

RELATIONSHIP BETWEEN VOLUNTEER STEWARDSHIP ACTION-TAKING EXPERIENCES AND THEIR LEADERSHIP COMPETENCIES DURING THE COVID-19 PANDEMIC

Abstract

The purpose of this quantitative study was to assess the relationship between volunteer leadership competencies and stewardship action-taking experiences among Master Gardener (MG) and Master Watershed (MW) volunteers during the COVID-19 pandemic. We collected data from 1196 Penn State Extension MG and MW respondents. The mean summative score for the volunteer stewardship action-taking experience was 2.32 (SD = .79), and volunteer leadership competencies was 3.45 (SD = .60). The results of this study showed a significant moderate association between volunteer stewardship action-taking experiences and volunteer leader competencies ($r = .34, p \leq .001$). Volunteer leadership competencies can explain approximately 11 % of the variation in volunteer stewardship action-taking experiences during the COVID-19 pandemic. The new knowledge that our research brings can significantly contribute to the practice in leadership teaching and learning of Extension organizations' volunteers. Future leadership trainings on the enhancement of the MG and MW volunteer leaders' stewardship action-taking capacity can help contribute to the greater good in their communities in a more confident and efficient manner. Further research should focus on identifying other factors that can affect MG and MW stewardship action-taking experiences, including the impact of the demographics and motivation.

Keywords: Extension leadership education, volunteer leadership, volunteer leader's competencies, volunteer educators, volunteer stewardship action-taking, COVID-19.

Introduction and Problem Statement

Extension organizations support their communities by providing volunteer education and training, including the times of uncertainty and global changes (Osafo, 2021). Investing in Extension volunteer leadership and other development pays socially and economically back. For example, the economic value of the Master Gardeners' contribution as the leader-educators can reach \$9,000,000 (Strong & Harder, 2011). Master Gardener (MG) and Master Watershed (MW) volunteer programs operate by providing gardening and

watershed education and preparing their program participants to take the volunteer leadership roles in their communities (Conway et al., 2003; Dorn et al., 2018). During the COVID-19 pandemic, volunteers supported their communities by providing their services in varied areas including healthcare (Pickell et al., 2020), public well-being (Kwan et al., 2021), education (Iyengar, 2021), cooperative extension, and food supply (Osafo, 2021). The increasing need for volunteer leaders has brought into question the need for volunteer leadership competencies and

their experiences in taking stewardship actions towards the welfare of their communities. The term *competency* refers to the possession of special skills and knowledge to do the work.

As literature has shown, little is known about the volunteer leaders' stewardship action-taking experiences, specifically during COVID-19, within the local context (Henderson & Sowa, 2018) and in gardening and watershed (Osafo, 2021). This background formed the seeds from which this study germinated. The in-depth literature review comprehensively treats each of the areas of scholarship relevant for understanding the relationship between volunteer leaders' competencies and stewards' action-taking experiences and thoroughly explains how our own research fits into, builds upon previous scholarship, both seminal and emerging, and adds to an existing body of agreed knowledge.

Volunteer Stewardship Action-Taking Experiences.

Stewardship is “an outcome of leadership behaviors that promote a sense of personal responsibility in followers for the long-term well-being of the organization and society” (Hernandez, 2008, p. 121), and “the extent to which an individual willingly subjugates his or her interests to act in protection of others' long-term welfare” (Hernandez, 2012, p. 174). Theoretically and conceptually, stewardship behaviors are distinct from altruistic and citizenship behaviors, which characterize volunteer actions, and that might focus on separate individuals and short-term effects.

Building on the broader body of works on the topic of volunteer actions (Alisat & Riemer, 2015; Bennett et al., 2018; Ernst et al., 2017; Hernandez, 2012; Hungerford & Peyton, 1980; Liarakou et al., 2011; Ryan et al., 2001; Strong & Harder, 2011; Yang & Ren, 2020; Zimmerman & Zahniser, 1991), we propose distinguishing volunteer actions from stewardship actions and define them as the following: *volunteer actions* as the actions taken by individuals with various levels of competence for diverse personal or social reasons, and, *stewardship actions* as the actions taken by volunteers who possess expertise

in the subject matter, act for the greater good in their communities, actively engage in social actions in leadership roles and make a long-lasting impact. In comparison with volunteers, stewards have higher levels of commitment and engagement – the predictors of the quality stewardship action-taking experiences (Bowers, 2012; Bowers & Hamby, 2013; Hernandez, 2012; Kouzes & Posner, 2011; Larese-Casanova & Prysby, 2018; Moskel et al., 2013; Ockenden & Hutin, 2008). Several researchers provided the categorization of volunteer stewardship actions that we grouped into personal/private and social/public actions (Alisat & Riemer, 2015; Erdogan & Marcinkowski, 2012; Evers & von Essen, 2019; Hungerford & Peyton, 1980; Smith-Sebasto & D'Costa, 1992, 1995; Jones, 2006; Turnbull et al., 2020; Woosnam et al., 2019; Zimmerman & Zahniser, 1991).

Personal, Social, and Educational Actions and Experiences.

Personal actions target the change in knowledge and practices of an individual, and *social actions* target the change in others' behaviors and actions. One of the examples of personal actions is self-education (Alisat & Riemer, 2015). The study of Measham and Barnett (2008) showed that learning for oneself as motivation was relatively rare yet seeking to educate others was the most common mode and motive for volunteering. The previous studies discussed the positive relationship between MG and WM volunteer leaders' competencies and social actions (Byron & Curtis, 2002; Conway et al., 2003; Dorn et al., 2018; Larese-Casanova & Prysby, 2018; Peronto & Murphy, 2009; Relf & McDaniel, 1994; Strong & Harder, 2011). Educating others is an example of MG and WM leader-educators' social actions (Alisat & Riemer, 2015; Hungerford & Peyton, 1977). Smith-Sebasto and D'Costa (1995) defined an *educational action* as “any action by an individual or group specifically aimed at the acquisition of knowledge” (p. 16). The educational actions can include persuasion “used when someone or a group tries to convince others that a certain (...) action is correct” (Peyton & Hungerford, 1980, p. 169).

Excellent teachers share knowledge and influence behaviors and attitudes of others (Derrington & Angelle, 2013; Furco, 1996; Pounder, 2006; Sherrill, 1999; Strong & Harder, 2011; Whitaker, 1997). Baker-Doyle (2017) and Pounder (2006) suggested that excellent teachers possess transformational leadership competencies. In this study, we propose using the term leader-educator for volunteers who educate other volunteers or community members in areas of their expertise (e.g., horticulture and watershed) and motivate them to act for the greater good of their communities.

