

Understanding the Nature of Eco-Leadership: A Mixed Methods Study of Leadership in Community Organizations

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Abstract: The purpose of this study was to explore and explain eco-leadership in practice, specifically among community groups in Virginia's New River Valley. This paper describes relationships between community groups' leadership style and other factors while also highlighting an intricate mixed method design that ultimately led to a deep, rich understanding of these relationships. There were five research objectives: (1) Characterize the community groups' leadership culture; (2) Assess each group's cohesiveness; (3) Assess the groups' community project involvement; (4) Determine if relationships exist between the variables; and (5) Highlight the role of mixed methods in the emergence of findings. The study has implications for carrying forward the concept of eco-leadership in research and practice.

Keywords: *civic groups, transformational leadership, crossover tracks analysis, group cohesion, small group processes*

The nature of leadership is changing: The challenges are becoming more complex, there is a greater reliance on interdependent work, and leadership is increasingly being viewed as a collective process (Avolio et al. 2009). There is a growing need for high-quality leadership development programs in support of those who work in water resource management, and it is important to ground those programs in evidence-based theory (Burbach et al. 2015). The complex, multi-level nature of leadership makes it an important phenomenon for consideration, but the socially constructed process of leadership makes it a challenge to study (Stentz et al. 2012). Community watersheds are an ideal context for investigating collaborative leadership because the rise of nonpoint source pollution has created a broad base of stakeholders with little hierarchy and accountability (Morton and Brown 2011). Approximately 4,000 locally-based organizations are involved in community

watershed protection efforts across the United States (Grumbles n.d.). However, little is known about how such organizations operate and what factors are critical for their success. The study reported in this chapter helps address that by investigating community groups in Virginia's New River Valley, uncovering the relationship between leadership and other factors that impact their potential for success.

Community Leadership as a Context for Research

As government programs shrink and less money is available for community services, community-based organizations are becoming pivotal actors in addressing local needs. To meet these challenges, approaches to leadership are also changing (Figure 1). Leadership is increasingly viewed not as the effect of an individual, but rather as a collective process

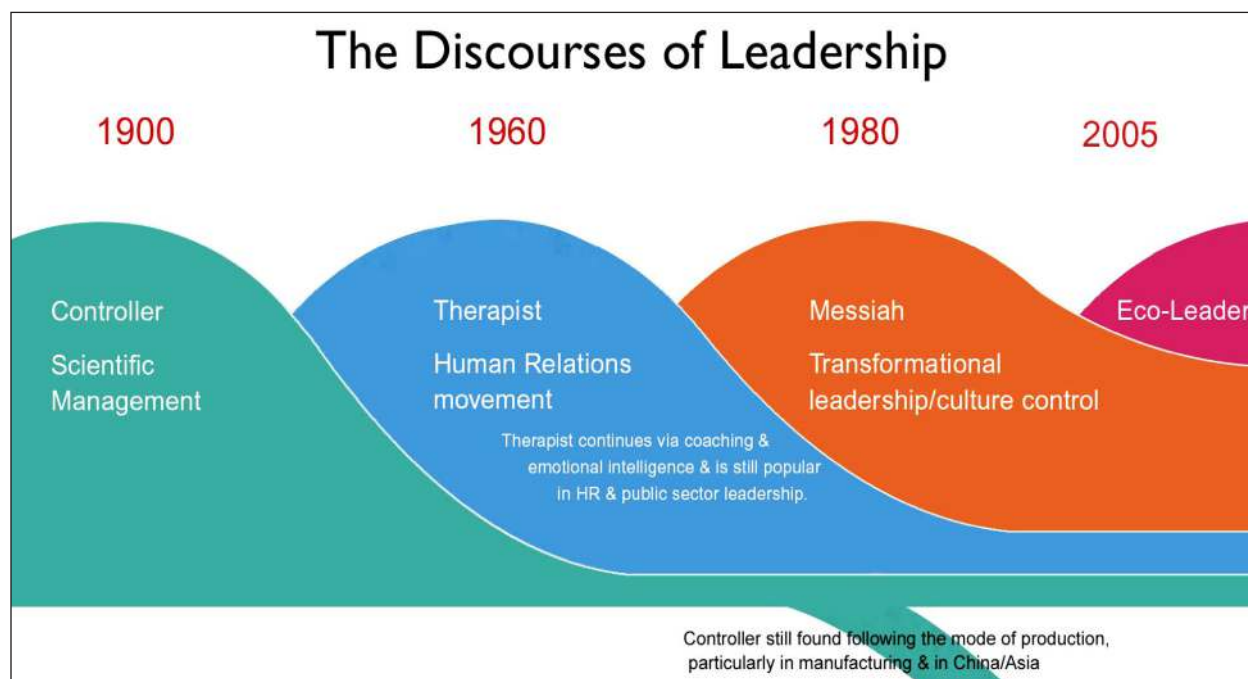


Figure 1. The Discourses of Leadership (Western 2008, 82). Reprinted from *Leadership: A Critical Text*, by S. Western, 2008, London: SAGE. Copyright 2008 by SAGE publishing. Reprinted with permission.

(Avolio et al. 2009). An emerging leadership discourse—eco-leadership—aligns directly with many community groups’ efforts to establish and strengthen community viability, and supports public leaders’ need to address wicked problems through community engagement (Redekop 2010).

In the early 2000s, Western (2008) popularized the term “eco-leadership.” The “eco” prefix does not necessarily refer to the natural environment or any environmental cause. Rather, eco-leadership derives its leadership metaphor from the field of ecology and contends that each organization is nested in larger ecosystems, such as society, economy, and the natural environment (Wielkiewicz and Stelzner 2010). Rather than focusing on leader-created change, eco-leadership focuses on “a reciprocal relationship between leadership and its environment. It decenters individuals and challenges centralized power, claiming that by creating the right culture and conditions, leadership will emerge in plural forms and unexpected places” (Western 2010, 36).

