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Social Capital of Faculty within Haiti's Agricultural Education and Training System

Bertrhude Albert
University of Florida

T. Grady Roberts
University of Florida

Amy Harder
University of Florida

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Introduction

Agricultural development is a necessary prerequisite to securing economic growth and a prosperous future for many developing countries (United States Agency for International Development [USAID], 2015; World Bank, 2015a). Diamond and Ordunio (2005) attributed societal success to countries' agricultural development throughout the centuries. Because Agricultural Education and Training (AET) systems are an integral part of strengthening the agricultural sector, they have become a focal point for many international research projects and investments (USAID, 2016). It is nearly impossible for a country to develop without these systems, which makes a strong AET system a vital prerequisite for securing a country's economic growth and prosperity (Moore, Mutaleb, & Baharanyi, 2014).

Haiti is known as the economically poorest country in the western hemisphere and one of the poorest in the world (Arias, Leguia, & Sy, 2013). In 2015, Haiti's per capita income was only one-tenth the Latin American average (World Bank, 2015b). Along with high levels of poverty, a lack of food security has continued to be rampant throughout the land (Arias et al., 2013). Food security can be defined as "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life" (World Health Organization [WHO], 2012, para. 1). Approximately 3.3 million Haitians are food insecure, which prohibits them from maintaining a healthy and active life (World Food Program [WFP], n.d.).

Agricultural higher education institutions help to fight against food insecurity through their vital role within AET systems (USAID, 2011). Along with other institutions such as secondary and vocational schools, higher education provides an avenue for individuals to receive formal education and training within the agricultural sector (InnovATE, 2016).

Haitian agricultural faculty are prominent figures offering training and education to future leaders within the Haitian agricultural sector, agricultural students (Interuniversity Institute for Research and Development [INURED], 2010). Not only do Haitian faculty need to be effective for their students, but there is also a need to meet the high demands of their job tasks (INURED, 2010). The higher education environment calls for faculty members to be innovative and responsive to complexities and challenges in order to be successful (Carpenter, Coughlin, Morgan, & Price, 2010). Specifically, in the case of Haiti, higher education faces challenges such as: (a) lack of research priorities and funding, (b) minimal faculty training, (c) insufficient libraries, (d) outdated curriculum, and (e) and absence of overarching governance and regulation (INURED, 2010).

Faculty in Haiti may have limited access to a variety of resources but they do have access to each other. The relationships and networks formed between faculty are potential assets despite other resource deficiencies in the system. Putnam (1995) used the term social capital to describe the networks and relationships shared between people which allow them to more effectively reach their goals. Accordingly, higher social capital could mean faculty have access to information, resources and networks that can help them increase their effectiveness as educators. A unique situation in Haiti is that many faculty hold part-time appointments at multiple institutions, sometimes teaching at three or more universities. The present research investigated levels of social capital, or personal connections, among faculty within Haiti's AET system based on the number of universities in which they teach (Putnam, 1995).

Review of Literature and Theoretical Framework

The concept of social capital dates back to Durkheim's (1893) work. Durkheim wrote about the positive impact that group life had on an individual's life and the society as a whole (Portes, 1998). Social capital represented the advantages that came due to an individual's social networks. Durkheim (1893) believed that social capital was an example of a nonmonetary form of capital that was an important source of power and influence in societies (Portes, 1998).

About 100 years after Durkheim (1893), Bourdieu (1986) became one of the first scholars to methodically analyze social capital. Bourdieu defined social capital in terms of the advantages that membership in a specific network offer individuals. Specifically, Bourdieu (1986) said that social capital is "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (p. 248). Bourdieu believed the advantages offered to an individual through social networks are tied to economic capital and other privileges of the group.

Building off the work of Durkheim (1893) and Bourdieu (1986), political scientist Putnam (1995) offered a definition of social capital that serves as the operational definition for the present study. Social capital is the "networks, norms, and trust that enables participants to act together more effectively to pursue shared objectives" (Putnam, 1995, p. 665). This definition focuses on the social connections, norms, and trust that lead to benefits for an individual.

