CLOSING THE LEADERSHIP GAP:

How Educators Can Help Girls Lead

Well-spoken

Intellige

Collaborat

Assertive

Sympathetic Warm Charis

scientious Sensitive

Determined

Problem-solve

Confident

How Educators Can Help Girls Lead

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WHY THIS STUDY?

Written for educators and women's rights advocates, this report presents the findings of a survey on girls and women in leadership. Commissioned by the National Education Association, the American Association of University Women, and the Center for Information & Research on Civic Learning & Engagement based at Tufts University's Tisch College of Citizenship and Public Service, this survey report explores educators' perspectives on girls and leadership, particularly during the middle and high school years.

The aim of this report is to promote awareness about the gender gap in leadership and to make recommendations about the actions educators and advocates can take to close that gap, support female leadership development, and create a pipeline of girls and women into leadership positions–during the school years and into adulthood.

SECTION 1.
Closing the Leadership Gap

A Gender Gap in Leadership

From the halls of America's schools to the halls of the United States Congress, the gender gap in leadership is well-documented. Women account for half of the U.S. population, and research on leadership indicates that female leaders are as effective in many domains as their male counterparts, if not more so.[1]

Yet, women are underrepresented in public leadership roles, holding only 24 percent of seats in state legislatures; 12 percent of mayoral seats in the 100 largest American cities; 10 percent of governorships; 20 percent of seats in the U.S. Senate; and 18 percent of seats in the U.S. House of Representatives.[2]

Teaching Girls to Lead

"Female historical figures fare poorly in classroom curricula and textbooks, and no national holiday honors the accomplishments of a woman. Women's contributions to our nation's history and democracy are rendered nearly invisible in the classroom. Boys grow up thinking that public leaders look like them, but rarely are girls taught to envision themselves as leaders and innovators."

–**Teach A Girl to Lead**, a project of the Center for American Women and Politics, Rutgers Eagleton Institute of Politics

The pattern is similar even in the K-12 education sector—a "traditionally female" field—where women hold 75 percent of teaching positions but only 30 percent of educational leadership roles, and "[a]s the leadership positions rise in stature and power, the number of women leaders declines."[3] The landscape surrounding women and girls and leadership is further complicated by entrenched cultural norms and expectations about the role of women and well-documented negative perceptions about women's suitability for leadership roles.

Schools Can Help Close the Gap

Schools provide a venue for addressing persistent gender leadership gaps by creating a pipeline of girls and young women who are interested in taking on future leadership roles. In particular, the middle and high school years provide an important opportunity for all students—girls *and* boys—to flex their leadership muscles, and an important opportunity for educators to sow the seeds for their students' continued engagement in leadership in postsecondary education and beyond.

Educators have a unique vantage point from which to observe leadership behavior among their students, and can play a central role in influencing student choices about leadership just as they exert influence on student choices with respect to course selection, careers, and a wide range of other academic and life opportunities.

Educators' perceptions about their students' leadership potential are important because those perceptions arguably influence how and to whom they provide encouragement and feedback.[4] If educators see girls' and boys' leadership differently, it could impact their recommendations for leadership opportunities when they arise.

Educators Play a Unique Role

Educators play an important role in supporting student leadership development and in shaping the perceptions of all students about girls' and women's suitability for leadership, yet little has been known about educator perspectives on student gender and leadership. Aware of the challenges girls and women face in leadership, as well as the moment of opportunity presented by recent public and media attention on this issue, the National Education Association (NEA), the American Association of University Women (AAUW), and the Center for Information & Research on Civic Learning & Engagement (CIRCLE), which is based at Tufts University's Tisch College of Citizenship and Public Service, partnered to explore the role educators can play in creating a pipeline of girls and women into leadership.

This report presents key findings from a 2014 NEA survey that explores educators' perspectives about girls' leadership in the middle and high school years. An online survey instrument was completed by 986 current NEA members, who included teachers, administrators, paraeducators, and other education support professionals working with middle and high school students. The sample included engaged NEA members interested in social justice and leadership development, as well as a smaller number of randomly chosen members (see Appendix A for a detailed description of the survey methodology).[5]

The primary goals of this study were to understand what qualities the participating educators thought were important for leaders, and to assess if and to what extent gender bias might impact their perceptions about student leadership.

