

# Exploring Small-Scale Farmers' Perceptions and Needs for Non-Formal Leadership Education

R. Biderman<sup>1</sup>, L. Greenhaw<sup>2</sup>, A. Harder<sup>3</sup>

## Abstract

Small-scale farmers serve in leadership roles within their operations and beyond, though it is not widely known whether they view themselves in this capacity. The purpose of this qualitative study was to explore the ways in which small-scale farmers perceive themselves as leaders, and to characterize their self-perceived leadership style. Semi-structured interviews were conducted with participants on their farming operations and utilizing Zoom. Observations and collection of supplemental materials were used for triangulation of data. Findings indicated that this population does view themselves as leaders, and that small-scale farmers characterize their leadership approaches differently, though some commonalities were found. Moreover, a desire for leadership education was expressed by participants. A needs assessment is recommended to better understand small-scale farmers' leadership education needs, followed by non-formal leadership education programming.

## Article History

Received: May 10, 2023

Accepted: July 5, 2023

Published: July 20, 2023

## Keywords

small-scale farmers; self-perception theory; qualitative research; agricultural leadership educators

- 
1. Rachel Biderman, Graduate Assistant, University of Florida, 408 Rolfs Hall, PO Box 110540 Gainesville, FL 32611, [rbiderman@ufl.edu](mailto:rbiderman@ufl.edu),  <https://orcid.org/0009-0001-9738-5896>
  2. Laura Greenhaw, Assistant Professor, University of Florida, P.O. Box 110540 Gainesville 32611, [laura.greenhaw@ufl.edu](mailto:laura.greenhaw@ufl.edu),  <https://orcid.org/0000-0002-1562-9798>
  3. Amy Harder, Associate Dean for Extension, 1378 Storrs Rd., Unit 4134, W.B. Young Building, Room 233, Storrs, CT 06269, [amy.harder@uconn.edu](mailto:amy.harder@uconn.edu),  <https://orcid.org/0000-0002-7042-2028>

## Introduction and Problem Statement

Small farms are an integral part of a sustainable food system, providing benefits economically, geographically, and culturally (Stępień & Maican, 2020) and their success relies on farm operators' knowledge, skills, and behavior. Farmers can serve in multiple leadership roles, on their operations and within their communities. However, it is not known whether these farmers view themselves as leaders, or how they serve as leaders in different capacities. Moreover, although small farm operators presumably perform necessary leadership and management acts on their operation, it is unlikely that they have received formal leadership education to help develop these necessary skills. Unfortunately, existing leadership development programs in agriculture and natural resources may not be appropriate or accessible for small-scale farmers (Carter & Rudd, 2000; Kelsey & Wall, 2003).

Leadership skills are vital in the agriculture industry (Kaufman et al., 2012) helping agriculture leaders in production, distribution, and education sectors steward large operations and programs. Farming, and agriculture work in general, is a volatile profession, dealing with climate change, harsh conditions, market fluctuations, inflation, and other challenges which require leaders to be adaptable and able to build and maintain networks and learning communities to succeed (Moghfeli et al., 2022; Sorensen et al., 2021). Windon and Robotham (2021) found that farmers may have the ability to lead others, though targeted leadership programming is necessary to address identified areas of need among farmers (Windon & Robotham, 2021). It is important that farmers view themselves as leaders, because if individuals believe themselves to be leaders, they will develop and emerge leadership skills (Kwok et al., 2018). This study sought to explore small-scale farmers' leadership self-perceptions and identify potential leadership education needs.

## Theoretical Framework

One way to view leadership and leadership development is through the concept of self or identity (Bem, 1972) which goes beyond viewing leadership through theories, such as trait theory, and posits that individuals' beliefs, attitudes, and feelings impact the way they view themselves as leaders (Day & Harrison, 2007). Self-perception theory, introduced by Bem (1972), originated in the field of psychology to help explain consistencies among individuals' beliefs and behaviors. Individuals learn about their beliefs, feelings, attitudes, and other internal states by observing themselves and making inferences about their behavior and surroundings. Self-perception theory states that as individuals, we are coming to understand ourselves the same way that an outsider or stranger may come to know us, through observations about our external behaviors, intentions, and cues.

