Edinburgh Research Explorer

Leader development for adolescent girls

LEADER DEVELOPMENT FOR ADOLESCENT GIRLS:

STATE OF THE FIELD AND A FRAMEWORK FOR MOVING FORWARD

Nathan Eva
Monash Business School
Monash University
900 Dandenong Road
Caulfield East Victoria 3145 Australia
nathan.eva@monash.edu
Corresponding Author

Helen De Cieri
Monash Business School
Monash University
900 Dandenong Road
Caulfield East Victoria 3145 Australia
helen.decieri@monash.edu

Susan Elaine Murphy
University of Edinburgh Business School
29 Buccleuch Place
Edinburgh EH8 9JS, United Kingdom
susan.murphy@ed.ac.uk

Kevin Lowe
The University of Sydney Business School
Abercrombie Building (H70),
Darlington, New South Wales, Australia
kevin.b.lowe@sydney.edu.au

LEADER DEVELOPMENT FOR ADOLESCENT GIRLS:

STATE OF THE FIELD AND A FRAMEWORK FOR MOVING FORWARD

Abstract

For most leaders, their first exposure to formal leader development training occurs in adolescence, through school, extra-curricular activities, or youth leader development programs. As with many adolescent experiences, the processes and challenges of leader development are different for girls than they are for boys. With increasing calls to address gender inequity worldwide, adolescent girls' leader development has become an important cross-disciplinary research topic. Though the literature on developing adolescent girls has grown substantially, it is fragmented across disciplines, with a lack of integration and theoretical framing hindering our advancement in knowledge. Therefore, there is a critical need for a comprehensive review article to guide scholars to build an integrated knowledge of how leader development occurs for adolescent girls. We searched for literature relevant to leader and leadership development designed for adolescent girls and reviewed a total of 108 academic papers (2000-2019). We identify and critique five themes in this literature that hold important implications for the leader development of adolescent girls. To advance knowledge, we offer social cognitive theory as a theoretical frame to understand adolescent girls' leader development and provide guidance on future research. Finally, we offer insights on how the processes and practices of adolescent girls' leader development could inform adult leader development.

Keywords

Introduction

Leader development, namely the changing of competencies, characteristics, and behaviors of individuals or groups in or in preparation for leadership (formal or informal), has become a multi-billion dollar industry that has quickly found its way to boardrooms and business schools (Crossan, Mazutis, Seijts, & Gandz, 2013; Day, Fleenor, Atwater, Sturm, & McKee, 2014; Reyes et al., 2019). This emphasis on leader development during the adult years, however, fails to take into account the life-long process of acquiring the skills and mindsets that help individuals effectively take on and succeed in various leadership roles inside and outside of organizations (Liu, Venkatesh, Murphy, & Riggio, 2020; Murphy & Johnson, 2011). Research that takes a long-lens perspective to leader development has confirmed that leadership begins in childhood (Day, 2011; Gottfried et al., 2011; Liu et al., 2020; Oliver et al., 2011; Reichard et al., 2011), as most future managers experience their initial formal leader development during their adolescence (Murphy & Johnson, 2011; Reitan & Stenberg, 2019). Indeed, promoting early leader development experiences is a critical investment as today's adolescents can expect to hold several leader roles in adulthood and to face multiple, challenging demands in an uncertain and rapidly changing global society (Larson et al., 2019).

Adolescence is a critical time to examine leader development as adolescents' "identities and potential are being profoundly and rapidly influenced and shaped, including their development of a leadership identity" (Hoyt & Kennedy, 2008, p. 203). Leader development experiences in adolescence are particularly important for girls. Girls, in contrast to boys, are exposed to socialization processes and culturally entrenched values that may make them less likely to view themselves as (potential) leadership material, receive fewer signals that they are expected to become leaders, and are praised and labeled as leaders less frequently (Archard, 2012; Murphy & Johnson, 2011). We emphasize these socio-cultural influences specifically as the conceptualizations of *who* is a leader and *what* leadership looks like have been heavily rooted

in the existing (adult) white, male concepts of leadership (Ayman & Korabik, 2010; Eagly & Carli, 2007). These concepts have been applied to adolescent girls with only minor adaptations that do not address the mismatch between concept and application (Dempster, Stevens, & Keeffe, 2011; MacNeil, 2006). Although societal shifts in the late 20th century have led to more inclusive conceptualizations of leadership (Dinh et al., 2014), the traditional concepts of (male) leadership endure and continue to present barriers for the leader development of adolescent girls (Archard, 2012, 2013a; McNae, 2011).

The importance of research into adolescent girls' leader development has been acknowledged across diverse research domains such as leadership, developmental psychology, education, and health. Although the cumulative knowledge on this topic has grown substantially, it remains bifurcated in silos. This division challenges scholars, practitioners, and educators on several fronts and hampers the advancement of knowledge that could enhance leader development for girls and subsequently women. First, there is no shared understanding of the current state of the literature on adolescent girls' leader development, as the research is fragmented across diverse research domains. Second, there is no integrated model of adolescent girls' leader development due to both the scarcity of research integration and a lack of theorizing on adolescent girls' leader development (Ely, Ibarra, & Kolb, 2011). Third, the lack of research integration creates follow-on effects for leader development providers as we currently do not know how adolescent girls' leader development complements or challenges our existing paradigms that inform adult leader development programs.

Research on leader development utilizes an array of theoretical lenses, with most delineating the precursors, processes, and outcomes of effective leader development (Liu et al., 2020). We draw from Day and Dragoni's (2015) conceptual work to focus our review mostly on the individual-level development factors for adolescent girls that help inform subsequent leader development activities. Day and Dragoni (2015) explain in detail how individual capabilities

work with developmental experiences to produce developmental indicators such as leader identity, self-awareness, leader self-efficacy, and particular knowledge skills and abilities. These indicators then foster opportunities for practice, which in turn produces improved individual leader capacities. We extend Day and Dragoni's (2015) framework by contextualizing leader development to adolescent girls. Specifically, we highlight the role gender may play on the experiences and interventions provided for leader development, and the support developing leaders receive. In doing so, we integrate our findings with their framework to provide a model of adolescent girls' leader development. To illuminate the process of adolescent girls' leader development, we incorporate theoretical explanations from social cognitive theory (SCT; Bandura, 1989, 1999, 2001; Bussey & Bandura, 1999; Wood & Bandura, 1989). Scholars have applied SCT to gender development (Bussey & Bandura, 1999) and adolescent development (Bandura, 2005), and more recently, SCT has become one of the most common perspectives applied in leader development research (O'Connell, 2014; Vogel, Reichard, Batistič, & Černe, in press; Yeow & Martin, 2013). For research on adolescent girls' leader development, SCT offers a theoretical framework that examines: (1) the learning process in-depth, drawing on the reciprocal nature of the adolescent girl (person, behaviors) and their environment (Bandura, 1989); (2) how adolescent girls vicariously learn through the modeling process (attention, retention, behavioral, motivational; Wood & Bandura, 1989); and (3) how adolescent girls develop the self-efficacy to engage in leadership (social modeling; mastery; social persuasion; psychological and emotional state; Bandura, 1999; Bussey & Bandura, 1999). The SCT frame allows for incorporation of new thinking unique to adolescent girls, interpretation of the processes used in leader development programs, and creation of a bridge to the broader leadership development literature.

We approached our analysis of the adolescent girls' leader development literature over the past 20 years with three overarching questions in mind. We have structured our review in

three sections that address each of our questions:

1. What do we know about adolescent girls' leader development through existing research?

2. How can social cognitive theory frame our understanding of adolescent girls' leader development and provide guidance to advance our knowledge?

3. What are the implications of research on adolescent girls' leader development for adult leader development programs?

Literature search process

We consulted several best practice sources to ensure that we were holistic in our review of the literature (e.g., Aguinis, Pierce, Bosco, & Muslin, 2009; Briner & Denyer, 2012; Neuendorf, 2002; Tranfield, Denyer, & Smart, 2003). We created two advisory groups to help formulate our research questions and search parameters (Briner & Denyer, 2012). The first was the board of a girls' secondary school who provided expert and practical insights into the current state of adolescent girls' leader development from the perspectives of educators and parents. They emphasized that they view leader development programs as experiences that are imperative for girls' education and for preparing girls to combat wider gender issues in society. Equally important from an institutional perspective, these programs add value to the school brand. Our second advisory group were academicians with multidisciplinary expertise across gender, education, leadership, and management, who provided insight into discipline-specific journals, search terms, and important research questions from their perspectives.

After we developed the research questions, we drew on Tranfield et al.'s (2003) guidance to review and critique the adolescent girls' leader development literature. First, we developed a database by undertaking a comprehensive search to identify and extract all relevant literature. Second, in an iterative process between theoretically derived and empirically emerging themes,

we developed a template for analyzing the articles. Third, we executed a content analysis of the articles (e.g., Neuendorf, 2002; Scandura & Williams, 2000), based on the template, to code the article material. Finally, we interpreted and synthesized the findings.

Search parameters, inclusions, and exclusions

We searched for articles published in English between January 2000 and December 2019 using eleven electronic databases[1] with a combination of adolescent girls' leader development relevant keywords.[2] In addition, we searched the tables of contents in academic journals that publish articles on gender, leader development, and adolescence. Finally, we manually searched the references cited in the retrieved papers to identify additional publications not identified in the electronic search. In total, 4,579 articles were identified (see Figure 1). Of these, 4,298 items were removed following inspection of the abstract because they were either duplicates, were not peer-reviewed articles (removed for quality assurance), or were irrelevant to the current study.

This resulted in 281 academic publications which were assessed for appropriateness to this review against our four inclusion criteria: First, articles had to focus on adolescents; 92 articles that focused on either adults or pre-adolescent children were excluded. Second, articles had to focus on leadership; 67 articles that discussed other areas, such as athletic ability or mental health, were excluded. Third, articles had to focus on girls or gender; 9 articles were excluded. Finally, articles had to meet basic scientific research standards for quality; 5 articles were excluded based on quality concerns. In total, we identified 108 articles in 63 academic journals for inclusion in the analysis.

[Insert Figure 1 about here]

Data coding and analysis

---

[1] Databases searched were: ABI-Inform; A+ Education; Educat*ion-line*; Business Source Complete; Emerald Insight; ERIC; Expanded Academic; Informit; ProQuest; PsychInfo; and Taylor and Francis Online.

[2] Combinations of keywords included: adolescen*; adventure education; experiential education; gender; girls; leader*; leader* development; outdoor education; secondary school; student participation; youth development; and youth voice.

For each article, we first coded the year of publication, research discipline of the journal, type of article (conceptual, literature review, empirical), and theory applied. Second, for empirical articles only, we coded the country in which the study was conducted, research method(s) used, sample characteristics, settings (e.g., school, community), and types (e.g., adventure) of leader development programs. Third, we coded the key theme(s) in each article, noting that several of the articles addressed multiple themes. Finally, we coded any implications for adult leader development programs.

Two authors designed our detailed coding taxonomy. Consistent with methodological recommendations by Neuendorf (2002), they initially coded a subset of the articles and discussed alternate classification options. The agreement between the authors yielded a Cohen's kappa of 0.88, indicating a very acceptable level of inter-coder reliability (Brutus, Gill, & Duniewicz, 2010). Given this high Cohen's kappa, two authors independently coded the remainder of the studies. Following best practice recommendations (Aguinis et al., 2009), the two authors discussed and resolved any discrepancies about the inclusion of an article or a specific coding.

Overview of the literature on adolescent girls' leader development

Over the past 20 years, research on adolescent girls' leader development has grown dramatically. While there were relatively few studies conducted in the first five years of this review (nine before 2006), the most recent decade brought much more empirical evidence. In total, there were 87 empirical articles, 12 conceptual articles, and nine literature reviews (see Figure 2). The multidisciplinary is apparent, with this research stream finding a home in a variety of disciplines including leadership, education, psychology, and health. Table 1 presents an overview of the journals and fields of research.

The overwhelming majority of studies on adolescent girls' leader development is conducted in countries that are ranked highly on the World Economic Forum's (2018) global

gender equality index (e.g., the United Kingdom and Canada). The prevalence of research on adolescent girls' leader development in these countries could be because these countries see investing in leader education for adolescent women as a priority, or that they have the financial resources to do so, as all are also ranked highly on GDP per capita. Unlike the broader leadership research literature which relies predominantly on single country samples, our analysis found 13 (14.7%) studies conducted across countries, including six studies that contained more than three countries (e.g., Cassell, Huffaker, Tversky, & Ferriman, 2006; see Table 2).

The methods used to empirically investigate adolescent girls' leader development varied greatly. The majority of articles used qualitative methods ($N = 50$, 57.5% of total empirical studies), including ethnography, observation, document analysis (e.g., reflective journals, program material, photos, videos), focus groups, and interviews. There was a substantial number of mixed-method studies where both quantitative and qualitative methods were used ($N = 12$, 13.8%), which tended to complement surveys with individual interviews. The quantitative studies ($N = 25$, 28.7%) were a mixture of randomized controlled trials, pre- and post-program surveys, and longitudinal and cross-sectional surveys. Promisingly, 38 (43.7%) of the empirical articles used a longitudinal design, although the majority of these ($N = 24$, 27.6%) were restricted to data collection within a program, typically at baseline, during, and at the end of the program. Studies used an array of participants, including adolescent girls, program leaders (teachers, youth workers, practitioners), mentors, coaches, teachers, recent program graduates, peers, and adolescent boys.

The reviewed articles reflected the diversity of settings across which leader development is undertaken and researched. Of the 87 empirical studies, 32 (36.8%) focused on programs for girls only. Around half (16) of those were programs conducted in school settings, six were in other settings (community or organization-based programs), and ten were adventure programs. Fifty-five articles (63.2%) discussed programs for boys and girls, with 26 of those in school

settings, 23 in other settings, and six adventure programs. It is likely that the settings are not mutually exclusive; many programs, such as adventure programs, might be coordinated between community organizations and schools.

[Insert Figure 2 and Tables 1 and 2 about here]

What do we know about adolescent girls' leader development through existing research?

To address our first research question, our coding process resulted in the identification of five overarching themes in the adolescent girls' leader development literature. These themes, detailed below, are (1) Leader emergence, motivation, and identity; (2) Relationships with peers and adults; (3) Varieties of leader development opportunities; (4) Exercising agency in leader development programs; and (5) Integration of leader development into the school curriculum.

Theme 1: Adolescent girls' leader emergence, motivation, and identity

One of the most prominent themes addressed issues related to adolescent girls' sense of themselves as emerging leaders, including reference to leader emergence, motivation, and identity. All three of these topics are well established in the leadership literature and thus not surprisingly analyzed in-depth within the adolescent girls' leader development literature.

Emergence

Leader emergence is one of the most critical elements of leadership, as only after one emerges (becomes) a leader, do their leadership behaviors matter (Barling & Weatherhead, 2016). Leader emergence is the extent to which one is seen as 'leader-like' (Kaiser, Hogan, & Craig, 2008) in their ability to wield influence over a group (McClean, Martin, Emich, & Woodruff, 2018). Research on leader emergence shows links to heritable personality traits such as extraversion, sociability, and gregariousness (e.g., Bouchard & Loehlin, 2001; Judge, Bono, Ilies, & Gerhardt, 2002; Riemann, Angleitner, & Strelau, 1997). Although heritability typically accounts for 30% - 50% of the variance in many human characteristics (cf., Plomin & von Stumm, 2018), adolescent

girls' leader development might best be viewed from the biopsychosocial perspective, which incorporates the interactions of genetics, or innate traits and biology, psychological, and socio-environmental factors (e.g., Dodge & Pettit, 2003). For example, in Liu et al.'s (2019) conceptualization of adolescent leader emergence, they argued that the extent to which a leader emerges is a combination of self-recognition (e.g., leader identity and leader self-efficacy), external recognition (e.g., peer, parent, teacher), and formal occupancy of a leadership role (e.g., student union president). In Liu et al.'s (2019) conceptualization, self-recognition refers to the extent to which individuals see themselves as a leader in terms of fit with other identities as well as the extent to which leadership is congruent with gender role (Eagly & Karau, 2002). External recognition is informed by the social identity theory of leadership (Hogg, 2001), as this theory explains how emerging leaders are granted leadership by group members (therefore allowed to emerge) when the group members deem the leader's behavior to fall within a range of prototypical leader behavior for the group (DeRue & Ashford, 2010). However, this emergence is predicated on a leadership prototype that is predominantly associated with masculine characteristics (van Knippenberg & Hogg, 2003). In fact, the association of masculinity and leadership affects the judgment of leadership potential, with potential being valued more strongly for male than female job candidates (Player, Randsley de Moura, Leite, Abrams, & Tresh, 2019).