The good news is the survey suggests that educators—especially those who are newer to the profession and those who have received professional development and training on gender and diversity issues—have a good handle on issues related to gender and leadership and define leadership in more gender-neutral terms rather than by male or female stereotypes. Even so, there is still work to do: the survey also suggests that educators observe gendered patterns in leadership among their middle and high school students, and that subtle gender biases about girls and leadership exist in the education setting, much as they do in other settings.

This survey report describes three findings of this study:

- The first finding relates to educators' definition of a good leader.

- The second finding relates to educators' observations of student leadership roles in various settings.

- The third finding reveals results from a randomized experiment designed to test for subtle forms of bias.

The report ends with recommendations for bridging gender leadership gaps and supporting girls leadership development through the middle and high school years.

SECTION 2.
Key Findings

1. Middle and high school educators expressed a gender-egalitarian view of leadership.[6]

The survey first asked respondents to define a good leader by choosing five adjectives to describe qualities of a good leader. Respondents could choose from a list of 21 adjectives that included more gender stereotypical attributes like "compassionate" and "charismatic," as well as gender neutral ones, such as "problem-solver" and "collaborative."[7]

Overall, educators expressed an egalitarian definition of leadership. The most popular adjectives chosen by educators to define a good leader were for the most part gender-neutral. The most popular choice was "problem-solver," (selected by 64 percent of respondents) followed by "collaborative" (selected by 58 percent of respondents).

Around 40 percent of respondents also chose "intelligent" as a characteristic of a good leader, as well as "confident" and "compassionate," which are male-typed and female-typed, respectively. Following the most popular terms, participants were slightly more likely to choose male-typed attributes (e.g., well-spoken, determined, assertive, charismatic) than female-typed attributes (e.g., caring, selfless, sensitive, sympathetic).[8]

Figure 1: Attributes chosen by educators to define a good leader. The size of individual words reflects the proportionate response rate for that attribute. Based on previous research, blue represents male-stereotyped terms, red represents female-stereotyped terms and green represents terms that are more gender neutral.

This egalitarian definition of leadership appears to be informed, at least in part, by both teaching experience and exposure to professional development on gender or diversity issues. Teachers with fewer years of teaching experience were less likely than more experienced teachers to choose attributes of a good leader that were stereotypically gendered. Educators who had participated in professional development on gender or diversity issues were also less likely to choose attributes of a good leader that were stereotypically gendered. Moreover, teachers with fewer years of experience were more likely to have received professional development on gender or diversity issues, possibly suggesting that having up-to-date training may lessen or ameliorate gender bias in how educators define a good leader. More research would be needed to understand whether and how professional development affects educator's perceptions about gender and leadership.

Implications

- Educators' egalitarian definition of leadership suggests they are open to recognizing and supporting girls' leadership.

- Educators are in a position to share a non-gendered vision of leadership with their students, which ultimately could promote more widespread acceptance among their students of girls and women in leadership roles.

- Each of these outcomes—supporting girls' leadership development and fostering acceptance of girls and women in leadership—are essential to closing persistent gender leadership gaps and opening leadership opportunities for girls and women.

- While this finding may not be wholly surprising since over half of the potential sample were

NEA members who are already engaged in social justice issues and leadership, it does suggest that school leaders, education schools, education associations, and other appropriate state and local agencies need to continue to invest in and encourage participation in pre-service training and professional development around gender and diversity issues.

2. Educators observe that girls and boys take on leadership roles in different settings in school.

While educators who responded to the survey may have a largely inclusive definition of leadership, the survey findings indicate that educators observe gendered patterns in student leadership at their schools, with girls and boys tending to hold leadership roles in different settings. Specifically, educators reported that girls are far more likely than boys to take on leadership roles in English and language arts classes, in student government as top officers and supporting officers, in arts and culture clubs, in community service projects, and on school publications. In contrast, educators reported that boys are more likely than girls to take on leadership roles in math and science classes, in athletic activities, and in science clubs. Boys and girls were equally likely to hold leadership roles in social science subjects.[9]

Interestingly, educators' observations about the settings in school where boys and girls take on leadership were closely matched at both the middle and high school levels. For example, just 10 percent of both middle and high school educators reported that boys were more likely to take on leadership roles in English and language arts classes, whereas 72 percent of middle school educators and 75

percent of high school educators reported that girls were more likely to be leaders in English and language arts classes. The consistency of the reports between middle and high school educators reinforces the reliability of the findings. The exception to this pattern was in science club/class leadership: while only about 20 percent of middle school educators said girls were more likely than boys to be leaders in science club/class, that number increased to 30 percent among high school educators.