According to Drath (2001), leaders can experience varying levels of identity, which informs how they view leadership. At the most basic level, a leader views leadership as possessing a specific set of behaviors or knowledge, and involves a process of the leader leading, and the followers following. At the next level, known as the relational level, the process of leading is an act of

influencing the follower, and works more as a negotiation between the two parties. At the most complex level, leadership is collaborative and involves all perspectives, utilizing a systems-based approach (Day & Harrison, 2007; Sessa et al., 2016). Kwok et al. (2018) explored how social networks impact leader identity, and subsequently leader emergence. They proposed that identities that impact behavior most are those most important to individuals (central), and if individuals believe themselves to be leaders, they will develop and emerge leadership skills. Additionally, individuals who view themselves as leaders are likely situated within strong social networks or hold leadership positions within their organizations (Kwok et al., 2018).

Agricultural leadership skills have been examined using a self-perception lens in previous studies. Layfield et al. (2000) studied 58 college agriculture students to assess their self-perceived leadership skills in correlation to their involvement with campus activities. Their findings indicated that students viewed themselves as having high leadership skills, and there was a positive correlation between high self-perceived leadership skills and participation in departmental clubs (Layfield et al., 2000). Similarly, Rutherford et al. (2002) explored Future Farmers of America (FFA) members' self-perceived leadership skills in correlation to chapter size, length of membership, involvement, and leadership position. They found that involvement and holding leadership positions within FFA was positively related to members' self-perceived leadership skills (Rutherford et al., 2002). Harder and Narine (2019) found that Extension agents had high self-perceptions of their leadership competencies, however, one of the lower-scored competencies was engaging in crucial conversations, which is consistent with Windon and Robotham's (2021) findings. No literature has been identified concerning leadership self-perceptions of small-scale farmers. Therefore, we sought to understand small-scale farmers' leadership styles, through the lens of their own self-perceptions.

## Purpose

Our study aimed to explore small-scale farmers' leadership self-perceptions and identify potential leadership education needs. The following questions guided this study:

Q1: In what ways do small farm operators view themselves as leaders within their farm operations and beyond?

Q2: How do small farm operators define leadership?

Q3: How do small farm operators characterize their personal leadership style?

## Methods

The population for this research study was small-scale farmers. According to the U.S. Department of Agriculture (USDA), small-scale farms have a Gross Cash Farm Income (GCFI) of less than \$350,000 per year (Whitt et al., 2021). The inclusion criteria for this study were: (a) the farm was geographically located in Florida (b) study participants considered themselves the, or one of the farms' principal owner/operators, and (c) study participants identified themselves as a small-scale farmer. The study took place October 2022 through January 2023.

Purposive sampling was used to secure participants who met the inclusion criteria. A contact list of potential participants was generated from three sources; personal contacts of an industry consultant, online resources such as farmers market participant directories, and snowball sampling. All farmers identified were emailed a total of three times, consisting of an initial recruitment email, and two follow-up emails. Eighty-two farmers were contacted, ten responded, and eight completed interviews.

Our study is not intended to be generalized to all small-scale farmers, but we have provided additional details about them to help the reader determine transferability to the audiences they may serve. Pseudonyms were assigned to protect participants' confidentiality. Participants' operations varied in size, location, and crop type. Three farmers work on a collective farm: Alice is a co-operator of their operation, while Sandy and Kandace both rent space on a collective farm. Greg and Cheryl both own their property, though Greg operates on a 25-acre farm, and Cheryl operates on 1.5 acres. Ernest rents land to run his operation, Mabel is the leader of a community farm in a food desert, and Ralph manages an aquaponics farm.

The farmers' ages ranged from 30 to 70 years, with the average being 48 years old. The farmers identified as male ( $n = 3$ ), female ( $n = 4$ ) and non-binary ( $n = 1$ ). All farmers had some post-secondary education, with a master's degree being the highest level of education ( $n = 2$ ), a bachelor's degree being the most represented degree ( $n = 4$ ), one farmer receiving an associate degree, and one farmer completing some college. Additional details are provided in Table 1.

