

Mentorship in Adolescence Predicts Adult Leadership Behaviors 20 Years Later

Bellinger, D. E.^{1,3}, Fruht, V.², & Chan, T.³

¹Claremont Graduate University, ²Dominican University of California,
³California State University Northridge

Mentorship plays a formative role in lifelong development—particularly in fostering the next generation of leaders. This study examines how natural mentorship in adolescence fosters adult leadership behaviors, with a focus on the psychological pathway of self-efficacy. Drawing on psychosocial developmental theory and the LeAD 6P framework, leadership is conceptualized as both a task- and relationship-oriented process shaped by early mentoring experiences. Specifically, we hypothesized that mentorship in adolescence fosters the development of self-efficacy, thereby facilitating adult leadership behaviors: problem solving and relational leadership. Using nationally representative data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health), this study analyzed individuals ($N = 920$) with complete data. Mentorship quality and function were assessed in adolescence, and leadership behaviors were measured in adulthood (ages 34–42). Two theory-driven structural equation models were tested. While the initial hypotheses proposed relational leadership as a broad composite, results supported a refined model in which mentoring functions predict self-efficacy, problem solving, and two distinct relational contexts, (i.e., partner and friend). Closeness with a mentor significantly predicted self-efficacy ($\beta = .12, p = .023$), and self-efficacy was associated with problem solving ($\beta = .36, p < .001$) and relational leadership with both partners ($\beta = .33, p < .001$) and friends ($\beta = .31, p < .001$). Findings support the view that leadership behaviors are cultivated through emotionally supportive mentoring and highlight self-efficacy as a key psychological bridge between adolescent mentorship and adult leadership. Future research should further differentiate mentoring functions and examine how mentorship evolves across life stages to support context-sensitive leadership development.

Keywords: Developmental relationships, self-efficacy, ADD Health, structural equation modeling, longitudinal study

Acknowledgment: The work reported in this publication was supported by the National Institute of General Medical Sciences of the NIH under award numbers [TL4GM118977, UL1GM118976, & RL5GM118975] and funding from Silicon Valley Community Foundation.

Introduction

Mentoring is widely beneficial—especially for later-life growth and wellbeing in the workplace (e.g., Boeder et al., 2021; Eby & Robertson, 2019). Such community and workplace conditions stem from developmental relationships earlier in life. One determining factor is leadership—an individual’s ability to influence others by directing and coordinating group goals (Jago, 1982). We define everyday leadership as the enactment of leadership duties at work, civic engagement, and proactive behaviors—like taking charge, voice, and innovation—inside or outside work (Liu et al., 2022). Research examining how leadership behaviors develop points to the role of underlying psychosocial processes as predictors of leadership performance in adulthood (Bartone et al., 2007). More broadly, mentorship has been

shown to foster these psychosocial assets, such as self-efficacy (Hagler & Rhodes, 2018), which is foundational to leadership behavior—reinforcing the idea that early mentoring relationships are foundational to the emergence of future leadership behaviors.

Literature Review

Effective leaders participate in the active development of their leadership skills through a process of identifying places for growth and setting goals for their own development (Shult et al., 2022). One framework for identifying areas for growth and leadership development is the LeAD 6P Leadership Framework. The 6P dimensions focus on: 1) Pathways: how a leader executes tasks and structure; 2) People and place: a leader’s skill in building an environment for others to

flourish; 3) Positive persuasion: the direct and indirect influence a leader has on individuals and groups while working toward shared goals; and 4) Problem solving: having a balanced perspective while making effective decisions (Shults et al., 2022). Commitment to developing these dimensions opens the floor to meaningful growth as an effective leader across time and experience. However, before the maturation of such skills and behaviors in the workplace, longitudinal patterns linked to early development experiences like mentorship may play a critical role in shaping leadership (Bartone et al., 2007; Cotrim & Gomes, 2024).