In addition to sharing knowledge about the subject matter (virtually and in-person), MG and WM education actions might include actions towards raising awareness about the community problems, the actions taken by local organizations/volunteers to resolve them, the outcomes of those efforts, and possibilities to contribute to the welfare of the communities (Alisat & Riemer, 2015; Moskell et al., 2013; **Peronto & Murphy, 2009**; Stern et al., 1993; Turnbull et al., 2020). The teaching methods that leader-educators use include experiential education, action-learning, problem-solving, high-impact learning (Andreu, et al., 2020; *Beard, 2010*; Creutzig, & Kapmeier, 2020; Kolb & Kolb, 2009; *Patrick, 2011*),

and service-learning “when both the providers and recipients of service benefit from the activities” (*Furco, 1996, p. 9*; *See also, Parker, et al., 2009*). Strong and Harder (2011) explored the relationship between Florida MG volunteers’ instructional efficacy, motivation, and tenure and found a positive relationship between instructional efficacy and such motivational orientations as learning, community service, and socialization (pp. 68, 70). The action-taking experiences of the volunteer leader-educators and their educational competencies are presented in Table 1.

Table 1

Educational Competencies, Personal and Social Actions of Volunteer Leader-Educators

Action-Taking Experiences	Educational Competencies	References
Personal Actions: Self-Education		
The acquisition of knowledge with self-education purposes.	Self-Learning (e.g., horticulture and watershed knowledge).	Alisat & Riemer, 2015; Measham & Barnett, 2008; Smith-Sebasto & D’Costa, 1995, 1992.
Social actions: Educating Others		
Educating, informing, consulting, persuading, advising, sharing, mentoring, comforting, guiding, rescuing, and defending others.	Instructional efficacy, instructional leadership, argumentation, persuasion, classroom leadership, collective efficacy, experiential learning, information sharing, teacher leadership, service learning, extension education, etc.	Alisat & Riemer, 2015; Derrington & Angelle, 2013; Furco, 1996; Hungerford & Peyton, 1977; Measham & Barnett, 2008; Parker, et al., 2009; Sherrill, 1999; Strong & Harder, 2011, Whitaker, 1997.

Social, Leadership and Managerial Actions and Experiences. Social actions are collective in nature and are taken as part of a group and in a leader or follower role. A leader is the one who “embodies the will of the group” and who influences the group “to achieve a common goal” (Northouse, 2010, p. 203), and the follower is the devotee of the leader. The quality of the relationships between the leader and his/her followers are positively associated with better work productivity, performance, availability, and satisfaction (Aryee & Chen, 2006; Scandura &

Graen, 1984) as well as engagement and turnover (Almas et al., 2020; Bang, 2011; Catano et al., 2001; Eisner et al., 2009; Forner, 2019; Rice & Fallon, 2011). Failing to provide strong and effective leadership to volunteers is one of the major factors hindering volunteer retention (Almas et al., 2020; Bang, 2011; Eisner et al., 2009). The summary of the literature on volunteers’ competencies in leadership and project management is presented in Table 2.

Table 2

Social actions, and Competencies in Leading Others and Managing Projects

Action-Taking Experiences	Leadership Competencies	References
Transforming Others: “The process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower” (Northouse, 2010, p. 172).	Idealized influence, inspiration, intellectual stimulation, individualized consideration, charisma, morality, etc.	Avolio, 1999; Bass, 1985; Burns, 1978; Catano, et al., 2001; Conger & Kanungo, 1994; Ghasabeh, et al., 2015; Lowe, et al., 1996; McClelland, 2008; Northouse, 2010, p. 171-203; Weber, 1947.
Empowering Others: Having the ability to inspire others to act (Thomas & Velthouse, 1990; Spreitzer, 1995).	Psychological empowerment, impact, choice, competence, meaningfulness, responsibility, self-determination, visible results, etc.	Arad, 1994; Hackman & Oldham, 1976; Pearce & Sims, 2002; Peterson et al., 2007; Pratto, 2016; Rappaport, 1981, 1987; Rappaport, et al., 1984; Spreitzer, 1995, Thomas & Velthouse, 1990.
Serving Others: “The servant-leader is servant first ... It begins with the natural feeling that one wants to serve.” (Greenleaf, n.d.)	A sense of responsibility, altruistic values, caring for others’ well-being, commitment to others’ growth, personal ethics, social awareness, stewardship, honesty, etc.	Dryburgh, 2020 Frick, 2004; Greenleaf, 2003; Greenleaf, n.d.; Mejheirkouni, 2020; Schneider & George, 2011; Spears, 1998.
Leader-Member Exchange: Leadership style that focuses on the quality of the dyadic (two-way) relationship between leaders and followers (Graen & Uhl-Bien, 1995).	In-group relationships: trust, access to resources, and opportunities to grow.	Graen & Uhl-Bien, 1995; Northouse, 2010, p. 147-169; Dienesch & Liden, 1986; Scandura & Graen, 1984.
Project Management: “A temporary endeavor undertaken to create a unique product, service or result” (PMI, 2013, p.2).	Communication, grant-writing, Internet use, networking, project management, project sponsorship, etc.	Novo, et al., 2017; Brewer & Achilles, 2008; Burke & Barron, 2014; Grzesik & Piwowar-Sulej, 2018; Englund & Bucero, 2015; Gido & Clements, 2015; Heagney, 2016; Kerzner, 2017; Lin, et al., 2017; Martiskainen, 2017; Windon, 2020.

The research literature showed that one of the most popular leadership styles in the volunteering context was transformational leadership due to its non-authoritarian and democratic nature (Catano et al., 2001; Dwyer, et al., 2013; Kajer, 1996; McClelland, 2008; Ockenden & Hutin, 2008) and positive connection to volunteer recruitment, management, commitment, and retention (Catano et al., 2001; Eisner et al., 2009). At the same time, Dwyer et al. (2013) found that transformational leadership was not associated with volunteer contributions. The reason for this can lie in the dynamic nature of volunteer leaders' experiences that requires them to be flexible in choosing what leadership styles to apply and, if needed, to use several of them simultaneously (Catano et al., 2001; Harris et al., 2009; Schneider & George, 2011). Other applicable to volunteering contexts leadership styles include servant leadership (Frick, 2004; Greenleaf, 2003; Greenleaf, n.d.; Mejheirkouni, 2020; Schneider & George, 2011; Spears, 1998), empowering leadership (Arad, 1994; Hackman & Oldham, 1976; Pearce & Sims, 2002; Peterson et al., 2007; Pratto, 2016; Rappaport et al., 1984; Spreitzer, 1995; Thomas & Velthouse, 1990), and the leader-member exchange relationship (Bang, 2011; Harris et al., 2009; Liden et al., 2006; Northouse, 2010). Leadership competencies are shown to overlap with exemplary performance (Bennis, 2007; Edwards et al., 2011; Spencer & Spencer, 1993; Xu & Davidson, 2012).

