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ARTICLE

Having the right face for the job: The effect of facial width-to-height ratio on job selection preferences

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Abstract

Prior research has found that various job candidate characteristics can influence hiring decisions. The current work used experimental methods to test how a novel, appearance-based cue known as a *facial width-to-height ratio* (fWHR) can bias hiring preferences. A first study provides evidence for our initial hypothesis: people believed high fWHR candidates would be a better fit for blue-collar jobs compared with low fWHR candidates, who were in turn favoured for white-collar jobs. A second study replicates this initial finding and extends it by demonstrating that the effect of fWHR-derived trait inferences of strength and intelligence on hireability predictably varies by job type. Finally, in a third study, we find that this bias reverses when traditional stereotypes of blue-collar and white-collar jobs requiring physicality and intellect are subverted, finding that perceptions of the fit between face type and presumed job requirements matter most for hiring preferences. Together, these findings demonstrate how a seemingly subtle appearance-based cue can have robust implications for hiring.

KEYWORDS

appearance, bias, facial width-to-height ratio, hiring, trait inferences

BACKGROUND

When deciding who to hire for a given role, hiring managers must weigh a multitude of factors. Certainly, managers consider candidates' skills and experience when determining whether they would be a good fit for a given role. Despite their best intentions, numerous biases affect hiring preferences, and job candidates' physical appearance can have robust consequences on hiring decisions (Baert, 2018; Hardy III et al., 2022). From a quick glance at a candidate, hiring managers readily intuit broad social category information, such as race and gender (Willis & Todorov, 2006). Furthermore, it is well documented that both race (Dovidio & Gaertner, 2000; Quillian et al., 2017; Ziegert & Hanges, 2005) and gender (Heilman, 1983; Koch et al., 2015; Pireddu et al., 2021) are factors that bias hiring decisions. Beyond

these broad sociodemographic categories, specific appearance-based cues also affect hiring decisions. These potentially biasing cues include physical attractiveness (Marlowe et al., 1996; Paustian-Underdahl & Walker, 2016; Riggio & Throckmorton, 1988; Sutherland et al., 2015), age (Krings et al., 2011; Richardson et al., 2013) and bodyweight (Agerström & Rooth, 2011; Finkelstein et al., 2007; Pingitore et al., 1994; Polinko & Popovich, 2001; Swami et al., 2008), among others (Agerström, 2014; Sutherland et al., 2020). Critically, this reliance on appearance-based cues increasingly reflects the realities of contemporary hiring practices, such as when companies search for candidates using publicly available profiles posted online (e.g. Linkedin; Woods et al., 2020).

In the present work, we build on this existing body of literature by proposing that a seemingly subtle, face-based cue can influence hiring decisions. Specifically, we argue that facial width-to-height ratio (fWHR) can bias who is preferred for blue- or white-collar jobs. Our findings have important implications given that these jobs diverge with respect to the risks they pose to workers. For example, blue-collar jobs are associated with a greater perceived risk and the actual incidence of musculoskeletal injury and poisoning (Harrell, 1990; Theorell et al., 1990; Won et al., 2007). Blue-collar workers are also more likely to be treated for depression compared with their white-collar counterparts (Elser et al., 2019). Finally, upward career mobility is often restricted in blue-collar professions (Halle, 1984). Thus, an fWHR hiring bias that makes some candidates seem more fit for blue- versus white-collar jobs may ultimately subject them to various negative outcomes simply based on their appearance. Across three studies, we investigate the effect of fWHR on hiring preferences and the inferences driving this effect.