In order to measure social capital, it is necessary to understand the differences between the three types of social capital: (a) bonding, (b) bridging, and (c) linking (Putnam, 2000). Bonding social capital tends to "reinforce exclusive identities and homogeneous groups" (Putnam, 2000, p. 3). Bonding social capital connects individuals who are similar to each other. This type of social capital is the "sociological superglue" (Putnam, 2000, p. 3) of society as it works to strengthen social reciprocity and solidarity. In contrast, bridging social capital "connects individuals who are diverse" (Putnam, 2000, p. 3). According to Putnam (2000), bridging capital can be compared to a "sociological WD-40 lubricant" (p. 3). Bridging social capital works to link communities and individuals to resources, information, and connections. Community members can have both of the aforementioned social capitals, but they usually do in varying amounts (Putnam, 2000).

Larsen et al. (2004) commented on the differences between bridging and bonding social capital when they said that "all forms of social capital are not equal and important differences exist between bonding social capital and bridging social capital" (p. 65). For example, bridging social capital can be a more powerful form of social capital because it provides individuals with the opportunity to connect with heterogeneous groups that may have more access to resources, information, and connections that close family and friends may not have. Although bonding social capital may not provide similar access it is a necessary prerequisite to developing bridging social capital (Larsen at al., 2004).

The final type of social capital is linking social capital (Grootaert & van Bastelaer, 2001). This describes an individual's ability to engage with external agencies or groups to influence their policies or obtain useful resources (Pretty, 2003). Linking social capital is often seen as an extension of bridging social capital, except instead of being horizontal connections with heterogeneous groups, it is a vertical

connection (Grootaert & van Bastelaer, 2001). Linking provides an individual the opportunity to connect with organizations or groups that can provide many resources that they would not have otherwise had.

Social capital was the variable of interest for this research because despite how one measures or categorizes it, academics agree that it can result in benefits for individuals and institutions both (Carpenter et al., 2010; Ferren, Kennan, & Lerch, 2001; Putnam, 1995; Woolcock & Narayan, 2000). Ferren et al. (2001) argued that social capital is equal to other assets such as financial and human capital in higher education, a particularly promising concept within the Haitian context. In its best form social capital is a beneficial component of higher education institutions because it contributes to economic, social, and political development. Social capital is able to contribute to society by: (a) encouraging the sharing of information, (b) discouraging opportunistic mindsets and behaviors, and (c) facilitating collective decision making (Woolcock &Narayan, 2000).

Literature examining the social capital of university faculty in agriculture could not be found after an exhaustive review of the literature. Other research in international agricultural and extension education has examined how a leadership development program impacted farmer social capital in Morocco (Rasmussen, Pardello, Vreyens, Chazdon, Teng, & Liepold, 2017) and confirmed the importance of social capital in rural advisory service networks (Lamm, Lamm, Davis, & Swaroop, 2017). Recent research on Haitian agriculture faculty explored their perceptions of how prepared they were for their teaching roles (Pierre et al., 2018). Faculty generally believed they were prepared for their academic roles. Faculty were mostly intrinsically motivated to engage in professional development but reported variable support from their institutions for professional development.

Purpose

The purpose of the present study was to identify how teaching at multiple institutions impacted the social capital of faculty within the Haitian AET system. The objectives of this research were as follows:

1. Determine if an association exists between bonding, bridging, and linking social capital and the number of institutions faculty work at. If so, describe the association.
2. Explore faculty reasons for teaching and perception of how the number of institutions they teach at impacts their social capital.

Methodology

This research took a mixed methods approach (Creswell, 2013). Data were collected face-to-face by the lead researcher using a paper questionnaire. The quantitative portion of instrument was adapted from the World Bank's Measuring Social Capital Integrated Questionnaire (SC-IQ) (Grootaert, Narayan, Jones, & Woolcock, 2003). This instrument operationalized bonding social capital as membership in groups, participation in group activities, and number of close friends. Bridging social capital was operationalized as membership in heterogeneous groups (based on religion, gender, race, education, and occupation), phone calls made, and phone calls received. Linking social capital was operationalized as trust in the national and local governments. The 33-item instrument was translated to French, the official language of Haiti, and modified to make it appropriate for a higher education context in Haiti (Grootaert et al., 2003). Researcher-developed open-ended questions were added to the instrument to achieve the second research objective.

An expert panel of Haitian faculty members, U.S. university faculty members, and Haitian researchers examined the instrument for content validity. Based on that feedback, several questions were reworded. Next, the instrument was piloted by Haitian faculty and researchers. After piloting the instrument, it was estimated that faculty members would take between 15-30 minutes to complete the survey.