Girls' Leadership and STEM

The observation that high school girls are more likely to take on leadership roles in science clubs/classes as compared to middle school girls is encouraging, particularly since girls face negative gender stereotypes on at least two dimensions when it comes to leadership in STEM courses, clubs, and related settings: first, the stereotype that girls are not as good as boys in math and that scientific work is better suited to boys and men; and second, the stereotype that boys and men make better leaders.

Negative gender/STEM stereotypes impact girls' test performance and undermine girls' aspirations and identification with STEM through stereotype threat.* This helps explain why girls might be less likely to take on leadership roles in STEM courses and clubs in school. However, the observation that high school girls are more likely to be leaders in science classes and clubs than in earlier grades could indicate positive results of efforts to combat negative gender/STEM stereotypes and to increase girls participation and performance in science and math.

*See Why So Few: Women in Science Technology, Engineering, and Mathematics (AAUW 2010).

Implications

- The remarkably consistent pattern in the settings in which girls and boys are likely to become leaders fits with common gender stereotypes and suggests a role for educators to encourage students to run for offices and take on leadership roles in settings that are non-traditional for their gender.

- Students are aware of and influenced by gender stereotypes from as early as elementary school, and middle and high school teachers will need to minimize their own gender bias and potentially reverse some gendered messages that girls have already received.

- Educators must make a conscious effort to encourage both boys and girls to take on leadership roles in settings that are not typically dominated by their genders in order to reverse entrenched patterns of gendered leadership, as it has implications for their future as professionals, politicians, teachers, and parents. Past research has shown that elementary teachers sometimes impose gender role stereotypes in math classes, especially on girls who are medium or low achieving.[10] Research has also shown that assigned roles or tasks differ based on gender among elementary school students. While young girls are assigned to conducting domestic or clerical tasks (i.e. taking notes on the board), young male students are often assigned to responsibilities with some measure of authority or control.[11]

3. Gender stereotypes and implicit biases are still a challenge in the education setting, much as they are in other settings.

Educators selected largely gender neutral characteristics when explicitly asked to identify the qualities of a good leader, but subtle gender biases emerged when their *implicit* beliefs about gender and leadership were assessed.

In the second part of the survey, participants were randomly assigned to one of two groups and presented with a realistic situation in which they were asked to describe and evaluate a student leader. Each group saw the same statement from a hypothetical candidate for student council president, with one exception: one group was told the candidate's name is Emily, and the other group, Jacob.

Respondents were then asked to choose from a list of attributes to describe the candidate, some reflective of gender stereotypes and some not. They were also asked to name assets and challenges of the candidate and provide him/her with advice. Participants were unaware of this survey's focus on gender and leadership, and the survey did not contain any mention of gender until after the experimental portion of the survey.

While survey respondents attributed some adjectives (such as collaborative, competent, ambitious, and determined) to Emily and Jacob equally, in other respects, respondents described Emily and Jacob very differently even though the hypothetical candidates gave exactly the same statement.[12] Though the differences were usually small, the overall theme provides a strong contrast in the ways in which educators described Jacob and Emily.

What's In a Name?

Assessing Leadership Potential: Student Council Candidate's Statement

Hey guys! My name is [Jacob/Emily] Smith and I'm running for Student Council President! Senior year is our time to have fun and celebrate all the hard work we have done at our school the past four years. The senior year can be stressful so let's make life at the school as stress-free as possible! If you vote for me for President next year I promise you that you will have the best year yet! Because of my previous experience as Secretary of the Special Events Planning Committee, I can plan great events throughout the school year and effective fundraisers for both our class and local charities. Of course I know I will be able to plan an awesome Senior Trip because of the experience I have gained through planning Winter Formal and Prom!!