Conceptualizing leader emergence as a combination of self, other, and role attainment (i.e., Liu et al., 2019) is common throughout the adolescent girls' leadership literature as a means to examine the different ways that adolescent girls and boys emerge as leaders. For example, in a qualitative study of adolescent leadership in a high school, boys "use(d) the force of their personality to gain acceptance in leadership roles", while girls "tend(ed) to show by action and accomplishments their right to leadership" (as rated by teachers; Mullen & Tuten, 2004, p. 312). Of note, once in a formal leadership role, both girls and boys showed similar levels of commitment to the role (Mullen & Tuten, 2004). The differences in how girls and boys emerge

into leadership roles may also be impacted by what adolescent girls themselves view as prototypical leader behaviors. Research on adult leaders has shown specific types of typical behavior drive implicit theories of what constitutes effective leader behavior (Epitropaki & Martin, 2005; Lord, Foti, & De Vader, 1984). These ideas of prototypical behaviors, in turn, underpin whether an individual believes they fit the leadership role. Prototypicality also drives whether outside observers consider a behavior to be contextually prototypical of a leader (Epitropaki, Sy, Martin, Tram-Quon, & Topakas, 2013), with prototypical leader behavior schemas different for male and female leaders (Johnson, Murphy, Zewdie, & Reichard, 2008; Scott & Brown, 2006).

Among adolescent girls, perceptions of typical leadership seem to differ from what is considered traditional leader prototypical behavior. Moran and Weiss' study (2006) of peer leadership in sporting contexts found that adolescent girls' assessment of leadership focused on the psychosocial elements of the leader (e.g., friendship quality). In contrast, their coaches focused on the sporting ability and competencies of the player. Hence, scholars have made the important point that leader emergence in adolescents is dynamic; it is sometimes regressive rather than linear, and leader development programs with adolescents should adopt a broader approach that incorporates the cognition of the individual, the behaviors they can engage in, and the context of leadership practice (MacNeil, 2006; Martinek, Schilling, & Hellison, 2006).

In examinations of leader emergence without adolescent boys present, the results are mixed. For example, in Whittington, Mack, Budbill, and McKenney's (2011) study of a girls-only program, girls reported feeling free from gender-based leader stereotypes, and they believed this would be different if boys were present. This finding is, to some extent, inconsistent with Archard's (2011, 2012) studies of leader development programs in girls' schools, which found that the absence of boys does not in itself free girls from the effects of entrenched stereotypes. However, Archard did find that the absence of boys allows adolescent girls to emerge as leaders

to fill all the leadership roles, which Whittington et al.'s research (2011) suggests is liberating for girls. Studies conducted with adults have shown that the gender gap in leader emergence has slowly diminished over time, yet it still exists (Badura, Grijalva, Newman, Yan, & Jeon, 2018). Despite the ongoing inequity, research into adolescence and leader emergence still lags behind other areas of leadership research, such as leader behavior (Barling & Weatherhead, 2016). There is preliminary evidence to suggest that the contextual impacts of adolescent girls' leader emergence are unique and, given the prevailing gender gap in leader emergence, requires urgent empirical examination.

Motivation

The research on adolescent girls' motivation to engage in leader roles follows the theoretical pattern outlined by Chan and Drasgow (2001) and expanded by Kark and Van Dijk (2007) on motivation to lead. Kark and Van Dijk (2007) proposed that a leader's chronic regulatory focus (promotion or prevention) and values influence their motivation to lead in either an affective (i.e., lead because they like to lead others), a non-calculative (i.e., lead even though the costs might outweigh the benefits), or social normative (i.e., lead because of a sense of responsibility) way. For adult leaders, Elprana, Felfe, Stiehl, and Gatzka (2015) found that men have higher levels of motivation to lead than women, yet more recent research indicates that gender is not a significant predictor of motivation to lead (Badura, Grijalva, Galvin, Owens, & Joseph, 2020). Also, to the extent that women's self-perception of leadership matches either the characteristics of their ideal leader, or more general prototypic leaders, women's motivation to lead increases (Guillén, Mayo, & Korotov, 2015).

For adolescent girls, research indicates that when they are treated as good citizens, trust their program leaders (e.g., teachers), and are given opportunities to lead in meaningful ways; they approach their leadership roles from a promotion focus where they work to accomplish outcomes for the school, rather than a prevention focus why they seek to avoid punishment from

teachers. This promotion focus influences adolescent girls' motivations to lead, as they see the leadership role as an opportunity to make a meaningful change (affective), rather than just doing (social normative) jobs for teachers (Griffith & Larson, 2016; Lizzio, Dempster, & Neumann, 2011; McNae, 2011). When adolescent girls see positive outcomes from their leadership, they are more motivated to repeat these behaviors.

Unlike leader emergence and identity, where gender differences were commonplace in the literature, the research shows similar levels of motivation to lead between adolescent girls and boys who currently hold leadership positions in their schools. However, among students not in a leadership position, girls were more likely than boys to report higher levels of motivation to lead. As Lizzio et al. (2011) suggest, these findings could indicate that girls were more likely to hold higher levels of citizenship motivation than boys, or might reflect an ethos among boys that it is not cool to lead, or a greater level of underutilized leadership motivation among girls.

Identity

Leader identity is an important component of the leader development process (Day & Harrison, 2007; Lord & Brown, 2004), as those who identify as a leader are more likely to be motivated to look for developmental opportunities and experiences to improve their abilities as a leader (Day, Harrison, & Halpin, 2009; Miscenko, Guenter, & Day, 2017). The development of leader identity in adults has been studied by looking at increased strength of identity or a developmental change in the content of one's leader identity (Lord & Brown, 2004). Similar to the leader identity literature, the adolescent girls' leader development literature is separated into two streams – one that views identity through a non-gendered lens as a "relatively stable set of meanings associated with a particular role" (Miscenko et al., 2017, p. 605), and another that conceptualizes leader identity as gendered (e.g., Archard, 2012).

Researchers examining adolescent leader identity through a non-gendered lens have argued that adolescent leadership is "an identity that can be personal or prescribed and is

developed as students critically reflect on leadership" (Tillapaugh, Mitchell Jr, & Soria, 2017, p. 23). Within this research stream, scholars have sought to understand how adolescents see their own leader identity and the situations and circumstances in which they see and experience leadership (Dempster et al., 2011; Haber-Curran & Tillapaugh, 2017). Specifically, rather than conceptualizing leader identity through their ability to have authority, influence others, and wield decision making power (MacNeil, 2006), adolescents see leadership as non-hierarchical, relational and collaborative (Dempster et al., 2011; Osberg Conner & Strobel, 2007).

If adolescent girls choose to pay attention to leaders who are collaborative and relational, these should have downstream effects on adolescent girls' developing a leader identity that is based on collaborative forms of leadership. However, the stream of research on gendered adolescent leader identity indicates that cis-male leadership prototypicality is an ongoing problem for girls, as these are the identities of leaders they are exposed too. The most damning evidence comes from Archard (2012), who found that girls do not see themselves as leadership material (i.e., they lack a leader identity). These findings beg a broader question: what are the barriers that hold these girls back? Three studies, alongside Archard's work, have helped to unpack this question.

The first, from Hurtes (2002, p. 118), indicated that the social requirement to 'fit in' at school might be a major contributor to the lack of leader identity development in adolescent girls. Hurtes suggests that "looking like a rookie" in a leadership position is damaging to the self-esteem of adolescent girls, and subsequently, their leader identity. Their lack of self-efficacy in leadership could stem from a lack of encouragement from peers or their self-belief that they can be a leader. Second, Liu et al. (2019) support Hurtes' findings by demonstrating that factors that impact negatively on self-esteem (in their study, overparenting) reduce girls' occupancy of leadership roles. To ensure a more even playing field to develop leader identity for all adolescents, Hurtes (2002) suggests that leader development programs must allow girls time to

become proficient in the tasks, before moving to the next level, as girls prefer to master skills completely. Third, Cassell et al. (2006) examined the language that adolescent leaders used within their leadership roles. The authors found that adolescent girls in leadership roles were more likely to use tentative language, 'apology' words, and agree with others. In contrast, adolescent boys would synthesize others' ideas much more than the girls did. Interestingly, in their study, more girls than boys had been elected by their peers to become leaders, yet how they expressed their leadership through their language was starkly different.

Theme 2: Relationships with peers and adults

Interpersonal relationships with peers and adults are a critical influence on adolescent girls' leader development as they provide cues to the adolescent girl if they should engage in leadership (identity) and the (gendered-)leader behaviors that they should display. Social identity theory (Tajfel & Turner, 1979) helps to explain how girls begin to see themselves as part of identifiable social groups among their peers.

Peer relationships and their influence on leader development

Peer relationships, both positive and negative, have received substantial attention in studies of adolescent girls' leader development (Jenkinson, Naughton, & Benson, 2012; Liu et al., 2019). Peer relationships were a common theme across the literature as adolescent girls often described their school and programs in terms of their interactions with peers, rather than in terms of grades, development, or any other measure (Archard, 2012; Hurtes, 2002). This literature highlighted the social information peers provide to build the adolescent girl leader's self-efficacy, such as whether it is appropriate to engage in leadership or whether peers offer encouragement.

Many scholars pointed to the positive influence of leader development programs that target strengthening peer-to-peer relationships as these create an environment in which adolescent girls can be free to engage in leadership opportunities and development without judgment or fear of putting their friendships in jeopardy (i.e., peer relationships were found to

deteriorate when girls become leaders, such as school captain [Neumann, Dempster, & Skinner, 2009[). One such example comes from Sammet's (2010) qualitative study of the experiences of 12 adolescent girls on a two-week education program in the US. The major findings were: the centrality of girls' relationships with peers to their experience of the program; and the negative impact of bullying and relational aggression on students' program experience. Sammet (2010) recommends that leader development programs should balance technical skill-building with relational development through encouraging openness of positive communication, and develop a culture where girls can choose to engage in positive relationships with each other.

Adolescent-adult mentor partnerships

The second category of relationships that have received research attention is the relationship between the adolescent girl and adult figures such as teachers, parents, mentors, and program leaders. While there has been substantial discussion in the literature about the importance of positive partnerships with adults in general for adolescents (Curran & Wexler, 2017), both in building self-efficacy and offering behavioral cues, until recently there has been little analysis of the importance of adult mentor relationships for adolescent girls. One exception is a study by Deutsch, Reitz-Krueger, Henneberger, Futch Ehrlich, and Lawrence (2017). They examined a youth leader development program that paired adolescent girls with college-aged women mentors and found that these mentoring relationships helped the girls to improve their relational development, self-regulation, self-understanding, and academic performance. The relative paucity of research in this area should raise alarm bells. Crucial advances in our understanding of gender equality in the workplace have been informed by research in the adult leadership field that shows the importance and value of role models, mentors, and sponsors for the advancement of women into leadership positions (Chrobot-Mason, Hoobler, & Burno, 2019).

Adults act as important role-models to adolescent girls during the leader development process (Zeldin, Krauss, Kim, Collura, & Abdullah, 2016). For example, Mullen and Tuten's

(2004) investigation of the influence of same- and opposite-sex role models for adolescents supports the idea that positive relationships with adults are important. However, the findings from the adolescent girls' literature suggest that having same-sex mentors in leader development programs offer significant benefits to the participants, as girls need to see role models who are similar to them engaging and succeeding in leadership (e.g., Deutsch et al., 2017; McNae, 2010, 2011). Adding to these ideas, Voelker (2016) suggests that an important way to encourage girls' leader development and deconstruct gender stereotyping related to leader identity is to build networking and mentoring opportunities and encourage girls to use their voice and exercise leadership skills. This creates a dialogical arrangement where benefits are derived for both the program and for the participants. Bringing attention to implications for program design and management, Denner, Meyer, and Bean (2005, p. 87) identify three practices as relevant for all-female leader programs: "legitimizing a range of leadership styles, creating a way for all voices to be heard, and creating a norm of respectful disagreement".

To enhance the quality of such mentoring and role-modeling relationships, practices such as staff selection and training for teachers and program leaders need careful management, including education on matters such as implicit assumptions and gender bias regarding leadership (Lavery & Hine, 2013; Mullen & Tuten, 2004). Addressing implicit gender biases through training is essential even if facilitators believe they do not hold gender biases. Unless facilitators proactively create an environment that provides equal gender opportunities to engage in leadership, the boys will continue to dominate the leadership roles because their environment (peers, adults, media) has told them they have the right to leadership (Mullen & Tuten, 2004). For example, Trumpy and Elliott (2019, p. 358) report on a leadership program that was designed to tear down gender barriers, but instead reinforced leadership prototypes that girls are "better suited for taking care than taking charge", as the boys' program focused on competition and the girls' program focused on kindness. To further circumvent gender-bias issues, a case

study of a program in Canada by Blanchet-Cohen and Brunson (2014) showed that program managers need to be flexible and responsive to the needs of adolescents, willing to self-reflect and to surrender power, and capable of overcoming their own biases. When handed power, the adolescent girls are then able to shape the environment to better suit their developmental needs.

While multiple studies focused on teachers and program leaders as the adults engaging with adolescents, some research has also explored the influence of parents. For example, Zacharatos, Barling, and Kelloway (2000) found that adolescents' transformational leader behaviors were influenced by their perceptions of their parents' leader behaviors. These authors recommended that future research should investigate whether their findings apply equally to male and female adolescents. More recent research has investigated the parental influence and gender differences, although the emphasis has been on leader emergence rather than leader behavior. In a study conducted in China, Liu et al. (2019) applied observational learning to explain the importance of role models, in general, to help guide adolescents' leadership development (i.e., guiding, rather than telling). Their analysis of sex differences found that overparenting of adolescent girls weakened their self-efficacy, even though the girls showed higher rates of leader emergence when compared to adolescent boys. They offer several possible explanations for this, ranging from sex differences in maturity to cultural factors that differentially influence the socialization of girls and boys.

Theme 3: Varieties of Leader Development Opportunities

The largest group of articles discussed the context and content of opportunities provided to adolescent girls to engage in leadership work. The variety of leadership opportunities offered to girls varies considerably. Many leader development programs, particularly adventure programs, allow adolescent girls the opportunity to master leadership through a combination of social, mental, and physical activities (Goldenberg & Soule, 2015; Sibthorp, Paisley, Gookin, & Furman, 2008). Other programs focus on a specific content area, such as: feminism and gender

roles in society (Shapiro et al., 2015); globally-minded leadership (Easley & Tulowitzki, 2013); service-learning and citizenship (Eley & Kirk, 2002); leadership styles (Cassell et al., 2006); spirituality, mind and body connections (Ritchie et al., 2015); sports and physical activity (Gould & Voelker, 2010); respectful relationships or peer support (Denner et al., 2005); and empowerment (Blanchet-Cohen & Brunson, 2014).