Within the smaller context of organizations and communities, eco-leadership is characterized by shared leadership, collective decision-making, collaboration of group activities, and grassroots organizing (Western 2008). This new eco-

leadership approach may benefit community organizations because a larger number of stakeholders—including minority stakeholders—can have a stronger voice, creating the potential for both better decisions and greater commitment to those decisions by group members (Allen et al. 1999). The eco-leadership approach has the potential to create more sustainable and equitable group dynamics and may enhance a group’s ability to be productive (Cletzer and Kaufman 2018; Western 2018).

Although eco-leadership discourse has drawn the interest of leadership scholars, empirical research studies investigating eco-leadership are limited. “The vast majority of published work relies on a conceptual approach rather than an empirical one” (San Martin-Rodriguez et al. 2005, 133). This may be due in part to the complexities associated with assessing group-level problem solving. In an eco-leadership approach, it is the whole team that creates a direction, solves a problem, and plans for the future; yet it is more difficult to study the whole team than an individual leader (Western 2008). Accordingly, the study highlighted in this chapter investigates shared leadership within six different community organizations established to serve Virginia’s New River Valley.

New Eco-leadership Paradigm Related to Other Group Dynamics

Prior to emergence of the eco-leadership discourse, scholars who study groups working in collaborative, interdependent ways found several associated concepts. Group cohesion is thought to be particularly important (Kubeš 1998). Similarly, shared leadership traits are often present (Avolio et al. 2003). Therefore, in this study, along with the eco-leadership framework proposed by Western (2008), we considered measurements of, and discussions about, group cohesion and shared leadership.

Group Cohesion. Group cohesion can be thought of as the “glue,” or interpersonal bonds, that hold a group together (Carron and Brawley 2012). This is particularly important for performance when the group’s task requires high levels of interaction, coordination, and interdependence (Kubeš 1998). According to Treadwell et al. (2001), “members of highly cohesive groups mutually accept each other’s ideas, contribute equally to problem solving, and are not likely to be adversely affected by the power and status structures within the group” (p. 4). Accordingly, it is important to consider a number of ways to assess group cohesion: consistency between group and individual goals, decision-making style, group communication, member retention, and stated vulnerability among members (Treadwell et al. 2001).

Shared Leadership. Seibert and colleagues (2003) suggest important limitations on the potential for a single individual to carry strong leadership for a group and instead detail various ways groups share leadership. Their models point to groups that are “unified,” “unified with isolates,” “polarized,” and structured as “multiple coalitions.” Further, research by Pearce et al. (2004) suggests shared leadership is a more powerful predictor of group performance than individual leadership, particularly in not-for-profit settings. Unfortunately, “when focusing on leadership in teams, most authors have examined the behavior of an individual appointed leader as opposed to the leadership exhibited by all members of the team” (Avolio et al. 2003, 144). Therefore, more research is needed to assess shared leadership in the group governance process (Bass and Avolio 1996).

The Value of Mixed Methods Approaches

A highly complex phenomenon such as leadership is challenging to study and requires “a broadly conceived approach” (Wren 1995). A mixed methods approach has the potential to simultaneously address a range of exploratory and confirmatory questions and can provide strong inferences about the phenomenon being studied (Teddlie and Tashakkori 2009). A mixed method design can provide deeper understanding of existing leadership theory by combining quantitative approaches (e.g., surveys), which serve to provide opportunities to analyze existing leadership theory, with qualitative approaches (e.g., interviews), which “can support new discoveries within the realm of existing leadership theory” (Stentz et al. 2012, 1174).

Though growing in popularity, mixed methods studies are still uncommon in the study of leadership (Klenke 2008). One literature review of the popular leadership journal, *Leadership Quarterly*, found that only 15 mixed methods journal articles were published during the 22-year period between 1990 and 2012 (Stentz et al. 2012). However, articles on the topics of leadership and management featuring a mixed methods approach were considered significantly more influential based on their impact scores, indicating added value by the mixed methods design (Molina-Azorin 2011). There is a clear need for greater use of a mixed methods approach to the study of the complex phenomenon of leadership to help catalyze change for water resource protection and restoration. A mixed methods approach helps researchers to: (a) create a framework for triangulation when assessing findings, (b) yield more complete understanding, (c) increase the validity of results, and (d) examine the phenomenon within a contextual understanding provided by multiple perspectives (Greene 2007; Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011).

Purposes and Objectives

The purpose of this study was to explore and explain eco-leadership in practice, specifically among community groups in Virginia’s New River Valley. This study describes relationships between community groups’ leadership style and other

factors while also highlighting an intricate mixed method design that ultimately led to a deep, rich understanding of these relationships. There were five research objectives:

1. Characterize the community groups' leadership culture;
2. Assess each group's cohesiveness;
3. Assess the groups' community project involvement;
4. Determine if relationships exist between the variables; and
5. Highlight the role of mixed methods in the emergence of findings.

Methods

In order to investigate the phenomenon described in the research objectives, we used a mixed methods exploratory design with parallel data collection and sequential data analysis (Figure 2).

For this study, we integrated the data at the point of analysis, which enhanced our understanding of what was learned from both the quantitative and qualitative data (Greene et al. 2001; Mertens 2010). Our approach was a crossover tracks analysis, where the results from one method are clustered, summarized, or transformed and integrated with

the other method (Greene et al. 2001). Some scholars speak of crossover tracks analysis studies as being ones that either “quantitize” qualitative data or “qualitize” quantitative data. Because new software programs can analyze qualitative data in a quantitative fashion, and vice versa, crossover tracks analysis is becoming a new trend (Small 2011, 70).

