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Tall claims? Sense and nonsense about the importance of height of US presidents

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ABSTRACT

According to both the scientific literature and popular media, all one needs to win a US presidential election is to be taller than one's opponent. Yet, such claims are often based on an arbitrary selection of elections, and inadequate statistical analysis. Using data on all presidential elections, we show that height is indeed an important factor in the US presidential elections. Candidates that were taller than their opponents received more popular votes, although they were not significantly more likely to win the actual election. Taller presidents were also more likely to be reelected. In addition, presidents were, on average, much taller than men from the same birth cohort. The advantage of taller candidates is potentially explained by perceptions associated with height: taller presidents are rated by experts as 'greater', and having more leadership and communication skills. We conclude that height is an important characteristic in choosing and evaluating political leaders.

1. Introduction

> *"At 5′10″ (on a warm day) the author is neither presidential nor destined for even near-greatness"*
> Paul M. Sommers, 2002.

1.1. Presidential height and election outcomes: Fact or fiction?

According to conventional wisdom, US presidential elections are often won by the taller of the two candidates. Indeed, US presidential height is a popular topic among essayists (Adams, 1992; Baker, 2007; Carnahan, 2004; Mathews, 1999; Page, 2004; Rolirad, 2004) and popular science writers (Borgmann, 1965; Gillis, 1982). In his book "*Too tall, too small*" for example, Gillis (1982) reported that, in the twenty presidential elections held between 1904 and 1980, the overwhelming majority (80%) was won by the taller of the two candidates. Similarly, Borgmann (1965) claimed that the shorter candidate lost all presidential elections except one between 1888 and 1960.

Similar claims are found in the scientific literature, often drawing on these more popular accounts. Jackson and Ervin (1992), for example, cite Gillis (1982), and report that taller candidates fare better in presidential elections than shorter ones. Sorokowski (2010) similarly cites Gillis (1982), stating that *'between 1900 and 1968, the taller candidate always came first'*. Using a different sample of elections, Higham and Carment (1992) conclude that US presidents elected between 1905 and 1980 were significantly

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taller than their defeated opponents. Employing yet another sample of elections, namely those between 1952 and 2000, Persico, Postlewaite, and Silverman (2004) state that in '*the past 13 US presidential elections the taller candidate has won 10 times*'. Finally, Murray and Schmitz (2011) conclude, based on more quantitative data from all elections, that *'the taller of the two major-party presidential candidates between 1789 and 2008 won the presidency in 58 percent of elections*'.

Despite the apparently overwhelming evidence suggesting that height matters, it is also clear that the figures reported by different authors vary substantially (e.g., from the 58% reported by Murray and Schmitz (2011) to the 100% of all elections reported by Sorokowski (2010)). Such variability may, in turn, be related to methodological issues that also cast doubt on this general conclusion. A problem common to most of these studies is the selective sampling of elections, which inevitably leads to different results. It is notable that the criteria used to select particular time periods usually goes unreported, and appears to be entirely arbitrary. What if all those elections falling outside the selected sample were won by the shorter candidate? An additional methodological issue is the recurrent lack of statistical testing. Does the higher percentage of taller winners actually deviate from that expected by chance (especially when the percentage difference is rather small, e.g., the 58% reported by Murray & Schmitz, 2011)? A humorous example of the consequences of selective sampling of presidential elections and lack of statistical testing is given by Adams (1992), who argues that the longer-name-hypothesis should be given equal weight to the height-advantage-hypothesis: 'Of the 22 elections between 1876 and 1960, the candidate with more letters in his last name won the popular vote 20 times.' In other words, it is very easy to identify features that predict election outcomes, given arbitrary selection of time periods and an absence of any form of statistical analysis, but it seems unlikely that such features are representative of all elections.