Volunteer Leader Competencies and Exemplary Performance. The research studies on leadership competencies (Clegorn et al., 2021) and exemplary leadership competencies (Konuk & Posner, 2021) have gained a new wave of attention from researchers in educational leadership. Leadership competencies are shown to overlap with exemplary performance in teaching (Edwards et al., 2011; Xu & Davidson, 2012), management and leadership (Bennis, 2007; Boyatzis, 2008; 1982; Gilbert, 1978; Klemp, 1982; Kramer et al., 2005; Semali & Buchko, 2014; Smith, 2015; Spencer & Spencer, 1993). Gilbert (1978) described *exemplary performers* as those who usually “don't work harder, know more, or are more motivated”

(p. 96). Kouzes & Posner (2011) described *exemplary leaders in the non-profit sector* as those who “choose to put leadership into practice, every day on every way, to achieve extraordinary results and to facilitate the development of the leadership capacity in all those who choose to follow” (p. 7). The exemplary performance model by Spencer and Spencer (1993) includes competencies related to leadership (e.g., impact and influence), management (e.g., technical expertise), and education (e.g., training). The studies on exemplary teaching showed that exemplary teaching competencies apply to the roles of leader-educators (Feldman, 1996; Svinicki & Menges, 1996; Roehrig et al., 2008; Wagenschein & Horton-Kruger, 2000; Xu & Davidson, 2012).

Kouzes & Posner (2007) determined five distinguishing competencies of exemplary leaders: (1) modeling the way (e.g., being a role model), (2) inspiring a shared vision (e.g., doing something for others), (3) challenging the process (e.g., accepting challenges), (4) encouraging the heart (e.g., recognizing others' actions), and (5) enabling others to act (e.g., through empowerment). Bowers (2012) found that volunteer leaders engaged in four of five leadership practices (excluding Challenging the Process) differently than paid leaders. Bowers and Hamby (2013) found that “*volunteer leaders*, those leading other volunteers without pay or other compensation, exhibited one of the five practices of exemplary leadership differently than did paid leaders,” (p. 13), which was the Encourage the Heart practice (Volunteer vs. Paid $t = 3.046$; $p < .01$), and which was associated with such volunteer leaders' strategies as demonstrating genuine care and concern for followers, promoting strong social and supportive relationships, building a strong sense of community and collective identity, linking recognition and reward with performance outcomes. Kouzes and Posner (2011) suggested that those working with exemplary leaders are more committed, connected, and attached; they feel proud to be a part of the volunteering organization/group, have a strong team spirit. The synthesis of the literature on the action-taking experiences and

exemplary competencies in leadership, management, and teaching provided in Table 3.

Table 3

Exemplary Competencies: Leadership, Management, and Teaching

Action-Taking Experiences	Exemplary Competencies	References
Exemplary performance is about possessing outstanding competencies to perform tasks and roles, being more motivated, and knowing more (Gilbert, 1978, p. 96).	Achievement and action, helping and human service, impact, and influence, managerial competence, personal effectiveness, cognitive competencies, teaching, and training, etc.	Bowers, 2012; Boyatzis, 2008, 1982; Gilbert, 1978; Klemp, 1982; Kouzes & Posner, 2007; Semali & Buchko, 2014; Spencer & Spencer, 1993.
Exemplary leadership and management: the actions taken towards the general good (impact/influence), meeting others' needs (helping/human service), leading and developing others, improving teamwork and cooperation, having expertise and reputation for specialized knowledge (managerial cluster) (Spencer & Spencer, 1993).	Achievement orientation, teamwork, initiative, developing others, self-confidence, information seeking, team leadership, conceptual/analytical thinking, organizational awareness, relationship building, project management.	Spencer & Spencer, 1993. See also: Kouzes & Posner, 2007, 2014; McClelland, 2008; Müller, et al., 2017; Semali & Buchko, 2014.
Exemplary leadership in the non-profit sector: "leaders whose passion, courage, and deep-seated belief in the power of their convictions drive home the lesson that leadership is everyone's business" (Kouzes & Posner, 2011, p. 1).	Challenge acceptance, mobilization of others to act for the greater good, promotion of leadership "in everyone and at every level," capitalization on own strengths, learning from others, and ability to benefit "millions of individuals, families, communities, and systems that depend on their aid" (Kouzes & Posner, 2011, p.).	Kouzes & Posner, 2011, p. 1-7; See also: Bowers, 2012; Bowers & Hamby, 2013.
Exemplary teaching is characterized by "pedagogical knowledge, subject area content knowledge, (...) psychology knowledge, effective teaching skills, excellent communication skills, strong ethics, and continued professional development" (Howe, 2006, p. 288)	Concern, clarity of communication, teaching excellence, mentoring, learning effectiveness, etc.	Edwards, et al., 2011; Feldman, 1996; Svinicki & Menges, 1996; Roehrig, et al., 2008; Wagenschein & Horton-Kruger, 2000; Howe, 2006; Xu & Davidson, 2012.

Volunteer Leader Competencies and Stewardship Action-Taking Experiences. The volunteer leadership positions are complex and dynamic, include varied roles as of leaders, managers, and educators, and can involve a variety of challenges that can prevent the volunteer leaders from taking actions and making others act (Hjalmar et al., 2021; Miao et al., 2021; Sin et al., 2021; Salacuse, 2006; Zimmeck, 2001).

Internal Factors that Impact Action-Taking

Experiences of Volunteer-Leaders. Factors that impact action-taking capacity and experiences include of the level of knowledge of how to take actions, lead teams, how to teach children and adults, how to initiate and manage projects (Hungerford & Peyton, 1977; Liarakou et al., 2011; Lowndes et al., 2006; Peyton & Hungerford, 1980; Reed, 2008; Smith-Sebasto, 1992, 1995; Strong & Harder, 2011). Some internal or individual factors that might hinder volunteer-leaders' action-taking capacity and experiences include lack of knowledge about the local issues (Pan et al., 2018), lack of attachment (Cheng et

al., 2018), lack of a sense of citizenship (Hawthorne & Alabaster, 1999), lack of the right volunteering organizations to work with (Irby & Boyle, 2014), and lack of social networks (Grafton, 2005). Table 4 describes the individual factors associated with the action-taking capacity and experiences of volunteer-leaders.