Quantitative Strand

Study Population. The general criteria for selection of participant organizations included: (a) holding regular face-to-face meetings; (b) self-identifying as a civic, social, or service group; and (c) serving Virginia's New River Valley. We developed a list of 91 community-based organizations by searching online resources. Community groups were contacted by phone, and those expressing interest received a follow-up email with an information packet, including examples of survey instruments. Based on willingness and availability, a convenience sample of six organizations with 92 individual participants continued in the study. Although the groups varied in their involvement with environmental issues and water resources projects, all of them held the potential for catalyzing change in these areas.

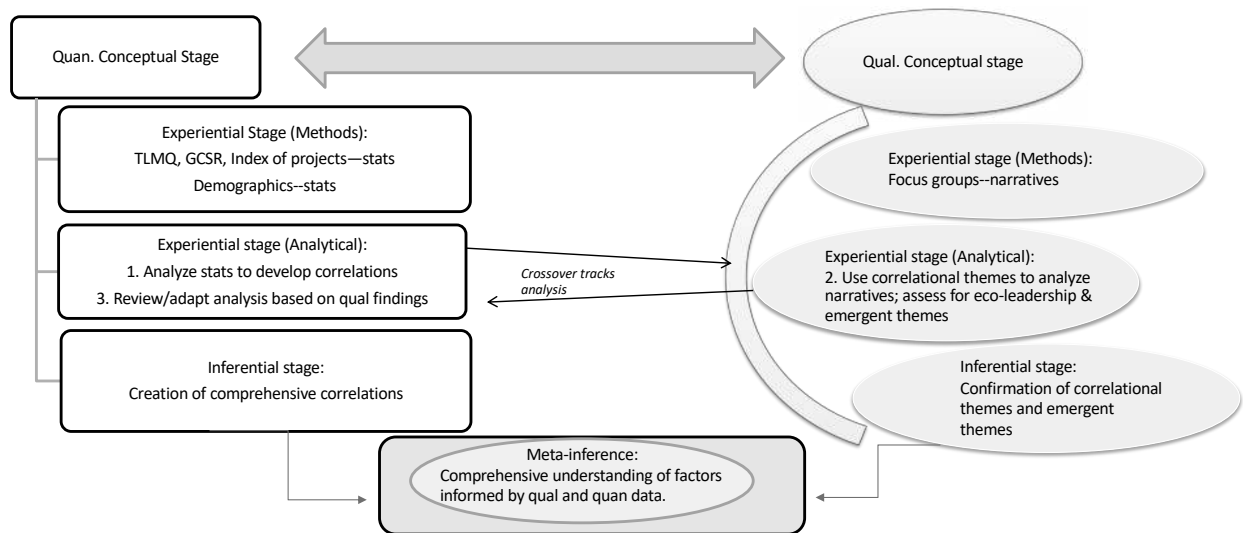


Figure 2. Schematic of mixed methods research protocol used. Mixing occurs during the analysis and inference stages. Quantitative data are analyzed first and inform qualitative analysis. Emergent themes from qualitative analysis further inform a secondary quantitative analysis. Meta-inference is developed from this stance. Note: “Quan” = quantitative and “Qual” = qualitative.

We used simple descriptive statistics to determine the demographic make-up of the sample, including gender, age, race, years of service, and level of education. Of 92 total individual respondents, 84 provided sufficient data for analysis: 61% were male (n=50), and 39% were female (n=34). Ages of participants ranged from 19 to 91 years, with a mean age of 62. Respondents reported being 82% white (n=69), 14% black (n=12), 2% Asian (n=2), and 1% Hispanic (n=1). Education levels varied with 35% (n=29) holding a doctorate or professional degree, 27% (n=23) with a master's degree, 13% (n=11) with a bachelor's degree, 4% (n=4) with an associate's degree, and 19% (n=16) with "some college or less."

Instruments. We used two standardized instruments to collect quantitative data: (a) Group Cohesion Scale – Revised (GCS-R) and, (b) Team Multifactor Leadership Questionnaire (TMLQ). The GCS-R is a 25-item questionnaire designed to assess group cohesion in terms of interaction and communication among group members, member retention, decision making, vulnerability among group members, and consistency between group and individual goals (Treadwell et al. 2001). The TMLQ is a 48-item questionnaire designed to

assess shared transformational leadership in the form of group level leadership style (Gronn 2008).

In addition to the standardized instruments, we created a demographic survey to collect basic stakeholder information, such as age, gender, occupation, and level of education. This survey also collected information related to the group's involvement in community projects, which is represented in the project index score (Figure 3) and served as the dependent variable for the study. This instrument provides a gauge as to whether the community groups are able to mobilize and work on some of the challenging concerns of the area, affording us a simple indicator of their productivity. When individuals asked for clarification on the reference to "environmental protection or restoration," we encouraged them to define it as broadly as they felt comfortable.

Data Collection. The research team attended regular or special meetings of participant organizations. We discussed the study, obtained consent, and administered the questionnaires. After each group finished the quantitative segment, we compiled their group level scores and shared these during a face-to-face meeting with the subject community organization.