Grounded on Miranda-Chan et al.'s (2016) Mentoring Developmental Functions Framework, the longitudinal impact of naturally occurring mentorship has been examined to understand how early developmental experiences shape downstream outcomes. Mentoring relationships support developmental outcomes that align with key leadership capacities highlighted in the LeAD 6P framework, including identity, socioemotional, and cognitive development (Miranda-Chan et al., 2016; Rhodes et al., 2006). Hagler and Rhodes (2018) further underscore the long-term impact of such mentoring relationships, finding that mentored individuals report significantly better psychosocial and vocational outcomes well into midlife. High-quality mentoring relationships provide critical functions such as emotional support, role modeling, and helping mentees navigate challenges. These psychosocial mentoring functions collectively promote self-confidence and self-efficacy (Rhodes et al., 2006; Hagler & Rhodes, 2018), which directly underpin effective leadership development.

Strong evidence supports the long-term benefits of mentoring, yet how mentorship shapes adult leadership—particularly which relationship features matter—remains unclear. Most studies treat mentorship as a broad influence, rarely distinguishing components like emotional closeness, instrumental guidance, and behavioral modeling (Hagler & Rhodes, 2018; Ivey & Dupré, 2020; McDonald & Lambert, 2014), and few have tested their individual impacts (Fruht & Wray-Lake, 2013). Psychosocial development models frame outcomes such as identity formation and self-efficacy as mediators between early mentorship and adult functioning (Miranda-Chan et al., 2016; Rhodes et al., 2006). Moreover, strong-tie mentors (e.g., family) and weak-tie mentors (e.g., teachers, coaches) influence different developmental domains, indicating varied pathways (Fruht & Wray-Lake, 2013; McDonald & Lambert, 2014; Raposa et al., 2018). Despite these insights, empirical research on the mechanisms linking specific mentoring features to adult leadership behaviors is strikingly sparse.

Building on these insights, we developed our hypotheses with the aim of clarifying the specific pathways through which natural mentorship influences certain everyday adult leadership behaviors. We hypothesized that adolescent

mentorship fosters the development of self-efficacy—which in turn facilitates adult leadership behaviors (i.e., problem solving, people and place).

Methods

Participants

This study utilized publicly available data from the National Longitudinal Study of Adolescent to Adult Health (ADD Health)—a nationally representative, longitudinal dataset designed to investigate the developmental trajectories of U.S. adolescents into adulthood (See details <https://addhealth.cpc.unc.edu/>). The data span multiple waves, with relevant variables drawn from: Wave I (1994–1995), Waves III (2001–2002), and Wave V (2016–2018).

Mentorship quality and function were assessed using responses from Wave III. Naturally occurring mentorship is defined as “an unrelated (nonfamily member) adult who has an ongoing and positive impact on the life of a protégé” (Miranda-Chan et al., 2016). In turn, participants (ages 18–28 years old) were classified as having a mentor if they answered “yes” to the prompt: “Other than your parents or step-parents, has an adult made an important positive difference in your life at any time since you were 14 years old?”

The final analytic sample ($N = 920$) included participants who had complete data on mentoring experiences, self-efficacy, and problem solving. Participants who responded “not applicable” to relational leadership items were retained and slopes were estimated. Covariates from Wave I (e.g., age, biological sex, and race) were included to account for baseline demographic and contextual factors. Leadership behaviors were assessed at Wave V. Structural equation model analyses were conducted to examine the associations between mentorship and leadership behaviors.

Measures

Mentorship Functions

Mentorship quality and engagement were assessed using three self-report items from Wave III of the ADD Health dataset. These items captured both frequency and relational closeness with mentors. Specifically, participants were asked: “How often do you talk or email with your mentor?” “How close do you feel to your mentor now?” and “In what month did you last talk or email with your mentor?” Response choices were: 0 = *not close at all*, 1 = *only a little*, 2 = *somewhat close*, 3 = *quite close*, 4 = *very close*, 6 = *refused*.

Leadership Behaviors

Leadership behaviors were measured at Wave V (ages 34–42) and operationalized through three constructs: self-efficacy, problem solving, and people and place. These measures reflect common leadership competencies identified in contemporary leadership development models

(Shults et al., 2022).