Conceptual background

Facial width-to-height ratio is a static component of faces determined by underlying bone structures (Hehman et al., 2013; Weston et al., 2007; c.f. Witkower & Tracy, 2019). This feature is most commonly measured as the ratio between the face's bizygomatic width (cheekbone to cheekbone) and the upper cranial height (mid-brow to upper lip; see Hehman, Flake, & Freeman, 2015). Although researchers disagree about the evolved origins of this face structure, multiple findings underscore its importance for impression formation. Compared to individuals with low fWHR (i.e. relatively long and narrow faces), individuals with high fWHR (i.e. relatively short and wide faces) are routinely deemed to be angrier (Deska et al., 2018a; Neth & Martinez, 2009), more aggressive (Carré et al., 2009; Geniole & McCormick, 2015), stronger (Hehman, Leitner, et al., 2015), more dominant (Geniole et al., 2015), more masculine (Geniole et al., 2015), more threatening (Geniole et al., 2015; Hehman et al., 2013) and less mentally sophisticated (Deska et al., 2018b). Together, these findings indicate that people reliably use fWHR when forming impressions of others.

Importantly, these judgements have real-world consequences. For instance, convicted murderers with high fWHR are more likely to receive the death penalty rather than a life sentence compared to those with low fWHR (Wilson & Rule, 2015). Further, when it comes to CEOs, people associate high fWHR with greater trait dominance (Mileva et al., 2014), which is in turn associated with the financial success of their business (Alrajih & Ward, 2014; Wong et al., 2011; c.f. Stoker et al., 2016). Other evidence suggests that the link between fWHR and perceived trustworthiness can be influential when hiring a new CEO (Gomulya et al., 2017). In sum, the differential judgements people make of individuals who vary in fWHR suggest that hiring managers may also unknowingly draw upon this information when making hiring decisions.

Following prior research on hiring biases, we adopt Heilman's (1983) lack of a fit model to formulate predictions for the process that explains how these biases come to influence job candidate outcomes (Finkelstein et al., 2007; Polinko & Popovich, 2001; Zebrowitz et al., 1991). The lack of fit model proposes that a candidate's perceived traits are compared against the traits deemed necessary for the job. Ultimately, the extent to which these traits align predicts how suitable the candidate appears for the job. We draw upon the perceived job requirements component of Heilman's (1983) model in order to formulate predictions for when and how fWHR will impact hiring preferences. Consistent with Heilman's (1983) model

and building on the literature showing how fWHR informs impression formation, we propose that people will judge high and low fWHR targets as better fits for blue- and white-collar jobs, respectively.

Blue- and white-collar jobs

Whether in the popular press or the academic literature, jobs are often categorized as either white- or blue-collar. Recognizing the broad variability within these categories, there are distinctions between them as well. First, blue-collar workers are less likely to have a university degree than white-collar workers (Halle, 1984). Second, these two types of jobs also tend to differ with respect to the tasks they involve and, therefore, the skills and abilities they require. In particular, white-collar jobs often involve more task complexity, information processing, problem-solving, skill variety and autonomy, whereas blue-collar jobs have higher physical demands (Morgeson & Humphrey, 2006). These distinctions are important because they suggest that trait inferences related to a job candidate's intelligence and physical strength may come to influence their perceived hireability for white- and blue-collar jobs, respectively. Given that high fWHR cues inferences of physical strength (Hehman, Flake, & Freeman, 2015; Hehman, Leitner, et al., 2015) and low fWHR cues inferences of intelligence (Deska et al., 2018b), we make the following hypotheses:

H1 *: High fWHR job candidates will be viewed as more hireable for blue-collar jobs, whereas low fWHR job candidates will be viewed as more hireable for white-collar jobs.*

H2 *: The trait inference that high (low) fWHR candidates are physically strong (intelligent) predicts hireability for blue- (white-) collar jobs.*

STUDY 1

Study 1 served as an initial, exploratory examination of whether target fWHR interacts with job type to predict hypothetical hiring decisions. Here, participants viewed pairs of job candidates consisting of high- and low-fWHR White males taken from the Chicago Face Database (CFD; Ma et al., 2015) and indicated which of those faces was best suited for white- or blue-collar jobs. We hypothesized that people would judge individuals with relatively high fWHR as better fits for blue-collar jobs than individuals with relatively low fWHR, and individuals with relatively low fWHR as better fits for white-collar jobs than individuals with relatively high fWHR.