**Table 1**

*Participant Demographics*

| Participant | Age | Gender     | Ethnicity      | Highest Level of Education |
|-------------|-----|------------|----------------|----------------------------|
| Cheryl      | 59  | Female     | Indian         | Associate degree           |
| Greg        | 70  | Male       | American/White | Master's Degree            |
| Ralph       | 47  | Male       | Latino/White   | Bachelor's Degree          |
| Mabel       | 73  | Female     | Caucasian      | Bachelor's Degree          |
| Kandace     | 32  | Female     | Caucasian      | Master's Degree            |
| Sandy       | 39  | Female     | Caucasian      | Some College               |
| Alice       | 30  | Non-Binary | White          | Bachelor's Degree          |
| Ernest      | 36  | Male       | White          | Bachelor's Degree          |

A basic qualitative research design (Merriam, 2002) utilized semi-structured, in-depth interviews. Five interviews were conducted in person and three interviews were conducted on Zoom. Six participants were interviewed one-on-one, and two participants were interviewed together in a dyad. On average, interviews were 52 minutes long. The lead researcher recorded

notes during and after each interview, using an electronic field journal to capture body language, impressions about attitude and temperament during the interview, and observations of the operations and interactions with team members. Additionally, the field journal was used to capture memo notes of findings as the data was coded.

Interviews were audio-recorded and uploaded to Otter.ai for transcription. Codes were created and assigned based on the interview guide and theoretical framework. Codes were categorized and used to create a codebook within NVivo software that “articulates the distinctive boundaries for each code” (Creswell & Poth, 2018, p. 190). The lead researcher used the codebook to assign tags to pieces of text and then arranged the text segments that were similar into categories for organization into major themes (DiCicco-Bloom & Crabtree, 2006). Once this step was completed for all interviews, the lead researcher reviewed the documents again and began assigning memos, which refer to concepts or themes that begin to emerge from the codes (Creswell & Poth, 2018). A total of 42 codes were assigned that were categorized into 10 over-arching themes.

Trustworthiness in qualitative research is achieved through credibility, dependability, confirmability, and transferability. Credibility was achieved by collecting multiple forms of data, including communication examples, pictures of farm operations, analysis of websites, and on-site observations (Forero et al., 2018). Dependability involved peer debriefing, in which the lead research shared findings and conclusions with colleagues familiar with the research and topic area, who then reviewed the interpretations and provided feedback on the analysis (Creswell & Poth, 2018). Member checking and peer debriefing were also used to ensure dependability (Loh, 2013). Member checking allows the “participants to judge the accuracy and credibility of the account” (Creswell & Poth, 2018, p. 261). Transcripts were sent to the participants to review for accuracy. Confirmability was achieved by reporting negative and realistic data that may not support answering the research questions and continuing to clarify personal biases and reflexivity throughout the research process. Lastly, transferability was achieved through purposive sampling and collecting detailed data.

## Findings

### **Q1: In what ways do small farm operators view themselves as leaders within their farm operations and beyond?**

Our study participants viewed themselves as leaders in three ways: on their operation, within their community and the farming industry, and within their families. Participants used the word community to mean their geographic community, as well as a network of other small-scale farmers. It was evident throughout the interviews that all participants viewed themselves as leaders of their operations. Alice stated “On our operation I see myself as a leader to our crew. Someone who is willing to take on the responsibility of managing what feels like a giant farm sometimes.” Some farmers were more hesitant to come to identify as leaders than others. Cheryl stated that she identified as a leader in both her operation and the community, however she felt like a leader more within her community. As Cheryl talked about being a leader in this

capacity, she seemed proud of what she had been able to accomplish alone, setting an example for other farms in her community.

Many study participants also viewed themselves as leaders within their community and industry. Three participants operated using a collective farming model, and the success of their respective operations is evident as to why these farmers felt they were leaders in their community and industry. Alice specifically talked about how they were operating using a structure that is somewhat unique, and that they are often asked to share about how they do this, setting an example for others in their community. Alice stated:

As a farm, I see us as a leader in the community, because of how we set things up. I think that we're really doing something amazing by having a horizontal leadership role like this, splitting up the major responsibilities...I know that in the long term, we are one of the only farms that's been able to maintain our sustainability and excitement and ease at which we farm.

When Sandy spoke about being a leader in her community, she passionately described a social justice aspect, wanting to help individual people regain their power. Sandy said “when I think about community leadership, it’s like the ability to allow an individual to regain personal power. And so that’s the vision, how we would come together.” This idea was also evident in Ernest’s comments about “bringing the food to where the people are” and Greg’s desire to want to mentor young farmers and empower them to farm.