Self-efficacy. Self-efficacy was assessed by taking the mean of participant responses to three items ($\alpha = .725$). The three items were a) “In the past 30 days, how often have you felt that you were unable to control the important things in your life?” (reverse coded) b) “In the past 30 days, how often have you felt confident in your ability to handle your personal problems?” c) “In the past 30 days, how often have you felt that difficulties were piling up so high that you could not overcome them?” (reverse coded). All responses were scored using, 1 = *never*, 2 = *almost never*, 3 = *sometimes*, 4 = *fairly often*, and 5 = *very often*.

Problem solving. Participants’ level of problem solving was assessed by taking the mean of their responses to the three items ($\alpha = .721$), “I finish whatever I begin,” “I am diligent,” and “I am a hard worker. I keep working when others stop to take a break.” Each response was coded on a five-point Likert scale from 1 = *strongly agree* to 5 = *strongly disagree* and reverse coded for ease of interpretation.

People and place: Partner. A participant’s ability to build a flourishing relationship with one’s partner was captured using the mean of responses to three items ($\alpha = .917$) including “...can open up to them if you need to talk about your worries: your spouse or partner,” “...can rely on them for help if you have a problem: your spouse or partner,” and “...they ever make too many demands or criticize you: your spouse or partner.” Responses were coded as 0 for “no,” and 1 for “yes.”

People and place: Friend. Using the mean of participants’ responses to two items ($\alpha = .713$), we assessed participants’ ability to build supportive friendships. These items included, “Indicate whether or not you can open up to them if you need to talk about your worries: your friend(s)”

and “Indicate whether or not you can rely on them for help if you have a problem: your friend(s).” Responses were coded as 0 for “no,” and 1 for “yes.”

Covariates

The covariates used in this study were age (in years), race (1 = *White*, 2 = *Hispanic*, 3 = *African American or Black*, 4 = *Other*), and biological sex (0 = *Male*, 1 = *Female*).

Results

Structural equation modeling (SEM) was conducted using AMOS v29.0 (IBM Corporation) to examine the pathways through which adolescent mentorship influences adult leadership behaviors. It factors in the measurement and predictive elements of models using multivariate analysis. Two theory-driven SEM models were tested. The initial model specified that mentorship functions predict self-efficacy, which in turn predicts leadership behaviors: problem solving and people and place (Figure 1). The finalized model tested whether mentorship functions predict self-efficacy, which predicts problem solving, people and place: partner, and people and place: friend.

Both models were estimated using maximum likelihood estimation with listwise deletion to address missing data. The initial model showcased: $\chi^2(111, N = 920) = 554.543, p < .001, IFI = .860, CFI = .859, RMSEA = .066, 90\% CI [.061, .071]$. However, model fit results indicated that the finalized model represented the observed data best, $\chi^2(110, N = 920) = 325.955, p < .001, IFI = .932, CFI = .931, RMSEA = .046, 90\% CI [.040, .052]$; Figure 2). While both models were theoretically grounded, the final model demonstrated superior fit ($\Delta\chi^2(1) = 128.588, p < .001$) and conceptual parsimony and is

Figure1.

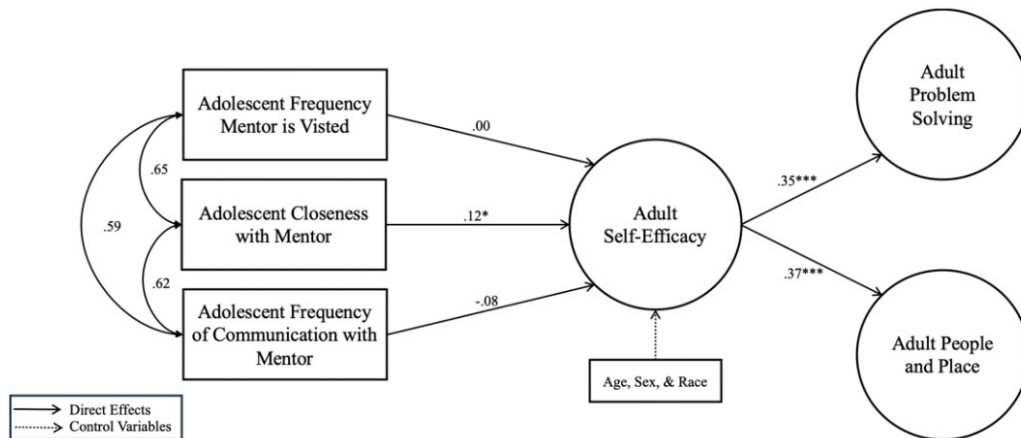


Figure 1. Structural equation model. Solid lines represent tested direct effects. Dotted represent control variables. Squares and circles represent non-latent and latent constructs respectively, (N = 920). *p < .05; **p < .01; ***p < .001.

