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Spisak, B.R.

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English Summary

How to Win Elections: An Evolved Psychological Model of Context, Facial Cues, and Message Predicts Leadership Emergence

It is important to consider how evolutionary hypotheses about leadership can be tested. Many evolutionary hypotheses emerge in the context of discovery but it is in the context of proof that they are supported or falsified. Evolutionary psychology has been accused of weaving together “just so” stories about human social behavior (Nicholson, 2005a). Yet like any other psychology discipline evolutionary psychology generates testable hypotheses that can be supported or falsified through empirical research. To test evolutionary hypotheses about leadership requires one to build a nomological network of interconnected predictions and adopt a multi-methodology approach to test these in different leadership domains (Schmitt & Pilcher, 2004).

The present dissertation is an investigation of evolutionarily consistent coordination problems, biologically-based leadership prototypes, and how followers contingently pair these situations and prototypes. To do this implicit nonverbal cues embedded in the human face are utilized. There are four basic techniques used in the following chapters; natural faces, evolved composite faces, morphed faces, and a combination of these techniques.

First, natural faces are simply standardized single shot photographic images of neutral expression faces of actual people (i.e., a passport style photo). Second, evolved composite faces are images that have been “evolved” in distinct directions using a computer program running an evolutionary algorithm to select for features from multiple (and varied) faces to yield a particular prototype. Specifically, in the first generation the program generates nine random composite facial images. When one of the images is selected, the second generation of nine faces will (to a

varying degree) have features from the original face selected. This is replicated over multiple generations to yield an evolved prototype (e.g., a masculine face prototype). Third, morphed faces are the blending of at least one face with another. For example, morphing Barack Obama's face with Bill Clinton's face to yield an Obama-Clinton hybrid. Finally, a combination is used. A natural face can be morphed with an evolved composite face such as a masculine prototype to create a masculinized version of the original face. Making available all of these options provides experimental flexibility.

From a psychological perspective, incorporating the human face in my experiments helps to further understand nonverbal communication and its impact on leadership preferences. Likewise, replicating results using multiple techniques ensures the translation of this unspoken language is accurate. Throughout each chapter a brief explanation of the specific techniques and software being used will be provided when necessary. It will be shown that the human face acts as a visual résumé signaling context-specific leadership potential, and followers can rely on this biosocial information when selecting leaders.

Summary of Empirical Chapters

Chapter 2: Testing a Biosocial Contingency Model of Leadership in Intergroup Relations Using Masculine and Feminine Faces

Chapter 2 introduces a biosocial contingency model of leadership that incorporates followership perception of the environment, facial characteristics of the leader, and the leader's message. Using evolutionary social psychology, I expand upon implicit and contingent theories of leadership and propose that different types of intergroup relations elicit different implicit cognitive leadership prototypes. It is argued that a biologically-based hormonal connection

between behavior and corresponding facial characteristics interacts with evolutionarily consistent social dynamics to influence leadership emergence.

Consistent with hypotheses, in Experiment 2.1, participants prefer masculinized faces encouraging a competitive course of action against another group and femininized faces with cooperative intergroup intentions. In Experiment 2.2, using an intergroup prisoners' dilemma, I find that participants expect masculine-faced leaders to behave competitively and feminine-faced leaders cooperatively in intergroup relations. Furthermore, individuals prefer leaders whose facial cues match the prevailing adaptive problem. For example, a masculine-looking leader is preferred in a competitive intergroup prime. Also, this match between face and situation is reinforced with a consistent leadership message such as a masculine-looking leader expressing the need for competition (i.e., defection). From an evolutionary perspective, this research creates synthesis between traditional models and theories of leadership (such as contingency models and leadership categorization) with a biological understanding of innate human behavior.

Chapter 3: Testing a Biosocial Implicit Leadership Hypothesis of Intergroup Relations

Using Masculine and Feminine Faces

Chapter 3 examines the extent to which masculine-looking leaders are selected during intergroup conflict (war), feminine-looking leaders during intergroup cooperation (peace), and the overall implicit facial categorization process. Across two experiments I show that a general categorization of leader versus nonleader is an initial implicit requirement for emergence, and at a context-specific level facial cues of masculinity and femininity contingently affect war versus peace leadership emergence in the predicted direction. In addition, I replicate my findings in the first experiment across culture using Western and East Asian samples. In Experiment 3.2, I also show that masculine-feminine facial cues are better predictors of leadership than male-female

cues. Collectively, my results indicate a multi-level classification of context-specific leadership based on visual cues imbedded in the human face and challenge traditional distinctions of male and female leadership.

Chapter 4: The General Age of Leadership: Older Presidential Candidates are Preferred during War

In chapter 4 it is observed that as nation-state leader's age they increasingly engage in inter-state militarized disputes yet in industrialized societies a steady decrease in testosterone associated with aging is observed – which suggests a decrease in dominance behavior. The current paper points out that from modern societies to Old World monkeys increasing both in age and social status encourages dominant strategies to maintain acquired rank. Moreover, it is argued this consistency has shaped an implicit prototype causing followers to associate older age with dominance leadership. It is shown that faces of older leaders are preferred during intergroup conflict and morphing US Presidential candidates to appear older or younger has an overriding effect on actual election outcomes. This indicates that democratic voting can be systematically adjusted by activating innate biases. These findings appear to create a new line of research regarding the biology of leadership and contextual cues of age.

Chapter 5: The Age of Exploration and Exploitation: Younger Leaders are Preferred for Change and Older Leaders are Preferred for Stability

Chapter 5 investigates the final two coordination problems mentioned in the general introduction. Specifically, I investigate evolved leadership prototypes associated with either resource exploration or stable exploitation. A theoretical connection is made between the exploration-exploitation tradeoff, leadership prototypes, and specific age differences. It is shown that the tradeoff between exploration and exploitation is an evolutionarily consistent balancing

act between change and stability. Further, to address these coordination problems different leadership prototypes tend to emerge. At a proximate level, a relationship exists between transformational leadership and exploration, given the emphasis on fostering passion, risk-taking, and creativity. Whereas the requirements of exploitation relate to the qualities of transactional leadership such as consistency, stability, and control.

From an evolutionary perspective, this connection between change and stability aligns with leadership opportunities for gaining versus maintaining status as mediated by physical ability and age. Further, given the “fitness-relevance” of these leadership roles, it is likely that “follower heuristics” have evolved to correctly assign leadership and increase group efficiency. As expected, over two experiments, older leaders are selected for maintaining stability (exploitation) and younger leaders are selected for times of change (exploration). My findings emphasize functional cues of age for leadership selection and introduce a biological-social interaction for such decision making.