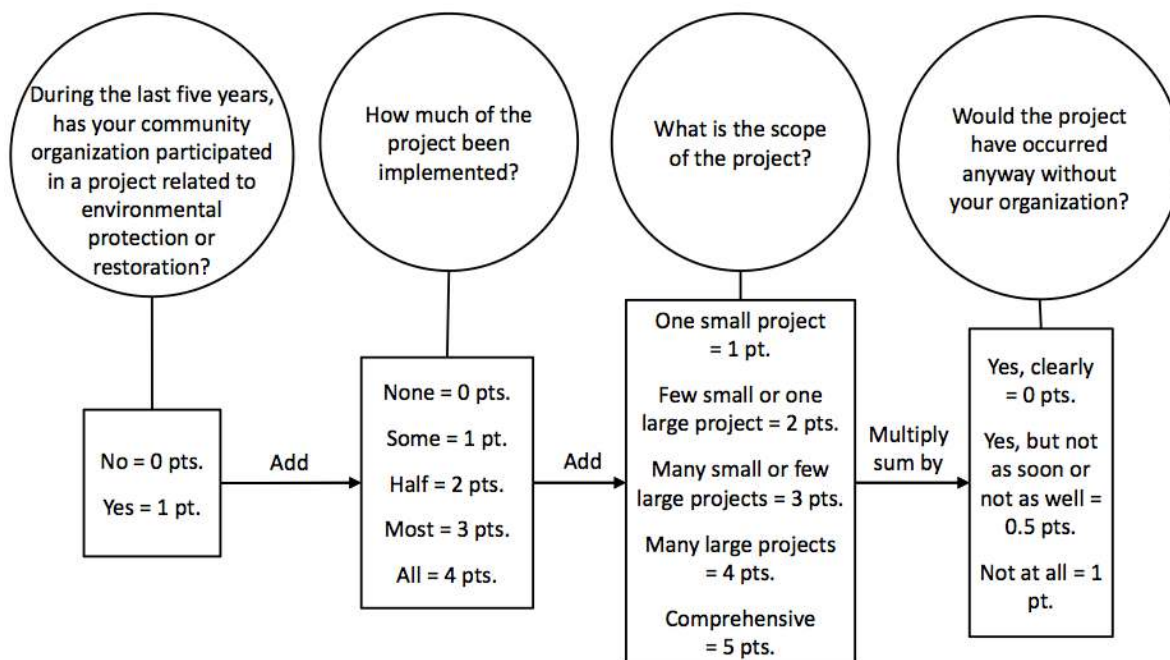


Figure 3. Index of restoration projects (Leach and Sabatier, 2005, 241 Figure 8.2). Adapted from *Are Trust and Social Capital the Keys to Success?* by W. D. Leach & P. A. Sabatier, 2005, Cambridge, MA: MIT Press.

Analysis. Following the quantitative data collection, we calculated group-level composite scores for all independent and control variables. Using statistical analysis software, we identified descriptive statistics and investigated relationships between variables. We noted several correlations, which we qualitized (operationalized verbally to reflect a theme) to reflect the terms of the related theories. These initial findings were then used during analysis of qualitative data (Greene et al. 2001; Hsieh and Shannon 2005; Mertens 2010).

Qualitative Strand

Participants. All groups were invited to participate in a more in-depth investigation through focus group interviews. General criteria for selection included a willingness and ability to provide thick, rich descriptions of experiences with their respective community groups. We conducted focus group sessions with four of the participating community groups. Group sizes ranged from four to seven participants. Focus group sessions were held at times and locations convenient for participants, and each participant was offered compensation for their time.

Instruments. Focus group sessions followed a semi-structured, open-ended format to allow participants to respond in their own words. The focus group protocol concentrated the conversation on how leadership emerged within the group, how the group addresses challenges with the group exchange structure, and types of community involvement they promoted. Some of the questions asked included:

- How would you describe the leadership style within your organization?
- What words would an outsider use to describe your organization in terms of leader to member connections?
- How does the group generally go about deciding what projects to work toward?
- We are curious about a time when there was conflict in the organization. Can you relate that experience in terms of how leadership did or did not function?

During focus group sessions, two researchers were present; one acted as facilitator and the other as note taker. In order to reduce the potential

for bias, we rotated duties during the sessions. We captured interview data with a digital audio recorder. Researchers debriefed with each other immediately following each session's closure in order to capture their combined field notes and perceptions.

Analysis. Following the qualitative data collection, we enlisted a professional transcription company to transcribe the audio files verbatim. We established codes based on the statistical correlations and the themes identified in the literature. We coded for evidence of eco-leadership constructs, group cohesion, and shared transformational leadership, as measured through key aspects of the TMLQ: idealized attributes (build trust), idealized behaviors (act with integrity), individualized consideration (coach and develop people), and inspirational motivation (encourage others) (Table 1).

As stated by Rabiee (2004), "one of the tasks here is not only to make sense of the individual quotes, but also to be imaginative and analytical enough to see the relationship between the quotes, and the links between the data as a whole" (p. 658). In doing so, we became aware that, although analysis of the qualitative data corroborated some quantitative findings, it also paradoxically confounded initial findings. For example, the quantitative data did not show a correlation between group cohesion and other variables. Therefore, our initial thought was that group cohesion was not imperative to group functionality. However, the qualitative analysis showed group cohesion and eco-leadership constructs often co-occurred. From this vantage, group cohesion appeared as an important aspect of group functionality. This led us to quantize the qualitative data. Specifically, we counted the number of times a particular code occurred and used those code counts to create a matrix of the numerical findings for each construct. With this new analysis in mind, we reviewed the original statistical outputs.

Thereafter, crossover tracks analysis was applied in the opposite direction and the quantitative data were further investigated through this new lens. In this final step, we re-analyzed group-level scores for group cohesion and four aspects of the TMLQ, and we juxtaposed this with eco-leadership code counts. That allowed us to organize the findings into an overall conclusion (i.e., meta-inference),

Table 1. Deductive codes used with qualitative data analysis in a study of eco-leadership and community organizations.