Figure 2.

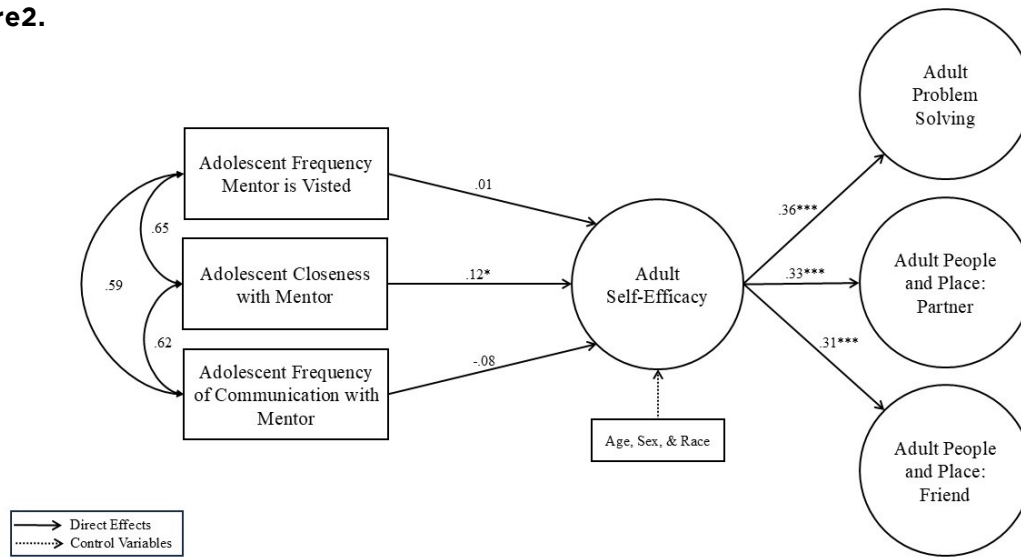


Figure 2. Structural equation model. Solid lines represent tested direct effects. Dotted represent control variables. Squares and circles represent non-latent and latent constructs respectively, ($N = 920$). * $p < .05$; ** $p < .01$; *** $p < .001$.

therefore the focus of the results presented below.

Functions of Mentorship to Leadership Behaviors: Self-Efficacy

Self-efficacy was significantly predicted by one characteristic of the mentoring relationship, closeness with mentor ($\beta = .123, p = .023$), suggesting that this specific aspect of mentorship contact contributed to participants’ belief in their abilities. However, the rate of communication with a mentor ($\beta = -.078, p = .115$) and the rate at which a mentor was visited ($\beta = .004, p = .909$) were not significant predictors. This indicates that not all forms of mentorship contact were equally influential in shaping self-efficacy (see Table 1). In addition to mentorship variables, age also positively predicted self-efficacy ($\beta = .081, p = .034$).

Leadership Behaviors: Self-Efficacy to Problem Solving and People and Place

Problem Solving

Self-efficacy was a significant predictor of problem solving ($\beta = .357, p < .001$). This suggests that higher self-efficacy was associated with higher self-reported problem solving behaviors in this sample. All three indicators of problem solving loaded significantly onto the factor, with standardized estimates ranging from .57 to .88 (all $p < .001$), indicating good construct validity.

People and Place

Both people and place: Partner ($\beta = .326, p < .001$) and People and place: Friend ($\beta = .307, p < .001$) were predicted by self-efficacy, indicating a moderate positive effect of efficacy in predicting

Table 1
Coefficients and Standard Errors for Structural Equation Model ($N = 920$)

Paths	β	SE	CR	p
Closeness with Mentor → Self-Efficacy	.123	.031	2.23	.023*
Self-Efficacy → Problem Solving	.357	.035	7.24	***
Self-Efficacy → People and Place: Partner	.326	.014	6.58	***
Self-Efficacy → People and Place: Friend	.307	.017	5.43	***

Note. Standardized regression coefficients, standard errors, critical ratio, and significance values ($N = 920$). * $p < .05$; ** $p < .01$; *** $p < .001$.

relational leadership.