The majority of articles attempted to explain how the leader development program allowed adolescent girls to master leadership skills and apply the knowledge they had gained. For example, articles tend to report on the unique properties of their program (e.g., Whittington's 2006 23-day wilderness program), where leadership is mastered through specific activities (e.g., build survival skills of vulnerable girls; Forbes-Genade & van Niekerk, 2019), and the positive impacts of the program on the adolescent girls such as leader self-efficacy (e.g., increases in self-esteem; e.g., Taylor, 2014) and relationship management with peers (e.g., Ee & Ong, 2014).

In particular, sports programs provide an interesting example to explore with further research. Participation in sport is widely recognized as an important avenue for leader development among adolescents through skills gained from teamwork, team captaincy, or coaching a team (for a recent discussion see Pierce, Erickson, & Sarkar, 2020). However, "leadership does not result from simple participation in sport. It must be intentionally taught" (Gould & Voelker, 2012, p.38). The adolescent girls' leader development literature in our review stops short of demonstrating how leader development is intentionally taught or learned through sports programs; instead, it typically refers to leader development to as a by-product of participating in sports programs. For example, Dempster, Lizzio, Keeffe, Skinner, and Andrews (2010) explore adolescents' views of good and bad leadership in school and sporting contexts, yet they offer no analysis of questions such as how leader development in sports contexts might differ from other contexts. The most promising evidence comes from Eley and Kirk (2002), who demonstrated that participating in a sports leadership volunteer program increased participants'

leadership skills (planning, group dynamics, speech, and character-building skills) over a nine-month period. However, this volunteer program was organizing, rather than participating in sports. As sport is a meaningful environment for leader development and socialization for adolescents (Pierce et al., 2020), we believe sport provides a compelling and under-researched, context for the future study and practice of adolescent girls' leader development.

In examining this theme, there were three overarching issues. First, there is a tendency towards description rather than critical analysis or evaluation of programs. This may be because the story is altogether good news, or it may reflect an unwillingness to report publicly on negative outcomes that might jeopardize a program's future. Second, most studies offered little integration with the broader adolescent girls' leader development literature or a governing theoretical framework. In sum, the inherent worthiness of leader development opportunities is rarely questioned, even though this is essential for the field to advance (Petersen & O'Flynn, 2007). Third, the lack of rigorous evaluation criteria in almost all studies means that making meaningful comparisons between programs is difficult.

Considering the number of articles that focused on particular varieties of leader development opportunities, we were surprised at the lack of meaningful evaluation of their effectiveness. Seventeen studies were used to evaluate the effectiveness of leader development interventions (i.e., programs or activities). The majority of evaluations tended to rely on participants' self-reporting on the benefits of the program across two or more time points. Specifically, research demonstrated quantitative changes (pre- and post-tests) in self- and social-awareness (Ee & Ong, 2014); emotional intelligence and self-concept (Hindes, Thorne, Schwean, & McKeough, 2008); self-esteem and self-efficacy (Taylor, 2014; Wong, Lau, & Lee, 2012); and resilience (Whittington & Aspelmeier, 2018; Whittington, Aspelmeier, & Budbill, 2016). Longitudinal qualitative research has suggested there would be attitudinal changes in self-respect, self-awareness, and self-esteem (Goldenberg & Soule, 2015); greater connection with

self (Ritchie et al., 2015); gender identity (Whittington & Budbill, 2013); and wellbeing and group belonging (Parkhill, Deans, & Chapin, 2018) as a result of undertaking leader development opportunities. While promising, the use of non-randomized samples, lack of control groups, small sample sizes, and the use of self-rating measures in almost all of the 17 studies undermine the reliability and validity of the findings (De Haan, Gray, & Bonneywell, 2019; Lonati, Quiroga, Zehnder, & Antonakis, 2018; Zizzo, 2010). Of note, we were particularly encouraged by Hindes et al.'s (2008) evaluation of the efficacy of their teen leadership program, as it included a randomized control group and pre- and three post-intervention measures, immediately after program, six weeks later and six months later. We hope to see more studies follow the rigorous methodological example set by Hindes et al. (2008) and to expand their work by using additional raters and objective measures of the variables.

A shortcoming of many of the leadership opportunities described in the literature, especially within school-based programs, is that leadership tends to be viewed as occupying a formal role, rather than an examination of how these roles allow adolescent girls to model and master leader behaviors. From a practical perspective, this is an issue as only a certain number of formal leadership positions are available within schools or programs, and expanding this number would make the roles tokenistic (Lizzio et al., 2011). How this rhetoric of distributed (or shared) leadership is enacted is addressed in part in McNae's (2011) discussion of the influence of school context and culture on young women's leadership. In her study, effective student leadership was demonstrated through the successful behavioral performance of tasks aligned with key roles within the school, rather than role occupancy. However, in McNae's study, some students regarded leadership as a trivial pursuit, avoiding leadership roles as these were seen as doing jobs for teachers.

Addressing this problem, Hine (2013) argues that youth leader development should be sustained over time and across different contexts. As adolescent girls in different environments

(e.g., socioeconomic status, religion, country) have different views about what leadership is and how it is exercised, the varieties of leader opportunities should allow girls to demonstrate leadership aligned to the context (Forbes-Genade & van Niekerk, 2019; Larson et al., 2019; McNae, 2011). The more types and styles of leadership offered, the better chance adolescent girls have of finding a style that suits their own identity (Osberg Conner & Strobel, 2007).

To protect against tokenism of leadership roles, several scholars have encouraged people responsible for leader development programs to provide authentic leadership opportunities to participants where they can practice their leadership learnings in meaningful or authentic ways (Larson et al., 2019; Lavery & Hine, 2013; MacNeil, 2006). Authors have advocated for these opportunities to be tailored to the specific environment, including the organizational or social context, and the demographic profile, interests and needs of participants and to allow participants to exercise leadership about things that matter in their school or community (e.g., Hansen, Larson, & Dworkin, 2003; Osberg Conner & Strobel, 2007).

For example, social awareness and opportunities to meaningfully practice leadership is built into an adolescent girls' leader development program in Nepal, where adolescent girls train to become peer educators about issues such as discrimination, sex trafficking, and HIV vulnerability (Posner et al., 2009). In a South African program, adolescent girls were given leadership roles in local communities to act as decision-makers and spokespeople to mitigate risks for their peers (Forbes-Genade & van Niekerk, 2019). In a Canadian example, indigenous voices and language were used in adventure programs for indigenous youth to improve resilience and well-being, and connection to their history (Ritchie et al., 2015). On a lighter note, Wilks, Pendergast and De Nardi (2006, p. 3) discuss the national surf life-saving program in Australia and emphasize that to engage 'millennial' youth, leader development programs should build in "fun, excitement and vocational career opportunities… and focus on community engagement".

Theme 4: Exercising agency in leader development programs

Rather than providing a rigid leader development program, research studies suggest that many schools are allowing adolescent girls to demonstrate leadership by building their own leader development environments (e.g., Archard, 2013b; Dempster et al., 2011; Zeldin et al., 2016). A co-constructed program is a departure from the traditional pedagogical model where a facilitator determines the content taught and how the students will learn it (Collinson & Tourish, 2015). Instead, students help create their opportunities to master the art of leadership as they progress through their education (Frost & Roberts, 2011; Liu et al., 2020). Involving adolescent girls in the co-construction of leadership programs is a mastery form of leader development. Within the program, the adolescent girls might not lead a team or formally learn leadership concepts. However, they can build their leader self-efficacy through engaging in mastery (vision, planning, team-work), social modeling (collaborating with teachers), and social persuasion (receiving feedback), which are all hallmarks of leader development (Voelker, 2016; Zeldin et al., 2016).

In the literature, we saw two models of adolescent girls exercising agency. The first was where the adolescent girls had complete agency and co-constructed the program with the facilitators from the beginning of the program. Forbes-Genade and van Niekerk's (2019) review of a South African adolescent girls' leader development program details how the girls were involved in every step of the program. First, before the program formally began, as a collective, they established seven objectives that the program needed to deliver to the adolescent girls, including disaster risk reduction, vulnerability reduction, community leadership, and interpersonal relationships. Second, the adolescent girls decided on weekly discussion topics that were important for their lives, for example, positive guidance, pregnancy, poverty, peer pressure, and disease stigma. During the program, the adolescent girls focused on how they could develop this generation of South African adolescent leaders to change the culture of their local areas. McNae (2010) collaborated with a group of students at one girls' school over 12 months to design, run, and evaluate a leader development program. While the study highlighted the

complexities of the co-construction process and how it challenged the established norms of education for both teachers and students, co-construction was found to be an enjoyable and effective way to develop a program. These findings led McNae to argue strongly in favor of contextually based programs built around strong student engagement and collaborative processes between students and teachers.

The second model, where adolescent girls are given agency over a particular part of a program such as a few topics or a particular project, was more common. This model of leader development programs delivers pre-determined leader development material, yet allow the adolescent girls to exercise their agency over their learning through a community-based leadership project (Archard, 2013b; Martinek et al., 2006). For example, in Australia, a program delivered by a professional football club requires the program participants to choose a community-based issue and deliver a project which helps address the issue (e.g., a fundraising campaign). As the project runs over a six-months, the adolescent girls are continuously exercising agency by choosing what charity to engage with, the scope of the project, and what leader behaviors to apply (Parkhill et al., 2018).

The benefits of a co-constructed, rather than imposed leader development program, have been well reported in the literature. At a macro-level, Sibthorp et al.'s (2008) analysis of data from over 1,000 youth participants on 130 adventure programs, emphasizes the benefits of allowing students to have a sense of agency, autonomy, and voice in their leader development programs. At a micro-level, there is compelling qualitative evidence that by engaging in co-construction, adolescent girls have demonstrated to themselves that they are leaders (e.g., Forbes-Genade & van Niekerk, 2019; Parkhill et al., 2018). The quantitative evidence is less concrete; however, Whittington and Aspelmeier's (2018) experimental study of four different types of programs demonstrated that programs that give adolescent girls' agency in decision making during the program build increased levels of resilience than traditional programs.

Of critical importance to programs involving adolescent girls is flexibility on the part of program staff and a willingness to adapt the program when needed (Dempster et al., 2011; Osberg Conner & Strobel, 2007). Thus, the leadership facilitator can set the learning objectives, the parameters of the activity/program, but then allow the young leaders to explore the content in a way that is meaningful for them.

Theme 5: Integration of leader development into the school curriculum

The importance of the right interpersonal environment (e.g., peers and adults) was highlighted regularly in the adolescent girls' leader development literature (Liu et al., 2019; Oliver et al., 2011). To a smaller extent, studies that focused on leader development within the school-context also discussed the importance of the right school environment. Specific examples include where the school perceived leader development as a co-curricular activity (i.e., sending students to a third-party leader development camp; Ritchie et al., 2015), or where it was a formal part of the school curriculum; Whitehead, 2009).

Best practice techniques emphasized the importance of creating a holistic leadership environment by aligning leader development with the school context (Dyment, Morse, Shaw, & Smith, 2014; Jenkinson, Naughton, & Benson, 2018). This included aligning the messages taught within the program with the values, ethos, and culture of the school (McNae, 2010, 2011). Emphasizing the translation of research into practice, Eva and Sendjaya (2013) offer some guidance on the integration of leader development with curriculum, including the recommendation to combine classroom-based training with practical leadership initiatives. Similarly, Frost and Roberts (2011) discuss insights from a suite of programs and activities that could be applied to promote shared leadership in schools via interactive and collaborative modes of organizing and leading.

Lizzio and colleagues (2011) argue that the integration of leadership within the curriculum can either take the form of formal leadership mastery, for example where students are

engaging in leadership as a role such as a school captain, or informal leadership mastery, where students are engaging in leadership as a process such as influencing or building relationships. Regardless of the nature of mastery opportunities to exercise leadership, the meaningful integration of leadership within the curriculum where students can see and affect outcomes is much more important than tokenistic opportunities for students to 'play' as leaders (Lizzio et al., 2011). This research is reinforced by Archard (2009, 2011, 2013b) who emphasized the important role that schools play in the development of girls as future leaders through effective leader development integration. Archard (2009) suggests that there should be clear connections made between leader development in all of the major areas of school activities, including pastoral care and sport in addition to curriculum.

Jenkinson et al. (2018) identify several implications relevant to the integration of leader development into the school curriculum that also draws on previous themes, highlighting a whole-of-school approach to leader development. First, they note that trying to integrate a substantial leader development program within an already full school curriculum will require adaptations to fit the school structure and to avoid interfering with the academic curriculum and other school priorities. Second, they suggest having a designated 'champion' to build interest and enthusiasm for the program among staff and students, although multiple stakeholders in a school should be involved in decisions about the program design and content. Third, they recommend that a mentoring program in which older students serve as mentors to younger students will help to reinforce the leader development program as part of the whole school approach. Finally, they suggest that the continuing professional development of teachers should include education for teachers to help them understand how to integrate leader development into their curriculum.

While acknowledging the benefits of integrating leader development into the school curriculum, some researchers have argued that this does not negate the value of leadership experiences that take place outside the school context. For example, Karppinen (2012) argues

that adventure education is a valuable alternative approach to formal education. It is typically flexible, experientially-based and supportive, and offers a means to develop a range of leadership modeling that might not be available within the formal curriculum.

Summary of the thematic findings

Our first research question asked: What do we know about adolescent girls' leader development through existing research? In response, the review of the literature offered a compelling narrative. First, we have started to understand how adolescent girls emerge and then identify as leaders. However, there are still barriers that adolescent girls face that adolescent boys do not, which continue throughout adulthood (Badura et al., 2018). Some of these barriers can be removed by redefining how we talk about leadership, as the patriarchal associations with leadership are still at the front of mind of adolescent girls during their leader programs (Archard, 2012; Haber-Curran & Tillapaugh, 2017). Second, the relationships that adolescent girls have with their peers and adults in their lives need to be taken into account when designing and delivering leader development (Deutsch et al., 2017; Hurtes, 2002). Third, leader development requires authentic opportunities to practice leadership across a range of contexts, including formal and informal leadership opportunities (Hine, 2013; Larson et al., 2019). This could include being agents in their leader development, through being involved in the decision-making and design of leader development programs rather than being passive recipients of out-of-the-box leadership interventions (Frost & Roberts, 2011; Liu et al., 2020), and there should ideally be links between leader development programs and school curriculum (Jenkinson et al., 2018).

To contextualize our findings within the leader development literature, we present Figure 3, which integrates our themes (in italics) with the Day and Dragoni (2015) leader development framework. Our review identifies that the gender of the developing leader shapes which individual experiences, interventions, practice, and support the developing leader receives, and the subsequent impact of these experiences on leader development. Secondly, while Day and

Dragoni (2015) discuss support as a mechanism that influences the relationship between developmental indicators and outcomes, a clear finding of our review is the crucial role that earlier stage supportive relationships from peers and adults play in shaping the relationship between individual capabilities and developmental indicators. However, still missing from this framework is a deeper theoretical understanding of the process by which adolescent girls develop as leaders which we seek to address with our second research question.

[Insert Figure 3 about here]

Moving towards a theoretical understanding of adolescent girls' leader development

Our second research question drives us to consider how social cognitive theory (SCT) could frame and guide our understanding of adolescent girls' leader development. In reviewing the literature, we echo Ely et al.'s (2011) observation about the situation for adult women in leadership: the state of research and theorizing on adolescent girls' leader development lags far behind the demand for girls to learn about leadership. As shown in Table 3, over half of the articles in our review either did not mention a theoretical base or might have referred to some prior conceptual literature but were not explicit in applying any theory. Among the remaining 40 articles that did apply some theory, there was no evidence of consensus or a dominant theoretical approach or integration with the wider adolescent girls' leader development literature.

