



COMMENTARIES



Engendering Success in Politics: A Pipeline Problem Requires a Pipeline Solution

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The inauguration on January 20, 2021 was momentous for many reasons. Among these, this was the first time that a female Vice President, Kamala Harris, had been sworn into office in the United States of America. Not only was this the first female vice president, but also the first person (and woman) of color to hold this role. This historic moment was cause for celebration at the progress that we are making toward gender equality in politics. At the same time, this “first” serves as an important reminder of how far we have left to go. There are a growing number of women leaders around the world, and yet, as Heck et al. (2021) point out, we are currently far from gender parity in political representation and political leadership. In Canada, only one-third of our members of parliament are women and there has never been a woman elected Prime Minister. There are clear historical, sociocultural, and structural factors that can contribute to women’s political underrepresentation in North America and beyond. In their article, Heck et al. (2021) suggest that taking a developmental perspective has the potential to provide new insights into the roots of gender gaps in politics and could provide a critical step in addressing this gender disparity. We agree with their position enthusiastically, but also with guarded optimism. We believe that reducing the gender gap in politics may require a broader focus, even when taking a developmental approach.

The Value of a Social Cognitive Developmental Approach

For many years, researchers have identified the benefit of expanding the methodological and theoretical approaches that we take when addressing research questions that focus on important societal issues. Indeed, we appreciate the authors’ efforts to amplify the message that applying a developmental lens can lead us to better understand the foundations of social phenomena observed in adulthood. Olson and Dweck (2009) made the case over a decade ago that taking a social cognitive developmental approach allows researchers to gain greater insight into important questions across the lifespan. They further argued that this approach can be particularly useful when examining social cognition in general and intergroup bias in particular (Olson & Dweck, 2009; see also Olson & Dunham, 2010). By focusing on antecedents and consequences of mental representations,

Olson and Dweck (2009) noted that researchers had provided new insights into our understanding of aggression, achievement motivation, and gender.

For many years, this approach has also been taken across numerous labs, including our own, to better understand the developmental roots of racial bias (e.g., Anzures et al., 2013; Baron & Banaji, 2006, 2009; Baron, 2015; Kinzler & Spelke, 2011; Kelly et al., 2005; Lipman, Williams, Kawakami, & Steele, 2021; Liu et al., 2015; Pauker, Williams, & Steele, 2016; Pun, Ferera, Diesendruck, Hamlin, & Baron, 2018; Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011; Williams & Steele, 2019) and how developmentally appropriate interventions have the potential to disrupt the activation and expression of race-based associations (Gonzalez, Dunlop, & Baron, 2017; Gonzalez, Steele, & Baron, 2017; Gonzalez, Steele, Chan, Lim, & Baron, 2021; McGlothlin & Killen, 2010; Qian et al., 2016, 2020). As noted by Heck et al. (2021), a growing number of researchers have similarly taken this approach to understand women’s underrepresentation in Science, Technology, Engineering, and Mathematics (STEM), and this growing literature has the potential to serve as a model for the study of gender disparities in politics. As the authors summarize, studies that examine and challenge gender stereotyping in STEM have focused on shaping children’s, and particularly girls’, early cognitions, through early learning opportunities and experiences in STEM, exposure to positive role models, and even by reframing goals or activities. These are all important interventions that have the clear potential to reduce and eliminate specific psychological barriers to young girls’ ultimate success in politics. If girls are to succeed in any domain, it is important for them to believe that their success is possible and not limited by their gender (Baron, Schmader, Cvencek, & Meltzoff, 2013; Gonzalez et al., 2020; Régner, Steele, Ambady, Thinus-Blanc, & Huguet, 2014). However, we also know from research on gender and racial bias that successfully debiasing individuals and institutions requires more than changing the content of people’s beliefs, particularly of the people targeted by those biases. Heck et al. (2021) acknowledge that, despite the fact that these early interventions might constitute an important first step, they are likely not sufficient to eliminate gender gaps. Building on this notion, we outline additional critical entry points that we believe must be considered when taking

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a developmental approach to understanding women's under-representation in politics.