Table 4

Internal Factors that Impact Stewardship Action-Taking Capacity and Experiences

Influencing factors	References
Leadership competency	Catano, et.al., 2001; Eisner, et al. 2009; Ernst, et al., 2017; Frick, 2004; Greenleaf, 2003; Liarakou et al., 2011; Mejheirkouni, 2020; Pearce, 1980; Schneider & George, 2011; Smith-Sebasto, 1992, 1995; Smith & Gilden, 2002; Spears, 1998.
Teaching competency	Alisat & Riemer, 2015; Furco, 1996; Hungerford & Peyton, 1977; Measham & Barnett, 2008; Parker, et al., 2009; Smith-Sebasto, 1992, 1995; Strong & Harder, 2011.
Project management competency	Lin, et al., 2017; Martiskainen, 2017; Windon, 2020.
Efficacy/Confidence	Bandura, 1977; 1982; 1986; 1994; Bandura et al., 1999; Lau, et al., 2017; Strong & Harder, 2011.
Locus of control	Liarakou, et al., 2011; McCarty & Shrum, 2001; Smith-Sebasto, 1992; Spreitzer, 1995; Zimmerman & Zahniser, 1991.
Problem-solving abilities	Lau, et al., 2017.
A sense of attachment & relatedness	Cheng, et al., 2018; Dresner, et al., 2015; Haivas, et al., 2013; Lewig, et al., 2007; McDougle, et al., 2011; Nisbet & Zelenski, 2013; Stukas, et al., 2016; Vaske & Kobrin, 2001.
A sense of responsibility & citizenship	de Groot & Steg, 2007; Pan, et al., 2018; Schultz, et al., 2005; Li, et al., 2020; Schwartz & Howard, 1984; Stern, et al., 1985; Yang & Ren, 2020; Hawthorne & Alabaster, 1999.
Motivation & values	Lau, et al., 2017; Liarakou, et al., 2011; Strong & Harder, 2011; Stukas, et al., 2016; Mejheirkouni, 2020; Schultz, et al., 2005.
Action-taking skills	Hungerford. & Peyton, 1977; Liarakou et al., 2011; Lowndes et al., 2006; Peyton & Hungerford, 1980; Reed, 2008; Smith-Sebasto, 1992, 1995; Strong & Harder, 2011
Knowledge & awareness of consequences	Pan, et al., 2018; Schirmer & Dyer, 2018; Smith & Gilden, 2002.
Social network	Grafton, 2005; Smith & Gilden, 2002.
The availability/quality of the right organizations	Irby & Boyle, 2014; Bartczak, 2014; Prange et al., 2016.
Being asked	Freeman, 1997; McDougle et al., 2011.

External Factors that Impact Action-Taking Experiences of Volunteer-Leaders.

The literature provided sufficient evidence of the relationship between action-taking experiences among employees and their job experiences, work outcomes including performance, engagement, satisfaction, commitment, and retention (Limsila & Ogunlana, 2008; Wahid et al., 2017; Wei et al., 2018). For the volunteering context, the same work outcomes determine the quality of the stewardship action-taking experiences associated with empowerment (Thomas & Velthouse, 1990), satisfaction (Bang, 2011; Dwyer et al., 2013; Sykes Hines, 2017), commitment (Catano & Kelloway, 2001; Mejeheirkouni, 2020), engagement (Alfes & Langner, 2017; Gilbert et al., 2020; Ockenden & Hutin,

2008), performance (Rowold & Rohmann, 2009a), retention (Almas, et al., 2020; Bang, 2011; Eisner et al., 2009), effectiveness and extra effort (Rowold & Rohmann, 2009b). Examples of external factors (e.g., volunteering organizations and volunteer groups) affecting the volunteer action-taking experiences are discussed in Table 5.

Table 5

External Factors that Impact Stewardship Action-Taking Capacity and Experiences

Influencing factors	References
Organizational capacity	Hong et al., 2009; Sharpe, 2006; Swierzy et. al., 2018.
Organizational culture	Castro & Nielsen, 2001; Chess & Purcell, 1999; Florin & Wandersman, 1990; Gelcich et al., 2006; Grafton, 2005; Kania & Kramer, 2011; MacNeil & Cinner, 2013; Pomeroy et al., 2007; Singleton, 2000; Videira et al., 2006.
Organizational environment	Catano & Kelloway, 2001.
Relationships with the leader	Almas et al., 2020; Bang, 2011; Ockenden & Hutin, 2008; Oostlander et al., 2014; Rowold & Rohmann, 2009a; Rowold & Rohmann, 2009b.
Job demands-resources match	Cox, et al., 2011; Huynh, et al., 2012; Ockenden & Hutin, 2008.
Responsiveness of the system	Lowndes et al., 2006.
Work satisfaction	Bang, 2011; Cox et al., 2011; Dwyer et al., 2013; Sykes Hines, 2017; Windon, 2021.
Work engagement	Alfes & Langner, 2017; Gilbert, et al., 2020; Huynh, et al., 2012; Ockenden & Hutin, 2008.
Empowerment	Thomas & Velthouse, 1990.
Leadership opportunities	Catano et al., 2001; Ockenden & Hutin, 2008; Posner, 2015.
Mismanaging	Eisner, et al., 2009.
Outcome (non)visibility	Lowndes et al., 2006; Jacquet, 2017.
Work-home interface	Brauchli, et al., 2017; Byron & Curtis, 2002; Meier & Stutzer, 2008; Stukas, et al., 2016.

The Impact of Leadership Competencies on the Action-Taking Experiences.

Leaders have a tremendous amount of responsibility to behave as true stewards and act as role models to others. It can be why volunteers tend to avoid leadership roles often associated with more labor and little reward (Pearce, 1980). At the same time, Catano et al. (2001) and Posner (2015) suggested that volunteer leaders engage in leadership actions more often than paid leaders. Ockenden and Hutin (2008) found out that the most popular style of leadership utilized in the volunteer groups was democratic, rather than authoritarian, which allowed the inclusion of all volunteer-group members into collective decision-making. By allowing volunteer-group members to provide their inputs led to higher levels of engagement and enthusiasm amongst the volunteers. Siachou et al. (2020) explored the relationship between empowering leadership and volunteers' service capability in the context of non-governmental organizations in Greece and found a positive effect of empowering leadership on volunteers' service capability. Volunteer leadership style is connected to volunteer retention (Almas et al., 2020; Bang, 2011), engagement (Mayr, 2017),

commitment (Mejheirkouni, 2020), satisfaction (Bang (2011; Oostlander et al., 2014), and work engagement (Haivas et al., 2013).