Method

Participants

For this laboratory-based study, participants were 99 undergraduate students recruited at a medium-sized Midwestern university (M_{age} = 18.07, SD_{age} = 3.14, 32.3% male, 67.7% female) who completed this study in exchange for partial course credit. A sensitivity analysis revealed that, when examining the difference between two dependent means with an a = .05, Study 1 provided 80% power to detect an effect size of d = 0.28. In this and all subsequent studies, no participants are excluded and all measures are included and discussed.

Stimuli

Participants viewed faces from the CFD (Ma et al., 2015). All stimuli were White male faces with neutral expressions. We held target race and gender constant to focus on the primary manipulation of fWHR and avoid confounds with these other demographic categories known to affect hiring preferences (Dovidio & Gaertner, 2000; Heilman, 2001). Using the values provided by the CFD, our critical targets comprised the 10 faces with the lowest fWHR (M = 1.67, SD = 0.06) and the 10 faces with the highest fWHR (M = 2.05,

SD = 0.05). We also included 20 faces with middling fWHR (*M* = 1.73, *SD* = 0.03) to serve as distractors. Pretesting based on the normed data from the CFD indicates that the high and low fWHR targets significantly varied on this dimension, $t(18) = 15.55$, $p < .001$, $d = 6.88$. However, these faces did not differ in attractiveness, $t(18) = 0.440$, $p = .665$, suggesting that any obtained results are unlikely to be the result of attractiveness-based halo effects (Dion et al., 1972).

Procedure

Participants learned they were participating in a study concerning faces and social roles. We showed participants pairs of faces and asked them to indicate 'Which person looks like a [job label]?' Nine research assistants in our lab generated a list of 47 jobs they considered to be blue- and white-collar in North America. Then, they rated these jobs on a 7-point scale ranging from 1 (Definitely blue-collar) to 7 (Definitely white-collar). We selected the highest rated 10 jobs rated as white-collar and the lowest rated 10 jobs as blue-collar. Ten additional jobs with middling ratings were chosen for distractor trials.

Participants completed 40 trials (20 critical; 20 distractor). In each, participants saw a job title with two faces beneath it and, in a forced-choice design, were asked to indicate which target they would prefer for the specified job. Half of the critical trials used blue-collar job titles (e.g. plumber) and half used white-collar job titles (e.g. doctor). On the critical trials, the two faces presented included one high fWHR face and one low fWHR face with lateral positioning counterbalanced. On the distractor trials, both pictured faces had a middling fWHR, and the job labels were those pretested as neither blue- nor white-collar. Trial order was randomized for each participant and job-face pairings were counterbalanced. Finally, participants provided demographic information.

Results and discussion

To test whether fWHR biases hiring preferences, we first calculated the proportion of low fWHR faces chosen for each white-collar job and the proportion of low fWHR faces chosen for each blue-collar job. Due to the forced-choice nature of the design, the sum of low fWHR selections and high fWHR selections equals 100%, hence why we analyse only the low fWHR data here. A paired samples *t*-test revealed that low fWHR targets differed significantly in their assignment to white-collar (*M* = 0.60, *SD* = 0.14) versus blue-collar (*M* = 0.45, *SD* = 0.14) jobs, $t(98) = 7.51$, $p < .001$, $d = 0.75$. Next, we subjected these proportions to one-sample *t*-tests to determine whether the preference for selecting the low fWHR faces for white- and blue-collar jobs significantly differed from chance (i.e. 50%). As expected, participants chose low fWHR faces at rates greater than the chance for white-collar jobs (*M* = 0.60, *SD* = 0.14), $t(98) = 7.430$, $p < .001$, $d = 1.51$. Conversely, participants chose low fWHR faces at rates significantly lower than the chance for blue-collar jobs (*M* = 0.45, *SD* = 0.14), $t(98) = -3.21$, $p = .002$, $d = -0.65$.