At the same time, our school is going through a lot of changes right now and it's important that our beloved school stays the school we love during our last year in it. As President, I will make sure that students' voices are heard by the administration, even if that means meeting with Principal Garcia and others during my free period, lunch, or even after school. I will also explain the rationale behind all the changes to the students. I know that many students were confused and angry over the new lunch schedule last year; I will make sure that nothing of that sort happens again next year. I promise you will be fully informed and your voice will be heard!

It's our last year so let's make it memorable! Don't be shy—give [Jacob/Emily] a try!

Jacob was more likely to be described in stereo-typically "male" terms like "confident," "aggressive," "arrogant," and "charismatic." He was also described as "sympathetic." The participants in the Jacob group identified his strengths as "confidence," "assertiveness," and "charisma," while his key challenges were being "overly confident," "too arrogant," "too aggressive," and "not eloquent enough."

Emily, on the other hand, was more likely to be described in stereotypically "female" terms like "bubbly," "hard-working," "compassionate," and "feminine." The participants in the Emily group thought that she would be challenged in her candidacy because she "showed no authority" and lacked relevant experience. With respect to Emily's strengths, the participants who read Emily's statement chose the same set of terms as the participants who read Jacob's statement (determined and driven); however, the Emily group was slightly more likely than the Jacob group to also name "aggressiveness" and "toughness" as a strength.

A small minority of survey respondents seemed to appreciate when students take on non-traditional leadership roles. When describing strengths, some respondents said that Emily's "toughness" and "aggressiveness" are strengths (while the educators who saw Jacob's statement were more likely to describe these as his challenges). Similarly, respondents praised Jacob for his emotional intelligence, which research has generally found to be a female strength.[13]

Implications

- Subtle, implicit gender biases about leadership exist in the education sector, much as they do in other sectors, which suggests that even well-meaning, highly skilled, and deeply committed educators may hold and act on gender stereotypes. Research shows that even individuals who may express gender-egalitarian beliefs can still hold stereotypical beliefs at an unconscious level, and those unconscious beliefs may influence our behavior more than our explicitly held beliefs simply because we are unaware of them.[14]

- The survey findings are consistent with past research: children's storybooks were found to describe a girl character as an observer, or someone who requires assistance.[15] A recent experimental study in which science faculty evaluated male and female postdoctoral candidates found that science faculty were more likely to deem male candidates more competent and hirable, while female candidates were described as hard-working, even though identical application materials were reviewed.[16] This finding led to a conclusion that at least some educators (i.e., science faculty) consider males to be innately talented and skilled while assuming that females needed to work hard in order to compensate for an innate lack of ability to succeed as scientists. Research on workplace leadership also found that women who seek out leadership positions have to be either stereotypically masculine and aggressive at the cost of social skills or stereotypically feminine and socially adept at the cost of "leadership" qualities.[17] Additionally, a 2003 study of teachers found that teachers view male students as more tough, competitive, independent, and assertive, while seeing female students in the opposite way.[18] It appears that some of the same gender stereotypes may still be a factor in interactions between educators and students a decade later.

- Implicit assumptions about a student may impact how an educator interacts with that student—sending a biased, implicit message to the student and to others in the classroom and surrounding school building that is likely to inadvertently reinforce negative stereotypes about gender and leadership. If an educator views a girl as "not very leader-like," "bubbly," and "lacking in authority or experience"— characteristics that are not desirable in a good leader—that educator might feel as if the girl needs a lot of coaching or "help" in areas where she actually has strong leadership competencies, or overlook the girl altogether when leadership opportunities arise, even though a boy with exactly the same leadership attributes would be viewed as competent and not needing extra help. On the other hand, if and when a boy possesses stereotypically female characteristics (e.g., emotional intelligence, sympathy) that are viewed as strengths, then he may be viewed as having the talent to become a great leader, but needing coaching to modulate an overly confident or cocky attitude.

SECTION 3:
Recommendations

The following recommendations are intended to assist NEA members, other educators, and advocates for women and girls in implementing education practices that can help to close gender leadership gaps and promote leadership by girls and women in our schools, in our communities, and ultimately in our national political spaces.

1. Provide professional development and pre-service cultural competence, diversity, and leadership trainings that examine stereotypes and biases about girls, women, and leadership.