Not all studies suffer from these methodological limitations, however. McCann (2001), for instance, provides evidence for a statistical relationship between presidential height and political success. Using all elections for which data were available (1824 to 1992), he found that taller presidents received relatively more support (measured by popular votes) than shorter presidents. Additionally, he showed that in times of social, economic or societal threat, the winning presidential candidates were taller. Thus, taller presidents received more votes than shorter presidents, and were more likely to be chosen as leaders during difficult periods.

Taking a slightly different approach, a number of studies have compared presidential height to the average height of the population. Judge and Cable (2004), for instance, note that *'not since 1896 have U.S. citizens elected a president whose height was below average*'. This leaves unanswered, however, the nature of the relationship existing prior to 1896. Persico and his colleagues (2004) attempted to provide an answer to this by comparing the heights of all presidents (up to G.W. Bush) to the heights of military men born in the year when the president took office. They showed that presidents tend to be distinctly taller than the average man in the military. One limitation here, however, is that, because of the secular trend of increasing height over time, using the heights of men *born* in the year when the president took office overestimates the height of the existing *adult* male population in that same year (a point which the authors themselves acknowledge; Persico et al. (2004)). In this study, we attempt to address the methodological and statistical limitations present in the previous work. First, however, we address why height might be related to presidential success.

1.2. Why does height matter?

The importance of height to US presidential election success is in line with other research showing that height is related to leadership qualities. Taller people, particularly men, are more likely to emerge as leaders in a group and more often occupy a leadership or managerial position (Gawley, Perks, & Curtis, 2009; Stogdill, 1948). Height is also positively related to measures of professional and educational achievement (Cavelaars et al., 2000; Judge & Cable, 2004; Silventoinen, Krueger, Bouchard, Kaprio, & McGue, 2004; Stulp, Buunk, Verhulst, & Pollet, 2012; Stulp, Pollet, Verhulst, & Buunk, 2012; Stulp, Verhulst, Pollet, & Buunk, 2012). More specifically, with respect to professional success, taller men have higher starting salaries (Loh, 1993), are more likely to be promoted (Melamed & Bozionelos, 1992) and have higher overall income (Judge & Cable, 2004).

A possible pathway through which taller men have an advantage in obtaining a leadership position, is that height is positively associated with interpersonal dominance: 'an individual's potential for asserting power and authority over more submissive members of his or her group' (Maner & Baker, 2007). Taller men are physically stronger (Carrier, 2011; Sell et al., 2009), are less sensitive to cues of dominance of other men (Watkins et al., 2010) and respond with less jealousy towards socially and physically dominant rivals than shorter men do (Buunk, Park, Zurriaga, Klavina, & Massar, 2008). It is possible, therefore, that taller men are more likely to emerge as leaders and attain high social status within groups and more broadly within society due to their increased dominance status.

The association between perceptions of height and dominance can also be related to one school of thought in the embodied cognition literature, which argues that humans ground their conceptual thinking in terms of bodily morphology and action (Schubert, 2005). For example, we automatically interpret words like "up", "above" and "large" with authority, dominance, and power (Giessner & Schubert, 2007; Schubert, 2005), whereas words like "down", "below" and "small" are associated with subordinance, submission, and powerlessness. These associations are also apparent in our every-day colloquial expressions; the term "big man", for instance, commonly denotes a person of authority and importance across both historical time and cultures. The notion of a "Big man", according to Ellis (1992, p. 279; citing Brown and Chia-Yun (no date)) is 'a conflation of physical size and social rank and that "big men" are consistently *big* men, tall in stature'. Moreover, this link between height and rank (or social status/leadership) has deep evolutionary roots: throughout the animal kingdom, larger males are more likely to win fights (Archer, 1988) and to attain social dominance (Andersson, 1994; Ellis, 1994). Overall, then, there are a number of converging lines of evidence to suggest that height is related to leadership and dominance in biologically significant ways. Given this link between actual dominance and height, it is perhaps not surprising that taller men are also *perceived* to be more dominant than shorter men (Montepare, 1995), and, equally, that more dominant or high-status men are estimated to be taller than less