This inconsistent theoretical discussion might be linked to the literature being fragmented across disciplines. As such, it seems the majority of researchers have continued to see the adolescent girls' leader development literature at a nascent stage, and have made theoretical (grounded or atheoretical) and methodological (predominantly qualitative) choices consistent with that worldview to continue developing theories to understand adolescent girls' leader development (Edmondson & McManus, 2007; Reichers & Schneider, 1990). However, it is time for the field to shift from a nascent (concept introduction and elaboration) to an intermediate

27

stage (concept evaluation and augmentation; Reichers & Schneider, 1990). Thus, the theories and methods used must mature to reflect the development of the field (see Edmondson & McManus, 2007). In this stage, studies should increasingly be structured to postulate *a priori* the dimensions of development that will be investigated and the theoretical rationale for the anticipated relationships observed, with both qualitative and quantitative means.

Therefore, to provide a more comprehensive theoretical base for adolescent girls' leader development, we use SCT as a theoretical bridge across disciplines to connect gender, adolescence, and leader development. Specifically, we highlight three concepts that are integral to Bandura's SCT: triadic reciprocal determinism (Bandura, 1989), modeling processes (Wood & Bandura, 1989), and the development of self-efficacy (Bandura, 1999). Integrating Bandura's work which has been in training and development research with the knowledge gained from our literature review, we present a model of what we currently know about adolescent girls' leader development, the research needed to advance the field, and the empirical considerations it requires. For ease of reference, we present Table 4: Suggestions for future research, which creates visual links between the three SCT concepts, themes drawn from our review, and future research directions.

[Insert Table 4 about here]

Triadic reciprocal determinism

The concept of *triadic reciprocal determinism* is the interaction and influence of person, behavioral, and environmental factors (Bandura, 1989), and proposes that there are reciprocal causations between the personal factors of the adolescent girl (e.g., leader emergence, motivation, and identity); the leader behaviors that the adolescent girls choose to engage in (e.g., varieties of leader development opportunities, exercising agency in leader development programs); and the environment they are practicing leadership within (e.g., integration of leader development into the school curriculum, relationships with peers and adults).

Person ↔ Behavioral

The motivation to engage in leader behaviors is dependent on whether the adolescent girl

identifies with the role (Liu et al., 2019) and the gender-linked conceptions of leadership she

holds (person; Bussey & Bandura, 1999). Reciprocally, regularly practicing leader behaviors

influences adolescent girls' leader identity, self-efficacy for leadership, and motivation to lead.

These three components, as part of the self-view system of leader development (Day & Dragoni,

2015), help leaders engage in self-regulation of thoughts and behaviors (Lord & Brown, 2004) to

enact the leadership role. Considering the prototypicality of white male leadership portrayed by

the media and within schools themselves (e.g., Archard, 2012, 2013a; McNae, 2011), there are

already inherent barriers for adolescent girls to engage in leadership work. Additionally,

adolescent girls' internal perceptions of how women *should* lead influence the types of behaviors

they are comfortable engaging in (i.e., not wanting to seem 'too bossy' or 'too soft'). This

phenomenon derived from the concepts of role congruity and social role theory (Eagly & Karau,

2002; Eagly & Wood, 2012) that show the leadership role is typically associated with male

characteristics, as seen from both the self and observers, and this is often incongruent with the

gender role.

Person ↔ Environment

Individuals evoke different reactions from their environment (i.e., the program, the school, peers,

parents, mentors, teachers) based on who they are long before they do or say anything (Bandura,

1989). In the case of adolescent girls, their gender, race, physical appearance, socio-economic

status, all give cues to those within the leader development program on how to interact with the

adolescent girls (Cherulnik, Turns, & Wilderman, 1990; Kocoglu & Mithani, 2019).

Reciprocally, the environment provides adolescent girls with cues on how to think about

themselves as leaders. Many of the leader development programs in the reviewed literature

inadvertently reinforced gendered-views of leadership, sending strong signals to adolescent girls

that they are not leadership material, which in turn influenced the development of their leader

identity (see Trumpy & Elliott, 2019). Currently, our empirical understanding of the leader

development environment is limited to only analyzing one element at a time, rather than

examining the reciprocal determinism within the environment (e.g., mentors, school, type of

program, other extra-curricular opportunities) which can work (in)congruently to either reinforce

or reduce gendered barriers in leadership. Therefore, to advance our understanding, we implore

researchers to use SCT to determine the interplay between elements of the environment and how

that influences adolescent girls' leader development. By establishing *a priori* the leader

knowledge, skills, attitudes, behavior, or capacities that the program should enhance, rigorous

testing can increase our understanding of how and when leader development occurs (McCauley,

2008).

Environment ↔ Behavioral

The environment gives adolescent girls' cues on the (gendered-) leadership behaviors they

should display (Bandura, 1989; Eagly & Wood, 2012). While adolescent girls' leader

development activities should inherently seek to reduce gender-barriers within leadership, often

programs and facilitators reinforce gendered expectations, rather than educate and allow

adolescent girls to master a tapestry of leader behaviors (Trumpy & Elliott, 2019). Reciprocally,

the leader behaviors that adolescent girls display shape the environment around them. For

example, the literature argues that by exercising agency in programs, adolescent girls can

develop a deeper level of skills and abilities than those who attend a prescribed leader

development program (McNae, 2010; Sibthorp et al., 2008). However, there are two glaring

holes in the current research. The first is the lack of appropriate control groups (see Antonakis,

Bendahan, Jacquart, & Lalive, 2010), particularly in program evaluation studies. Secondly, often

the questions that are asked in the debrief (e.g., "prompt with the following questions if related

ideas don't come up in responses") give cues to the adolescent girls about what the 'appropriate'

responses are (Zizzo, 2010). Thus, the research is susceptible to bias due to the demand effects of the researcher leading respondents to support their hypotheses (Lonati et al., 2018). Hence, we implore researchers to use robust experimental designs to determine how much extra variance in leader development is explained by co-construction over a standard leader development program, especially considering the investment a bespoke program requires (Archard, 2013b).

Modeling processes

The review highlighted evidence that the process of leader development is different for adolescent girls than it is for adolescent boys, yet research is unsure why this process is different. Possibly, this is because only a handful of the studies reviewed offered more than a modest representation of a basic input-process-outcome model (McGrath, 1984) that simultaneously considers the "what"-"how"-"so what" aspects of adolescent girls' leadership development (Day et al., 2014). We suggest that SCT's *modeling processes,* alongside social role theory (Eagly & Wood, 2012)*,* can help researchers unpack the "how" process, by exploring the gendered differences in the formation of leader identity.

Firstly, *attention processes* are what adolescent girls choose to pay attention to within a leader development program and the broader leadership environment (e.g., television role models, school leaders) and what gender-relevant information they extract (Wood & Bandura, 1989). For example, leader development in adolescent girls has been more effective when they have mentors/practitioners who are similar (e.g., gender, race, background) as them (McNae, 2010, 2011; Mullen & Tuten, 2004). Secondly, *retention processes* are where adolescent girls take the information received from the environment and restructure it so it can be remembered and applied through leader behaviors (Wood & Bandura, 1989). For example, when adolescent girls see the negative treatment of women leaders by others in their environment, this reinforces 'think-leader, think-male' stereotypes, and sends signals that deter adolescent girls from engaging in leadership. Alternatively, when the environment positively highlights women

leaders, these messages positively reinforce to adolescent girls that they can and should be engaging in leadership (Trumpy & Elliott, 2019).

Thirdly, *behavioral processes* are where adolescent girls take the gendered-information they have observed and put it into practice by engaging in leadership behaviors (Wood & Bandura, 1989). Like any new skill, adolescent girls need multiple opportunities to master more manageable leadership tasks, before they take on more challenging ones (Hurtes, 2002), and receive constructive feedback on their leader behaviors (Bandura, 1999). Bridging behavioral processes with Liu et al.'s (2020) leadership lifespan model, there is merit in exploring how secondary and tertiary institutions can partner in research and practice to examine how the tertiary curriculum (e.g., business schools) extends the complexities of leadership tasks offered by secondary institutions.

Fourthly, *motivational processes* explain which leader behaviors adolescent girls are motivated to engage in, as we do not perform every leadership behavior we learn (Wood & Bandura, 1989). For example, if girls are punished for engaging in competitive, rather than cooperative, leader behaviors, they will shy away from competitive behaviors (Trumpy & Elliott, 2019). Leader development programs give adolescent girls a palette of leadership tools in which to create their own leadership masterpiece, but they need to be motivated to use specific colors. To advance our knowledge, we call upon researchers to integrate the adolescent girls' leader development literature within the broader leadership literature to understand the types of leader behaviors adolescent girls are motivated to engage in and identify with, such as authentic (Avolio & Gardner, 2005), charismatic (Antonakis, Fenley, & Liechti, 2011), ethical (Brown & Treviño, 2006), and servant (Eva, Robin, Sendjaya, van Dierendonck, & Liden, 2019) leadership.

In suggesting this course of action, we are not so naïve as to ignore the leader prototypicality issues that are inherent within these theoretical models (see Liu, 2019; Liu, Cutcher, & Grant, 2015). Instead, we implore researchers to address the heteronormative issues

embedded in these leadership approaches and in leader development programs themselves, through an intersectionality lens (Haber-Curran & Tillapaugh, 2017). As the majority of studies in our review focused on white adolescent girls, often from socially and economically privileged backgrounds, gender was the predominant theme with minimal discussion of broader demographics or cross-national comparisons. However, in challenging the think-leader think-male prototype of the leader, future research does need to ask: how do adolescent girls' leader development programs reject the leader prototypicality of think-leader think-white, to offer an inclusive leader prototype? This could include examining what the optimal combination of leader development activities for adolescent girls of color is through a modeling lens. To examine inequities more broadly, we encourage scholars to conduct a comparative analysis of societal and institutional differences to explore the influence of government policy on leadership education and gender equality (Triana, Jayasinghe, Pieper, Delgado, & Li, 2019).

Self-efficacy

Leadership learning is more likely to occur when the adolescent girl has a sufficient level of leader *self-efficacy,* for unless adolescent girls believe that they can be leaders, they will not engage in practicing leadership (Bussey & Bandura, 1999; Liu et al., 2019). Leader self-efficacy is defined as the "leader's estimate of his or her ability to fulfill the leadership role" (Murphy & Johnson, 2016, p. 74). Bandura (1999) identified four factors that can affect self-efficacy, each of which is present in the adolescent girls' leader development literature.

First, *mastery* experiences have been the cornerstone of adolescent girls' leader development programs as they allow adolescent girls to engage in the act of leadership by, for example, holding a formal leadership position. However, many of the mastery experiences detailed in the literature lack rigorous empirical evidence to demonstrate their efficacy and tend to examine whole programs, rather than individual activities. Thus, we lack an understanding of what combination of leadership opportunities is needed by the current generation of adolescent

girl leaders. We encourage scholars to examine how the combination of activities, for example, mentorship and mastery, interact to build positive leadership attitudes and behaviors. By providing rigorous empirical evidence, such as analyzing whether service-learning opportunities benefit adolescent girls more than boys (see Lizzio et al., 2011), we could empirically validate observational assertions made in the literature.

Second, *social models,* such as peers engaging in leadership or leaders who look like them, are essential as they show adolescent girls that they too can engage in leadership. If girls see other girls fail at being leaders, this installs self-doubts in their leader abilities (Bussey & Bandura, 1999). Social models are similar to the third factor, *social persuasion*, where peers and adult role models express belief in the adolescent girls' ability to be a leader and discuss the benefits of them engaging in leadership (Bussey & Bandura, 1999). For example, female mentors can encourage adolescent girls to engage in leadership and use discussions to deconstruct common gender bias in leadership (Deutsch et al., 2017; Voelker, 2016). Qualitative research has demonstrated the importance of social models and persuasion; however, there is a need for more rigorous quantitative research that examines how (and if) adult and peer relationships influence adolescent girls' leader self-efficacy. Although change in leader self-efficacy is a gradual process over time (Bandura, 1999), the adolescent girls' leader development literature is yet to track the influence of relationships in the long term (e.g., Deutsch et al., 2017). Longitudinal studies would allow us to examine both the positive and negative impact that adult and peer relationships have over adolescent girls' leader emergence and development, how these develop and shift over time, and when these relationships are most needed during the leader development process (Day, 2011; Day & Dragoni, 2015). While a substantial number of studies in our review collected data at more than one time point, most of the studies were conducted within short-term (e.g., one week) leader development programs. Only a few studies used longitudinal designs that spanned months or years. As Orvis and Ratwani (2010) note, it is important to identify the

appropriate timing of the evaluation, the appropriate frequency of the evaluation, and the appropriate source of the evaluation measure (e.g., follower, peer, teacher, adult role model).

Finally, adolescent girls' *physical and emotional state* affects their leader self-efficacy (Bussey & Bandura, 1999). The positive and negative emotions that adolescent girls experience influence whether they feel comfortable engaging in leadership at that point in time. The literature on adolescent girls is consistent with Bandura's notion that self-efficacy is integral to girls' leader development, evidenced in the themes identified in our review. This can be further explained through two adjacent underlying mechanisms related to self-efficacy, that can enhance leader development within the context of SCT, namely leader developmental efficacy and a growth mindset. Leader development efficacy refers to an individual's belief that they have the capability to engage in activities to develop their leadership (Reichard, Walker, Putter, Middleton, & Johnson, 2017) and fits with the general framework from growth mindset where people believe change is possible through effort and challenge (Dweck, 2006).

Taken together, the three SCT concepts of triadic reciprocal determinism, modeling processes, and the development of self-efficacy explain how adolescent girls develop as leaders. We hope that this offers a solid foundation and springboard for future research that advances adolescent girls' leader development from the concept introduction and elaboration stage to the concept evaluation and augmentation stage.

What are the implications of research on adolescent girls' leader development for adult leader development programs?

Throughout this review, we have highlighted research that methods for improving adolescent girls' leader development. By understanding some of the unique pathways through which girls emerge as leaders, identify with particular conceptualizations of leadership, and learn leadership through developmental experiences, we can identify several implications for adult leader

development programs. Therefore, our final research question sought to provide a guide for leader development professionals on how the adolescent girls' leader development literature can inform adult leader development programs. In the following, we discuss four areas and provide practical implications for leader development programs (i) targeting emerging adulthood, which is often when people are in the context of higher education, and (ii) targeting middle adulthood, when people typically are in the workplace context (drawn from Liu et al.'s 2020 leader development lifespan model). We have summarized these implications in Table 5.

[Insert Table 5 about here]

Address gendered aspects of development in and out of the classroom

There is evidence that the concepts of leader and leadership, as currently defined, do not represent the way adolescents, and especially girls, define and participate in leadership. Research on adult women's leadership suggests that these differences have stifled women's leader emergence and hampered the development of women's leader identity (Debebe, Anderson, Bilimoria, & Vinnicombe, 2016; Ely et al., 2011). Although women may be highly motivated to lead (Lizzio et al., 2011), the research suggests that they may require more time than is typically allocated within an educational program to demonstrate their right to leadership through actions and accomplishments (Mullen & Tuten, 2004). Therefore, the leadership of teams can often fall to men due to their greater propensity to use personality to assert leadership during group formation (Bevelander & Page, 2011). The implementation of 'women-only' leader development programs has, to a certain extent, attempted to address the gap in leader emergence (Debebe et al., 2016; Ely et al., 2011). However, we believe a reconceptualization of how we deliver leader development programs that incorporates an understanding of the role of leader prototypes, leader identity, and leader self-efficacy may be a more beneficial long-term solution for all leader development participants.