While many of the survey respondents (88.6 percent) reported having had professional development or a pre-service course that touched on the broad area of "gender or diversity issues," a significant portion (17 percent) said their initial training "never" touched on gender and gender equity, and a third of respondents (34.9 percent) said these issues were "rarely" addressed. Fewer than one fifth of survey respondents (17 percent) reported that gender and gender equity issues were "often" or "always" addressed in relevant training opportunities. These responses suggest that existing professional development and pre-service training do not cover the depth and scope of knowledge needed for educators to understand and minimize the explicit and implicit gender biases that impede gender equity in leadership.

Yet, given the gender biases revealed through the survey and the persistence of gendered patterns of leadership among students, it's clear that professional development and pre-service training about stereotypes and bias related to girls, women, and leadership is needed.

"Women & Leadership: Challenges and Opportunities"
NEA's Women's Leadership Training Program explores gender equity and leadership issues through an interactive training session, providing educators with an opportunity to learn about the stereotypes and implicit biases that women face in leadership and to develop strategies for overcoming these challenges.

For more information about the WLTP and other training programs, visit nea.org/home/hcr-trainings.html

2. Highlight the importance of women's contributions across the academic spectrum, and expose all students to women who are role models and leaders in the world.

Incredible women have played important roles in our nation's history, in world events, and in advancing science, math, and other academic areas. Holding up these role models and highlighting the important contributions of women across the academic spectrum are important strategies for expanding students' perceptions about what's possible for girls and women in leadership.

Exposure to successful role models not only inspires but is crucial in reducing the negative effects of stereotype threat[19] and in breaking down negative perceptions about girls and women in leadership.

Highlighting women's contributions and connecting students with women role models are practical steps that every educator can take to help bridge the gender leadership gap—whether they are women leaders who are breaking down barriers on the international level, like Malala Yousafzai and former Secretary of State Hillary Clinton; teachers and education support professionals in local schools; or women leaders in one's own hometown or household.

Teaching Toolbox

The newly launched "Teach a Girl to Lead" website, a project of the Center for American Women and Politics at the Rutgers University Eagleton Institute of Politics , provides a "Teaching Toolbox" to help educators more easily highlight women's leadership. For more information visit tag.rutgers.edu/teaching-toolbox/classroom-resources/

3. Encourage girls to take on leadership roles— and encourage all students to take on non-traditional leadership roles.

Encouragement and support from the educators with whom middle and high school girls regularly interact can help girls develop confidence in their leadership skills and abilities and see a broader range of opportunities for exercising leadership.

Research has confirmed that girls, in particular, have a high level of respect for educators and that educators can play an influential role in their students' leadership development.[20] What's more, encouraging all students to take on non-traditional leadership roles can help to break down the social norms and cultural stereotypes that both discourage girls from stepping into leadership roles and undermine the acceptance of girls and women in leadership roles.

What Girls Say About Leadership

Finding out what girls think about leadership, and how they like to be engaged, can illuminate new thinking and spark creative dialogue. Turning to resources like *Change It Up! What Girls Say About Redefining Leadership*, a report from the Girl Scout Research Institute, is a simple step all educators can take to learn more about how they can support girls' leadership aspirations and development:

- Girls aspire to purpose-driven, social change-oriented leadership rather than the "command and control" model of leadership more common in U.S. culture, and they have more experience with informal leadership activities, such as charitable and social service activities.

- Girls' aspirations for leadership are heavily dependent on their own confidence in their skills and competencies, and low self-regard about their leadership skills is the greatest single barrier to their engagement in leadership.

- "[T]he more experience youths have with leadership roles and extracurricular activities, the more likely they are to aspire to leadership," but "[e]nvironments in which girls can develop leadership experience and safely experiment with leadership roles are scarce."

- The majority of youth experience more opportunities for leadership at school (75 percent) than at home (24 percent) or at church (22 percent), and young people perceive the school environment as "more conducive to learning new skills, meeting new people, being in charge, making decisions, and having choices."

From *Change It Up! What Girls Say About Redefining Leadership*, Girl Scout Research Institute (2008) (Executive Summary at p. 25-26 and p. 37). Visit girlscouts.org/research/publications/girlleadership/change_it_up.asp to read more.

EDUCATORS CAN TAKE THE LEAD

Leaders have the power to determine our future. The decisions they make affect our families, our schools, and our nation. Yet, as noted earlier, women are dramatically underrepresented in leadership roles across many sectors—from "traditionally female" fields like education to Congress. At a time when women are still struggling for equality on many fronts, harnessing the power of girls and women—improving their representation and participation in all walks of leadership—is critical.