Parent Code	Sub-codes
Eco-leadership Constructs	Collective decision making, collaboration of group activities, shared leadership at group level, and grassroots organizing
Group Cohesion	Feeling of unity and consistency between group and individual goals, desire to spend time together, problem solving as group effort, despite tensions members stick together
Idealized Attributes	Instill pride in association with each other, go beyond self-interests, display extraordinary competence, behave so as to build respect for one another, display confidence in one another
Idealized Behaviors	Emphasize importance of being committed to beliefs; display conviction in their core ideals, beliefs, and values; talk about need for trust; emphasize importance of collective sense of mission; clarify the central purpose underlying mission
Individualized Consideration	Listen attentively to other's concerns, focus on developing each other's strengths; spend time teaching/coaching each other; treat each as individuals with different needs, abilities, and aspirations
Inspirational Motivation	Sets high standards, envision exciting new possibilities, talk optimistically about future, talk enthusiastically about our work, articulate a compelling vision

benefitting from a perspective that considered both strands of data and their relationship to one another.

Results

Understanding the Leadership Culture of Community Groups

The leadership culture of the community groups in our study was first assessed by the (TMLQ), followed by analysis from focus groups, and then re-assessed by re-analyzing the survey data based upon emergent findings. Correlational statistics indicate groups' behavior aligned with the "Transformational Leadership" paradigm, as measured by the TMLQ (Table 2). Respondents reported alignment with four of the transformational leadership constructs: **idealized attributes**, **idealized behaviors**, **individualized consideration**, and **inspirational motivation**. Additionally, we noted a statistically significant relationship between idealized attributes and inspirational motivation and community project involvement. At that point,

with all quantitative results analyzed, we projected that groups exhibiting certain characteristics of transformational leadership (i.e., idealized attributes and inspirational motivation) may have a greater ability to complete projects than groups that do not exhibit these characteristics. Further, we surmised that group cohesion was not as significant a characteristic.

During coding of qualitative data, examples of the TMLQ constructs were present. In this section, we highlight a few participant quotes related to those constructs. Examples of **idealized attributes** were revealed in this passage between two respondents:

Person 1: *"The thing what strikes me is, when you talk about leadership, I don't think there's a hell of a lot of training that needs to be done, because I think you basically try to bring in people who have that experience. As I look around the group, hell, every one of them could do any of the work."*

Table 2. Correlations, means, and standard deviations of variables hypothesized as related to community project involvement.

Measure	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Community Project Involvement	2.25	2.60												
2 Group Cohesion	3.21	0.26	0.193*											
3 Idealized Attributes	3.27	0.51	0.283*	0.596**										
4 Idealized Behaviors	2.95	0.63	0.049*	0.443**	0.532**									
5 Inspirational Motivation	3.19	0.59	0.257*	0.507**	0.650**	0.690**								
6 Intellectual Stimulation	2.49	0.63	0.007*	0.080**	0.394**	0.518**	0.562**							
7 Individualized Consideration	2.81	0.64	0.192*	0.619**	0.702**	0.651**	0.741**	0.459**						
8 Transformational Leadership	2.94	0.49	0.185*	0.540**	0.783**	0.834**	0.888**	0.724**	0.867**					
9 Contingent Reward	2.88	0.66	0.192*	0.353**	0.455**	0.577**	0.579**	0.543**	0.506**	0.652**				
10 Management-by-Exception: Active	1.17	0.78	-0.082*	-0.376**	-0.306**	-0.245**	-0.298**	0.076**	-0.288**	-0.253**	-0.064**			
11 Management-by-Exception: Passive	1.04	0.69	-0.092*	-0.474**	-0.428**	-0.429**	-0.480**	-0.1141**	-0.466**	-0.471**	-0.312**	0.619**		
12 Laissez-faire	1.10	0.67	-0.084*	-0.350**	-0.410**	-0.416**	-0.451**	-0.253**	-0.455**	-0.483**	-0.372**	0.545**	0.627**	
13 Extra Effort	2.99	0.74	0.241*	0.458**	0.602**	0.602**	0.821**	0.597**	0.682**	0.807**	0.579**	-0.218**	-0.373**	-0.453**

Note: *p<0.05, **p<0.01

Person 2: *“Sure. We’re business [people]. We’re professionals. We’re people who have to lead and organize life; and in order to get anything accomplished, we have to get it organized. And everybody’s in agreement with that.”*

Evidence of **idealized behaviors** was demonstrated in all groups. A great example is the following quote:

“I agree that there is a lot of drive, and it’s not just a group of individuals meeting with and just filling space for the sake of saying that there is a functional [group name] in [region]. I mean you can tell by the meetings how passionate folks are....”

Further, quotes revolving around **individualized consideration** manifested in response to the prompt: “What words would an outsider use to describe your organization in terms of leader to member connections?” One participant stated:

“For me, I think encouraging and innovative. The way I think of that — I can think of many people; but [member’s name] in particular, he is so creative about thinking how to motivate people and how to bring people in. And when I became president, he just took it on to be my mentor. He said, ‘You might want to think about this,’ or ‘Sometimes people really appreciate if this happens.’ He would suggest; he would encourage. He wouldn’t tell you ‘Do this. Make this. Do this. You’re doing this wrong.’ He’s the example that comes straight to mind, but it wasn’t just him that did that, everybody helped somebody who was new in a position.”

Inspirational motivation inferences were peppered throughout the focus groups. Here is an example:

“It’s been a good year. I mean we were very successful in what we do; and, since next year is another election year, we’re gonna do what we did this year, hopefully on a wider scale and also hopefully we can have at least another... at least another one project going and possibly two for next year.”

The focus groups imparted insights about eco-leadership within these groups, which was not possible with the quantitative questionnaire. Regarding the **leadership culture** of the groups, the

following quote from the focus groups represents the general experience and expectations:

“Our leadership style is very informal in a way. I think there’s a great deal of respect, because people sort of rotate through the divisions anyway. But there’s a great deal of respect for the fact that everybody is a volunteer. I think that’s very important as a volunteer organization that you respect that. If you try to push too much as a volunteer, like you’re saying, ‘I think they will push back.’”