Discussion

Grounded in developmental theory and prior mentoring research, the present analysis modeled self-efficacy as a central mechanism by which mentoring in adolescence predicted adult leadership behaviors. Specifically, only emotional closeness with a mentor was significantly and positively associated with later self-efficacy. In turn, self-efficacy was positively associated with problem solving and relational leadership behaviors. These findings largely support prior literature demonstrating the long-reaching benefits of mentoring and expand our understanding of the mechanisms by which mentoring in adolescence may influence leadership development.

Our findings emphasize that mentoring relationships rooted in trust and emotional connection play a significant role in developmental change. Specifically, the finding that emotional closeness—rather than the frequency of contact—predicts self-efficacy, supports relational models of mentoring which view emotional bonds as key mechanisms of influence (Rhodes et al., 2006). Miranda-Chan et al. (2016) similarly found that mentoring functions like role modeling and emotional support aligned with identity and confidence development. High-quality mentoring relationships, marked by emotional closeness and trust, play a critical role in shaping mentees' leadership development, particularly self-efficacy (Astrove & Kraimer, 2022; Prummer et al., 2024). At its core, mentoring is about empowering others and fostering both personal and professional growth. When mentors demonstrate genuine care and support, they strengthen a mentee's belief in their own leadership capabilities (Poon, 2006). Effective mentoring is a collaborative learning process, where the depth and quality of the relationship are essential for promoting lasting developmental outcomes—especially in the domain of leadership self-efficacy. Moreover, while self-efficacy is a vital developmental resource, its influence on specific leadership domains may be more differentiated than previously assumed.

As self-efficacy is typically linked to perseverance and effective decision making (Pillai & Williams, 2004), this study revealed a positive association with problem solving behaviors. This supports our hypothesis that leadership behaviors like problem solving may be developed, in part, through efficacy supportive mentorship. Similarly, self-efficacy showed a positive relationship with relational leadership behaviors (people and place: partner and people and place: friend). These findings may point to the ability of people with higher self-efficacy to develop effective, collaborative relationships with others and create environments in which their interpersonal relationships thrive. Through role modeling and opportunities for feedback from a caring and supportive adult, mentoring relationships may serve as a training

ground for young people to learn the critical behaviors necessary to build healthy relationships across domains in adulthood.

Collectively, these findings highlight that mentorship does contribute to the development of leadership behaviors later in life. Effective mentoring relationships—especially those marked by emotional closeness—appear to shape self-efficacy in ways that directly impact task- and relational-based leadership behaviors. Moreover, the relational quality of mentorship—including distinctions between strong- and weak-tie mentors—may shape different leadership trajectories (Fruith & Wray-Lake, 2013; McDonald & Lambert, 2014). This suggests that future leadership development models must account not only for confidence-building mechanisms, but also for the differentiated mentoring experiences that shape relational, reflective, and strategic capacities. A more holistic mentoring framework—one that integrates emotional closeness, contextual variability, and role modeling of both vulnerability and risk—may better equip emerging leaders to manage the demands of contemporary leadership with both competence and compassion.

Limitations

While this study offers valuable insight into the long-term influence of adolescent mentorship on adult leadership, several limitations warrant consideration. First, leadership was measured through only three domains—self-efficacy, problem solving, and relational closeness (people and place: partner and people and place: friend). Though grounded in an established model, these constructs do not capture the full range of leadership capacities, such as innovation or ethical decision-making. Additionally, they reflect general life contexts rather than workplace or academic settings, which may limit generalizability to all professional domains.

Second, mentorship was assessed at a single time point using three items, limiting depth and nuance. Important distinctions—such as mentor type (e.g., family member vs. teacher) or setting (e.g., school vs. community)—were not captured, despite their relevance to developmental outcomes.

