

Examining gender stereotypes and leadership through role models using artificial intelligence

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Abstract

Gender-leadership relations have been studied for several decades. The prominent issue in this field of research is the question of women's underrepresentation in leadership positions. In the discourse regarding gender-leadership relations and the underrepresentation of women in leadership, gender stereotypes are ubiquitous. It is putative among traditional gender-leadership theories that women are typically perceived as less fitting to leadership than men due to high congruity between masculinity and leadership stereotypes. However, in the last decades, stereotypes of women and leadership have undergone a shift, which revises the traditional perception of women's incongruity with leadership. Women, for which this shift introduces an opportunity, embrace it more than men, for which it introduces a threat to their "rightful" position in the social order.

The current research aims to contribute to the gender-leadership discourse by suggesting the examination of leadership role models and the attributes for which they are chosen. The descriptions of the leadership role model of 4,411 men, and 3,074 women (N=7,485) and the reasons for which the role model was chosen have been analyzed. The descriptions were given by candidates for leadership training in a big organization as part of the application process for the training.

Role models are totems for attributes that individuals appreciate as important for success. For this reason, the current research suggests learning about individuals' beliefs on how successful people in a certain field should be by examining the attributes of their role models in this field. The objective of the research is to examine how primary gender-leadership theories are expressed in leadership role models' choices. This will be done by reviewing three perspectives of the choices: the gender of the role model, the distance to the role model, and the attributes of the role model¹.

¹ For readability purposes, the current research will use the terms men/women when relating to the individuals who described their role model, and the terms females/males when relating to the role models themselves

Descriptive gender stereotypes represent what individuals believe men and women are while prescriptive stereotypes represent what individuals believe men and women should be. Role models represent what individuals believe successful others should be like. Therefore, unlike primary gender-leadership paradigms which are focused on descriptive stereotypes, the current research focuses on prescriptive stereotypes. As descriptive and prescriptive stereotypes have different impacts on individuals, checking whether primary gender-leadership theories are expressed by prescriptive stereotypes the same way they do in descriptive ones is a salient contribution of the current research.

The current research also demonstrates an innovative research method that makes use of an artificial intelligence computerized algorithm. The algorithm, which is called topic modeling, is used to transform the textual descriptions of role models into quantitative data that can be analyzed using standard statistical tools. There is a paucity of studies in social science which make use of computerized technologies, and by demonstrating the usage of this algorithm the current research contributes to advancing technological research methods in social science in general, and particularly leadership studies.

The hypotheses regarding the perspective of role models' gender, which argued that both men and women will choose more males as role models than females, while for men the effect will be higher, have been supported. The hypotheses regarding the perspective of distance to the role model argued that both men and women will choose females more as close role models, and males more as distant and stereotypic role models. The hypotheses also assumed that for men the effect will be higher. These hypotheses have also been supported. The hypotheses regarding the attributes of the role models argued that men and women will be in the highest level of agreement regarding the attributes of role models without a clear gender context, these hypotheses have been partially supported as the agreement level for male role models was indeed the lowest, however, the agreement level for female role models and role models without a clear gender context was the same. The results show that primary gender-leadership theories are expressed similarly by prescriptive and descriptive stereotypes. The results are discussed, as well as the results of additional analyses which corroborated the finding. The research limitations are described, and future research is suggested.