Similar to Alfes & Langner (2017), by exploring the leadership styles of garden managers, Gilbert et al. (2020) found that the same manager could exhibit two leadership styles—collaborative and directive—at different times. The style of leadership that is grounded in collaboration is called “shared leadership,” and defined as “a group process in which leadership is distributed among, and stems from, team members” (Pearce & Sims, 2002, p. 172). Pearce & Sims (2002) found that in comparison with vertical leadership, shared leadership was more positively connected to team effectiveness. At the same time, Müller et al. (2017) suggested that the proper balance between vertical and horizontal leadership is important for organizational project management. The literature on volunteers’ leadership competencies and their influence on volunteer leaders' action-taking experiences are synthesized in Table 6.

Table 6

The Positive Impact of Leadership Competencies on Stewardship Action-Taking Experiences

Leadership Style	Action-taking experiences	Resources (2000-2021)
Transformational	Retention	Almas et al., 2020; Catano, et al., 2001; Mayr, 2017;
	Satisfaction	Dwyer et al., 2013.
	Performance	Rowold & Rohmann, 2009a.
Servant	Commitment	Catano et al., 2001; Mejheirkouni, 2020; Schneider & George, 2010.
	Motivation	Parris & Welty, 2012.
	Satisfaction	Sykes Hines, 2017; Schneider & George, 2010.
	Retention	Schneider & George, 2010.
Other		
Empowering	Service capability	Siachou et al., 2020.
Motivating	Volunteer capacity	De Clerck et al., 2021.
Autonomy supportive	Motivation	Oostlander et al., 2014.
Leader-member exchange	Satisfaction and retention	Bang, 2011.
Collaborative/Shared	Engagement	Gilbert et al., 2020.
Paradoxical	Engagement	Alfes & Langner, 2017.
Democratic	Engagement	Ockenden & Hutin, 2008.
Exemplary	Action-taking	Bowers, 2012.

Purpose and Research Objectives

This quantitative study seeks to assess the relationship between volunteer leadership competencies and stewardship action-taking experiences among the Penn State Extension MG and MW volunteers. The knowledge gained through this work should expand current understandings regarding the nature, scope, and value of volunteer-leader development. The current study was guided by two research objectives:

Describe the volunteer stewardship action-taking and volunteer leadership competencies among Penn State Extension MG and MW volunteers during the pandemic time (COVID-19).

Describe to what extent volunteer stewardship action-taking experiences during the COVID-19 pandemic can be explained by volunteers' leadership competencies.

Method

The present study of volunteer stewardship action-taking experiences during the pandemic was completed using a survey research method. An online survey administered via Qualtrics was utilized to collect data from the Penn State MG and MW volunteers.

Participants and Data Collection. The target population for our study was 3000 Penn State Extension MG and MW volunteers. In our study, we used a census approach and followed Dillman's et al.'s (2014) online data collection technique. We sent an invitation email to Penn State MG volunteers and MW stewards and asked them to participate in this voluntary study. We collected the data in spring 2021. After removing responses with missing data, the final data set included responses from 1196 Penn State MG and MW, providing a response rate of 39.9%. Nearly 84 % of participants represented MG volunteers, and 16 % reported that were MW Stewards.

Instrumentation, Validity, and Reliability. We used a survey method to address the two research objectives of this study. The newly created instrument helped us explore perceptions of stewardship action-taking experience and leadership competencies among Penn State Extension MG and MW volunteers during the COVID-19 pandemic time.

We developed two scales in consulting with the existing instruments in the literature. The first one, the six-item *Volunteer Leader-Educator's Stewardship Action-Taking Experience Scale*, helped measure perceptions of volunteer's education actions. Second, the 21-item *Volunteer Leadership Competency Scale* measured the capacity of volunteers to lead projects and teams. A panel of eight Extension educators, Extension administrators, academic faculty members with expertise in survey methodology reviewed the instrument for face and content validity. The panel of experts determined that the instrument was sufficiently valid. To determine the reliability of the created instrument, a pilot test was conducted. For the pilot study, we selected 26 Penn State Extension educators who coordinate community volunteer leaders. The response rate for individuals completing the pilot study was 83 % ($n = 21$). The research design was approved by The Pennsylvania State University Institutional Review Board. The summary of the instrument, reliability statistics, examples of scale items, and literature used provided in Table 7.

Table 7*Summary of the Instruments that Used in this Research*

The instrument, Cronbach Alpha, Scale	Example of scale items	Adopted & recommended items from the literature
Volunteer Leader-Educator's Stewardship Action Taking Experience Scale (6 items). Five-point Likert scale: 1 (never) to 5 (frequently). Cronbach Alpha: .83.	These scale items asked about educational actions of respondents (e.g., "Developing and delivering education modules and programs (e.g., in-class session or online)," "Continuously participating in educational events and updating my knowledge").	Alisat & Riemer, 2015; Davidov et al., 2008; Cheng et al., 2018; Erdogan & Marcinkowski, 2012; Hungerford. & Peyton, 1977; Kim et al., 2007; Liarakou et al., 2011; Peyton & Hungerford, 1980; Schwartz, 1977; Sandy et al., 2016; Smith-Sebasto & D' Costa, 1992, 1995; Stern et al., 1993; Strong & Harder, 2011; Vaske & Kobrin, 2001.
Volunteer Leadership Competency Scale (21 items). The five-point Likert scale ranged from 1 = (strongly disagree) to 5 (strongly agree). Cronbach Alpha: .93).	These scale items asked about team and project leadership (e.g., "I know how to build trust with others," "I know how to develop a project plan," "I know how to manage the project budget").	Arnold et al., 2000; Peterson et al., 2007; Reed et al., 2011; Senior & Swailes, 2007; Slootweg et al., 2014; Zimmerman & Zahniser, 1991.

Control for Non-response Error. We used Miller and Smith's (1983) approach and compared early and late responses to evaluate non-response errors in this study. The first forty respondents were assigned as an early phase respondent group, and the last forty respondents were identified as a late phase respondent group. The early and late phases of responders were determined based on the day and time their questionnaire was submitted. We conducted an independent *t*-test to determine if the group mean for total scores on the four measured constructs differed between the two groups of respondents (early and late). The results of the independent samples *t*-test (alpha level of .05, two-tailed) for equality of means for scale scores of constructs between early and late showed there were no statistically significant differences between early and late respondents. The results of the *t*-test suggesting non-response bias was not an issue (Lindner et al., 2001; Miller & Smith, 1983), and it revealed that the data collected from leaders of the local non-profit organizations were representative of the entire study population (Table 8). We proceeded with caution in interpreting the study findings since the participants of the study were not a random sample. The findings of this study will only apply to the study

participants, and as such, cannot be generalized to the entire population of [State] volunteers.