Finally, the analytic sample was restricted to participants with complete data, raising the possibility of selection bias. These findings may not extend to individuals with more disrupted life paths or limited access to mentoring relationships.

Implications

Despite these limitations, the findings have clear implications for research, policy, and practice. They underscore the importance of emotionally supportive mentoring during adolescence. Leadership-development programs should prioritize cultivating trust-based, emotionally close relationships—especially for underrepresented or disadvantaged youth. For example, schools or community centers could use the model of “youth initiated mentoring” (Schwartz et al., 2013) to in

which adolescents name non-family adults who have positively influenced them, and then provide the structure of a more formal mentoring program for these relationships. Protégés and their chosen mentors—coaches, teachers, or family friends—engage in guided discussions about recent challenges or successes, set a small leadership goal, and reflect on progress. Over time, these student-initiated meetings reinforce emotional closeness, build trust, and deepen self-efficacy and help young people learn to recruit future mentors.

Furthermore, researchers and practitioners should explore differentiated mentorship models that account for the type, timing, and context of mentoring relationships. Future research should use more detailed data and longitudinal designs that track how specific mentor characteristics and functions contribute to various leadership outcomes over time. By integrating both relational and contextual dimensions, leadership development efforts can more effectively equip emerging leaders to meet the challenges of diverse organizational and societal settings.

Conclusion

This study advances our understanding of how adolescent mentorship contributes to leadership development in adulthood, particularly by identifying emotional closeness as an effective feature of mentoring relationships that enhances self-efficacy—a psychosocial construct foundational to leadership behavior. The findings suggest that what works in mentorship is not simply frequency or availability, but the presence of a strong emotional bond between mentor and mentee—an element shown to directly shape confidence in one's leadership capacities.

Further, the timing of mentorship matters. Mentorship that occurs during adolescence appears to have long-lasting developmental benefits, particularly in fostering self-efficacy, a core psychosocial attribute that underpins leadership behavior, by the time individuals reach early to mid-career stages (ages 34–42). The reach of mentorship in adolescence and emerging adulthood, as we set the stage for our adult lives, persists into adulthood and may influence our professional and personal lives.

These findings support the need for targeted leadership development models that go beyond generalized mentorship exposure. Programs and interventions should focus on fostering emotionally supportive mentorships during adolescence—especially for populations at higher risk of underdevelopment in leadership domains. Future work should further differentiate mentorship functions, explore behavioral outcomes, and assess how mentoring can evolve across life stages to promote more holistic leadership capacity. By doing so, we can better equip emerging leaders with both the confidence and the collaborative skills needed to navigate increasingly complex social and organizational environments. Ultimately,

strategically timed, emotionally attuned youth mentorship does more than build skills; it forges a resilient foundation of self-efficacy that resonates across the lifespan, shaping not only career trajectories but also the very fabric of our professional and civic communities.

References

- Ali, H. E., Schalk, R., Van Engen, M., & Van Assen, M. (2018). Leadership self-efficacy and effectiveness: The moderating influence of task complexity. *Journal of Leadership Studies, 11*(4), 21–40. <https://doi.org/10.1002/jls.21550>
- Astrove, S. L., & Kraimer, M. L. (2022). What and how do mentors learn? The role of relationship quality and mentoring self-efficacy in mentor learning. *Personnel Psychology, 75*(2), 485–513. <https://doi.org/10.1111/peps.12471>
- Bartone, P. T., Eid, J., Johnsen, B. H., Laberg, J. C., & Snook, S. A. (2009). Big five personality factors, hardiness, and social judgment as predictors of leader performance. *Leadership & Organization Development Journal, 30*(6), 498–521. <https://doi.org/10.1108/01437730910981908>
- Boeder, J., Firzly, M., & Wray-Lake, L. (2021). Mentoring in emerging adulthood predicts later flourishing and subjective well-being. *Emerging Adulthood, 9*(3), 1–12.
- Cotrim, F. S., Da Silva Gomes, J. F. (2024). Longitudinal studies of leadership development: a scoping review. *Current Psychology, 43*, 29558–29586. <https://doi.org/10.1007/s12144-024-06567-4>
- Eby, L. T., & Robertson, M. M. (2020). The psychology of workplace mentoring relationships. *Annual Review of Organizational Psychology and Organizational Behavior, 7*, 75–100. <https://doi.org/10.1146/annurev-org-psych-012119-044924>
- Fruith, V. M., & Wray-Lake, L. (2013). The role of mentor type and timing in predicting educational attainment. *Journal of Youth and Adolescence, 42*(9), 1459–1472. <https://doi.org/10.1007/s10964-012-9817-0>
- Goldsmith, M. (2007). *What got you here won't get you there: How successful people become even more successful*. Hyperion.
- Hagler, M. A., & Rhodes, J. E. (2018). The long-term impact of natural mentoring relationships: A counterfactual analysis. *American Journal of Community Psychology, 61*(1–2), 234–245. <https://doi.org/10.1002/ajcp.12206>
- Ivey, G. W., & Dupré, K. E. (2020). Workplace mentorship: A critical review. *Journal of Career Development, 47*(6), 599–613. <https://doi.org/10.1002/cd.21550>