Higher education and workplace leader development programs must make a concerted

effort to move away from cis-male leadership prototypical examples and case studies. For example, it is inadequate to have one session on gender and leadership, and then use case studies on male leaders who share demographic similarities, such as Jobs, Musk, Zuckerberg, and Branson, for subsequent sessions. Harvard University's work in the gender-bias free classroom required instructors to systematically analyze all aspects of their leadership course to determine how a 'think-leader, think-male' mindset might exist in their program, and to identify ways to be more inclusive (Kantor, 2013). Their suggestions included looking over which authors' work is assigned for students to read, the extent to which diversity is represented in class materials, the diversity of perspectives among teaching faculty and guest speakers, and the approaches used to teach leadership. For example, are female leaders only evoked when talking about relational approaches to leadership, while performance-oriented leadership examples are male?

Self-confidence and self-efficacy, while not identical constructs, are important outcomes of leader development programs. Research suggests, however, that women have what is popularly termed, "a confidence gap" as they tend to rate their leadership skills lower than men, even while they have received equally positive performance or leadership ratings (Paustian-Underdahl, Walker, & Woehr, 2014). Exhibiting confidence may be the result of gender norms as shown in research where high-performing women gained influence only when their displays of confidence were coupled with a prosocial orientation (Guillén, Mayo, & Karelaia, 2018). Addressing the sources of and solutions to the confidence gap for women and its specific relationship to SCT is an important addition to leader development programs.

Leverage developmental support

Our second theme discussed the effect of social support and mentorship on adolescent girls' leader development. The positive value of mentors and role models in the leader development process is likely to be just as important for adult women in higher education and in the workplace as it is for adolescent girls (Chrobot-Mason et al., 2019). Integrating mentoring into

the leader development program can be particularly important because "[w]hile white men tend to find mentors on their own, women and minorities more often need help from formal programs" (Dobbin & Kalev, 2016, p. 57). Thus, formalizing this process can assist in ensuring development continues long after the participant leaves the program. Priest and Donley's (2014) research on business school alumni mentor programs showed a positive effect for both the mentor and mentees; they recommended that mentors and mentees should be paired by similar career interests, and the program should commence early (i.e., during their freshman/first year).

There is an abundance of research demonstrating the importance of social networks to assist women in their leader development. To assist with the selection of mentors, Ely et al. (2011) offer network assessment tools, which individuals can use to evaluate their existing networks, consider potential mentors, and identify ways to integrate effective networking techniques into daily activities. Further, findings by Hoyt and Simon (2011) indicate that the mentor might need to be someone with whom the participant strongly identifies and feels they can achieve a similar level of success, in order to have a positive impact on women's leader development. As the mentor has power to influence the participant, it is essential that the mentors are properly trained, have a strong understanding of elements such as gender bias or implicit assumptions, and are resourced with information and expert support to assist them with the mentoring process (Mullen & Tuten, 2004).

Enhance leader development opportunities to foster mastery and agency

The opportunity to practice newfound leadership skills is the most important way to ensure the participant transfers the learning from the classroom to the world in which they move (Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017). As Lerner (2018) identified, opportunities for young people to practice their leadership skills across a range of school, community, and family activities is a foundational pillar for leader development. However, it is particularly worrying that in higher education, educators seem to "be paying too much attention to learning

outcomes and neglecting to effectively teach students how to transfer their newfound skills"
(Reyes et al., 2019, p. 10). Thus, leadership educators in higher education need to create
opportunities for participants to engage in leadership outside the classroom and across different
settings. This is particularly salient for the development of women leaders. Findings from Hurtes
(2002) demonstrated that girls prefer to master skills before applying them in front of others. For
activities such as leadership role-plays, pre-class activities can be used to facilitate mastery of
specific knowledge and skills before students enter the classroom and then using classroom time
for application (Abeysekera & Dawson, 2015). To promote more women into informal
leadership roles and thus increase their exposure to mastery experiences, we suggest that teams
are formed after multiple in-class activities are held, so that the actions and accomplishments of
potential women leaders can be demonstrated, thus allowing a level playing field for leadership
to emerge.

Participation in leader development programs should be coupled with an opportunity to
take on a leadership role. It is important that this role be meaningful and not tokenistic (McNae,
2011). As women already perform a disproportionate amount of extra-role behaviors in the
workplace (Ng, Lam, & Feldman, 2016; Rand, Brescoll, Everett, Capraro, & Barcelo, 2016),
adding a meaningless leadership role may hinder rather than help their development. Thus,
meaningful roles such as formally leading their team or leading a major project implementation
allow the application and mastery of the leadership lessons learned during the program.

Higher education institutions have already made promising steps to build significant
leader development opportunities, either through curricular or co-curricular programs. For
example, many universities offer mastery experiences such as adventure learning or study abroad
programs (Varela & Gatlin-Watts, 2014), where potential leaders can actively learn from failures
and successes (Harms, Spain, & Hannah, 2011). Some studies have demonstrated that service-
learning and citizenship development programs targeted at developing leadership competencies

(e.g., Brower, 2011; Crossan et al., 2013) are particularly effective for young women in their leader development (Casile, Hoover, & O'Neil, 2011). While these types of mastery experiences may not be accessible for all higher education institutions and workplaces due to the cost or time constraints, the adolescent girls' literature paints a picture that mastery experiences are one of the most important facets in leader development. Other opportunities to enhance the effectiveness of experiential learning include action learning (Raelin, 2006), guided reflection (DeRue, Nahrgang, Hollenbeck, & Workman, 2012) and multi-source feedback from peers and teachers on how adult learners led (see Lacerenza et al., 2017 for the importance of feedback in leader development). Outside of the classroom, programs could link with industry or community bodies to provide meaningful leadership opportunities.

Drawing on the constructivist view of education, knowledge is constructed (created) by each student. Constructivist theorists argue that by active participation and having some input into their learning (style, topics, assignments), students can learn more effectively (Arbaugh & Benbunan-Finch, 2006). This argument is bolstered by meta-analytical evidence of adult leader development programs that demonstrate the importance of a needs analysis (i.e., understanding what the participants need from the program), and multiple delivery methods (i.e., information, demonstration, practice; Lacerenza et al., 2017). For a leader development program to be effective, it must be tailored to the participants' needs. As mentioned earlier, McNae (2010) and Frost and Roberts (2011) found that girls' leader development programs are more effective when the girls are active contributors to the design and running of the program. These findings are consistent with educational trends in higher education to move towards more student-centered learning and flipped classrooms where students are active members in the learning construction process (Eva & Tse, 2018). This is not only important for gender equity; exercising agency in programs also offers benefits for diverse student cohorts (Blume, Baldwin, & Ryan, 2013). When students are empowered to be their own educational agents, they can demonstrate the

learning objectives in an individually meaningful context (e.g., gender, nationality).

For workplace leader development programs, we concur with Lacerenza et al. (2017) that a needs analysis should occur during the design phase of the program. However, the evidence presented in our review demonstrates the importance of continuous needs analysis (Dempster et al., 2011; Osberg Conner & Strobel, 2007). For example, participants could be encouraged to bring in their own leadership challenges for discussion, allowing the participants to choose what they learn, and adapting the program to the changing needs of the cohort.

A clear message in the adolescent girls' leader development literature is that best practice programs align leader development with the (school) context (Dyment et al., 2014; McNae, 2010, 2011). However, for higher education and workplace leader development programs, integration to the context is more complex. For higher education, integrating leader development within the curriculum may require buy-in by several stakeholders across multiple schools or departments and recognition that leader development is a core business of the institution. This could be an introductory course in a leadership degree, a leadership major, a compulsory freshman unit, or a discipline-specific leadership unit, such as leadership in the medical field (Guthrie & Jenkins, 2018). In a similar vein, we acknowledge that the time and financial investment spent integrating leader development into the formal curriculum can be significant for institutions. Hence, we pose the question: Is it the role of higher education to provide a holistic leadership education? Or, is offering co-curricular or discipline-specific programs more appropriate, as the research demonstrates that these programs are just as impactful (Karppinen, 2012)?

In the workplace context, leader development programs should deliver leadership education that is aligned with how the organization expects women to lead. For example, if a leader development program emphasizes the meaningful participation of followers in the decision-making process and delegation of responsibilities, but the organization has a highly

centralized structure where the leader is required to make all the decisions, followers might see the participatory leadership behaviors as insincere, and thus the development training may not be beneficial (Eva, Sendjaya, & Prajogo, 2013). Leader development programs, especially those for women only, have the potential to offer a safe space where participants can benefit from the support and experience of their peers (Debebe et al., 2016). These programs could be used as a springboard for ongoing membership of a peer-to-peer network that builds long-term supportive relationships. Learning how to navigate and manage the perceptions of others in their workplace is important work for women wanting to lead (Meister, Sinclair, & Jehn, 2017). However, we emphasize that this is not only women's work. For example, men can provide important support as champions, sponsors, and allies for women in leadership roles (Kelan, 2018).

Conclusion

While efforts have been made to reduce gender inequality in adult leadership attainment, addressing inequality early is one way to help bridge the leadership gender gap. Our analysis of the adolescent girls' leader development literature contributes in three different ways. First, we presented an integrated and detailed overview of the diverse literature on adolescent girls' leader development research to create a shared understanding across five thematic clusters. Second, we interpreted the findings through the lens of social cognitive theory to provide an integrated theoretical understanding of how adolescent girls develop as leaders and directions for future research. Finally, we provided practical solutions for leadership educators and practitioners in higher education and workplaces to inform their leader development programs.

This article has provided the groundwork for leadership researchers to be able to better engage with a fragmented literature on adolescent girls' leadership. It also helps further a collective understanding that leadership does not begin in adulthood, when you enter an organization, nor does it begin in college. The impact of programming and experiences in the

first 18 years of life on leader development remains wholly under-researched, especially for females. The field requires the best minds with the latest methodologies to understand how adolescent girls develop as leaders and address the inequalities early in life. If not, our adult leader development programs and research will continue to perpetuate and be dominated by gender inequality decades into the future.

References

Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research. *Higher Education Research & Development, 34*, 1-14.

Aguinis, H., Pierce, C. A., Bosco, F. A., & Muslin, I. S. (2009). First decade of organizational research methods: Trends in design, measurement, and data-analysis topics. *Organizational Research Methods, 12*, 69-112.

Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly, 21*, 1086-1120.

Antonakis, J., Fenley, M., & Liechti, S. (2011). Can charisma be taught? Tests of two interventions. *Academy of Management Learning & Education, 10*, 374-396.

Arbaugh, J., & Benbunan-Finch, R. (2006). An investigation of epistemological and social dimensions of teaching in online learning environments. *Academy of Management Learning & Education, 5*, 435-447.

Archard, N. (2009). Leadership understanding and practice in girls' schools: A review of web based public documents. *Leading and Managing, 15*, 16-30.

Archard, N. (2011). Peer influence on female student leadership attainment, capacity and development: A staff and student perspective within a girls' school context. *Leading and Managing, 17*, 1-15.

Archard, N. (2012). Student leadership development in Australian and New Zealand secondary girls' schools: A staff perspective. *International Journal of Leadership in Education, 15*, 23-47.

Archard, N. (2013a). Adolescent leadership: The female voice. *Educational Management Administration & Leadership, 41*, 336-351.

Archard, N. (2013b). Preparing adolescent girls for school and post-school leadership: Recommendations to school educators from educational staff, female students, and women leaders. *International Journal of Adolescence and Youth, 18*, 158-175.

Archard, N. (2013c). Women's participation as leaders in society: An adolescent girls' perspective. *Journal of Youth Studies, 16*, 759-775.

Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly, 16*, 315-338.

Ayman, R., & Korabik, K. (2010). Leadership: Why gender and culture matter. *American Psychologist, 65*, 157-170.

Badura, K. L., Grijalva, E., Galvin, B. M., Owens, B. P., & Joseph, D. L. (2020). Motivation to lead: A meta-analysis and distal-proximal model of motivation and leadership. *Journal of Applied Psychology, 105*, 331-354.

Badura, K. L., Grijalva, E., Newman, D. A., Yan, T. T., & Jeon, G. (2018). Gender and leadership emergence: A meta-analysis and explanatory model. *Personnel Psychology, 71*, 335-367.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development* (Vol. 6. Six theories of child development, pp. 1-60). Greenwich, CT: JAI Press.

Bandura, A. (1999). Social cognitive theory: An agentic perspective. *Asian Journal of Social Psychology, 2*, 21-41.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1-26.

Bandura, A. (2005). The evolution of social cognitive theory. In K. G. Smtih & M. A. Hitt (Eds.), *Great minds in management* (pp. 9-35). Oxford: Oxford University Press.

Barling, J., & Weatherhead, J. G. (2016). Persistent exposure to poverty during childhood limits later leader emergence. *Journal of Applied Psychology, 101*, 1305-1318.

Bevelander, D., & Page, M. J. (2011). Ms. Trust: Gender, networks and trust - implications for management and education. *Academy of Management Learning & Education, 10*, 623-642.

Blanchet-Cohen, N., & Brunson, L. (2014). Creating settings for youth empowerment and leadership: An ecological perspective. *Child & Youth Services, 35*, 216-236.

Blume, B. D., Baldwin, T. T., & Ryan, K. C. (2013). Communication apprehension: A barrier to students' leadership, adaptability, and multicultural appreciation. *Academy of Management Learning & Education, 12*, 158-172.

Bouchard, T. J., & Loehlin, J. C. (2001). Genes, evolution, and personality. *Behavior Genetics, 31*, 243-273.

Briner, R. B., & Denyer, D. (2012). Systematic review and evidence synthesis as a practice and scholarship tool. In D. M. Rousseau (Ed.), *Handbook of evidence-based management: Companies, classrooms and research*. New York: Oxford University Press.

Brower, H. H. (2011). Sustainable development through service learning: A pedagogical framework and case example in a third world context. *Academy of Management Learning & Education, 10*, 58-76.

Brown, M. E., & Treviño, L. K. (2006). Ethical leadership: A review and future directions. *The Leadership Quarterly, 17*, 595-616.

Brutus, S., Gill, H., & Duniewicz, K. (2010). State of science in industrial and organizational psychology: A review of self-reported limitations. *Personnel Psychology, 63*, 907-936.

Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review, 106*, 676-713.

Casile, M., Hoover, K. F., & O'Neil, D. A. (2011). Both-and, not either-or: Knowledge and service-learning. *Education + Training, 53*, 129-139.

Cassell, J., Huffaker, D., Tversky, D., & Ferriman, K. (2006). The language of online leadership: Gender and youth engagement on the internet. *Developmental Psychology, 42*, 436-449.

Caton, M., Field, J. E., & Kolbert, J. B. (2010). Fostering healthy development among middle school females: A summer program. *Journal of School Counseling, 8*, n39-n39.

Chan, K.-Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the motivation to lead. *Journal of Applied Psychology, 86*, 481-498.

Cherulnik, P. D., Turns, L. C., & Wilderman, S. K. (1990). Physical appearance and leadership: Exploring the role of appearance-based attribution in leader emergence. *Journal of Applied Social Psychology, 20*, 1530-1539.

Chrobot-Mason, D., Hoobler, J. M., & Burno, J. (2019). Lean in versus the literature: An evidence-based examination. *Academy of Management Perspectives, 33*, 110-130.

Collinson, D., & Tourish, D. (2015). Teaching leadership critically: New directions for leadership pedagogy. *Academy of Management Learning & Education, 14*, 576-594.

Crossan, M., Mazutis, D., Seijts, G., & Gandz, J. (2013). Developing leadership character in business programs. *Academy of Management Learning & Education, 12*, 285-305.

Curran, T., & Wexler, L. (2017). School-based positive youth development: A systematic review of the literature. *Journal of School Health, 87*, 71-80.

Dawes, N. P., & Larson, R. (2011). How youth get engaged: Grounded-theory research on motivational development in organized youth programs. *Developmental Psychology, 47*, 259-269.

Day, D. V. (2011). Integrative perspectives on longitudinal investigations of leader development: From childhood through adulthood. *The Leadership Quarterly, 22*, 561-571.