Moving Beyond Changing Girls' Associations

Recent reviews of the literature on interventions aimed at decreasing gender bias in STEM as well as racial bias more generally, provide strong evidence that one of the major limitations to fostering greater organizational inclusion through anti-bias training for adults stems from an oversimplification of those barriers by focusing predominantly on changing underlying associations (Carter, Onyeador, & Lewis, 2020; Paluck, Porat, Clark, & Green, 2020; Schmader, Dennehy, & Baron, 2021). Indeed, meta-analyses of studies that have attempted to retrain adults' implicit racial bias have demonstrated that such efforts often have little success in changing biased behavior, and in many cases, the preexisting levels of associations return shortly after the retraining efforts have concluded (Forscher et al., 2019; Lai et al., 2016). Some researchers have suggested that to reduce biased behavior among adults, interventions instead need to pay more attention to the role of motivation, awareness, and regulation of biases (for a review see Schmader et al., 2021). We believe that an additional focus on these factors is of similar, if not of greater, importance when examining the developmental roots of gender or racial gaps in any field, including politics.

When it comes to behavior, we know that intentions matter (Ajzen, 1991; Fishbein & Ajzen, 2011; Prochaska & DiClemente, 1986). Studies show, for example, that in the context of racial bias, motivated processes lead to favoring one's own group while downplaying the possibility of bias (Brewer, 1999), and that justifying one's advantaged position in a social hierarchy can modulate our tendency to act in unbiased ways (Baron & Banaji, 2009; Jost, Banaji, & Nosek, 2004; Norton & Sommers, 2011; Radke, Kutlaca, Siem, Wright, & Becker, 2020). In other work with adult populations, the data reveal individual differences in underlying motivations to be unbiased. While this research has largely focused on racial bias, there are important lessons for researchers interested in reducing gender bias. For example, research has documented that some people do indeed have a motivation to express their prejudice against other groups (Crandall, Miller, & White, 2018; Forscher & Kteily, 2020; Forscher, Cox, Graetz, & Devine, 2015; Gover, Harper, & Langton, 2020; Nagan & Manausa, 2018; Schaffner, Macwilliams, & Nteta, 2018). As such, it will be important to uncover the developmental roots of those motivations as they relate to gender inclusion in political leadership if we wish to increase women's representation.

Continuing to draw on parallels with the literature on gender bias and STEM, one way to increase motivation to be less biased is to focus on increasing individuals' awareness of their own biases (Bezrukova, Spell, Perry, & Jehn, 2016; Dobbin & Kaley, 2018; Monteith, Voils, & Ashburn-Nardo, 2001; Morris & Ashburn-Nardo, 2010). For example,

Moss-Racusin et al. (2018; see also Hennes et al., 2018; Pietri et al., 2017) have demonstrated that increasing a person's awareness of bias is sufficient to increase their intentions to be less biased. We suggest that future research will benefit from investigating children's motivations to be unbiased in the domain of leadership. This should include both individual differences in children's tendencies to express bias and developmentally appropriate strategies to increase their motivation to be unbiased.

Studies of adults have further shown that one path toward debiasing an environment is through learning to inhibit the biased behaviors (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Plant & Devine, 1998). Thus, in the context of fostering greater equality in political leadership, it seems especially important to also focus on children's internal regulation skills from a young age, which undoubtedly undergo substantial developmental change (Aboud, 1988; Zelazo, Carlson, & Kesek, 2008; Zelazo, Craik, & Booth, 2004). The ability for children to regulate biased behaviors across development represents an additional factor to consider when working to change cognitions and foster greater inclusion in political leadership.

It is also important to note that while interventions targeted at girls and women, such as exposure to positive and successful female role models, might have a similar positive impact on boys' stereotypes and broader political cognitions, in some cases, boys might benefit from different types of interventions. There is some research to suggest, for example, that providing male engineers with a self-affirmation intervention, in which they reflect on broad but important aspects of their identity as a buffer to a potential threat, can make them more receptive to information about women's ability and potential in STEM, and can ultimately increase their respect for female colleagues (Spencer, Logel, & Davies, 2016; Walton, Logel, Peach, Spencer, & Zanna, 2015). This can in turn have positive downstream consequences for women's experiences in STEM fields. Although many interventions designed to increase women's sense of belonging has focused on changing women's cognitions, including women's attributions and perceptions, boys and men have the potential to increase women's sense of belonging in an environment (Cheryan, Ziegler, Montoya, & Jiang, 2017; Master, Cheryan, & Meltzoff, 2016; Murphy et al., 2020; Walton & Wilson, 2018), which can ultimately have positive consequences for women's sense of "fit" (Schmader & Sedikides, 2018).