Some participants viewed themselves as leaders within their families. Greg runs what the USDA classifies as a retirement farm, while others run an occupation farm, in which their sole income is generated from their farming operation. When Greg was asked if he views himself as a leader he said, “I would say yes, for my closest family, whenever they do help me on the farm...at least I'm the leader in that sense if they come out and help me.” Because Greg operates his farm part-time, it is understandable that he would utilize the help of his family, instead of paying employees to work on the farm.

When considering their identity as a leader within specific spaces, participants felt it was necessary to clarify what they meant by the term leader. Ralph distinguished between leader and manager, stating that leader is sometimes an idea, and a manager is more concrete. Additionally, Ernest’s view of himself as a leader changed throughout the conversation. He said:

...with respect to the business, I'm not thinking of myself as the fearless leader of this small farm as much as the guy that started things. I've been there a long time. So, when people have questions, they know to come to me, you know?

However, when asked to clarify that he did not view himself as a leader on the operation, but perhaps in other capacities, Ernest replied “I guess through the lens of that question, I would say yes, I view myself as the leader of the farm as an entity, as a business, but I don't think of the role of leader very often.” Throughout the interviews, it was evident that study participants did view themselves as leaders in varying capacities.

## Q2: How do small farm operators define leadership?

Study participants had varied definitions of leadership. Considering the diversity of study participants, varied definitions of leadership are congruent with leadership research. However, three themes emerged from data analysis concerning their definitions of leadership: (a) leadership involves teaching others how to do something; (b) leadership includes leading by example/by doing, and (c) leadership requires being decisive and being the one to make decisions, while still maintaining flexibility.

### Teaching Others

The data revealed that one of the important parts of leadership to participants was the ability to teach others how to do something, so that a goal can be achieved. Cheryl's measure of success as a leader relied on whether her employees and volunteers were able to do the job after she had showed them how to do it. Greg also talked about the importance of teaching people by 'showing them.' When asked how he might teach someone to pick persimmons, Greg walked over to a tree and began to explain how he would teach them, using a "show and tell" approach. When Ernest defined leadership he said:

Leadership is helping everyone know what they need, what they should be doing. Beyond knowing what to do, feeling good about what they're doing. I've noticed over the years that confusion is much more of a problem than just the physical aspect of 'oh, I'm not sure exactly how you want this thing done here.' So, it's going to take longer. But just for the health of everything around, people understand what they have to do, then everything runs much, much smoother.

Teaching others on their operations was an important aspect of leadership to study participants.

### Leading by Example

Both Ralph and Alice spoke about having done all tasks on the farm themselves, and that they compiled a list of tasks with expected completion times, so they knew how long their workers would take to complete things. They both conveyed that they will not ask their team members to do anything that they have not, or will not, do themselves. When describing the importance of modeling work, Ralph stated "if you don't understand what you're asking the people to do, or you don't know it, you may either ask for things that they can't do or have unrealistic expectations." Throughout the interview, Alice spoke about how they modeled a strong work ethic for their employees, showing their team through example what is expected of them. Similarly, Mabel described having her new volunteers work side by side with more seasoned volunteers so that they can show them how tasks should be completed. In addition to teaching through telling, study participants felt that leadership involved modeling and leading by example.

### Being Decisive

Lastly, the study participants shared that decision-making and responsibility fell upon them. Mabel expressed confidence in asserting herself as the leader and being comfortable making the final decision:

I think I'm pretty good at explaining what we're going to do and how we're going to do it. And I think without being really harsh, identifying myself as the one that's in charge...I'll be the one that makes the final decision.

Alice also spoke about being decisive and the one to make tough decisions. When defining leadership, Alice said "I think a lot of it is just being willing to make the decision and stick with it and tell other people how you want it done...so, it's a lot of decision making." Similarly, Ernest said "I've absorbed random business advice throughout the years and the sensation of being like 'okay, well, you gotta at some point, be the figurehead and just go for it. And you're the one in charge there'."

Although each definition varied slightly, these small-scale farmers characterized leadership as teaching their followers how to do tasks, motivating them through leading by example, and being decisive.