Day, D. V., & Dragoni, L. (2015). Leadership development: An outcome-oriented review based on time and levels of analyses. *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 133-156.

Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25 years of research and theory. *The Leadership Quarterly, 25*, 63-82.

Day, D. V., & Harrison, M. M. (2007). A multilevel, identity-based approach to leadership development. *Human Resource Management Review, 17*, 360-373.

Day, D. V., Harrison, M. M., & Halpin, S. M. (2009). *An integrative approach to leader development: Connecting adult development, identity, and expertise*. New York: Psychological Press.

De Haan, E., Gray, D. E., & Bonneywell, S. (2019). Executive coaching outcome research in a field setting: A near-randomized controlled trial study in a global healthcare corporation. *Academy of Management Learning & Education, 18*(4), 581-605.

Debebe, G., Anderson, D., Bilimoria, D., & Vinnicombe, S. M. (2016). Women's leadership development programs: Lessons learned and new frontiers, *Journal of Management Education, 40,* 231-252.

Dempster, N., Lizzio, A., Keeffe, M., Skinner, J., & Andrews, D. (2010). The contributions of research design and process facilitation in accessing adolescent views of leadership. *Leading and Managing, 16*(2), 77-89.

Dempster, N., Stevens, E., & Keeffe, M. (2011). Student and youth leadership: A focused literature review. *Leading and Managing, 17*, 1-20.

Denner, J., Meyer, B., & Bean, S. (2005). Young women's leadership alliance: Youth–adult partnerships in an all-female after-school program. *Journal of Community Psychology, 33*, 87-100.

DeRue, D. S., & Ashford, S. J. (2010). Who will lead and who will follow? A social process of leadership identity construction in organizations. *Academy of Management Review, 35*, 627-647.

DeRue, D. S., Nahrgang, J. D., Hollenbeck, J. R., & Workman, K. (2012). A quasi-experimental study of after-event reviews and leadership development. *Journal of Applied Psychology, 97*, 997-1015.

Deutsch, N. L., Reitz-Krueger, C. L., Henneberger, A. K., Futch Ehrlich, V. A., & Lawrence, E. C. (2017). "It gave me ways to solve problems and ways to talk to people" outcomes from a combined group and one-on-one mentoring program for early adolescent girls. *Journal of Adolescent Research, 32*, 291-322.

Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly, 25*, 36-62.

Dobbin, F., & Kalev, A. (2016). Diversity why diversity programs fail and what works better. *Harvard Business Review, 94*, 52-60.

Dodge, K. A., & Pettit, G. S. (2003). A biopsychosocial model of the development of chronic conduct problems in adolescence. *Developmental Psychology, 39*, 349-371.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.

Dyment, J., Morse, M., Shaw, S., & Smith, H. (2014). Curriculum development in outdoor education: Tasmanian teachers' perspectives on the new pre-tertiary outdoor leadership course. *Journal of Adventure Education & Outdoor Learning, 14*, 82-99.

Eagly, A. H., & Carli, L. L. (2007). Women and the labyrinth of leadership. *Harvard Business Review, 85*, 62-71.

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*, 573-598.

Eagly, A. H., & Wood, W. (2012). Social role theory. In P. A. M. V. Lange, A. W. Kruglanski & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 458–476). Thousand Oaks CA: Sage Publications.

Easley, J., & Tulowitzki, P. (2013). Policy formation of intercultural and globally minded educational leadership preparation. *International Journal of Educational Management, 27*, 744-761.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review, 32*(4), 1246-1264.

Ee, J., & Ong, C. W. (2014). Which social emotional competencies are enhanced at a social emotional learning camp? *Journal of Adventure Education & Outdoor Learning, 14*, 24-41.

Eley, D., & Kirk, D. (2002). Developing citizenship through sport: The impact of a sport-based volunteer programme on young sport leaders. *Sport, Education and Society, 7*, 151-166.

Elprana, G., Felfe, J., Stiehl, S., & Gatzka, M. (2015). Exploring the sex difference in affective motivation to lead. *Journal of Personnel Psychology*, *14,* 142-152.

Ely, R. J., Ibarra, H., & Kolb, D. M. (2011). Taking gender into account: Theory and design for women's leadership development programs. *Academy of Management Learning & Education, 10*, 474-493.

Epitropaki, O., & Martin, R. (2005). From ideal to real: A longitudinal study of the role of implicit leadership theories on leader-member exchanges and employee outcomes. *Journal of Applied Psychology, 90*, 659-676.

Epitropaki, O., Sy, T., Martin, R., Tram-Quon, S., & Topakas, A. (2013). Implicit leadership and followership theories "in the wild": Taking stock of information-processing approaches to leadership and followership in organizational settings. *The Leadership Quarterly, 24*, 858-881.

Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., & Liden, R. C. (2019). Servant leadership: A systematic review and call for future research. *The Leadership Quarterly, 30*, 111-132.

Eva, N., & Sendjaya, S. (2013). Creating future leaders: An examination of youth leadership development in Australia. *Education + Training, 55*, 584-598.

Eva, N., Sendjaya, S., & Prajogo, D. (2013). Servant leadership and job satisfaction: The moderating roles of leader's decision making process and orgaizational structure. Paper presented at the *73rd Annual Meeting of the Academy of Management*. Orlando, FL.

Eva, N. M., & Tse, H. (2018). *A practical guide for designing and implementing the flipped classroom teaching in management education*. Southport, Australia: Australian & New Zealand Academy of Management.

Forbes-Genade, K., & van Niekerk, D. (2019). GIRRL power! Participatory action research for building girl-led community resilience in South Africa. *Action Research, 17*, 237-257.

Frost, D., & Roberts, A. (2011). Student leadership, participation and democracy. *Leading and Managing, 17,* 66-84.

Funk, R. C. (2002). Developing leaders through high school junior ROTC: Integrating theory with practice. *Journal of Leadership Studies, 8*, 43-53.

Goldenberg, M., & Soule, K. E. (2015). A four-year follow-up of means-end outcomes from outdoor adventure programs. *Journal of Adventure Education and Outdoor Learning, 15*, 284-295.

Gottfried, A. E., Gottfried, A. W., Reichard, R. J., Guerin, D. W., Oliver, P. H., & Riggio, R. E. (2011). Motivational roots of leadership: A longitudinal study from childhood through adulthood. *The Leadership Quarterly, 22*, 510-519.

Gould, D., & Voelker, D. K. (2010). Youth sport leadership development: Leveraging the sports captaincy experience. *Journal of Sport Psychology in Action, 1*, 1-14.

Gould, D., & Voelker, D. K. (2012). Enhancing youth leadership through sport and physical education. *Journal of Physical Education, Recreation & Dance, 83*(8), 38-41.

Griffith, A. N., & Larson, R. W. (2016). Why trust matters: How confidence in leaders transforms what adolescents gain from youth programs. *Journal of Research on Adolescence, 26*, 790-804.

Guillén, L., Mayo, M., & Karelaia, N. (2018). Appearing self-confident and getting credit for it: Why it may be easier for men than women to gain influence at work. *Human Resource Management, 57*, 839-854.

Guillén, L., Mayo, M., & Korotov, K. (2015). Is leadership a part of me? A leader identity approach to understanding the motivation to lead. *The Leadership Quarterly, 26*, 802-820.

Guthrie, K., & Jenkins, D. (2018). *The role of leadership educators: Transforming learning*. Charlotte, NC: Information Age Publishing.

Haber-Curran, P., & Tillapaugh, D. (2017). Gender and student leadership: A critical examination. *New Directions for Student Leadership, 154*, 11-22.

Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13*, 25-55.

Harms, P. D., Spain, S. M., & Hannah, S. T. (2011). Leader development and the dark side of personality. *The Leadership Quarterly, 22*, 495-509.

Hindes, Y. L., Thorne, K. J., Schwean, V. L., & McKeough, A. M. (2008). Promoting intrapersonal qualities in adolescents: Evaluation of rapport's teen leadership breakthrough program. *Canadian Journal of School Psychology, 23*, 206-222.

Hine, G. (2013). Student leadership experiences: A case study. *Leading and Managing, 19*, 32-50.

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review, 5*, 184-200.

Hoyt, C. L., & Simon, S. (2011). Female leaders: Injurious or inspiring role models for women? *Psychology of Women Quarterly, 35*, 143-157.

Hoyt, M. A., & Kennedy, C. L. (2008). Leadership and adolescent girls: A qualitative study of leadership development. *American Journal of Community Psychology, 42*, 203-219.

Hurtes, K. P. (2002). Social dependency: The impact of adolescent female culture. *Leisure Sciences, 24*, 109-121.

Jenkinson, K. A., Naughton, G., & Benson, A. C. (2012). The GLAMA (Girls! Lead! Achieve! Mentor! Activate!) physical activity and peer leadership intervention pilot project: A process evaluation using the RE-AIM framework. *BMC Public Health, 12*, 55-70.

Jenkinson, K. A., Naughton, G., & Benson, A. C. (2018). A stealth intervention: The GLAMA (Girls! Lead! Achieve! Mentor! Activate!) and BLAST (Boys! Lead! Activate! Succeed Together!) school connectedness, peer leadership and physical activity transition program. *Australian Journal of Teacher Education, 43*, 1-25.

Johnson, S. K., Murphy, S. E., Zewdie, S., & Reichard, R. J. (2008). The strong, sensitive type: Effects of gender stereotypes and leadership prototypes on the evaluation of male and female leaders. *Organizational Behavior and Human Decision Processes, 106*, 39-60.

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765-780.

Kagay, R. B., Marx, A. A., & Simonsen, J. C. (2015). Student self-perceptions of leadership in two Missouri FFA chapters: A collective case study. *Journal of Agricultural Education, 56*, 76-92.

Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organizations. *American Psychologist, 63*, 96-110.

Kantor, J. (2013, September 7). Harvard Business School case study: Gender equity. In *The New York Times*. Retrieved from: https://www.nytimes.com/2013/09/08/education/harvard-case-study-gender-equity.html

Kark, R., & Van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *Academy of Management Review, 32*, 500-528.

Karppinen, S. J. (2012). Outdoor adventure education in a formal education curriculum in Finland: Action research application. *Journal of Adventure Education & Outdoor Learning, 12*, 41-62.

Kelan, E. K. (2018). Men doing and undoing gender at work: A review and research agenda. *International Journal of Management Reviews, 20*, 544-558.

Klau, M. (2006). Exploring youth leadership in theory and practice. *New Directions for Youth Development, 109*, 57-87.

Kocoglu, I., & Mithani, M. A. (2019). Does an attractive partner make you a better leader? Only if you are a male! *The Leadership Quarterly*, 101339.

Lacerenza, C. N., Reyes, D. L., Marlow, S. L., Joseph, D. L., & Salas, E. (2017). Leadership training design, delivery, and implementation: A meta-analysis. *Journal of Applied Psychology, 102*, 1686-1718.

Larson, R. W., Raffaelli, M., Guzman, S., Salusky, I., Orson, C. N., & Kenzer, A. (2019). The important (but neglected) developmental value of roles: Findings from youth programs. *Developmental Psychology*, *55*, 1019-1033.

Lavery, S. D., & Hine, G. S. (2013). Catholic school principals: Promoting student leadership. *Journal of Catholic Education, 17*, 41-66.

Lerner, R. M. (2018). Character development among youth: Linking lives in time and place. *International Journal of Behavioral Development, 42*, 267-277.

Lerner, R. M., Wang, J., Chase, P. A., Gutierrez, A. S., Harris, E. M., Rubin, R. O., & Yalin, C. (2014). Using relational developmental systems theory to link program goals, activities, and outcomes: The sample case of the 4-H study of positive youth development. *New Directions for Youth Development, 144*, 17-30.

Liu, H. (2019). Just the servant: An intersectional critique of servant leadership. *Journal of Business Ethics, 156*, 1099–1112.

Liu, H., Cutcher, L., & Grant, D. (2015). Doing authenticity: The gendered construction of authentic leadership. *Gender, Work & Organization, 22*, 237-255.

Liu, Z., Riggio, R. E., Day, D. V., Zheng, C., Dai, S., & Bian, Y. (2019). Leader development begins at home: Overparenting harms adolescent leader emergence. *Journal of Applied Psychology, 104*, 1226-1242.

Liu, Z., Venkatesh, S., Murphy, S. E., & Riggio, R. E. (2020). Leader development across the lifespan: A dynamic experiences-grounded approach. *The Leadership Quarterly*, doi: 10.1016/j.leaqua.2020.101382.

Lizzio, A., Dempster, N., & Neumann, R. (2011). Pathways to formal and informal student leadership: The influence of peer and teacher–student relationships and level of school identification on students' motivations. *International Journal of Leadership in Education, 14*, 85-102.

Lonati, S., Quiroga, B. F., Zehnder, C., & Antonakis, J. (2018). On doing relevant and rigorous experiments: Review and recommendations. *Journal of Operations Management, 64*, 19-40.

Lord, R. G., & Brown, D. (2004). *Leadership processes and follower self-identity (organization and management series)*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34*, 343-378.

MacNeil, C. A. (2006). Bridging generations: Applying "adult" leadership theories to youth leadership development. *New Directions for Youth Development, 109*, 27-43.

Martinek, T., Schilling, T., & Hellison, D. (2006). The development of compassionate and caring leadership among adolescents. *Physical Education and Sport Pedagogy, 11*, 141-157.

McCauley, C. D. (2008). *Leader development: A review of research.* Greensborough, NC: Centre for Creative Leadership.

McClean, E. J., Martin, S. R., Emich, K. J., & Woodruff, C. T. (2018). The social consequences of voice: An examination of voice type and gender on status and subsequent leader emergence. *Academy of Management Journal, 61*, 1869-1891.

McGrath, J. E. (1984). *Groups: Interaction and performance.* Englewood Cliffs, NJ: Prentice-Hall.

McNae, R. (2010). Young women and the co-construction of leadership. *Journal of Educational Administration, 48*, 677-688.

McNae, R. (2011). Student leadership in secondary schools: The influence of school context on young women's leadership perceptions. *Leading and Managing, 17*, 36-51.

Meister, A., Sinclair, A., & Jehn, K. A. (2017). Identities under scrutiny: How women leaders navigate feeling misidentified at work. *The Leadership Quarterly, 28*, 672-690.

Miscenko, D., Guenter, H., & Day, D. V. (2017). Am I a leader? Examining leader identity development over time. *The Leadership Quarterly, 28*, 605-620.

Moran, M. M., & Weiss, M. R. (2006). Peer leadership in sport: Links with friendship, peer acceptance, psychological characteristics, and athletic ability. *Journal of Applied Sport Psychology, 18*, 97-113.

Mortensen, J., Lichty, L., Foster-Fishman, P., Harfst, S., Hockin, S., Warsinske, K., & Abdullah, K. (2014). Leadership through a youth lens: Understanding youth conceptualizations of leadership. *Journal of Community Psychology, 42*, 447-462.

Mullen, C. A., & Tuten, E. M. (2004). A case study of adolescent female leadership: Exploring the" light" of change. *The Journal of Educational Thought, 38,* 291-320.

Murphy, S. E., & Johnson, S. K. (2011). The benefits of a long-lens approach to leader development: Understanding the seeds of leadership. *The Leadership Quarterly, 22*, 459-470.

Murphy, S. E., & Johnson, S. K. (2016). Leadership and leader developmental self-efficacy: Their role in enhancing leader development efforts. *New Directions for Student Leadership, 149*, 73-84.

Neuendorf, K. A. (2002). *The content analysis guidebook.* Thousand Oaks, CA: Sage.

Neumann, R., Dempster, N., & Skinner, J. (2009). The impact of positional leadership on secondary school captains. *Leading and Managing, 15*, 1-15.

