0012-1649.28.6.1143.

Supporting Information

Additional supporting information can be found online in the Supporting Information section.