The **shared approach to leadership** is reflected in the following quotes:

“Any of the activities that we are involved in, we don’t necessarily initiate; the idea comes from members on the committee.”

“I think that part of our conflict resolution, our management style, is because there is no hierarchy.”

The group scores from the TMLQ, as well as the number of eco-leadership construct excerpts from the focus groups, varied considerably (Table 3).

During the secondary review of the quantitative data, we noticed the group with the lowest TMLQ scores ($m=2.65$) also had the lowest group cohesion score ($m=73.6$). However, that group’s expression of eco-leadership was higher than the other groups in terms of both code counts ($n=41$) and ratio (64%). We wondered what this meant for a description of their leadership culture. Delving deeper, we considered the rank order of a group’s transformational leadership constructs (e.g., higher on inspirational motivation and lower on individual consideration) may provide insight into how they experience transformational leadership. Therefore, there may be subtle and nuanced alignments between transformational leadership and eco-leadership, and we may expect the same with group cohesion.

Understanding Group Cohesion within the Community Groups

We assessed participants’ group cohesion with the GCS-R, followed by analysis of the focus group data. While there is no consensus among scholars about what amount of cohesion is good or where exactly the scale tips into either disorganization or cliquish behaviors, we hypothesize the mean rating

Table 3. Group level scores of constructs in a study on eco-leadership and community.

Group	Group Cohesion	TMLQ	Idealized Attributes	Idealized Behaviors	Individualized Consideration	Inspirational Motivation	Eco-leadership
A	73.6	2.65	2.8	2.5	2.4	3.0	41/64 = 64.06%
B	80.8	2.9	3.3	3.0	2.8	3.2	27/43 = 62.79%
C	81.3	3.12	3.4	3.0	3.1	3.3	36/54 = 66.67%
D	82.3	3.18	3.5	3.1	3.0	3.5	48/95 = 50.53%
E	79.1	2.94	3.2	3.0	2.9	3.1	No data
F	80.4	3.03	3.4	3.1	3.3	3.3	No data
G	84.8	2.86	3.2	2.9	3.1	3.0	No data

of our groups reflects a fairly high level of ‘social glue.’ The thick, rich data from the focus groups allowed for exploration of what these scores mean to the participating groups.

All groups spoke in varying ways about their desire to be part of their organization. Many stated that, despite controversy, they coalesce around the group’s mission and goals. Further, there was ample evidence from the focus groups that problem solving was seen as a group effort and people feel they have the ability to give input into making an organization their own. Members shared:

“I feel attracted to this group. I am proud of the fact that we are active in the community in so many different ways, and I’m glad to be a part of it, and I want to continue to be a part of it. I mean it motivates me to get here.”

“It’s fun to come to meetings just because of the people who are there, the camaraderie. If I didn’t come for any other reason, it would be for that.”

“I was thinking it was funny how much the fact that we’re a civic organization, but also social, and how much the fact that we eat together may affect how we feel about each other.”

While we observed a high level of group cohesion in the focus group data, it is somewhat

confounding that examples of anti-cohesive behaviors were also seen. Some groups spoke of controversies that ripped their organizations apart, or feeling that the group is not working in unison. For example, one narrative positions this as a provocative dilemma:

“Even though you have to make a decision, I find a lot of tear—there’s a lot of torn in the committee when it comes down to it, because everybody’s passionate about what it is that they stand firm on. I mean you saw some of it right now when it comes down to the scholarship. We are very passionate about... where our opinion is with that. Our opinion means a lot, and we have to meet our opinion... But what happens is when it comes down to that final decision, it’s based on a vote and not so much compromise and that is what keeps—in my opinion—what keeps the group at a standstill, no form of movement because we can’t get... off our own soapboxes or we can’t compromise.”

Reflecting on the quantitative data again, in regards to group cohesion, we find no clear indication of what was transpiring within the groups. The range of group level cohesion was a rather small range. Paradoxically, the group with the lowest cohesion score had the lowest TMLQ score

and the group with the highest cohesion score had the next to lowest TMLQ score. When comparing the scores to the eco-leadership construct, none of the relationships stayed consistent. Although group cohesion is present and actively discussed within these groups, the findings are confounding. To better understand the relationship between group cohesion, transformational leadership, and eco-leadership would require open-ended interviews and participant observation periods.

Assessing Participating Groups' Community Project Involvement

Practitioners generally assume group cohesion is necessary in order for a group to be productive, and that idea carries into the eco-leadership discourse. In this study, we wanted to further assess if community project involvement related to aspects of eco-leadership principles. To assess participating groups' community involvement, we used a previously published instrument, Leach and Sabatier's (2005) Index of Restoration Projects, and we also asked questions about this topic during the focus groups. On the Index of Restoration Projects, respondents' reporting ranged from 0.00 to 8.00, with a mean of 2.25. For comparison, when used to assess 47 U.S. based environmentally oriented groups' work on four separate occasions, Leach and Sabatier (2005) found the highest score to be 18 out of 40 (45%). Since none of our research groups have environmental protection or restoration as part of their mission statement, we surmise the exhibited mean of 2.25 out of 10 possible points (22.5%) indicates a fairly remarkable level of productivity for something that is not central to their mission. We use this index as a snapshot of their potentiality.

During the focus group interviews, participants spoke freely about various projects with which they have been involved. Through the qualitative inquiry, we found groups were likely to engage with social issues revolving around disability, food scarcity, homelessness, humane animal care, literacy, poverty, race, small town quality of life enhancement, youth education, etc. The qualitative data were rich in instances where participants spoke optimistically and enthusiastically about their projects and their projects' futures. Participants' experiences are represented in the following quotes:

"And so, I do a lot of stuff in the community, and that's one of the reasons why I come to this group is so I can help facilitate getting this group connected to what's outside."