Educators are in a unique position to help close the leadership gap, being perfectly placed at the intersection of three key factors:

- Students have a much more expanded opportunity for leadership in school than in any other setting.

- Educators are extremely influential in students' lives, with girls, in particular, showing a high level of respect for their teachers.[21]

- Educators play an important role in shaping the perceptions of all students when it comes to gender roles and leadership.

This alignment of elements gives educators a unique opportunity to support and encourage girls to take on leadership roles in their middle and high school years, and to aspire to leadership later in life across public, political, philanthropic, business, educational, and non-profit settings.

We hope this survey and report are just the beginning of a collaborative process that explores the role educators can play in this endeavor.[22] When it comes to closing the leadership gap, who better than educators to take the lead?

ENDNOTES

1   For a review, see Eagly, A.H., Carli, L.L. (2003). The female leadership advantage: `An evaluation of the evidence. *The Leadership Quarterly*, 14(6) 807-834.
2   Center for American Progress, http://www.americanprogress.org/issues/women/report/2014/03/07/85457/fact-sheet-the-womens-leadership-gap/.
3   Lennon, Tiffani (2013), Benchmarking Women's Leadership in the United States (pp. 83 and 86).
4   Hannah, S. T., Avolio, B.J., Luthans, F., & Harms, P.D. (2008) Leadership efficacy: Review and future directions. *The Leadership Quarterly*, 19(6), 669-692)
5   This study has several limitations. First, while this study is a step toward understanding educator perceptions about student leadership, it is a correlational study and the findings do not support a causal relationship between the perspectives educators hold about leadership, and actual or observed gender differences in student leadership. Second, the sample is neither random nor representative of all public school educators, which limits the generalizability of the findings. Despite these design limitations, a randomized experiment was specifically incorporated into the study design to elicit educator perspectives about gender and student leadership, and the results provide insight for how educators can better support girls' leadership development.
6   When using the term gender-egalitarian, we are referring to a group of leadership attributes that are not dominated by either those attributes used as stereotypes of one gender or often associated with one gender.
7   The list of leadership attributes were selected from the gender-typed and neutral-typed adjectives used in Schneider & Bos (2014).
8   Readers should note that our description of various attributes as male-typed or female-typed does not reflect the authors' views of leadership. Rather, these descriptions reflect study findings that revealed gender typing of various leadership adjectives.
9   Prior to answering questions about who they observe as leaders in various settings, respondents were reminded of the words they had chosen earlier in describing a good leader. We designed the survey this way to make sure that the respondents used their own definition of good leader when reporting their observations, instead of simply reporting on a specific gender that dominates each setting.
10 Tiedemann, J. (2002). Teachers' gender stereotypes as determinants of teacher perceptions in elementary school mathematics. Educational Studies in Mathematics, 50, 49-62.
11 Koch, J. (2003). Gender issues in the classroom. In W. M. Reynolds & G. E. Miller (Eds.), Educational psychology handbook of psychology (pp. 259–281).Hoboken, NJ: Wiley.; Liu, F. (2006). School culture and gender. In C. Skelton, B. Francis, & L. Smulyan (Eds.), The SAGE handbook of gender and education (pp. 425–438). Thousand Oaks, CA: Sage.
12 As noted previously, our description of various attributes as male-typed or female-typed does not reflect the authors' views of leadership. Rather, these descriptions reflect study findings that revealed gender typing of various leadership adjectives. The list of leadership attributes were selected from the gender-typed and neutral-typed adjectives used in Schneider & Bos (2014).
13 Brackett, M.A., & Mayer, J.D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology*, 29, 1147-1158.; Brody, L.R., & Hall, J.A. (2000). Gender, emotion, and expression. In M. Lewis, & J.M. Haviland (Eds.), *Handbook of emotions* (pp. 338-349). New York: Guilford; Sanchez Nunez, M.T., Fernandez-Berrocal, P., Montanes, J., & Latorre, J.M. (2008). Does emotional intelligence depend on gender? The socialization of emotional competencies in men and women and its implications. Electronic Journal of Research in Educational Psychology, 15, 455-474. Disponible en: http://www.investigacion-psicopedagogica.org/rvista/articulos/15/english/Art 15 253.pdf

14 American Association of University Women (AAUW). (2010). Why So Few: Women in Science, Technology, Engineering and Mathematics, by Hill, C., Corbett, C., & St. Rose, A. Washington, DC: Author.