Boys and men also have the potential to be allies in politics by behaving in ways that challenge bias and support girls and women in this field (Ashburn-Nardo, 2018; Radke et al., 2020). Political success in adulthood can hinge on financial contributions, nominations, being assigned by party leaders or colleagues to key roles, and ultimately having sufficient voter turnout and support. Interventions designed to increase girls' interest and confidence might prove less impactful for women's ultimate representation if appropriate interventions are not simultaneously directed toward men who currently occupy positions of leadership and the boys and young men who might eventually occupy these roles.

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Given men's current representation, they might be particularly well positioned to support women's and girls' success, as was evidenced by current President Joe Biden's decision to invite Vice President Kamala Harris to be his running mate. Teachers and male peers can also serve as allies by providing important encouragement and support as adolescent girls begin to consider running for leadership roles in school councils. While allyship has begun to be a greater focus of research with adults, similar research in childhood and adolescence is scarce.

Research from a developmental approach can strive to better understand the causes and consequences of allyship during childhood and adolescence and its relationship to reducing the barriers to advancement in a variety of careers, including politics. For example, research suggests that children's perception and experience with barriers to equality are influenced by their own social status. In one study by Rizzo and Killen (2020), when children were advantaged by a structural inequality based on gender in a laboratory setting, both boys and girls were more likely to judge actions to rectify the unequal treatments to be fairer with age. In line with fostering allyship, it seems likely that there could be benefits to teaching boys about gender disparities in society and how to contribute to a more welcoming and encouraging environment for those who can face structural disadvantages. However, research is needed to better understand the periods in development in which these concepts are most likely to be effective for engendering appropriate allyship behaviors. In sum, fostering allyship in childhood and adolescence may provide an additional entry point to improve the motivation and regulation skills so that ultimately men will be aware of, and challenge, their own biases (De Souza & Schmader, 2021).

We also feel that it is important to be realistic about structural and systemic barriers that go beyond children's early mental representations, which will also need to be dismantled if we are to achieve a more balanced gender representation in a variety of careers, including politics. Given the complexity of the pipeline problem, where barriers look, operate, and function differently along the path to success, we believe, so too are the solutions required to address them. Here again, interventions aimed at increasing inclusion in STEM fields might provide some useful insight into how gender disparities might be addressed. One successful example of this approach can be found in the Engendering Success in STEM initiative, spearheaded by Dr Toni Schmader and her colleagues (successinstem.ca). This initiative includes a consortium of stakeholders from different backgrounds in both academia and industry. One main objective of this partnership is to identify specific obstacles to success in STEM at key points across the lifespan and to create targeted interventions at each stage, including childhood and adolescence as well as during the transition to university and the workplace. Given the parallels to women's underrepresentation in STEM and in politics outlined by Heck et al. (2021), a similar large-scale approach might ultimately prove useful for addressing gender disparities in politics from a social cognitive developmental perspective.

Giving a Broader Consideration for the Occupations and Groups That We Prioritize

In addition to considering the potential for a developmental approach to provide new insights into women's representation in politics, we believe that the case outlined by Heck et al. (2021) also invites broader consideration of the biases that shape researchers' own perceptions of inequality and the priorities that we set for establishing equity. That is, which are the social inequities that we, as a scientific community, have decided to address and which have we not? There are gender imbalances in a host of occupations. This includes men's underrepresentation in Healthcare, Early Education, and Domestic roles (HEED), a gender discrepancy that is paradoxically *more* pronounced in more developed countries (Block, Croft, De Souza, & Schmader, 2019, 2021; Croft, Schmader, & Block, 2015). And yet, there is limited research examining why this gender disparity exists and how we might intervene to increase men's representation in these helping professions and roles, despite the fact that "public health and education are both critical to the general well-being of society" and, hence, society might benefit from greater similarity in gender representation (Block et al., 2019, p. 112).

Croft et al. (2015) outline a number of additional reasons why examining and addressing barriers to men's representation in communal roles can be extremely valuable. Taking part in caregiving roles can benefit men psychologically through their sense of connection and provide an opportunity for emotional growth. In addition, research suggests that children benefit from quality father-child relationships. However, of greatest relevance to the current paper, if women plan to take on leadership roles and demanding careers in STEM or politics, this might only be possible if men take on more of the supportive, communal, and household responsibilities in heterosexual relationships. Importantly, it might only be through the evolving socialization of sons that we will begin to see greater gender equity across a broad spectrum of careers. This might happen through the modeling of greater domestic involvement by men and through men's increased representation in traditionally female-dominant occupations in health care and early education. Taking a social cognitive developmental approach to addressing these questions will likely also yield important insight, particularly given recent evidence that gender differences in support for communal values and family orientation emerge early in development (Block, Gonzalez, Schmader, & Baron, 2018).