Ng, T. W., Lam, S. S., & Feldman, D. C. (2016). Organizational citizenship behavior and counterproductive work behavior: Do males and females differ? *Journal of Vocational Behavior, 93*, 11-32.
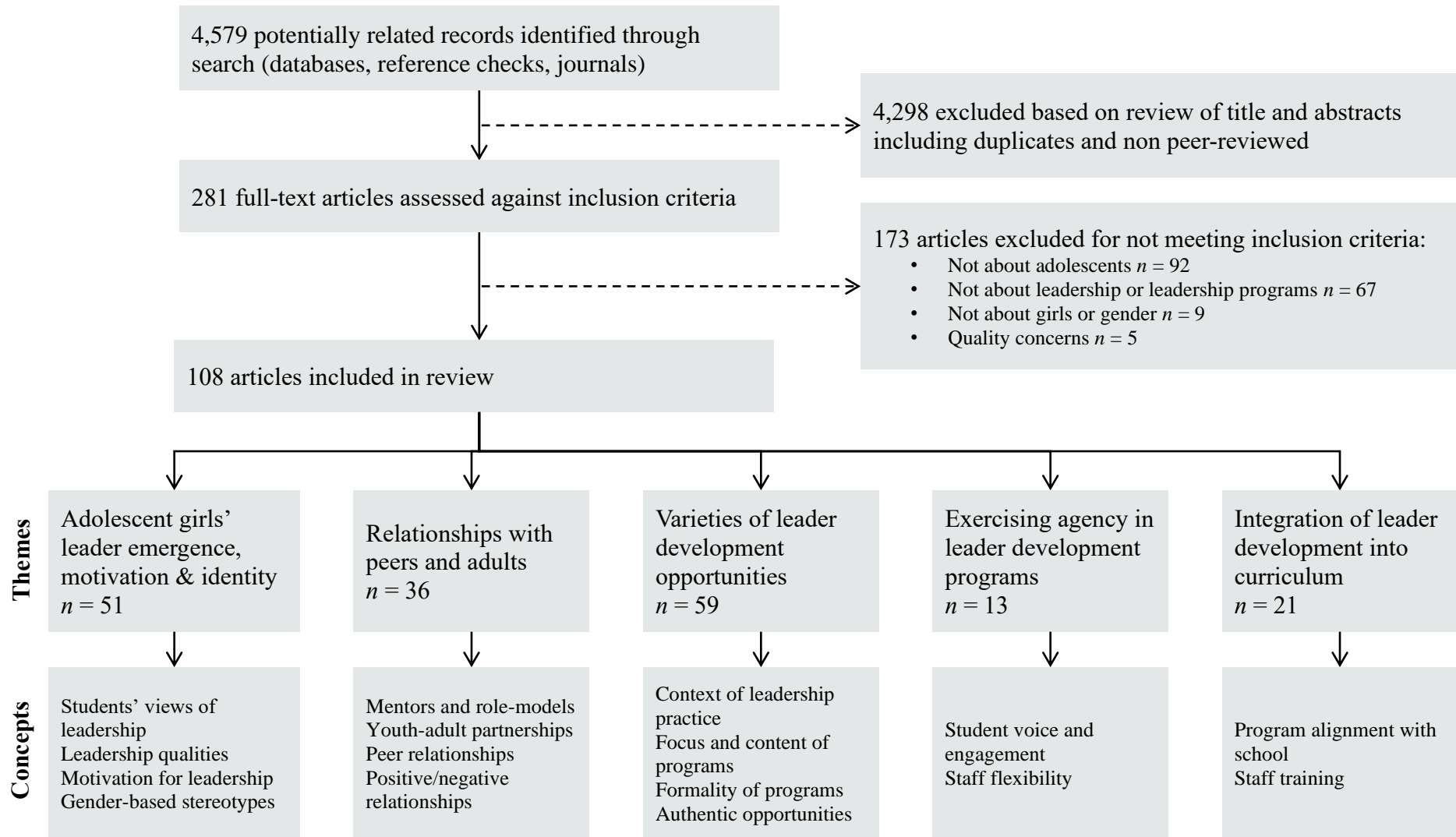
O'Connell, P. K. (2014). A simplified framework for 21st century leader development. *The Leadership Quarterly, 25*, 183-203.

Oliver, P. H., Gottfried, A. W., Guerin, D. W., Gottfried, A. E., Reichard, R. J., & Riggio, R. E. (2011). Adolescent family environmental antecedents to transformational leadership potential: A longitudinal mediational analysis. *The Leadership Quarterly, 22*, 535-544.

Orvis, K. A., & Ratwani, K. L. (2010). Leader self-development: A contemporary context for leader development evaluation. *The Leadership Quarterly, 21*, 657-674.

Osberg Conner, J., & Strobel, K. (2007). Leadership development: An examination of individual and programmatic growth. *Journal of Adolescent Research, 22*, 275-297.

Parkhill, A., Deans, C., & Chapin, L. (2018). Pre-leadership processes in leadership training for adolescents. *Children and Youth Services Review, 88*, 375-379.

Paustian-Underdahl, S. C., Walker, L. S., & Woehr, D. J. (2014). Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *Journal of Applied Psychology, 99*, 1129-1145.

Petersen, E. B., & O'Flynn, G. (2007). Neoliberal technologies of subject formation: A case study of the duke of edinburgh's award scheme. *Critical Studies in Education, 48*, 197-211.

Pierce, S., Erickson, K., & Sarkar, M. (2020). High school student-athletes' perceptions and experiences of leadership as a life skill. *Psychology of Sport and Exercise*, 101716.

Player, A., Randsley de Moura, G., Leite, A. C., Abrams, D., & Tresh, F. (2019). Overlooked leadership potential: The preference for leadership potential in job candidates who are men vs. women. *Frontiers in Psychology, 10*, 1-14.

Plomin, R., & von Stumm, S. (2018). The new genetics of intelligence. *Nature Reviews Genetics, 19*, 148-159.

Posner, J., Kayastha, P., Davis, D., Limoges, J., O'Donnell, C., & Yue, K. (2009). Development of leadership self-efficacy and collective efficacy: Adolescent girls across castes as peer educators in Nepal. *Global Public Health, 4*, 284-302.

Priest, K. L., & Donley, S. (2014). Developing leadership for life: Outcomes from a collegiate student-alumni mentoring program. *Journal of Leadership Education, 13*, 107-117.

Priest, K. L., & Middleton, E. (2016). Exploring leader identity and development. *New Directions for Student Leadership, 149*, 37-47.

Raelin, J. (2006). Does action learning promote collaborative leadership? *Academy of Management Learning & Education, 5*, 152-168.

Rand, D. G., Brescoll, V. L., Everett, J. A., Capraro, V., & Barcelo, H. (2016). Social heuristics and social roles: Intuition favors altruism for women but not for men. *Journal of Experimental Psychology: General, 145*, 389-396.

Reichard, R. J., Riggio, R. E., Guerin, D. W., Oliver, P. H., Gottfried, A. W., & Gottfried, A. E. (2011). A longitudinal analysis of relationships between adolescent personality and intelligence with adult leader emergence and transformational leadership. *The Leadership Quarterly, 22*, 471-481.

Reichard, R. J., Walker, D. O., Putter, S. E., Middleton, E., & Johnson, S. K. (2017). Believing is becoming: The role of leader developmental efficacy in leader self-development. *Journal of Leadership & Organizational Studies, 24*, 137-156.

Reichers, A. E., & Schneider, B. (1990). Climate and culture: An evolution of constructs. In B. Schneider (Ed.), *Organizational climate and culture* (pp. 5-39). San Francisco: Jossey-Bass.

Reitan, T., & Stenberg, S.-Å. (2019). From classroom to conscription. Leadership emergence in childhood and early adulthood. *The Leadership Quarterly, 30*, 298-319.

Reyes, D. L., Dinh, J., Lacerenza, C. N., Marlow, S. L., Joseph, D. L., & Salas, E. (2019). The state of higher education leadership development program evaluation: A meta-analysis, critical review, and recommendations. *The Leadership Quarterly, 30*, doi: 10.1016/j.leaqua.2019.101311

Riemann, R., Angleitner, A., & Strelau, J. (1997). Genetic and environmental influences on personality: A study of twins reared together using the self-and peer report NEO-FFI scales. *Journal of Personality, 65*, 449-475.

Ritchie, S. D., Wabano, M. J., Corbiere, R. G., Restoule, B. M., Russell, K. C., & Young, N. L. (2015). Connecting to the good life through outdoor adventure leadership experiences designed for indigenous youth. *Journal of Adventure Education and Outdoor Learning, 15*, 350-370.

Salusky, I., Larson, R. W., Griffith, A., Wu, J., Raffaelli, M., Sugimura, N., & Guzman, M. (2014). How adolescents develop responsibility: What can be learned from youth programs. *Journal of Research on Adolescence, 24*, 417-430.

Sammet, K. (2010). Relationships matter: Adolescent girls and relational development in adventure education. *Journal of Experiential Education, 33*, 151-165.

Scandura, T. A., & Williams, E. A. (2000). Research methodology in management: Current practices, trends, and implications for future research. *Academy of Management Journal, 43*, 1248-1264.

Scott, K. A., & Brown, D. J. (2006). Female first, leader second? Gender bias in the encoding of leadership behavior. *Organizational Behavior and Human Decision Processes, 101*, 230-242.

Shapiro, M., Grossman, D., Carter, S., Martin, K., Deyton, P., & Hammer, D. (2015). Middle school girls and the "leaky pipeline" to leadership: An examination of how socialized gendered roles influences the college and career aspirations of girls is shared as well as the role of middle level professionals in disrupting the influence of social gendered messages and stigmas. *Middle School Journal, 46*, 3-13.

Sibthorp, J., Paisley, K., Gookin, J., & Furman, N. (2008). The pedagogic value of student autonomy in adventure education. *Journal of Experiential Education, 31*, 136-151.

Steen, T. A., Kachorek, L. V., & Peterson, C. (2003). Character strengths among youth. *Journal of Youth and Adolescence, 32*, 5-16.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks/Cole.

Taylor, J. (2016). Investing in the development of young female sport leaders: An evaluation of the 'girls on the move' leadership programme. *Managing Sport and Leisure, 21*, 75-90.

Taylor, J. A. (2014). The impact of the 'girls on the move' leadership programme on young female leaders' self-esteem. *Leisure Studies, 33*, 62-74.

Tillapaugh, D., Mitchell Jr, D., & Soria, K. M. (2017). Considering gender and student leadership through the lens of intersectionality. *New Directions for Student Leadership, 154*, 23-32.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management, 14*, 207-222.

Triana, M. d. C., Jayasinghe, M., Pieper, J. R., Delgado, D. M., & Li, M. (2019). Perceived workplace gender discrimination and employee consequences: A meta-analysis and complementary studies considering country context. *Journal of Management, 45*, 2419-2447.

Trumpy, A. J., & Elliott, M. (2019). You lead like a girl: Gender and children's leadership development. *Sociological Perspectives, 62*, 346-365.

van Knippenberg, D., & Hogg, M. A. (2003). A social identity model of leadership effectiveness in organizations. *Research in Organizational Behavior, 25*, 243-295.

Varela, O. E., & Gatlin-Watts, R. (2014). The development of the global manager: An empirical study on the role of academic international sojourns. *Academy of Management Learning & Education, 13*, 187-207.

Voelker, D. K. (2016). Promoting the leadership development of girls through physical education and sport. *Journal of Physical Education, Recreation & Dance, 87*, 9-15.

Vogel, B., Reichard, R. J., Batistič, S., & Černe, M. (in press). A bibliometric review of the leadership development field: How we got here, where we are, and where we are headed. *The Leadership Quarterly*, 101381.

Whitehead, G. (2009). Adolescent leadership development: Building a case for an authenticity framework. *Educational Management Administration & Leadership, 37*, 847-872.

Whittington, A. (2006). Challenging girls' constructions of femininity in the outdoors. *Journal of Experiential Education, 28*, 205-221.

Whittington, A., & Aspelmeier, J. E. (2018). Resilience, peer relationships, and confidence: Do girls' programs promote positive change? *Journal of Outdoor Recreation, Education, and Leadership, 10*, 124-138.

Whittington, A., Aspelmeier, J. E., & Budbill, N. W. (2016). Promoting resiliency in adolescent girls through adventure programming. *Journal of Adventure Education and Outdoor Learning, 16*(1), 2-15.

Whittington, A., & Budbill, N. (2013). Breaking the mold: Impacts of adventure education on girls. *Journal of Outdoor Recreation, Education, and Leadership*, *5*(1), 37-53.

Whittington, A., Mack, E. N., Budbill, N. W., & McKenney, P. (2011). All-girls adventure programmes: What are the benefits? *Journal of Adventure Education and Outdoor Learning, 11*, 1-14.

Wilks, J., Pendergast, D., & De Nardi, M. (2006). Engaging millennium youth: Surf life saving Australia. *Australian Journal of Middles Schooling, 6*, 3-8.

Wong, M. C., Lau, T. C., & Lee, A. (2012). The impact of leadership programme on self-esteem and self-efficacy in school: A randomized controlled trial. *PloS ONE, 7,* 1-6.

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review, 14*, 361-384.

Worker, S. M., Iaccopucci, A. M., Bird, M., & Horowitz, M. (2019). Promoting positive youth development through teenagers-as-teachers programs. *Journal of Adolescent Research, 34*, 30-54.

World Economic Forum (2018). *The global gender gap report 2018*. Geneva: World Economic Forum. Retrieved from: www.weforum.org/reports/the-global-gender-gap-report-2018

Yeow, J., & Martin, R. (2013). The role of self-regulation in developing leaders: A longitudinal field experiment. *The Leadership Quarterly, 24*, 625-637.

Zacharatos, A., Barling, J., & Kelloway, E. K. (2000). Development and effects of transformational leadership in adolescents. *The Leadership Quarterly, 11*, 211-226.

Zeldin, S., Krauss, S. E., Kim, T., Collura, J., & Abdullah, H. (2016). Pathways to youth empowerment and community connectedness: A study of youth-adult partnership in Malaysian after-school, co-curricular programs. *Journal of Youth and Adolescence, 45*, 1638-1651.

Zizzo, D. J. (2010). Experimenter demand effects in economic experiments. *Experimental Economics, 13*, 75-98.