"I think that kind of in general we tend to say, 'Let's give it a try and see how it goes.'"

A great example of optimism for a project is captured in a narrative about a younger organization member who proposed an idea:

"He has an idea that he is all excited about, and I know he's going to have the support of the whole organization, not just our committee.... And this is what he wants to get with us and have us involved in; and I can see where that's going to happen."

Relationship between Leadership Culture, Group Cohesiveness, and Project Involvement

One of the main objectives of this study was to determine if a relationship exists between leadership culture, group cohesion, and community project involvement. Table 2 points to statistical findings. However, it was imperative that both the qualitative and quantitative data contribute to our understanding. During the analysis, each type of data was transformed in ways that allowed for integration to occur.

In considering statistical correlations between aspects of transformational leadership and community project involvement, we found a weak-to-moderate relationship between idealized attributes and community project involvement and a second weak-to-moderate relationship between inspirational motivation and community project involvement. Group cohesion was not statistically related to community project involvement.

We noted a correlation between transformational leadership and group cohesion. Pulling apart the transformational leadership aspects, we noted significant relationships between group cohesion and idealized attributes, inspirational motivation, and individualized consideration. Lesser, but still significant, was the relationship with idealized behaviors.

In regard to the eco-leadership constructs assessed via the focus group data, the quantification of data (Table 4) show the code co-occurrence. We note an associative coding between eco-leadership

Table 4. Co-occurrence of qualitative codes in a study of eco-leadership and community organizations. The shading represents the three main parent codes: eco-leadership (and its subcodes), group cohesion, and the TMLQ aspects for which we coded. The last column and the bottom row are also shaded to call attention to the totals counts.

	Eco-leadership, Overall and Sub-codes							Transformational Leadership			Totals
	Eco-leadership constructs	Collaboration of group activities	Collective decision making	Grassroots organization	Group level shared leadership	Group cohesion	Idealized attributes	Individualized consideration	Inspirational motivation		
Eco-leadership constructs	57	68	45	39	62	33	14	28	346		
Collaboration of group activities	57	10	17	10	18	11	5	17	145		
Collective decision making	68	10	19	10	37	15	9	9	177		
Grassroots organization	45	17	19	12	10	8	4	9	124		
Group level shared leadership	39	10	12	15	15	10	4	5	105		
Group Cohesion	62	18	10	15	35	35	15	38	230		
Idealized attributes	33	11	8	10	35	14	14	12	138		
Individualized consideration	14	5	4	4	15	14	1	1	66		
Inspirational motivation	28	17	9	5	38	12	1	119	119		
Totals	346	145	177	124	105	230	138	66	119		

Note: The table allows for interpretation by looking across the rows or down the columns.

constructs and group cohesion. For example, out of the 346 eco-leadership codes, 62 of those were also coded for cohesion (approximately 18%). This is much higher than any of the TMLQ factors.

Emergent Findings: Role of Conflict in Eco-Leadership

Like any ecosystem, a community group has many connecting parts. Even though the group is still functioning, creating programs, having social events, and generally doing the organization's work, small tensions may mount and cause conflict. Each of the participating groups in the focus groups spoke of inner group dynamics and how they manage conflict.

The eco-leadership discourse references collective decision making, TMLQ includes individualized consideration (i.e., treating each other as individuals with different needs, abilities, and aspirations, etc.), and group cohesion includes the ability to stick together despite tensions. We found the comments from participants illuminated these constructs in ways a quantitative instrument never could. For example, one group discussed an emotional conflict that arose among the members and their efforts to create a listening environment that allowed for group decision making. Three members explained:

Person 1: *"Well I would say without a doubt people were satisfied with the process that was used."*

Person 2: *"It got things out in the open, which had been, you know, back in the background."*

Person 3: *"But the people who had very strong convictions, either to the right or to the left, didn't change their convictions. They might of... but everybody felt the process was fair."*

Despite evidence of conciliatory and consensus making practices, the analysis piqued our interest with statements from participants regarding instances of conflict that caused members to feel hurt, retreat from active participation, and occasionally leave the group. Digging deeper into these stories, we found collective decision making was not easy when the emotional stakes were high (i.e., when the group's ideals, beliefs, or values were at the center of the debate). However, the appearance of shared leadership at the group level,

along with idealized attributes and individualized consideration, created an environment that fostered group cohesion (the desire to work it out and stick it out). One participant shared:

"So sometimes the discussions get a little bit intense; but if we can sit through it, we see a perspective that we didn't have when we came in because we're so focused. So, the perspectives bring the balance that's necessary. Sometimes I think we maybe should meet twice a month [laughs] until we get through a lot of the details, because we're increasing our activity and so we have more things to discuss."

Conclusions and Implications

This study breaks ground by applying mixed methods research to the emerging eco-leadership theory. To date, publications on eco-leadership have been primarily theoretical in nature. Little information exists on how eco-leadership manifests in community settings. Additionally, no one has adequately explained how this new type of leadership culture influences or is influenced by group cohesion. Further, there is a lack of empirical evidence regarding how this new type of leadership culture may affect community engagement. This study empirically examined community groups, investigating the occurrence of eco-leadership in practice by analyzing the relationships between their leadership cultures, cohesiveness, and community project involvement.

Although a limitation of this pilot study is the small sample population and the fairly homogenous demographics of participants, the insights produced are still helpful in carrying knowledge of eco-leadership in practice forward (Figure 4). Through our meta-inference of both quantitative and qualitative data we conclude the following for our study population:

- Eco-leadership characteristics exist in all these groups. The construct of collective decision making appeared the most often, followed by collaboration of group activities, grassroots organization, and, lastly, group-level shared leadership.
- There appears to be an association between eco-leadership traits and group cohesion.