These results provide initial evidence indicating that a structural aspect of people's faces, fWHR, can influence the extent to which people deem others as good fits for certain jobs. Specifically, people deemed individuals with relatively low fWHR as better fits for white-collar jobs compared with blue-collar jobs and conversely saw individuals with relatively high fWHR as better fits for blue-collar jobs compared with white-collar jobs.

STUDY 2

Study 1 provided initial evidence consistent with our hypothesis, and Study 2 builds on and extends Study 1 in several ways. First, we sought to conceptually replicate our basic effect demonstrating that people are biased toward hiring high fWHR candidates for blue-collar jobs and low fWHR targets for white-collar jobs. Second, we wanted to complement the student sample in Study 1 by testing this effect using participants who have prior experience making hiring decisions. Finally, we sought to further test

our theorizing that this effect emerges as a result of trait inferences linking strength and intelligence with high and low fWHR, respectively (Deska et al., 2018b; Hehman, Flake, & Freeman, 2015; Hehman, Leitner, et al., 2015). We predicted that the effect of fWHR-derived trait inferences on hireability would be moderated by job type. Specifically, low fWHR candidates would be viewed as relatively more intelligent and thus more hireable for white-collar jobs. Conversely, we predicted high fWHR candidates would be viewed as relatively stronger and thus more hireable for blue-collar jobs.

Method

Participants

Using Prolific Academic's recruitment filters, we sampled US and UK participants who self-declared prior experience making hiring decisions ($N = 211$; $M_{age} = 46.41$, $SD_{age} = 11.98$; 63.5% female) and completed the study in exchange for payment. Participants were randomly assigned to either the blue-collar or white-collar job condition in a between-subject main effect design. A sensitivity analysis revealed that, when examining the difference between two independent means with an $a = .05$, Study 2 provided 80% power to detect an effect size of $d = 0.39$.

Procedure

In this web-based experiment, participants were instructed that they were taking part in a hiring decisions study. They were asked to imagine that they were a hiring manager at either a construction firm (i.e. a blue-collar job) or a law firm (i.e. a white-collar job), and that they would be evaluating different candidates for a number of open positions. It was indicated that all candidates were classified as being qualified for the position based on their years of experience and possession of relevant skills and qualifications. Providing this information offered a relatively conservative test of our prediction given that such qualification information can reduce hiring biases (Nault et al., 2020). Participants viewed 10 pairs of job candidates, each pair involving one randomly selected high and low fWHR face used in Study 1 (Ma et al., 2015). Presentation order for 10 pairs was randomized. We counterbalanced the lateral positioning of the faces in the pairs such that five of the candidate pairs had the high fWHR candidate on the left, whereas five had the high fWHR target on the right.

For each pair of candidates, participants reported which person they thought was more hireable for the position using three items ('Which candidate would you interview for the job?'; 'Which candidate would you personally hire for the job?'; 'Which candidate would you recommend hiring for the job?'; anchored 1 = Definitely the candidate on the left, 7 = Definitely the candidate on the right; Fetscherin et al., 2020). Participants then reported which candidate they thought was more intelligent (anchored 1 = Definitely the candidate on the left, 7 = Definitely the candidate on the right) and which candidate was physically stronger (anchored 1 = Definitely the candidate on the left, 7 = Definitely the candidate on the right). The survey concluded by collecting basic demographic information.

Results and discussion

The hireability, strength and intelligence items were reverse coded for half of the candidate pairs so that a higher value indicates that the high fWHR target was more hireable, stronger and more intelligent. The hireability scale items were averaged to form a reliable index ($a = .83$). An independent samples t-test revealed a main effect of job type on hireability such that participants saw the high fWHR candidate as more hireable for the blue-collar job ($M = 4.16$, $SD = 0.42$), whereas they saw the low fWHR candidate as more hireable for the white-collar job ($M = 3.82$, $SD = 0.35$), $t(209) = 6.31$, $p < .001$, $d = 0.88$. There

