

STATEMENT

Point/Counterpoint: Are Outstanding Leaders Born or Made?

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The question of whether outstanding leaders are born or made has been debated for years. There are numerous examples of historical figures that came naturally to leadership, while others developed their leadership skills through tenacity and experience. To understand leadership, both nature (the genetic component) and nurture (the environmental influences) must be considered. This article represents the work of two Academic Leadership Fellows Program groups who debated each position at the 2016 American Association of Colleges of Pharmacy (AACCP) Interim Meeting in Tampa, Fla., in February 2016.

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INTRODUCTION

According to R. M. Stogdill's *Handbook of Leadership*, "There are almost as many different definitions of leadership as there are persons who have attempted to define the concept."¹ While there is no standard definition of leader, there are many different kinds of leadership that exist in today's environment. When thinking about outstanding leaders, whether present day or historical, one may question how they became such a notable leader. Were they born this way or were they taught to lead? The Great Man Theory, popularized in the 1840s by Thomas Carlyle, suggested that leadership traits are intrinsic, meaning that great leaders are born and will

emerge when confronted with the appropriate situation.² These individuals possess certain qualities and talents, such as deep honesty, moral vision, compassion and care, that make them well-suited for leadership.³ On the contrary, organizations invest much time and money to help their employees develop leadership skills based on the assumption that leaders can be trained. In fact, US companies spend approximately \$14 billion each year on this training, and higher education offers a multitude of degree courses pertaining to leadership.⁴ This suggests that leadership itself is a skill that may be learned (ie, extrinsically fostered). This article will examine and provide further perspective on the much debated question: are the foundations of outstanding leadership intrinsic (ie, leaders are born) or extrinsic (ie, leaders are made)?

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METHODS

The purpose of a debate is to search for the truth, or perhaps the best answer, by comparing or contrasting ideas.⁵ The structure of a debate can be simplified into three components: the claim, the warrant, and the impact. The claim provides the position that the debater would like to instill upon the audience. Outstanding leaders are born, or made, is the claim. The warrant justifies the claim, either by evidence, or with external opinion. The impact places the claim into perspective and suggests why the audience should be interested. All three components (claim, warrant, and impact) are necessary for a complete argument.⁵ The structure of the debate follows a point/counterpoint format, where one side provides an argument, followed by a rebuttal from the other side. The opportunity for targeted questions and answers between debaters also occurs during a typical debate.⁵

For this debate, two Academic Leadership Fellows Program (ALFP) groups drew a position at random. The position drawn may not have necessarily represented the personal views of the ALFP group members. Research by each group member involved literature review of primary sources, expert opinion, and historical references. Regardless of the position drawn, each group researched both positions, as opposing research prepares a debater for potential counter-arguments. Sources included Google Scholar, PubMed, ERIC (Educational Resources Information Center), and broad-based Internet searching for known leaders.

After extensive research, each ALFP group began preparing and practicing specific remarks for their position. Preparation involved mock debate sessions that were closely timed. Certain group members posed as the opposing group to better mimic a real debate. The entire preparation process, from research to debate, extended over several months and involved several group meetings, both live and virtual. The culmination was a debate presented at the American Association of Colleges of Pharmacy (AACP) Interim Meeting in Tampa, Fla., in February 2016.

POINT: LEADERS ARE BORN The Role of Genetics in Leadership

Over the past three decades, numerous twin studies have been conducted evaluating the heritability of leadership.⁶⁻¹⁰ Twin studies provide a good assessment of born and made leadership in that each twin serves as a control for the other. Identical or monozygotic twins who share 100% of their genetic material can be compared to fraternal or dizygotic twins who share 50% of their genetic material to evaluate both genetic and environmental influences on leadership. Data from twin studies have consistently shown that leadership has a substantial degree of

genetic basis.^{6,7,9} These studies have used a variety of methodologies including questionnaires and mathematical models to evaluate the genetic and shared or unique environmental experiences of twins in leadership roles. A majority of twin studies demonstrate moderate genetic contributions for personality traits of leaders, with an overall relative influence of a genetic relationship for leadership of up to 30%.^{7,10} In fact, in a study by DeNeve and colleagues evaluating what traits determine leadership role occupancy, the shared environment of the twins was not significant with only a 10% correlation; whereas, the genetic component was found to be 24%.⁷ Overall, twin studies have consistently demonstrated a genetic component to leadership.

In particular, DeNeve and colleagues demonstrate that leadership role occupancy may be associated with the rs4950 genetic marker, a single nucleotide polymorphism (SNP) that resides on the neuronal acetylcholine receptor gene on chromosome 8.⁷ The neuronal acetylcholine receptor gene can be related to personality traits, suggesting a link between leadership role occupancy and personality traits.⁷ Indeed, personality traits were considered in the book, *Good to Great*, where a level 5 (highest) leader often possesses traits such as personal humility and professional will.¹¹ It follows that a favorable genetic background sets outstanding leaders apart from the rest.