### **Q3: How do small farm operators characterize their personal leadership style?**

It is important to note that when this research study was designed, we anticipated categorizing small-scale farmers' leadership styles. However, as the interviews progressed, it became evident that we were not characterizing leadership styles, as much as identifying self-perceived leadership approaches. This distinction is important, as some of the approaches the participants identified may align with traditional leadership theories, while other categories do not. Our participants had varying self-perceived leadership approaches, though some approaches shared similarities. For research question three, 24 codes were generated using open-coding and then condensed into 14 codes by grouping similar codes. Participants most frequently described supportive, collaborative, and trusting approaches to leading. In the context of this study, a supportive leadership approach included participants expressing care for their employees, describing a more hands-on approach to leading, and farmers spoke to mentoring their employees. When participants identified with a collaborative approach, they often spoke about collaboration among the team, utilizing a collective approach to farming, and asking their employees for feedback and input in decision making. Lastly, when a trusting approach was identified among participants, they expressed being more hands-off when it came to their leadership, they described themselves as easy going, and allowed employees to pick tasks that they enjoyed and excelled in.

Greg identified as being supportive and directive. Greg has owned his operation for over 30 years and described using a supportive and directive approach to manage a very small team of volunteers on his "well oiled" operation. When we were in his orchard and I asked him how he might teach someone to pick persimmons, he went over to the tree, and began to explain to me how he would teach them, saying:

So, they would come out here and I'd say 'Okay, we're gonna pick this tree. This is how I think you should do it. Look for them at this stage [pointing to an orange persimmon], you're gonna see this tree. Just pick the more orange ones. The more orange they get the riper they are. Right there [pointing to another ripe persimmon]. That's for market.'

I would say this color of orange is perfect. And we'll see if you can find it. But it's kind of hard.

When I asked him if any of his helpers ever picked fruit that weren't ripe yet, and how he approached that, he said that he would have to show them why it was not ready to be picked, and why that might be a problem at the market:

Once you get them out there. It's okay. Like I just said, take this one, would be better if you would have left it, it's okay. It's okay to sell it. But probably people aren't gonna buy it because it's not the most desirable at that stage.

Greg's leadership approach is "hands-on" and involved physically showing his helpers how to harvest the fruit. Sandy also displayed a supportive leadership approach throughout the interview. She discussed guiding the people she supervises, and if change is necessary, she can call upon her leadership qualities to invite that change. Sandy's supportive leadership approach was evidenced by words she used such as "guide" "invite" and "encouraging."

Alice spoke often about being collaborative and making decisions with their two co-leaders:

We make all our big decisions together. We try to have a weekly meeting on Tuesdays. And so any big purchases, any hiring, anything new that we haven't already established, we do our crop planning together. And anything out of our outside of our role, we just talk with the group about it.

Kandace, who works on a collective farm, shared that the farmers communicate through a group text and shared calendars. They also utilize monthly in-person meetings and an informal majority voting system. This method of communication and management conveyed a very collaborative leadership approach, where all members have a say.

Some participants used a more hands-off and trusting approach to leading their teams. Ralph said, "Leadership is you delegate work, but you never delegate responsibility." He explained the need to verify that delegated work was completed, but reiterated, "It's my responsibility as a manager to make sure that I can delegate, I can't do all the work, it's impossible. I need to delegate it, but the responsibility in the end is mine."

Mabel's approach can also be categorized as trusting. She described her volunteers as "older, mostly retired, and have been working with me for years." Mabel affords them a great deal of autonomy, saying "So, I have a blackboard out there, I leave a list of everything that needs to be done. And they come in and they look at the list. And they pick what they like to do." While walking around her operation during the interview, several volunteers were present, working hard, but she did not seem too concerned with what they were doing, or whether they were on task. It was clear that she trusted them to do the work and it seemed important to Mabel that her team feel autonomous and have fun while working.

## Conclusions, Discussion, and Recommendations

We explored small-scale farmers' leadership perceptions, including the ways in which they view themselves as leaders, how they define leadership, and their approaches to leading. Our study participants identified as leaders of their organizations, within their communities and in their families which is consistent with Windon and Robotham's findings (2021) that farmers had high perceptions of their ability to lead others. Some participants self-identified more readily, aligning with how Bem (1972) and Fazio (2014) described self-perception as the way in which an individual comes to understand themselves through observations of their own behaviors, intentions, and ideas. Identifying as a leader has implications for leaders gaining confidence and being motivated to develop their abilities (Kwok et al., 2018). If small-scale farmers are hesitant to identify as leaders, they may not seek leadership development, which could limit leadership capacity within this important agriculture industry sector. Extension practitioners and others working with small-scale farmers should encourage this population to strengthen their leader identity, which may increase their pursuit of leadership development.