was no effect of job type on strength, $t(198.41) = -0.24$, $p = .81$, $d = 0.04$, or intelligence, $t(209) = -0.75$, $p = .45$, $d = 0.09$. This was consistent with expectations given that the candidates' perceived traits should not vary based on the job for which they applied. As hypothesized, a one-sample t-test revealed that low fWHR candidates were viewed as being more intelligent compared with the scale midpoint ($M = 3.84$, $SD = 0.33$), $t(210) = -7.00$, $p < .001$, $d = 0.48$. Conversely, high fWHR candidates were viewed as being stronger compared with the scale midpoint ($M = 4.54$, $SD = 0.45$), $t(210) = 17.49$, $p < .001$, $d = 1.20$.

Finally, we conducted two multiple linear regressions (Hayes, 2018; PROCESS macro; Model 1) to test whether the relationship between trait perceptions and hireability varied based on job type. The first analysis revealed a significant job title × perceived strength interaction on hireability, $B = -.38$, $SE = .12$, $t(207) = -3.21$, $p = .002$. Simple slopes revealed that for the blue-collar job, there was a significant positive association between perceived strength and hireability such that as high fWHR targets were viewed as stronger, they were also seen as more hireable, $B = .38$, $SE = .09$, $t(207) = 4.04$, $p < .001$. The relationship between perceived strength and job title on hireability for the white-collar job was not significant, $B = -.003$, $SE = .07$, $t(207) = -0.04$, $p = .97$. The second analysis revealed a significant job title × perceived intelligence interaction on hireability, $B = .50$, $SE = .15$, $t(207) = 3.22$, $p = .002$. Simple slopes revealed that for the white-collar job, there was a significant positive association between perceived intelligence and hireability such that as low fWHR targets were viewed as more intelligent, they were also seen as more hireable, $B = .57$, $SE = .11$, $t(207) = 5.20$, $p < .001$. The relationship between perceived intelligence and job title on hireability for the blue-collar job was not significant, $B = .07$, $SE = .11$, $t(207) = 0.67$, $p = .50$.

Together, these findings replicate and extend those of Study 1. Specifically, participants preferred a high fWHR candidate for a blue-collar job and a low fWHR candidate for a white-collar job. Further, we demonstrated that this effect also emerges among those who have prior experience making hiring decisions (see Supporting Information for a replication of Study 2 with a student sample). It is worth noting that we used Prolific Academic's recruitment filters to sample participants with self-declared hiring experience and do not have any way to verify these claims. Thus, future work should seek to replicate these findings with additional samples of participants with hiring experience. Importantly, these results extend the initial findings by linking these hiring decisions with theoretically consistent trait attributions. People saw high fWHR candidates as especially good fits for blue-collar jobs to the extent that they seemed strong but not intelligent. Conversely, people saw low fWHR candidates as especially good fits for white-collar jobs to the extent that they seemed intelligent but not strong. We intentionally chose jobs that fit the prevailing stereotype of blue-collar jobs as requiring physical strength but not mental acumen and white-collar jobs as requiring intellect but not the strength (i.e. construction and law). Thus, it makes sense that stronger targets would be better fits for blue-collar but not white-collar jobs and vice versa. Critically, this fit effect only emerged for the corresponding job type. For instance, a strong-looking candidate was not advantaged in white-collar hiring decisions. This underscores the critical role of the congruence between face structure and job type. An open question is whether similar effects would emerge for jobs that subvert the traditional blue- and white-collar associations with physicality and intellect. We turn to this in Study 3.

STUDY 3

Study 3 was designed to further test our theorizing for why people tend to be biased by a candidate's fWHR when making hiring decisions for blue- versus white-collar jobs. Here we focus on the job requirement aspect of the lack of fit model (Heilman, 1983). Specifically, if the fWHR hiring bias emerges because people associate variations in fWHR with different traits (e.g. strength or intelligence), and certain jobs are viewed as requiring particular traits, then we should see our effect reverse if the traits required for the job are altered despite the job's classification as blue- or white-collar.

