Commanding a virtual room: Does camera placement affect leadership perceptions?

I. Research Objectives

This study will test whether individuals can affect how tall others see them in online meetings and whether it affects assessments of their leadership. Using different camera angles, we will measure perceptions of a target's leadership potential, and we will additionally investigate whether the target's gender moderates the effect of camera angle on these perceptions. We hypothesize that there will be more of a perceived leadership effect on the "Low camera placement" condition across both gender conditions because the low camera angle will make the target appear taller, since it makes it seem like the subject is looking up at the target. We also expect to see differential effects by target gender, where the leadership effect between camera placements are stronger for the male gender conditions compared to the female gender condition. This expectation is because leadership qualities such as dominance and physical vitality are generally associated with masculinity, so being of taller height may be more important for indicating leadership in men than women.

II. Background and Purpose

Prior research indicates that an individual's height plays a role in influencing judgments, decisions, and attributions (Little & Roberts, 2012). In particular, much research has shown that having the physical attribute of height lends an advantage over shorter individuals in terms of how a person is perceived as well as their career success outcomes. For example, having greater height is generally associated with greater status, leadership, and prestige (Blaker et al., 2013). Those that are taller are also typically perceived to have more positive personality traits, such as being more intelligent, affluent, assertive, and ambitious (Chu & Geary, 2005). These attributions manifest in career success outcomes, measured by income, and labor market outcomes. According to Judge and Cable's (2004) research, over a 30-year career period, professionals who are six feet tall earn, on average, about $166,000 more than professionals who are 5 feet 5 inches, due to being perceived as more leader-like and authoritative. Height is also highly correlated with general labor market success, as men and women from the United States and

United Kingdom who are working in professional and managerial roles are about an inch taller than those in manual unskilled occupations (Case & Paxson, 2008).

Although there has been extensive research on how height influences perceptions and decisions, there has been a gap in the literature that explores whether height perceptions in an online setting affects judgments in a similar way. With online meetings being more and more prevalent, it's an open question whether the height advantage translates to online settings, and whether shorter people can do something to mitigate the bias. A 2008 study found an 80% usage of virtual teams in companies with over 10,000 employees, and that percentage has significantly risen since then (Schmidt, 2014). Over the past ten years, the United States has seen a 91% growth in remote work, with 58.6% of the total U.S. workforce currently being remote workers (Statistica, 2022). The onset of the COVID-19 pandemic expedited the process of organizations switching over to remote work. Organizations have not only moved their workforce online, but their hiring practices have made a shift to virtual interviews as well. Now, up to 86% of employers conduct job interviews that are mediated by technology, and we are seeing a trend of growing use of automated video interviews (Jaser et al., 2022). Automated video interviews use an online interview platform that allows the applicant to record themselves responding to the preset interview questions given to them under time pressure. The video is then assessed by A.I. or the recruiter on their own time.

As the workplace and hiring space continues to shift to a more virtual/hybrid setting, it is becoming more relevant to explore whether these height difference outcomes hold true in online meeting platforms. Does being in an online setting mitigate the height advantage since it’s difficult to properly gauge height virtually, or does it still apply, but just in the way one positions themselves on the screen? In our pilot study conducted by my faculty mentor, we discovered that people perceived those positioned higher in the frame (where eye level is above the midpoint of the screen) of an online Zoom meeting as more leader-like, dominant, and intelligent, compared to those who were positioned in the center of the frame, which was statistically mediated by perceptions of height. We think it is pertinent to investigate whether the placement of the camera will also affect height and leadership perceptions since so many people use laptops for both personal and professional purposes. The camera positioning on a laptop is much different from a desktop, since the user usually has to look down at the screen versus looking straight on for the desktop.

III. Research Question

- Does camera placement affect height and leadership perceptions in online video conferencing platforms?
- Hypothesis 1: Low camera levels lead to higher estimates of applicant height and perceived leadership.
- Hypothesis 2: Applicant height statistically mediates the relationship between camera level and perceived leadership.

IV. Research Methods

Design

This study is a 2 Camera Level (Low, Eye-Level) x 2 Gender of Applicant (Female, Male) crossed design that involves putting participants through an online simulated interview. There will be two different camera placements of the applicant: one at a lower position (laptop camera level) where the participant is looking "up" at the target, and one where the camera is at eye-level. This will be crossed with the gender of the target.

Stimuli

We will prepare four pre-recorded videos (Low Camera x Female; Eye-Level Camera x Female; Low Camera x Male; Eye-Level Camera x Male) with the same standardized response to some predetermined interview questions. Each of the interview videos will have a male or female target dressed in similar business attire so that we can test if there will be differential effects based on target gender. Participants will assume the role of a hiring manager looking for someone to fill a junior manager position.

Measures

The measures we will be using to evaluate leadership perceptions were developed by Blaker et al. (2013) based on their evolutionary leadership theory framework. These measures include vitality, dominance, expertise, intelligence, and leadership perception. The leadership perception item is the main dependent variable, while the others are potential mediators.

We will additionally ask participants how tall and how heavy they perceive the applicant to be, compared to average individuals of their same gender.

Procedures

We will recruit participants from the Amazon MTurk survey site. Based on the effects of the pilot study, we estimate that we will need 400 participants. Any responses that don't pass the attention check will be filtered out. Participants will have access to the Qualtrics survey, where they will be randomly shown one of the six simulated online interview videos. After viewing the video, subjects will be asked to rate the degree of certainty they would hire the applicant, along with how tall they think the applicant is, as a manipulation check. They will then be asked to indicate on a 10 point scale (0 = completely disagree, 10 = completely agree) how much they agree that the candidate looks vital, like a leader, dominant, intelligent, and like they have expertise. At the end, there will be questions for demographic information. Participants will be paid $2 as compensation for completing the survey.

Proposed Analyses

We will conduct a 2x2 ANOVA to check whether applicant gender interacts with the focal independent variable (camera level) and affects the following dependent variables: intelligence, dominance, expertise, leadership, height, and weight. If gender does not interact with camera level, we will follow-up with a t-test to check whether camera level has a direct effect on the key dependent variables. Higher ratings of height and leadership in the low camera condition would confirm our hypothesis that people can manage impressions about height and leadership in online meetings. We would then run mediation analyses to see if height perceptions statistically mediate the relationship between cameral level and perceived leadership.

V. Itemized Budget

Proposed Budget		
Item	**Budgeted Amount**	**Explanation and Justification for Expense**
Participant Compensation	$960	400 participants, $2/participant on MTurk + 20% service fee
Poster Printing	$100	Printing cost for Spring UROP symposium
Total Budget	**$1060**	

VI. Individual Responsibility

I will be responsible for creating the survey and producing survey materials, recruiting subjects, collecting data, analyzing and interpreting data, and reporting findings.

VII. Timeline

Fall 2022

- Literature Review
- Survey creation

Winter 2023

- Data collection
- Data processing
- Running and finalizing analyses

Spring 2023

- Writing-up results
- Making poster for UROP presentation

VIII. IRB Protocol

N/A- Protocol determined exempt by student researcher and faculty mentor using the self-determination exempt tool.

IX. References

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