Table 8

Independent Samples t-test for Equality of Means on Scale Scores of Construct between Early and Late Respondents.

Scale	Respondents					
	Early (n = 40)		Late (n = 40)			
	M	SD	M	SD	t	p
Volunteer Leader-Educator's Stewardship Action-Taking Experience	2.39	.86	2.34	.72	.242	.801
Volunteer Leadership Competency	3.52	.62	3.37	.53	1.17	.246

Data Analysis. We used SPSS® version 26 to conduct data analysis for our study. The volunteer leader-educator's stewardship action-taking experience was used as the dependent variable in this study, and the independent variable (volunteer leadership competency) was treated as the interval data. Descriptive statistics were utilized to describe the first research objective. For the second research objective, we used an application of the Pearson correlation coefficient to measure associations between volunteer educator's stewardship action-

taking experiences during the COVID-19 pandemic and volunteer leadership competency. A multiple linear regression analysis was conducted to explain the relationship between the overall volunteer leader-educator's stewardship action-taking experiences during the COVID-19 pandemic (the dependent variable) and the independent variable – the volunteer leadership competency. Also, we used the standards of the Davis Conventions (1971) to describe the magnitude of the correlation between the independent and dependent variables (Table 9).

Table 9

Describing the Magnitude of Correlations Based on Davis' (1971) Conventions

The magnitude of the correlation coefficient	Description	
1.00	Perfect association	
0.70 or higher	Very strong association	
0.50 to 0.69	Substantial association	
0.30 to 0.49	Moderate association	
0.10 to 0.29	Low association	
.01 to 0.09	Negligible association	

Note. Adapted from Davis, 1971.

Results

The first research objective was to describe the volunteer stewardship action taking and volunteer leadership competencies among Penn State Extension MG and MW volunteers during the pandemic time (COVID-19). The mean summative score for the volunteer stewardship action-taking experience was 2.32 ($SD = .79$, $n = 1100$). The descriptive statistics of the volunteer leader-educators' stewardship action-taking experience are shown in Table 10. Higher scores indicate a higher level of stewardship action involved in the role of the volunteer leader-educator. Lower scores indicate the lower level of stewardship action involved in the role of volunteer leader-educator. There was only one item in the survey scoring the highest mean

values: "Continuously participating in an educational event and updating my knowledge" ($M = 3.47$; $SD = 1.21$). The lower scored survey items included: (a) "Raising awareness of others in my community about the financial challenges of Extension and local organizational partners through fundraising activities" ($M = 1.43$; $SD = .78$), (b) "Developing and delivering education modules and programs (e.g., in-class session or online)" ($M = 1.78$; $SD = 1.06$), (c) "Raising awareness of others in my community about actions of Extension and local organizational partners (e.g., clean-up projects)" ($M = 2.21$; $SD = 1.05$), (d) "Raising awareness of others in my community about the local community issues (e.g., water, community gardens) and available resources" ($M = 2.26$; $SD=1.16$). (See Table 10)

Table 10

Volunteer Leader-Educators' Stewardship Action-Taking Experiences During the Covid-19 Pandemic

Item (shortened)	n	1	2	3	4	5	M	SD
Raise awareness (financial issues)	1086	757(69.7)	236(21.7)	61(5.6)	19(1.7)	13(1.2)	1.43	.78
Develop/deliver ed modules	1088	564(51.8)	339(31.2)	80(7.4)	65(6.0)	40(3.7)	1.78	1.06
Raise awareness (others' actions)	1092	271(24.8)	527(48.3)	128(11.7)	127(11.6)	39(3.6)	2.21	1.05
Raise awareness (local issues)	1088	253(23.3)	511(47.0)	157(14.4)	119(10.9)	48(4.4)	2.26	1.07
Educating & persuading	1081	127(11.7)	435(40.2)	211(19.5)	212(19.6)	96(8.9)	2.74	1.16
Self-education	1093	55(5.0)	235(21.5)	203(18.6)	337(30.8)	236(24.1)	3.47	1.21
Note: The scale's items were measured using a five-point Likert scale ranging from 1 = (never) to 5 (frequently).								

The mean summative score for the Volunteer Leader-Educator's Leadership Competency Scale was 3.45 ($SD = .60$, $n = 1182$). The descriptive statistics of the volunteer leadership competencies are described in Table 11. Higher scores indicate a higher level of leadership competency in the role of volunteer team/project leader; lower scores indicate a lower level of leadership competency in the role of volunteer team/project leader. The survey items scoring the highest mean values were (a) "I know how to involve others in decision-making process" ($M = 4.02$; $SD = .62$), (b) "I know how to build trust with others" ($M = 4.00$ $SD = .60$), (c) "I know how to provide constructive feedback" ($M = 3.97$; $SD = .68$), and (d) "I know how to develop a project plan" ($M = 3.93$; $SD = .84$). The survey items scoring with the lower scores were (a) "I know where to look for grant funds" ($M = 2.35$; $SD = 1.06$), (b) "I know how to write a grant proposal" ($M = 2.55$; $SD = 1.18$), (c) "I know who to speak with local government to get projects approved" ($M = 2.60$; $SD = 1.11$), (d) "I know how to write an impact statement" ($M = 2.64$; $SD=1.01$). (See Table 11)

Table 11*Volunteer Leader Leadership Competency, Frequency (Percent), Mean, and Standard Deviation*