In practice, we can reference historical examples of twins who have demonstrated notable leadership. Identical twins Mark and Scott Kelly, NASA astronauts as well as retired US Navy captains, have both led great discoveries in space.¹² Julian and Joaquin Castro are identical twins from Texas. Julian served as the US Secretary of Housing and Urban Development from 2014 to 2017 and Joaquin is currently a US congressman.¹³ Examining twins aids in the understanding of how genes lay the groundwork for leadership. The twins are born with potential and the ability to emerge as leaders if the genetic leadership traits are fostered in the right environment.

The evidence consistently shows a genetic component to leadership. As a result, leaders are born, not made.

Leaders and Followers

We can look to nature to argue that one can be taught to follow, but not to lead. The concept of leadership exists throughout the animal kingdom, and animal models are commonly used to study leadership behavior.¹⁴ The three-spined stickleback fish, for example, serves as a model species for research on personality and social behavior. Individual fish show large differences in the extent in which they emerge from covered areas to explore their environment. Some fish are bold and act as leaders, while others are shy and prefer to follow those

that lead.^{15,16} To determine how individuals may cope with a forced change in their leadership/follower role, Nakayama and colleagues formed pairs of stickleback fish, each consisting of a member that had shown natural leadership behavior and a member that had naturally taken on a follower role.¹⁵ The followers were rewarded with a small amount of food each time they showed initiative, while the bolder fish received the same reward only when they followed the shyer member of the pair. The resulting behavioral patterns were compared with those resulting from fish being rewarded for showing their natural tendency to lead or follow. While the positive reinforcement helped both leaders and followers to show significantly more follower behavior, the increase in leader behavior was less significant. Moreover, when the fish were forced to swap roles, the overall performance of the pairs, as measured by the amount of food they were able to collect together, was reduced.¹⁷ Altogether, the investigators concluded that fish can learn to follow but struggle to take on a leadership role. If we extend this into human leadership behavior, it may indicate that leadership is mostly born.

COUNTERPOINT: LEADERS ARE MADE

Arguments for the claim that leaders are born should not be supported because (1) there are statistical flaws in the twin studies evaluating leadership; (2) numerous examples exist of historical figures devoid of a family history of leaders; (3) individuals can learn the skills to be an outstanding leader through life experiences and leadership development programs. There has yet to be research to identify one single trait or mix of traits that is found in all leaders. Warren Bennis, author of the book *On Becoming a Leader*, identifies several characteristics that leaders share: a guiding vision, passion that provides hope and inspires others, integrity (which encompasses candor, maturity and self-knowledge), curiosity, and the willingness to take risks.¹⁸ These are not traits that individuals are born with and cannot change, but rather traits that are developed as a result of life experiences. According to Bennis, “Developing character and vision is the way leaders invent themselves.”¹⁸ Leaders embrace opportunities, engage in skill development, and respond to a set of external circumstances.

The Role of Genetics in Leadership

There is a lack of experimentation in humans on this issue, so researchers have relied heavily on statistical analysis of variance between pairs of twins to estimate the extent to which differences between the pairs correlate with genetic or environmental factors. The accumulated results of twin studies have consistently estimated the

genetic component of leadership role occupancy at only 30% while estimating environmental influence at 70%.^{10,19,20} Even more recent studies in molecular genetics have estimated the heritability of leadership at only 24% by demonstrating an association between leadership role occupancy and the rs4950 genotype.⁷ Simply having occupancy in a leadership role does not assume that the person is an outstanding leader.

Twin studies also make significant assumptions that limit their validity, such as the equal environment assumption (EEA), which assumes identical and fraternal twin pairs grow up experiencing roughly equal environments.²¹ Every person has slightly different perceptions of the world, and they see, hear, and internalize their environment to a different extent. Furthermore, results from twin studies cannot be directly generalized because they do not represent a random sample of the general population. While twin studies and molecular genetics have provided some indirect evidence in the form of statistical correlations or associations with self-reported leadership occupancy, these same studies also conclude that leadership is complex and that it is formed much more significantly by a person’s environment.⁷ That is, leadership is not something we are simply born with like blue eyes or red hair. Leaders, especially outstanding leaders, are developed over time through hard work and lived experiences.

Historical Examples

Genetics logic would suggest that outstanding leaders are born to parents who are also leaders. Developing leadership skills through deliberate practice would be unnecessary for outstanding leaders. Both are false, and several historical examples support this statement.