- Transformational Leadership factors correlate with group involvement in community projects, indicating groups engaging in transformational leadership practices may be more productive.
- Although group cohesion was not statistically correlated to community project involvement, we found a qualitative relationship between a group’s desire to work together and its pride and enthusiasm about the group’s projects.
- The role of conflict should not be denied when seeking to understand how community groups function. In this case, some groups mentioned the ability to effectively manage conflict, but all shared examples of when conflict damaged their cohesion and productivity.

While the findings of this study are not generalizable, the lessons learned have important implications for practitioners and researchers alike. This study points to further expansion of the eco-leadership discourse, particularly related to civic organization leadership and involvement. Beyond incorporating eco-leadership principles into curricula, we encourage leadership studies professionals to consider innovative mixed methods research procedures, due to the potential for greater insight.

Even though leadership education programs are adapting to the new, more collaborative nature of

leadership, a lack of research and validated models has limited the scholarly and curricular support for such changes (Leigh et al. 2010). The exploratory nature of this study points to questions for further investigation:

- Are the ways in which scholars look for group cohesion too broad? If the construct needs to be finessed, would aspects of transformational leadership apply? Can mixed methods practices improve our understanding of how these relate, or not?
- Are these community groups unique in their display of eco-leadership constructs, or would similar results be found in other localities?
- What can leadership educators do to better support and promote the principles associated with effective eco-leadership?
- How can groups best manage conflict in a way that is productive?

We encourage others to join us in conducting research that helps answer these questions.

Insight from the Mixed Methods Process

We approached this research with a desire to expand the repertoire of current leadership studies’ research methods by mixing qualitative and quantitative data collection methods, analysis, and inferences. What can we learn about using a mixed methods study to look into such complex

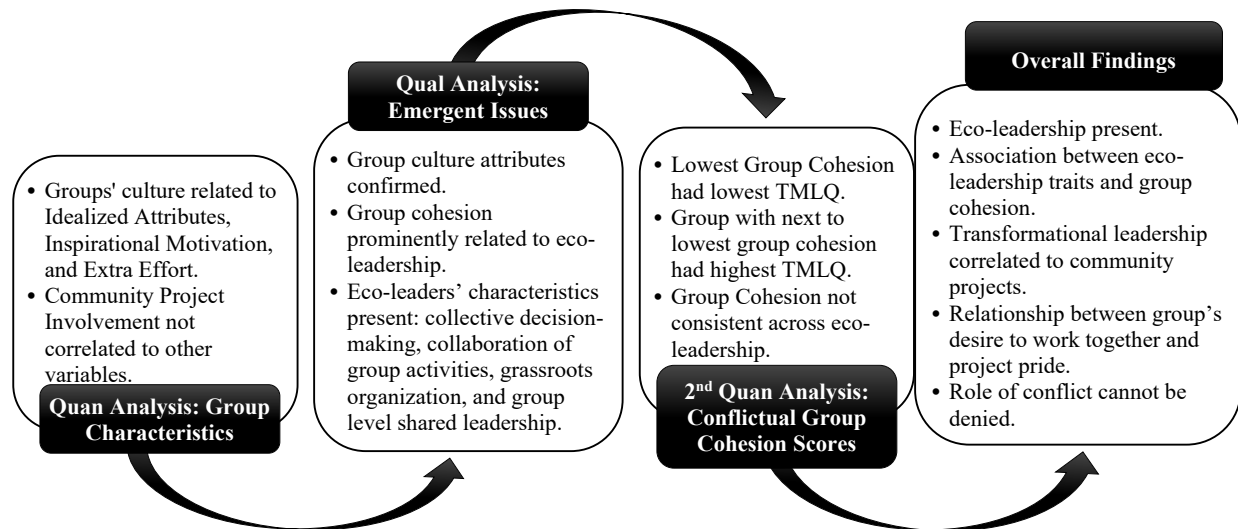


Figure 4. Summary of findings at each stage of analysis. The black boxes and arrows show the stages taken during this process. Inside the box are the key points found at each stage which moved the research forward.

small group dynamics? Our research design was a mixed methods explanatory design with parallel data collection, sequential data analysis using crossover tracks analysis. It has been argued that mixed methods approaches are more comprehensive (i.e., they include different aspects and perspectives) and hence yield results which provide more insight and deeper understandings of an issue (Greene et al. 2005).

Our belief was this would ultimately lead to a deep, rich understanding of the relationships we sought to study in a way a single strand of data could not. In going through this process, our initial quantitative data analysis showed some surprising results. Our findings did not show a statistically significant correlation between group cohesion and group productivity. This caused us to question if group cohesion was really necessary, despite literature on the topic that suggests it is vital. Many community leadership programs emphasize group cohesion and spend ample time training on how to achieve this elusive “social glue.” We initially believed our findings might shine new light on this practice.

However, as we delved into the qualitative data, a different story began to emerge. The participants spoke eloquently of group cohesion traits (e.g., feeling of unity/togetherness, problem solving as a group effort, and sticking together despite tensions). Roughly 30% of the qualitative excerpts were coded for group cohesion. Further, since eco-leadership constructs were being explored through the qualitative data only, we were acutely aware of the many excerpts being coded for these eco-leadership constructs. This caused us to think of the quantitative data in a different way. Revisiting the quantitative data, we re-analyzed the data and compared them to the eco-leadership constructs, which enabled us to see the data from multiple angles and report more holistically about the nature of eco-leadership within these groups. We hope others benefit from our experience and pursue additional practical opportunities for gleaning valuable insights from mixed methods research.

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Group Need to be Cohesive to be Productive?” at the International Leadership Association annual meeting, San Diego, California, in September 2014.

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