Item	n	1	2	3	4	5	M	SD
Finding grant	1123	245(21.8)	456(40.6)	249(22.2)	132(11.8)	41(3.7)	2.35	1.06
Preparing grant proposals	1130	211(18.7)	444(39.3)	204(18.1)	186(16.5)	85(7.5)	2.55	1.18
Speaking with authorities	1120	181(16.2)	393(35.1)	303(27.1)	181(16.2)	62(5.5)	2.60	1.11
Writing impact statements	1128	159(14.1)	422(37.4)	269(23.8)	222(19.7)	56(5.0)	2.64	1.01
Fundraising	1132	74(6.5)	324(28.6)	319(28.2)	323(28.5)	92(8.1)	3.03	1.07
Getting publicity	1127	79(7.0)	282(25.0)	321(28.5)	355(31.5)	90(8.0)	3.08	1.08
Recruiting volunteers	1174	16(1.4)	122(10.4)	422(37.6)	495(42.2)	99(8.4)	3.46	.84
Identifying volunteers	1168	5(.04)	99(8.5)	475(40.7)	493(42.2)	96(8.2)	3.49	.78
Managing conflicts	1170	19(1.6)	118(10.1)	396(33.8)	528(45.1)	109(9.3)	3.50	.86
Choosing leader's roles	1173	9(.08)	111(9.5)	443(37.8)	460(39.2)	150(12.8)	3.54	0.86
Presenting project results	1129	50(4.4)	149(13.2)	225(19.9)	539(47.7)	166(14.7)	3.55	1.03
Managing budget	1138	21(1.8)	133(11.7)	270(23.7)	493(43.3)	221(19.4)	3.67	.98
Motivating volunteers	1170	11(.09)	62(5.3)	317(27.1)	663(56.7)	117(10.0)	3.69	.76
Assessing performance	1136	8(.07)	86(7.6)	281(24.7)	588(51.8)	173(15.2)	3.73	.83
Developing a plan of action	1172	7(.06)	59(5.0)	239(20.4)	688(58.7)	179(15.3)	3.83	.76
Supervising volunteers	1175	7(.06)	65(5.5)	224(19.1)	659(56.1)	220(18.7)	3.87	.80
Facilitating meetings	1135	9(.08)	61(5.4)	236(20.8)	567(50.0)	262(23.1)	3.89	.84
Developing a project plan	1140	7(.06)	63(5.5)	219(19.2)	568(49.8)	283(24.8)	3.93	.84
Providing feedback	1135	5(.04)	24(2.1)	178(15.7)	726(64.0)	202(17.8)	3.97	.68
Building trust	1139	2(.02)	10(.09)	160(14.0)	780(68.5)	187(16.4)	4.00	.60
Decision-making	1135	2(.02)	17(1.5)	141(12.4)	767(67.6)	208(18.3)	4.02	.62

Note. The scale's items were measured using a five-point Likert scale ranging from 1 (not at all important), 2 (slightly important), 3 (moderately important), 4 (very important), and 5 (extremely important).

The second research objective was to describe to what extent volunteer stewardship action-taking experiences during the COVID-19 pandemic can be explained concerning the volunteer's leadership competency. Application of the Pearson correlation coefficient showed a significant moderate positive association between volunteer stewardship action-taking experiences and volunteer leadership competency ($r = .34, p \leq .001$). A multiple linear regression analysis was conducted to determine the relationship between volunteer stewardship action-taking experiences (the dependent variable) and volunteer leadership competency (the independent variable). The results indicated that a significant proportion of the total variance in volunteer stewardship action-taking experiences during the COVID-19 pandemic was predicted by volunteer's leadership competency $F(1, 1097) = 140.92, p \leq .001$. Multiple R² indicated that approximately 11 % of the variation in volunteer stewardship action-taking experiences during the COVID-19 pandemic can be explained by volunteer's leadership competency (Table 12).

Table 12

Multiple Regression Analysis Between Volunteer Stewardship Action-Taking Experiences during the COVID-19 Pandemic and Volunteer's Leadership Competency

Model Fit									
					Change Statistics				
	R	R2	Adj. R	S.E.	R2	F	df1	df2	p
1	.34	.11	.11	.74	.11	140.92	1	1097	.000

Note. $p < .05$

Analysis of variance in overall volunteer stewardship action-taking experiences is presented in Table 13.

Table 13

Analysis of Variance in Volunteer Stewardship Action-Taking Experiences during the COVID-19 Pandemic

Model	Sum of Squared	df	Mean Square	F	p
Regression	77.76	1	77.76	140.92	.000
Residual	605.32	1,097	.55		
Total	638.10	1,098			

Note: $p < .05$

Within the final model, the volunteer leadership competency factor was a significant predictor of volunteer's action-taking experiences ($\beta = .34$; p -value $\leq .001$). Multiple relations' coefficients are presented in Table 14.

Table 14

Multiple Relations Coefficient

Model	B	SER	β	p-value
Constant	.798	.130		.000
Volunteer leadership competency	.441	.037.	.337	.000

Note. $p < .05$

Discussion

The findings from this study revealed that volunteer stewardship action-taking experiences during the COVID-19 pandemic were significantly predicted by such volunteer leadership competencies as team leadership, project management, and education. As literature shows these leadership competencies

were positively related to volunteer action-taking experiences, including volunteer commitment (Erdurmazlı, 2019; Mejheirkouni, 2020) and volunteer retention (Forner, 2019; Rice & Fallon, 2011).

Team Leadership Competencies. Regarding leadership competency, we found that the

respondents got the highest scores on the volunteer team leadership. The highest scores on the volunteer team leadership were on (1) participatory decision-making competency ("I know how to involve others in the decision-making process"), (2) trust-building ("I know how to build trust with others"), and (3) feedback provision ("I know how to provide constructive feedback"), which shows the preference of respondents for democratic, empowering, and transformational leadership styles. The abilities to include others in decision-making, build trust and provide feedback are positively associated with the attributes of the transformational leaders (Avolio, 1999; Bass, 1985; Burns, 1978; Catano et al., 2001; Conger & Kanungo, 1994; Ghasabeh et al., 2015; Lowe et al., 1996; Northouse, 2010; Weber, 1947), and the in-group leader-member exchange relationship (Graen & Uhl-Bien, 1995; Northouse, 2010; Dienesch & Liden, 1986).

Ockenden and Hutin (2008) found that by allowing volunteer-group members to take part in participatory decision-making and provide their inputs, the democratic leader can increase the levels of engagement and enthusiasm amongst the volunteers. By providing the team members with the opportunities to participate in collective decision-making, the volunteer leader makes them be a part of co-leadership, co-management, co-creation, collaboration, collective problem-solving, and stewardship actions. The high quality also characterizes the quality of the in-group leader-member exchange relationships are characterized by higher levels of emotional support, trust, commitment, performance, dependability, involvement, engagement, willingness to do extra work (Graen & Uhl-Bien, 1995; Northouse, 2010; Dienesch & Liden, 1986). Hackman Oldham (1976) suggested that supervisors' feedback could predict the level of psychological empowerment and motivation. The literature on exemplary performance emphasizes the significance of managerial competency (e.g., working with the team, promoting cooperation and developing others) for leading teams (Spencer & Spencer, 1993).