Method

Participants

Undergraduate students at an urban university in Canada (N = 162; M_{age} = 20.38, SD_{age} = 3.13; 62.3% female) completed the study in exchange for partial course credit. Participants were randomly assigned to one of four conditions in a 2 (job type: blue-collar/white-collar) × 2 (trait: traditional/inverted) between-subject design. The traditional jobs were the same as in Study 2 (i.e. construction worker and lawyer). A sensitivity analysis revealed that, for a 2 × 2 between-subject ANOVA with an a = .05, Study 3 provided 80% power to detect an effect size of f = 0.22 for the main effects and interaction.

Pretesting

We first conducted a pretest (N = 47; M_{age} = 21.55, SD_{age} = 6.09; 61.7% female) to identify jobs for the inverted conditions. Participants evaluated the two jobs from Study 2 plus 12 additional jobs on three measures: how they classify the job (anchored: 1 = Definitely blue-collar, 7 = Definitely white-collar), the extent to which the job requires physical strength (anchored: 1 = Not at all, 7 = Very much) and the extent to which the job requires intelligence (anchored: 1 = Not at all, 7 = Very much). As a reference point, we began by analysing the results for the traditional white- and blue-collar jobs used in Study 2. These results demonstrated that, as predicted, the construction worker is more blue-collar (M = 1.96, SD = 1.58) than lawyer (M = 6.63, SD = 0.83), $t(45)$ = 14.53, $p < .001$, d = 2.12. Furthermore, a lawyer is viewed as requiring more intelligence (M = 6.51, SD = 0.95) than strength (M = 1.81, SD = 1.15), $t(46)$ = 18.23, $p < .001$, d = 2.66. Conversely, a construction worker is viewed as requiring more physical strength (M = 6.04, SD = 1.35) than intelligence (M = 4.22, SD = 1.52), $t(45)$ = 6.91, $p < .001$, d = 1.01. Two jobs emerged as good candidates for being associated with a trait profile that is inverted for the job classification: electrician and professional athlete. The results revealed that electrician is more blue-collar (M = 2.89, SD = 1.70) than professional athlete (M = 3.55, SD = 1.53), $t(46)$ = 2.12, $p < .05$, d = 0.31. However, an electrician is viewed as requiring more intelligence (M = 5.64, SD = 1.01) than strength (M = 4.68, SD = 1.42), $t(46)$ = 3.85, $p < .001$, d = 0.56. Conversely, a professional athlete is viewed as requiring more physical strength (M = 6.60, SD = .80) than intelligence (M = 4.38, SD = 1.53), $t(46)$ = 9.03, $p < .001$, d = 1.32. Thus, despite their blue- versus white-collar classification, these two jobs were predominantly associated with traits typically viewed as being required of the opposite job classification.

Procedure

In this web-based experiment, participants learned they were taking part in a hiring decisions study. They imagined that they were a hiring manager and were evaluating different candidates for a number of open positions. It was indicated that all candidates were classified as being qualified for the position based on their years of experience and possession of relevant skills and qualifications. Participants were presented with the same 10 pairs of job candidates as in Study 2. Again, the order of presentation for the 10 pairs was randomized in the survey and five of the candidate pairs had the high fWHR candidate on the left, whereas five had the high fWHR target on the right. Participants reported which candidate was more hireable using the same scale as in Study 2 (Fetscherin et al., 2020).

Results and discussion

The hireability items were reverse coded for half of the candidate pairs so that a higher value indicates that the high fWHR target was more hireable. The hireability scale items were averaged to form a reliable