It is also interesting to consider whether and why the socioeconomic status of occupations might guide our interest in gender and other (e.g., racial) disparities. There are gender disparities in the representation of both men and women in a number of "blue collar" and lower income occupations, including construction workers (more male) as well as clerical and service jobs (more female), and it is worth considering some of the benefits to examining the developmental roots of these differences as well. Moreover, on a broader level, it might be important to consider other types of leadership roles that children can be exposed to and

engage in and the potential implications of these roles for their future interest in politics. Elected office presents only one example of a leadership position. As noted by Heck et al. (2021), there are opportunities for children to see and engage in leadership roles in and beyond the school setting. Therefore, we believe that there is value in considering leadership in a broader context when taking a social cognitive developmental approach. It is possible that it will only be when adults draw explicit connections for children between these leadership roles and political positions that girls and boys will begin to see greater potential for women in politics.

Furthermore, we note our agreement with Heck et al. (2021) that taking an intersectional approach might provide new, important, and at times even unexpected insights, and this is likely true for a number of topics being addressed from a social cognitive developmental approach. We would further suggest that there is value in moving beyond a binary conceptualization of gender and gender identity and considering how a non-binary conceptualization might also inform our understanding of political representation and inclusion (Rubin, Atwood, & Olson, 2020). For example, investigating the intersectional effect of nonbinary genders and race from a social cognitive developmental perspective would shed more light on how transgender and nonbinary children of color view and identify with leadership roles both in STEM and politics. This is especially important because, as Heck and colleagues note, both children and adults are more likely to associate STEM fields and political leadership with White men.

Recognizing Important Differences Between STEM and Politics in Childhood

Finally, in addition to considering the parallels between research into the developmental origins of beliefs in STEM and politics, it is worth further contemplating some differences and the implications for research from a developmental perspective. Experiences with science and politics, as well as children's opportunities to acquire gendered beliefs and associations with scientists and politicians in the classroom and school curriculum differ in meaningful ways. Children actively engage in science and mathematics in school from their first years of schooling. As Heck et al. (2021) note, they learn directly from teachers who serve as role models and who may, or may not, reinforce gender stereotypes through their statements and actions. Children also interact with and observe the stated beliefs and performance of their peers while actively engaging with science, technology, and mathematics as part of the core curriculum. In other words, children from a young age are active participants of STEM, and, thus, have ample opportunities to form gendered attitudes and beliefs that have the potential to directly influence their confidence and interests in STEM.

On the other hand, in the context of school, children learn more passively about political figures in social studies and might not personally engage with politics as early in development or in the same ways. The opportunities to

develop gender associations might arise from when teachers are asked to select students for leadership positions or through the internal leadership and power structures within the school, and through children's own experiences outside of the classroom. In addition, as Heck et al. (2021) acknowledge, although children might be aware of the gender disparities in politics from learning about political leaders and media representations, they may have limited opportunities for these beliefs to be reinforced within the school setting. As such, differences in children's direct level of involvement with these two domains, particularly in early childhood, may need to be considered when taking a developmental lens, as well as differences in women's political representation both within their immediate community and historically in their cultural context.

It is similarly worth considering how student leaders are selected in local schools and in community organizations, and the implications of these decisions for children's beliefs and aspirations. For instance, students can be appointed to leadership roles by an authority figure such as the teacher or can be elected by peers. When appointed, classrooms and elementary schools can be, and often are, structured with gender representation in mind. It will be useful to further examine the implications for these structures for children's cognitions around leadership positions and leadership styles. Whether having specific female or male leadership positions within schools will decrease gender bias remains an open question worthy of future investigation.

Conclusion

In conclusion, while women continue to be underrepresented in politics and in leadership roles more generally, women around the world are increasingly running for, and being elected and appointed to, important leadership roles despite many obstacles to their advancement. Heck et al. (2021) speculate that gender parity in political leadership might not be seen until the year 2120. We remain hopeful, however, that by broadening the focus of research to (a) include interventions that target children's motivations and ability to decrease bias, (b) foster allyship from a young age, and (c) take a pipeline approach to dismantling systemic and structural forms of bias, we can reach this reality much sooner.

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