Project Management Competencies. The respondents got the highest scores in the project development competency ("I know how to develop a project plan"). However, competencies related to (1) finding grant funds ("I know where to look for grant funds"), (2) writing grant proposals and impact statements ("I know how to write a grant proposal"; "I know how to write an impact statement"), and (3) communicating with local governments regarding the project approval ("I know who to speak with in local government to get projects approved") were scored low. Spencer and Spencer (1993) suggested that technical expertise competency is an important attribute of exemplary leaders, managers, and educators/developers. Eisner et al. (2009) suggested that effective volunteer leadership and management competencies are the ones that contribute to volunteers' retention. Effective project management competencies—communication, finding funding, grant-writing, Internet use, project leadership, networking, project management, project sponsorship, and professional development (Novo et al., 2017; Brewer & Achilles, 2008; Burke & Barron, 2014; Grzesik & Piwowar-Sulej, 2018; Englund & Bucero, 2015; Gido & Clements, 2015; Heagney, 2016; Kerzner, 2017; Lin et al., 2017; Martiskainen, 2017; Windon, 2020)—allow volunteer leaders to take "a temporary endeavor undertaken to create a unique product, service or result" (PMI, 2013, p.2). Competencies are positively connected to volunteer stewardship action-taking experiences (Siachou, Gkorezis, & Adeosun, 2020).

Educational Competencies. The findings from this study revealed that the respondents had the lowest interest in taking educational actions and preferred self-education over educating others, which contradicts the findings of Measham and Barnett (2008), who found that seeking to educate others was the most common mode and motive for volunteering.

However, Strong and Harder (2011) found that

learning was significant regarding MG volunteers' tenure (pp. 69, 71). The respondents in this study reported the lowest interest in the social actions directed at informing and educating others through (1) raising awareness about the challenges faced by the Extension, local organizations, and community, and their resources (e.g., "Raising awareness of others in my community about the local community issues (e.g., water, community gardens) and available resources"), (2) spreading information about the actions taken by the Extension and local organizations towards the common good (e.g., "Raising awareness of others in my community about actions of Extension and local organizational partners (e.g., clean-up projects)"), and (3) providing instructional support (e.g., "Developing and delivering education modules and programs (e.g., in-class session or online)"). Low interest of volunteer leaders in taking educational actions likely refers to the lack of competency (e.g., as of an educator) (Alfes & Langner (2017), efficacy (e.g., instructional and action-taking) (Bandura, 1977; 1982; 1986; 1994; Bandura et al., 1999; Strong & Harder, 2011), knowledge of the community problems, and awareness of the consequences of the unresolved issues for the community (Pan et al., 2018; Schirmer & Dyer, 2018). These assumptions require further investigation.

Recommendations and Implications

The originality of this article is in generating important insights about the quality of leadership competencies of volunteer-leaders and their effect on volunteer stewardship action-taking experiences during the times of uncertainty and changes. In summary, the findings of this study showed that the MG and WM volunteer leaders perceived that during the time of uncertainty, their strongest leadership competencies related to team leadership and self-education, and the weakest leadership competencies were positively associated with educating others, grant-writing, finding project funds, and communicating with the local government.

Competencies can be trained and developed and can become a characteristic of the person (Nickse et al., 1981, p. 9). Kouzes and Posner (2016) also suggested that leadership is a skill that can be developed and learned, and—Mayr (2017) recommended that the emphasis on the education and training of volunteer leaders should be stronger, especially due to the dynamic and complex nature of volunteer engagement in comparison with employee engagement (e.g., unpaid vs paid work). Windon (2020) found that the relevance of the Extension volunteer programs was positively connected to volunteers' satisfaction and retention. Other research studies suggested that the strength and relevance of leadership programs are in their consideration of individual factors (Grabsch & Moore, 2021), needs (Schuleigh et al., 2021), and application to real situations (Konuk & Posner, 2021). Global leadership competencies like intercultural understanding have also been suggested as of high importance to contemporary leadership education programs' success (Armstrong, 2020; Semali & Buchko, 2014). By ensuring that their leadership programs develop needed leadership competencies needed to effectively lead teams and projects in the times of emergencies, Extension organizations are recommended to put a higher emphasis on the development of such volunteer's leadership competencies as team leadership, project management, and education. To achieve this goal, Extension leadership educators, Extension faculty, volunteer coordinators, and human resource practitioners should consider doing the following during the times of sudden changes for their communities:

Conduct research to learn about challenges of volunteer leaders in their capacity as team leaders, project leaders and leader-educators.

Update leadership programs so they can address the challenges that volunteer leaders face as volunteer leader-educators, team, and project leaders.

Increase volunteer leaders' motivation to effectively commit as volunteer leaders during the times of challenges in their communities by offering education

sessions related to motivation and commitment in time of uncertainty

Enhance the efficacy of volunteer leaders in their roles of team leaders, project leaders and leader-educators through specific program activities and experiences that provide relevant learning and working experiences.

Enhance motivation of volunteers to act as volunteer-leaders in their community, particularly during the times of emergent changes, raise their awareness about the local issues and consequences of the unresolved issues by preparing and sharing Extension factsheets and other educational publications and resources.

By taking these actions, the Extension organizations can better prepare the MG and MW volunteer leaders' for effectively carrying out their roles of volunteer leaders in team management, project management and education. Being better prepared for their demanding roles during the times of emergent changes, they can better contribute to the greater good in their communities in their varied roles. We also hope that the insights that this study offers can be of help to Extension education professionals responsible for education and development of volunteer leaders.

Additionally, we encourage each state Extension system to follow our method but ensure that the instrument is revised by a panel of expert in their state, piloted among a group of Extension volunteers in their state, and then distributed among MG and MW volunteers across their state to ensure geographic relevance of their results. Using a census approach like ours will also ensure more representative results. Replication of our process across other state Extension organizations and their volunteers should help to better understand leadership development needs among MG and MW volunteers and the relationship between their leadership competencies and stewardship action-taking experiences. Further research should focus on identifying other factors that can affect MG and MW stewardship action-taking experiences, including the impact of the

demographics and volunteer motivation.

Our study has implications for the future leadership development for MG and MW volunteers, as well as implications for Extension leadership professional development practitioners. As mentioned earlier, our study indicated a lack of literature related to the relationship between volunteers' leadership competencies and their stewardship action-taking experiences during times of uncertainty. No studies were identified that examined the relationship between MG and MW leadership competencies and stewardship action-taking experiences during the times of uncertainty and emergency, e.g., COVID-19 pandemic. More studies across other statewide Extension systems should be conducted in these areas, as there is a need for a more rigorous scientific base in leadership competencies and stewardship action-taking experiences during the times of change and uncertainty.

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