- org/10.1177/0894845319876930
- Jago, A. G. (1982). Leadership: Perspectives in theory and research. *Management Science*, 28(3), 315-336. <https://doi.org/10.1287/mnsc.28.3.315>
- Liu, Z., Riggio, R.E., Reichard, R.J., & Walker, D.O.H. (2022). Everyday leadership: The construct, its validation, and developmental antecedents. *International Leadership Journal*, 14(1), 3-35.
- McDonald, S., & Lambert, J. (2014). The long arm of mentoring: A counterfactual analysis of natural youth mentoring and employment outcomes in early careers. *American Journal of Community Psychology*, 54(3-4), 262-273. <https://doi.org/10.1007/s10464-014-9670-2>
- Miranda-Chan, T., Fruht, V., Dubon, V., & Wray-Lake, L. (2016). The functions and longitudinal outcomes of adolescents' naturally occurring mentorships. *American Journal of Community Psychology*, 57(1-2), 47-59. <https://doi.org/10.1002/ajcp.12031>
- Moore, D. A., & Bazerman, M. H. (2022). Leadership & overconfidence. *Behavioral Science & Policy*, 8(2), 59-69. <https://doi.org/10.1177/237946152200800206>
- Pillai, R., & Williams, E. (2004). Transformational leadership, self-efficacy, group cohesiveness, commitment, and performance. *Journal of Organizational Change Management*, 17(2), 144-159. <https://doi.org/10.1108/09534810410530584>
- Poon R., (2006). A model for servant leadership, self-efficacy and mentorship. *Servant Leadership Research Roundtable*. Prummer, K., Human-Vogel, S., Graham, M. A., & Pittich, D. (2024). The role of mentoring in developing leaders' emotional intelligence: Exploring mentoring types, emotional intelligence, organizational factors, and gender. *Frontiers in Education*, 9, 1393660. <https://doi.org/10.3389/fed-uc.2024.1393660>
- Raposa, E. B., Erickson, L. D., Hagler, M., & Rhodes, J. E. (2018). How economic disadvantage affects the availability and nature of mentoring relationships during the transition to adulthood. *American Journal of Community Psychology*, 61, 191-203. <https://doi.org/10.1002/ajcp.12228>
- Rhodes, J. E., Spencer, R., Keller, T. E., Liang, B., & Noam, G. (2006). A model for the influence of mentoring relationships on youth development. *Journal of Community Psychology*, 34(6), 691-707. <https://doi.org/10.1002/jcop.20124>
- Schwartz, S. E., Rhodes, J. E., Spencer, R., & Grossman, J. B. (2013). Youth initiated mentoring: Investigating a new approach to working with vulnerable adolescents. *American Journal of Community Psychology*, 52(1), 155-169. <https://doi.org/10.1007/s10464-013-9585-3>
- Shults, S. G., Reichard, R. J., Diaz, J. B. B., Pitichat, T., & Kea-Edwards, A. (2022). Pursuing your leader development. *Organizational Dynamics*, 51(3), 100894. <https://doi.org/10.1016/j.orgdyn.2022.100894>