Figure 1: Flow Diagram of Literature Search and Review

4,579 potentially related records identified through search (databases, reference checks, journals)

4,298 excluded based on review of title and abstracts including duplicates and non peer-reviewed

281 full-text articles assessed against inclusion criteria

173 articles excluded for not meeting inclusion criteria:
- Not about adolescents $n = 92$
- Not about leadership or leadership programs $n = 67$
- Not about girls or gender $n = 9$
- Quality concerns $n = 5$

108 articles included in review

Themes

| Adolescent girls' leader emergence, motivation & identity $n = 51$ | Relationships with peers and adults $n = 36$ | Varieties of leader development opportunities $n = 59$ | Exercising agency in leader development programs $n = 13$ | Integration of leader development into curriculum $n = 21$ |

Concepts

| Students' views of leadership Leadership qualities Motivation for leadership Gender-based stereotypes | Mentors and role-models Youth-adult partnerships Peer relationships Positive/negative relationships | Context of leadership practice Focus and content of programs Formality of programs Authentic opportunities | Student voice and engagement Staff flexibility | Program alignment with school Staff training |

Note: Some articles addressed multiple themes

56

Figure 2: Adolescent Girls' Leader Development Publications by Year and Type (*n* = 108)
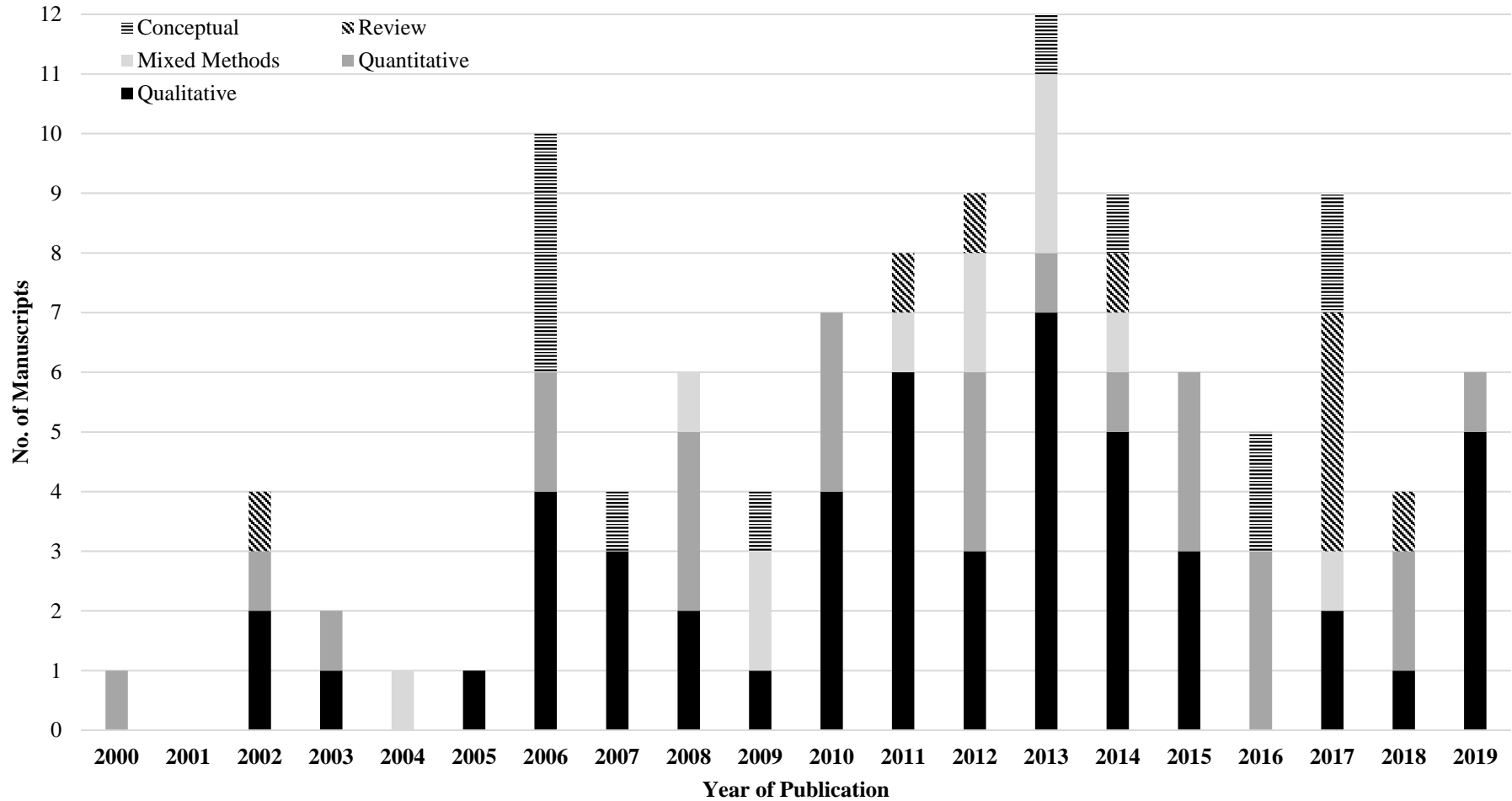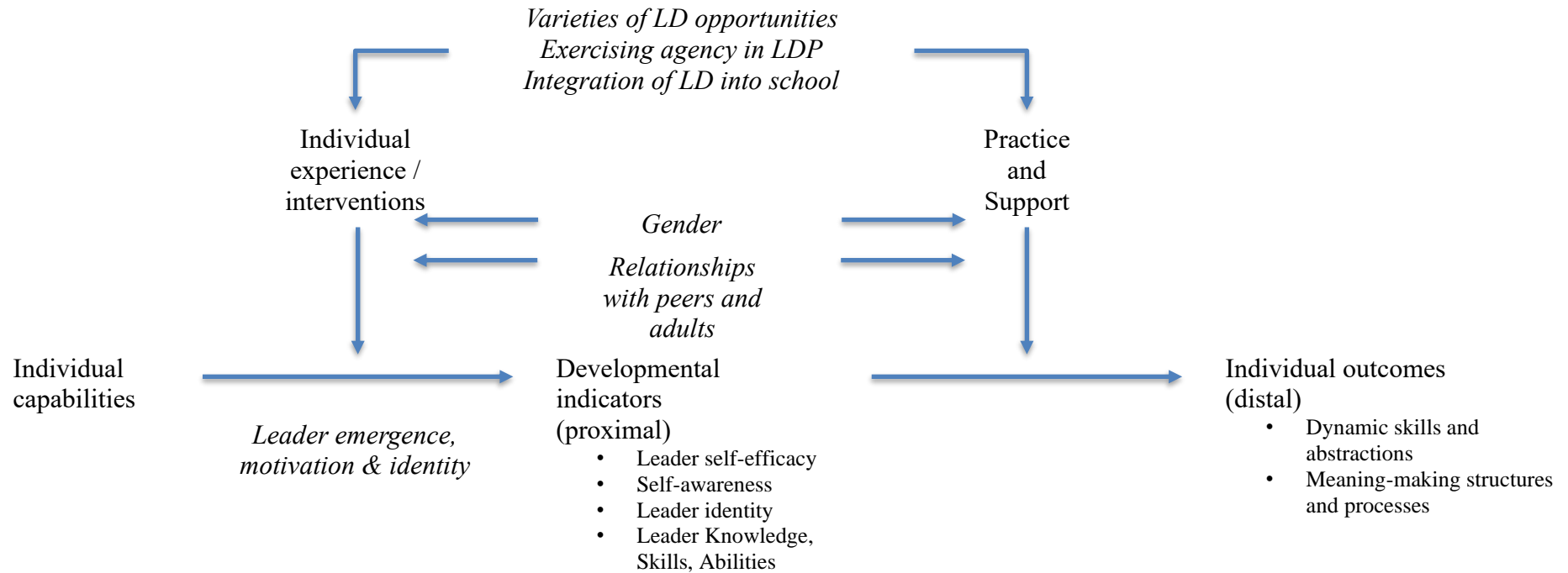
Figure 3: Summary Framework of Adolescent Girls' Leader Development Processes and Outcomes

Note: This framework is an adaptation of Day and Dragoni's (2015) leadership development processes and outcomes.
Text in Roman (upright) is from Day and Dragoni's original model. *Italicized text* shows original material drawn from the current review.
LD = leader development; LDP = leader development program.

Table 1: Categorization of Articles Included in Analysis (*n* = 108; 2000-2019)

Field of research	Articles	Journal Title	Journals
Leadership, Administration & Management (Education)	29	The Leadership Quarterly Journal of Leadership Studies Educational Management Administration & Leadership Improving Schools International Journal of Educational Management International Journal of Leadership in Education: Theory and Practice Journal of Educational Administration Journal of Leadership Education Leading & Managing New Directions for Student Leadership School Leadership and Management	11
Education	31	Afterschool Matters Australian Journal of Education Australian Journal of Middle Schooling Australian Journal of Outdoor Education Australian Journal of Teacher Education Catholic Education: A Journal of Inquiry and Practice Critical Studies in Education Economics of Education Review Education & Training Journal of Adventure Education & Outdoor Learning Journal of Agricultural Education Journal of Career and Technical Education Journal of Educational Thought Journal of Education and Training Studies Journal of Experiential Education Journal of Outdoor Recreation, Education, and Leadership Journal of Physical Education, Recreation & Dance Journal of the Victorian Association for Environmental Education Mentoring & Tutoring: Partnership in Learning Middle School Journal Physical Education and Sport Pedagogy Sport, Education & Society	22
Psychology	33	American Journal of Community Psychology Canadian Journal of School Psychology Developmental Psychology I-manager's Journal on Educational Psychology International Journal of Adolescence and Youth International Journal of Behavioral Development Journal of Adolescent Research Journal of Applied Psychology Journal of Applied Sport Psychology Journal of Community Psychology Journal of Research on Adolescence Journal of School Counseling Journal of Sport Psychology in Action Journal of Youth and Adolescence Journal of Youth Studies New Directions for Youth Development	16
Other Social Sciences	5	Action Research Child & Youth Services Children and Youth Services Review Gender & Development Sociological Perspectives	5
Health	4	BMC Public Health Global Public Health Journal of School Health PLOS One	4
Business and Management	3	Administrative Science International Journal of Management & Information Systems Journal of Applied Business Research	3
Leisure	3	Leisure Studies Managing Sport and Leisure	2

Table 2: Study Country of the Empirical Studies (*n* = 87)

Single Country Studies		
Country	**No.**	**%**
Australia	16	18.4%
Canada	5	5.7%
China	1	1.1%
Colombia	1	1.1%
Hong Kong	2	2.3%
India	1	1.1%
Israel	1	1.1%
Malaysia	1	1.1%
Nepal	1	1.1%
New Zealand	2	2.3%
Singapore	1	1.1%
South Africa	1	1.1%
Turkey	1	1.1%
United Kingdom	6	6.8%
United States of America	34	39.1%
Total	74	84.5%
Multi-Country Studies		
Countries	**No.**	**%**
Australia and South Africa	3	3.4%
Australia and New Zealand	2	2.3%
Australia, New Zealand, and South Africa	2	2.3%
Australia, New Zealand, South Africa and the United Kingdom	2	2.3%
Austria, Hong Kong, England, Singapore, Sweden, USA	1	1.1%
Honduras, Yemen, India, Malawi, Tanzania, and Egypt	1	1.1%
USA plus 73 other countries	1	1.1%
Multiple countries (not specified)	1	1.1%
Total	13	14.7%

Table 3: Theoretical Perspectives Used to Inform Adolescent Girls' Leader Development Research

Theoretical Perspective	No.	Example Authors	Theoretical Perspective (continued)	No.	Example Authors
No theory	68	Archard (2012)	*Other theoretical perspectives*	20	
			Intersectionality theory		Tillapaugh et al. (2017)
Social cognitive/learning theories	5		Means-end theory		Goldenberg & Soule (2015)
Social cognitive theory		Jenkinson et al. (2018)	Mentoring theory		Deutsch et al. (2017)
Social learning theory		Zacharatos et al. (2000)	Motivational theory		Kagay et al. (2015)
Self-efficacy theory		Posner et al. (2009)	Positive psychology		Steen et al. (2003)
Social role theory		Shapiro et al. (2015)	Positive youth development		Lerner (2018)
			Relational development systems meta-theory		Worker et al. (2019)
Gender/sex-based theories	5				
Female gender role socialization		Caton et al. (2010)	Role theory		Larson et al. (2019)
Gender code theory		Archard (2009)	Self-determination theory		Dawes & Larson (2011)
Gender and leadership perspectives		Haber-Curran & Tillapaugh (2017)	Social emotional learning framework		Ee & Ong (2014)
Feminist-based leadership theory		Hoyt & Kennedy (2008)	Social exchange theory		Moran & Weiss (2006)
Sex-based role theory		Mullen & Tuten (2004)	Social justice		Taylor (2016)
			Theories of change		Lerner et al. (2014)
General leadership theories	11		Youth voice		Zeldin et al. (2016)
Adaptive leadership		Klau (2006)			
Authentic leadership		Whitehead (2009)	*Theory development*	4	
Adult theories of leadership		Mortensen et al. (2014)	Grounded theory		Salusky et al. (2014)
Implicit theories of leadership		Dempster et al. (2011)	Developed an original theoretical framework		Lavery & Hine (2013)
Leadership as a process of change		Funk (2002)			
Life span leadership development		Liu et al. (2020)			
Leadership identity development		Priest & Middleton (2016)			
Servant leadership		Eva & Sendjaya (2013)			

Table 4: Suggestions for Future Research

SCT Concept	Review Theme	Future Research Directions
	Relationships with peers and adults	Examine the interplay with leader development programs, mentoring and other development experiences.
Triadic reciprocal determinism	Exercising agency in leader development programs	Determine how much extra variance in leader development is explained by co-construction (i.e., created environment), over a standard leader development program (i.e., imposed environment).
	Integration of leader development into the school curriculum	Assess whether it is the role of secondary colleges to provide a holistic leadership education to adolescent girls.
		Investigate the leadership gap between privileged and disadvantaged adolescent girls, considering that most leader development opportunities for adolescent girls are offered at privileged schools.
Modeling processes	Exercising agency in leader development programs	Analyze whether the tertiary leadership curriculum reflects and responds to adolescent girls' leader development, solidifying and extending young women's leadership education.
		Apply established leadership theories (such as authentic, ethical, servant, and transformational) to understand what types of leaders each program is developing.
	Adolescent girls' leader emergence, motivation and identity	Analyze to what extent gender (and intersectional) leadership identity is formed in leader development programs.
		Differentiate the combination of leader development opportunities that are needed for the current generation of adolescent girl leaders as compared to boys.
	Varieties of leader development opportunities	Empirically validate the assertion that service-learning opportunities benefit adolescent girls more than boys in their leader development.
Self-efficacy	Relationships with peers and adults	Use longitudinal, quantitative designs to examine the extent to which peer and adult relationships, both positive and negative, impact girls' leader emergence and development.

Table 5: Implications for Higher Education and Workplace Leadership Development

Review Theme	Implication for Leader Development	Citations
Adolescent girls' leader emergence, motivation and identity	Using several pre-class and in-class activities before assignment groups are formed to allow women leaders to emerge through their actions, rather than male dominant force of personality leader emergence.	Hurtes (2002)
	Examining areas in which programs reinforce a think-leader, think-male prototype (e.g., the leaders who are examined, readings assigned (authors), staff employed, leadership models taught).	Archard (2012, 2013c)
	Coupling leader development programs with a meaningful leadership role (e.g., leading their team or leading a major project implementation) for participants to practice the leadership lessons learnt.	McNae (2011)
Relationships with peers and adults	Drawing on alumnae networks/local businesses/workplace leaders to integrate mentoring into the program	Mullen and Tuten (2004)
	Ensuring mentors involved in the program receive training and materials to help guide mentor sessions.	Trumpy and Elliott (2019)
	Engaging women as mentors and role models.	Archard (2013b)
Varieties of leader development opportunities	Using mastery experiences where participants are putting leadership into action (i.e. adventure programs, service learning, or study abroad).	MacNeil (2006)
	Requiring participants to take turns at being the 'formal' leader in different activities, coupled with guided reflection and multi-source feedback from their peers and the practitioner/educator.	Parkhill et al. (2018)
	Linking with relevant industry bodies (e.g., STEM) for participants to engage in mentorship behaviors with a new generation of leaders.	Posner et al. (2009)
Exercising agency in leader development programs	Drawing on student-centered approaches to education to put participants at the center of the education.	Forbes-Genade and van Niekerk (2019)
	Actively using participants to help design and develop part of the curriculum (e.g., participants run activities, online feedback forums, co-construction of assignments).	Frost and Roberts (2011)
	Conducting needs analysis on the participants / organization and adjusting the program regularly as required.	Dempster et al. (2011)
Integration of leader development into the school curriculum	Including leader development as a required course as part of a higher education program (including service-learning application) / organizational induction program.	Eva and Sendjaya (2013)
	Using extra-curricular leader development programs or leadership positions (e.g., representation) as part of a co-curricular offering across the higher education institution / workplace.	Karppinen (2012)
	Aligning all leader development offerings with the mission and values of the higher education institution / workplace.	Dyment et al. (2014)