Walt Disney came from humble beginnings and grew up in a home with his unassuming home-maker mother, his entrepreneurial father who failed at most business schemes in which he ventured, and four mostly ordinary siblings. His strict and aloof father disapproved of Walt’s creative leanings and actively forbid his participation in related events. Despite all of this, Walt succeeded, at the age of 29, with Mickey Mouse. He emerged, through perseverance, learning from mistakes and development of his skills to rally a team around an idea, as a pioneer in the field of animation.²²

Another example of an exceptional leader being made despite a less than leader-like pedigree is John D. Rockefeller Sr., the richest American in history.²³ His father was a “snake oil” salesman and bigamist who abandoned his family when John was just a small boy. Despite this “pedigree,” John created and grew Standard Oil, the largest oil refiner in the world, during the turn of the 20th

century.²³ Rockefeller established his immense wealth slowly and deliberately, through success and failure, not through a predetermined set of innate leadership abilities.

In addition to Disney and Rockefeller, President Dwight D. Eisenhower and Roman Emperor Claudius Caesar Augustus are two further examples of outstanding leaders from a less than outstanding parental pedigree.²⁴⁻²⁶ These leaders were mentored, learned from their environment, and developed through time and experience.

Leadership Industry

It has been demonstrated that it takes thousands of hours of deliberate practice to acquire mastery of skill. Research by Ericsson and colleagues in 1993 demonstrated that deliberate practice was responsible for 80% of the difference in outcomes between elite musicians and committed amateurs.²⁷ While the probability of succeeding at a high level is relatively low without some talent, the small role for talent is overshadowed by the larger role that preparation seems to play. Walt Disney spent 10 years learning and practicing his leadership skills following

a first failed business attempt and ultimately went on to transform the entertainment industry. Leaders can indeed be developed, and leadership can be taught and practiced. Even AACP supports leadership development through various resources and programming, particularly the ALFP program to which the authors are participating.

Billions of dollars are spent yearly by corporations seeking to have their employees develop leadership skills. Leadership development is not a single activity, but rather a set of activities that typically occur over a period of time (ie, several years). Each leadership development activity may contribute to leadership capacity of the individual, of the group, or of the organization.²⁸

CONCLUSION

Are leaders born or made? Each ALFP group member, excluding the two leadership facilitators, provided his/her brief opinion on this topic, which is summarized in Table 1. Consistent themes are noted when reading these statements. The group debating that leaders are born argue that certain innate traits are needed in order to

Table 1. Authors' Opinions on Outstanding Leaders Debate

Position Debated: Leaders Are Born vs. Made	Opinion
Born	When asked, many leaders who are valued for their leadership by others are not able to explain what makes them stand out. Therefore, real leadership depends, for a large part, on one's natural abilities.
Born	Leaders are born with certain core traits that through situations and training foster them into becoming outstanding leaders.
Born	Unless an individual is born with certain traits (eg, humility), life experiences will not develop him/her into an outstanding leader.
Born	An admired and common trait among outstanding leaders is humility. A humble leader is inspiring and helps to bring out the best in others.
Born	People are born with certain innate traits that allow them to emerge as outstanding leaders when the situation is thrust upon them.
Born	We are all born with certain traits that have the potential to make us outstanding leaders. Those traits are highlighted when the environment and circumstances align and allow one to show his/her true potential.
Made	We all have talents, some which make it easier to step into a leadership role, but without the right situation, development, and awareness, those talents may be wasted. Not everyone has the talent to be a great leader, but every great leader needs more than just skills to fulfill that role.
Made	To become good leaders, people have to be motivated to discover who they are and what they believe in (personally and professionally), then use their experiences, training, and education to build and leverage those strengths.
Made	While it may be true that we're born with a certain propensity to lead, outstanding leaders are the product of hard work and development over time.
Made	Although compelling arguments can be generated that leaders are born, history teaches us otherwise, thus resulting in the conclusion that leaders are made.
Made	It's easier to support the notion that outstanding leaders are made when the definition of environment can be so broad. It is also possible there are genetic components that have yet to be discovered.
Made	The bred vs. born debate is unlikely to move forward in the absence of a clear definition of leader. There is an impossibility in assessing correlation (eg, genetics) when the outcome (eg, leader) lacks clarity.

develop into an outstanding leader when life experiences and circumstances present themselves. The group debating that leaders are made argue that training, hard work, and experiences result in the development of outstanding leaders. The answer is likely not just one viewpoint or the other, but rather a combination of both. There is evidence to support a 30% genetic component to being in a leadership role.⁷ The genetic evidence, however, largely uses indirect outcomes, such as self-reported leadership role occupancy, which makes no claim to the aptness of leader within that role. Further, studies from nature support that some fish could learn to follow, but were less likely to learn to lead.¹⁴ The translational ability of such a study from fish to humans is not yet demonstrated.

Historical examples exist to support both a genetic and environmental component to leadership. Whether an evidence-based endeavor or a financial opportunity, the leadership industry exceeds \$14 billion annually and is purportedly committed to making leaders. Leaders most likely arise from a combination of genetic predisposition as well as development through reactions to environmental factors.

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