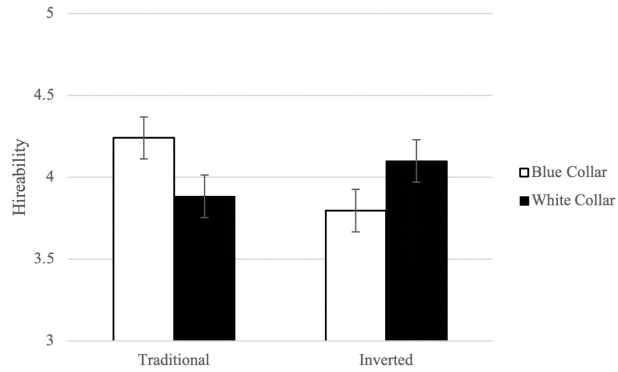

FIGURE 1 Study 3 hireability results

index (a = .77). An ANOVA revealed only a significant job type × trait interaction, $F(1, 158) = 13.14$, $p < .001$, $\eta^2 = .08$ (see Figure 1). Simple effects revealed that when the jobs required traits traditionally associated with the job category, the high fWHR candidate seemed more hireable for the blue-collar job (i.e. electrician, $M = 4.24$, $SD = 0.70$), whereas the low fWHR candidate seemed more hireable for the white-collar job (i.e. professional athlete, $M = 3.88$, $SD = 0.56$), $F(1, 158) = 7.69$, $p < .001$, $\eta^2 = .05$. As predicted, the effect of fWHR on hiring was reversed when the traits required for the job were reversed. Here, the high fWHR candidate seemed more hireable for the white-collar job (i.e. professional athlete, $M = 4.10$, $SD = 0.49$), whereas the low fWHR candidate seemed more hireable for the blue-collar job (i.e. electrician, $M = 3.80$, $SD = 0.55$), $F(1, 158) = 5.54$, $p < .001$, $\eta^2 = .03$.

Results from Study 3 provide additional evidence demonstrating that target fWHR can influence hiring decisions. Replicating Study 2, participants preferred a high fWHR candidate for a typical blue-collar job associated with physicality and a low fWHR candidate for a typical white-collar job associated with intelligence. Of particular interest was what would happen when those traditional associations were inverted. Consistent with Heilman's (1983) lack of fit model, results demonstrated that participants' hiring recommendations were primarily motivated by assumed trait congruency inferred from face structure. Specifically, low fWHR candidates were preferred for the blue-collar job when it was more closely associated with intelligence than physicality, whereas they preferred a high fWHR candidate for a white-collar job that was more associated with physicality than intellect.

GENERAL DISCUSSION

Biases in the hiring process may steer candidates toward or away from certain types of jobs irrespective of their personal desires. In the current research, we tested whether a job candidate's fWHR can influence hypothetical hiring decisions. Consistent with the lack of fit model (Heilman, 1983) and findings showing how fWHR informs impression formation, we hypothesized that people would see job candidates with high fWHR as better fits for blue-collar jobs than job candidates with low fWHR, who we predicted would be favoured for white-collar jobs. Three studies provide support for these findings. Participants in Study 1 chose high fWHR targets for blue-collar jobs at greater rates than low fWHR targets, who were preferred for white-collar jobs. Study 2 shows that these hypothetical hiring decisions are guided by perceptions of high fWHR targets as strong and low fWHR targets as intelligent. In Study 3, we manipulated the traits associated with specific job types. Participants preferred high and low fWHR candidates for blue- and white-collar jobs, respectively, when the jobs had the traditional trait associations. However, when those associations were inverted, participants' hiring recommendations were also inverted. Together, these findings indicate that people use face structure to make inferences about who would be a good fit for different kinds of jobs.