15 Basow, S.A. (2010). Gender in the classroom. In Chrisler, J.C. & McCreary, D.R., *Handbook of Gender Research in Psychology* (p. 277 – 295). New York, NY: Springer.; Gooden, A.M. & Gooden, M.A. (2001). Gender representation in notable children's picture books: 1995- 1999. *Sex Roles, 45,* 89-100.

16 Moss-Racusin, C.A., Dovidio, J.F., Brescoll, V.L., Graham, M.J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences of the United States of America 109,* 16474–16479.

17 Phelan, J.E., Moss-Racusin, C.A., Rudman, L. A. (2008). Competent yet out in the cold: shifting criteria for hiring reflects backlash toward agentic women. *Psychology of Women Quarterly, 32,* 406–413.; Schneider, M.C., & Bos, A.L. (2014). Measuring stereotypes of female politicians. *Political Psychology, 35,* 245-266.

18 Kosmerl, K.M. (2003). *Teachers' Perceptions of Gender Bias in the Classroom* (Unpublished doctoral dissertation). University of Wisconsin – Stout, Menomonie, WI.

19 Stereotype threat is a psychological response to being evaluated on a task based on a negative stereotype. See generally http://www.stereotypethreat.org.

20 Schoenberg, J., Samnd, K. and Fleshman, P. (2008). *Change It Up! What Girls Say About Redefining Leadership*, (Executive Summary at pp. 25-26 and 37)

21 Schoenberg, J., Samnd, K. and Fleshman, P. (2008). *Change It Up! What Girls Say About Redefining Leadership*, (Executive Summary at p. 26) ("Girls are more likely than boys to look up to their teachers (65% vs. 56%), while boys are more likely than girls to look up to their coaches (32% vs. 23%).").

22 This survey and report are a beginning to what we hope is an ongoing process of understanding what role educational contexts may play in the gender gap in leadership in the U.S. We hope that others will pursue research that helps to fill this gap, at every level of the educational system. In particular, these results suggest a need to better understand the unconscious and less overt actions that administrators and educators take that influence girls' leadership. The data from this survey leave unanswered questions about educators' definition of good leadership which differed from the gender-typed leadership trends they observe in schools. Further research should endeavor to understand the cause of the gendered patterns in leadership among students. Additionally, even more targeted data collection is needed to understand how leadership gaps develop in specific areas, such as politics and STEM.

APPENDIX:

Methodology

The survey had two parts. In one part, all responding educators saw the same set of questions. In another part, the educators were randomly assigned to two groups seeing exactly the same student council government candidate statement (see textbox on page 7). The only difference between the two was that one statement came from a student named "Emily Smith," and the other statement came from a student named "Jacob Smith."

The intent of this experimental portion was to explore subtle ways in which educators may evaluate students' leadership abilities differently based solely on a student's gender. Based on a recent survey experiment study,* we used adjectives that triggered gender-biased responses from the participants in that study. Similarly, other studies document the presence of gender bias in competency assessment in an experimental setting.** The color coding of the leadership definition word figure corresponds with the gender typing found in the study by Schneider and Bos (2014).

In subsequent sections, we used the same set of characteristics but described them in slightly different ways or formats (e.g., as nouns, or framed as "lack of," or "too much of," depending on the framing of the questions).

The survey was fielded to a total of about 40,000 educators whose email addresses were known to the NEA. Of those, about 30,000 contacts came from NEA's Human & Civil Rights Department, and the sample that came from that group is considered a group of "engaged educators." The other

* Schneider, M.C., & Bos, A.L. (2014). Measuring stereotypes of female politicians. *Political Psychology, 35,* 245-266.

** Moss-Racusin, C.A., Dovidio, J.F., Brescoll, V.L., Graham, M.J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences of the United States of America 109,* 16474–16479.; Phelan, J.E., Moss-Racusin, C.A., Rudman, L. A. (2008). Competent yet out in the cold: shifting criteria for hiring reflects backlash toward agentic women. *Psychology of Women Quarterly, 32,* 406–413.