Drath (2001) suggested that leaders' varying levels of identity inform how they view leadership, moving from conceptualizing leadership as possessing specific knowledge and skills, to perceiving leadership as relational and an act of influence, and finally, viewing leadership as collaborative and inclusive of multiple perspectives. Our participants' definitions of leadership represented Drath's first and second identity levels. Being decisive is a specific skill, while teaching others and leading by example are relational acts of influence. These definitions suggest they have moved beyond conceptualizing leadership as possessing certain knowledge and skills, to believing there is an important relational aspect. Further leader identity development may help them develop a conceptualization of leadership as collaborative and inclusive, perhaps motivating them toward leadership roles beyond the small-scale farming community to the broader agricultural industry. As small-scale farmers develop their leader identities and expand their conceptualization of leadership, Extensionists can support them by helping them engage in broader reaching organizations and opportunities.

Participants had not previously studied leadership theories, so it was not expected that they identify their leadership styles in this way. However, many of the participants' self-identified leadership approaches were consistent with some leadership theories. The ways in which participants described their approaches including supportive, collaborative, and trusting, were reminiscent of authentic leadership (George, 2003), path-goal leadership (Evans, 1970), and situational leadership (Hersey & Blanchard, 1969) among others. Leadership theories have overlapping constructs. Moreover, effective leaders employ a variety of approaches (Northouse, 2021). Encouragingly, our participants described varying leadership approaches which is consistent with previous research, indicating that leadership approaches and styles vary among this population (Jamil et al., 2020; Wanjala et al., 2022). However, these leaders may be more effective in their application of varying leadership approaches as their knowledge of leadership concepts increases. Increasing this population's knowledge of leadership concepts should produce more informed, and thus effective, leadership choices.

Lastly, participants revealed a desire for leadership education as they shared about skills they wanted to develop and their interest in a leadership development program. Literature indicates that existing leadership development programs in agriculture and natural resources may not be appropriate or accessible for this unique population (Carter & Rudd, 2000; Kelsey & Wall, 2003). Therefore, a formal needs assessment should be conducted to guide the development of more appropriate leadership education opportunities for small-scale farmers in Florida. An opportunity exists to grow leadership capacity with this agriculture sector.

## Acknowledgements

Author Contributions: **R. Biderman** - conceptualization, formal analysis, investigation, writing-original draft; **L. Greenhaw** - conceptualization, writing- review & editing. **A. Harder** - methodology, writing- review & editing

## References

- Bem, D. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). Academic Press.
- Carter, H., & Rudd, R. (2000). Evaluation of the Florida leadership program for agriculture and natural resources. *Journal of Southern Agricultural Education Research*, 50(1), 199–205.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches*. SAGE.
- Day, D. V., & Harrison, M. M. (2007). A multilevel, identity-based approach to leadership development. *Human Resource Management Review*, 17(4), 360–373.  
<https://doi.org/10.1016/j.hrmr.2007.08.007>
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), 314–321. <https://doi.org/10.1111/j.1365-2929.2006.02418.x>
- Drath, W. H. (2001). *The deep blue sea: Rethinking the source of leadership*. Jossey-Bass.
- Evans, M.G. (1970). The effects of supervisory behavior on the path-goal relationship. *Organizational Behavior and Human Performance*, 5(3), 277–298.  
[https://doi.org/10.1016/0030-5073\(70\)90021-8](https://doi.org/10.1016/0030-5073(70)90021-8)
- Fazio, R. (2014). Self-perception theory: A current perspective. In *Social Influence: The Ontario symposium* (Vol. 5, pp. 129–134). (Zanna, M. P., Olson, J. M., & Herman, C. P., Eds.). Essay, Taylor & Francis.

- Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., McCarthy, S., & Aboagye-Sarfo, P. (2018). Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC Health Services Research*, 18(1), 120. <https://doi.org/10.1186/s12913-018-2915-2>
- George, B. (2003). *Authentic leadership: Rediscovering the secrets to creating lasting value*. Jossey-Bass.
- Harder, A., & Narine, L. (2019). Interpersonal leadership competencies of extension agents in Florida. *Journal of Agricultural Education*, 60(1), 224–233. <http://doi.org/10.5032/jae.2019.01224>
- Hersey, P., & Blanchard, K.H. (1969). Life-cycle theory of leadership. *Training and Development Journal*, 23(5), 26-34. <https://psycnet.apa.org/record/1970-19661-001?ref=insight.openexo.com>
- Jamil, M. H., Lanuhu, N., Busthanul, N., Demmallino, E. B., & Melinda, I. (2020). Leadership style of farmer group leaders. *IOP Conference Series: Earth and Environmental Science*, 486(1). <https://doi.org/10.1088/1755-1315/486/1/012035>
- Kaufman, E. K., Rateau, R. J., Carter, H. S., & Strickland, L. R. (2012). What's context got to do with it? An exploration of leadership development programs for the agricultural community. *Journal of Leadership Education*, 11(1), 121–139. <https://doi.org/10.12806/v11/i1/rf7>
- Kelsey, K. D., & Wall, L. J. (2003). Do agricultural leadership programs produce community leaders? A case study of the impact an agricultural leadership program on participant' community involvement. *Journal of Agricultural Education*, 44(4), 35–46. <http://doi.org/10.5032/jae.2003.04035>
- Kwok, N., Hanig, S., Brown, D. J., & Shen, W. (2018). How leader role identity influences the process of leader emergence: A social network analysis. *The Leadership Quarterly*, 29(6), 648–662. <https://doi.org/10.1016/j.leaqua.2018.04.003>
- Layfield, K. D., Radhakrishna, R., & Andreasen, R. (2000). Self-perceived leadership skills of students in a leadership programs in agriculture course. *Journal of Southern Agricultural Education Research*, 50(1), 62–74. <http://www.jsaer.org/pdf/vol50Whole.pdf#page=62>
- Loh, J. (2013). Inquiry into issues of trustworthiness and quality in narrative studies: A perspective. *The Qualitative Report*, 18(33), 1–15. <https://doi.org/10.46743/2160-3715/2013.1477>
- Merriam, S. (2002) *Qualitative research in practice: Examples for discussion and analysis*. Jossey Bass.

- Moghfeli, Z., Ghorbani, M., Rezvani, M. R., Khorasani, M. A., Azadi, H., & Scheffran, J. (2022). Social capital and farmers' leadership in Iranian rural communities: Application of social network analysis. *Journal of Environmental Planning and Management*, 6(55), 1–25. <https://doi.org/10.1080/09640568.2021.2008329>
- Northouse, P. G. (2021). *Leadership: Theory and practice* (9th ed.). SAGE Publications.
- Rutherford, T. A., Townsend, C. D., Briers, G. E., Cummings, R., & Conrad, C. R. (2002). Leadership self-perceptions of WLC participants. *Journal of Agricultural Education*, 43(2), 22–33. <http://doi.org/10.5032/jae.2002.02022>
- Sessa, V., Ploskonka, J., Alvarez, E., Dourdis, S., Dixon, C., & Bragger, J. (2016). The relationship between student leaders' constructive development, their leadership identity, and their understanding of leadership. *The Journal of Leadership Education*, 15(1), 15–30. <https://doi.org/10.12806/v15/i1/r2>
- Sorensen, L.B., Germundsson, L.B., Hansen, S.R., Rojas, C., & Kristensen, N.H. (2021). What skills do agricultural professionals need in the transition towards a sustainable agriculture? A qualitative literature review. *Sustainability*, 13(24), 13556. <https://doi.org/10.3390/su132413556>
- Stępień, S., & Maican, S (Eds.). (2020). Small farms in the paradigm of sustainable development. *Case studies of selected Central and Eastern European countries*. <https://doi.org/10.15804/stepien.maican-8.2020>
- Wanjala A. W., Awuor E., & Ngala M. (2022). The moderated meditating effect of situational leadership and farmer characteristics on the relationship between change management and sugarcane productivity in sugar factory cane catchment areas in Kenya. *African Journal of Emerging Issues*, 3(9), 34–48. <https://ajoeijournals.org/sys/index.php/ajoei/article/view/311>
- Whitt, C., Todd, J. E., & Keller, A. (2021, December). *America's diverse family farms: 2021 edition*. USDA ERS. <https://www.ers.usda.gov/publications/pub-details/?pubid=102807>
- Windon, S., & Robotham, D. (2021). The relationship between farmers' quality of life and their leadership competencies. *Advancements in Agricultural Development*, 2(2), 50–72. <https://doi.org/10.37433/aad.v2i2.105>