These findings are important for several reasons. First, they demonstrate that candidates' perceived eligibility for jobs they desire may be biased based on their facial structure. Specifically, we find that job candidates' facial structure shape trait inferences about them, and ultimately their perceived fit for a job. This extends prior research showing that perceived fit between a candidate and the job predicts hiring decisions (Finkelstein et al., 2007; Heilman, 1983; Heilman & Okimoto, 2008). Second, this work contributes to the growing literature demonstrating that hiring decisions can be biased based on a candidate's physical appearance. Much of this literature focuses on macro-scale features such as body weight, attractiveness and height (Agerström, 2014; Agerström & Rooth, 2011; Marlowe et al., 1996). Instead, we demonstrate that a subtle aspect of facial morphology can similarly influence a candidate's perceived suitability for a job. These findings also contrast with recent work demonstrating a so-called deficit bias in hiring in promotion (Pireddu et al., 2021; Re & Rule, 2017). From the perspective of the deficit bias, hiring managers ought to prioritize traits that are stereotypically inconsistent or distinctive. Such a hire would be a more complete package, having strengths both where and where not expected. Yet, our work demonstrates a congruence effect, where participants specifically valued traits aligned with facial features (i.e. strength in high fWHR targets, intelligence in low fWHR targets). Our studies are not ideally designed to competitively test congruence effects against the deficit bias account, and we suggest that this is an interesting area for future research to explore more thoughtfully. Finally, given blue-collar work's association with unique risks such as physical injury, poisoning and depression (Elser et al., 2019; Won et al., 2007), our findings suggest that some job candidates may be more likely to be subjected to these negative work-related outcomes partly because of their facial morphology. Recent evidence suggests that biases derived from facial judgements can be mitigated through training (Chua & Frreeman, 2021). Future research could investigate whether this fWHR bias in hiring preferences can be effectively reduced through similar means.

Limitations in the current work suggest avenues for future research. We relied on the commonly used blue- and white-collar distinction to investigate hiring preference biases. Although this dichotomy is common and effectively categorizes jobs, it cannot capture the complexity of job types. Future work should examine how fWHR biases hiring preferences for jobs that do not fit the blue- and white-collar distinction. Consistent with Study 3, we hypothesize that people will use fWHR to infer characteristics of applicants and compare those to qualities needed in specific job roles to inform their hiring preferences regardless of the specific job.

The current work relied exclusively on White male stimuli. This was done intentionally to avoid potential confounds between social categories and hiring preferences and to implement a more controlled manipulation of fWHR. However, it will be important for future work to consider how fWHR intersects with gender, ethnicity and other social categories to predict hiring preferences. We theorize that across varying identities, fWHR will generally bias hiring preferences in ways consistent with the present findings. Yet, these biases may be magnified or muted depending on the characteristics associated with specific identities and their perceived fit in varying job types.

The current work assessed hiring preferences rather than hiring decisions. This limitation is partially mitigated by the inclusion of participants with hiring experience, and by research indicating that attitudes help predict behaviour (Ajzen, 1991). Nevertheless, work is needed to assess how biases based on face structure affect actual hiring decisions.

Finally, several design choices were made to maximize internal validity. However, this comes at the cost of slightly reduced external validity. Real-world hiring decisions are far more complex than those presented here. Hiring managers may be considering dozens of candidates with detailed resumes. In some early vetting processes, personal appearance may not even be available. Thus, the effects may be smaller *in vivo* than seen here. Importantly, even small effects can have profound consequences when considered at the level of population (Hardy III et al., 2022). Thus, the observed bias and related biases are worth understanding.

In conclusion, this work demonstrates that fWHR, a seemingly subtle appearance cue, can bias candidates' perceived suitability for various jobs, an effect we observed with both lay participants and among

those with hiring experience. Such a bias might prohibit people from obtaining work that they actually are well-suited for, potentially leading to deleterious outcomes for employees and employers alike.

AUTHOR CONTRIBUTIONS

Jason Deska: Data curation; formal analysis; methodology; writing – original draft; writing – review and editing. **Sean Hingston:** Data curation; formal analysis; methodology; writing – original draft; writing – review and editing. **Madeline Lundin:** Formal analysis; methodology; writing – original draft; writing – review and editing. **Kurt Hugenberg:** Methodology; supervision; writing – original draft.

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

OPEN RESEARCH BADGES

This article has earned an Open Data badge for making publicly available the digitally-shareable data necessary to reproduce the reported results. The data is available at https://osf.io/v85n2/?view_only=7186948b668c4fe89f1780fc38dfcb64.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available here: https://osf.io/v85n2/?view_only=7186948b668c4fe89f1780fc38dfcb64

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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