10,000 came from NEA's general membership list. They should still be considered active educators since they provide contact to NEA but have not had a known contact with the Human & Civil Rights Department of NEA. There is no overlap between the two lists.

A total of three calls for participation were sent to each list by the NEA office between May 21, 2014, and June 13, 2014. The survey closed on June 18, 2014. The total study sample size is 986.

Table 1: Schools that participating educators represent

Geographic location		
	Urban	31.4%
	Suburban	44.0%
	Rural	24.6%
School characteristic		
	College prep school	20.2%
	School on academic probation	12.8%
	School where more than half of the students are students of color	40.3%
	30% or more English Learners	27.8%
	Gifted/Talented program	32.0%
	IB school	6.7%
	High technology resource	32.3%
	Low technology resource	27.2%
	School with human rights or civic emphasis	7.2%
	School where at least half of students qualify for free- or reduced-lunch program	52.7%

Table 2: Participant demographic characteristics

Grade level		
	Middle grade	43.9%
	High school grade	45.9%
	Middle school and high school combined	10.2%
Employed as		
	Teacher	78.9%
	Other education support professional	6.9%
	Administrator	2.2%
	Paraprofessional	4.1%
	Other	7.9%
(Teachers only) Years of teaching		
	5 years or less	8.2%
	6-10 years	14.4%
	11 -20 years	27.4%
	Over 20 years	41.0%
Educational attainment		
	No college degree	4.7%
	Associate's	1.9%
	Bachelor's	22.9%
	Master's	54.9%
	Education specialist or professional diploma based on 6-years of college study	10.3%
	Doctorate	2.5%
	Other	2.8%
Gender		

Table 2 (continued)

	Female	75.9%
	Male	23.8%
	Other	0.3%
Race and Ethnicity		
	White	63.7%
	African American	19.5%
	Hispanic of any race	6.4%
	Asian	2.9%
	Native American	2.2%
	Pacific Islander	1.0%
	Other	4.3%

Attributes that showed gender-based difference in the experiment

In the experimental portion of the survey, we first asked participants to choose up to three adjectives to describe the candidate whose statement they read. The table below shows the attributes that were used more often by one group (Emily or Jacob) than the other, along with the frequency with which participants chose the word for the candidate.

Table 3: Attributes that showed gender-based difference in the experiment*

Attribute	Used more for…	Emily %	Jacob %
Feminine	Emily	6.1%	1.0%
Compassionate	Emily	12.2%	6.7%
Bubbly	Emily	36.3%	27.3%
Hard-working	Emily	37.2%	31.4%
Masculine	Jacob	1.0%	2.9%
Creative	Jacob+	9.5%	13.3%
Sympathetic	Jacob	5.8%	10.0%
Arrogant	Jacob	9.7%	16.2%
Diplomatic	Jacob+	15.3%	19.7%

Challenges described differently by the educators

After describing the candidates, participants were asked to choose up to three words to describe the challenges the candidate might face. The table below highlights the attributes that showed a significant difference.

Table 4: Challenges described by the educators (attributes that showed significant group differences)*

Challenge	Used more for…	Emily %	Jacob %
No authority	Emily	14.9%	9.7%
Not enough relevant experience	Emily+	18.2%	14.0%
Overly confident	Jacob	40.1%	50.1%
Too arrogant	Jacob	16.1%	24.2%
Too aggressive	Jacob	13.6%	18.1%
Not eloquent enough	Jacob	4.6%	7.8%

Assets described differently by the educators

After describing the candidates, participants were asked to choose up to three words to describe the assets the candidate might have. The table below shows the attributes that showed a significant group difference.

Table 5: Assets described differently by the educators*

Assets	Used more for…	Emily %	Jacob %
Aggressive	Emily	7.1%	3.3%
Tough	Emily	2.4%	.7%
Charismatic	Jacob	20.4%	29.7%
Emotionally Intelligent	Jacob	5.8%	9.0%
Assertive	Jacob	21.7%	26.6%
Confident	Jacob	41.1%	47.3%

*   All attributes in Tables 3, 4, and 5 showed a statistically significant rate (p. < .05) between the conditions, except for the attributes that are denoted with +, which indicates a statistical trend (p. < .10).