The target population was teaching faculty at Haitian agricultural universities. Membership in the Caribbean Council of Higher Education in Agriculture (CACHE) was used to identify the six major agricultural universities in Haiti (CACHE, n.d.). This included the Université d'Etat d'Haiti (UEH), Université Quisqueya (UNIQ), Université Caraïbe (UC), Université Episcopale d'Haiti (UNEPH), Université Notre Dame d'Haïti (UNDH), and American University of the Caribbean (AUC). Of these six institutions, four are located in the nation's capital, Port-au-Prince, including; UEH, UNIQ, UC, and UNEPH. The remaining two institutions are located in Les Cayes, a city in southwest Haiti. UEH is the only public university of these institutions while the other five are private. The dean at each university was contacted and asked to identify faculty and to help facilitate the distribution of the final questionnaire.

Overall, 78 faculty were invited to participate in this study. A total of 65 faculty provided data for an 83.33% response rate. Data were collected face-to-face by the leader researcher, a Haitian American who speaks Creole, French, and English. An important feature of this sample lies within the distribution of faculty who taught at multiple institutions. Of the sample, 33.85% (n = 22) taught at one institution. Another 29.23% (n = 19) taught at two institutions. Finally, the largest group of faculty taught at three or more institutions, 36.92% (n = 24). This distribution confirms that most Haitian agriculture faculty teach at multiple institutions.

Quantitative data analysis included frequencies and percentages to describe the sample (Gall, Gall, & Borg, 2007). Cross tabulation was then used to describe the association between bonding, bridging, and linking social capital and the number of institutions faculty work at. Kendall's tau-c (r_τ) and Cramer's V (Φ_{Cramer}) were used to describe associations. Strengths of associations were interpreted using Davis (1971) for Kendall's tau-c and Rea and Parker (1992) for Cramer's V.

Qualitative data analysis consisted of a thematic analysis using open coding to identify emergent themes (Merriam, 2009). Data were translated from French to English and the analysis was completed in English by the lead researcher. Participants were given a code based on their primary institution and the order in which their data was collected. Representative quotes were provided in the findings to give a voice to participants. The rigor of this research was established using Lincoln and Guba's (1985) concept of trustworthiness, which includes four elements: credibility, transferability, dependability, and confirmability. To establish credibility, the lead researcher used triangulation of the information, and of the investigator. There was regular communication between the lead researcher, research team, and experts in the field. Member checking was also used to ensure that the data collected accurately depicted the thoughts and reflections of the informants. In order to establish transferability, the lead researcher provided thick descriptions of the methodological process and used purposive sampling in selecting the informants. To establish dependability, the lead researcher kept an audit trail that included the raw data, notes, and drafts of findings of this study. The lead

researcher also used a code-recode strategy to ensure dependability (Ary, Jacobs, Sorensen, & Walker, 2013). Finally, confirmability was established through the use of a reflexive journal, which included the weekly reasoning behind all methodological decisions made by the lead researcher.

Results

Bonding Social Capital

As mentioned previously, bonding social capital was determined based on membership in groups, participation in group activities, and number of close friends. A summary of the relationships between the number of institutions worked at and these three variables is provided in Table 1. There was a low positive association between teaching at multiple institutions and group membership (r_τ= .178). There was a negligible negative association between teaching at multiple institutions and participation in group activities (r_τ= -.021). There was a low positive association between teaching at multiple institutions and number of close friends (r_τ= .127).

Table 1
Bonding Social Capital Summary

	Number of Institutions		
Bonding Social Capital Variable	1	2	3+
	Frequencies of Faculty		
Membership in Groups (r_τ= .178)			
0 groups	2	2	4
1 group	4	6	3
2 groups	13	5	3
3+ groups	3	6	14
Participation in Group Activities (r_τ= -.021)			
0 groups	2	2	5
1 group	7	5	3
2 groups	4	4	7
3+ groups	9	8	9
Number of Close Friends (r_τ=.127)			
1-2 friends	3	6	4
3-4 friends	10	5	5
5-6 friends	7	6	10
7+ friends	2	2	5

Bridging Social Capital

Bridging social capital was determined by membership in heterogeneous groups, phone calls made, and phone calls received. Relationships between group memberships and number of institutions are summarized in Table 2. Moderate positive associations were observed for religion (χ^2= 10.017, Φ_{Cramer}= .393), race (χ^2= 5.614, Φ_{Cramer}= .294), and education (χ^2= 5.562, Φ_{Cramer}=

.293). Weak positive associations were observed for gender (χ^2= 1.346, Φ_{Cramer}= .144) and occupation (χ^2= 0.149, Φ_{Cramer}= .048).

Table 2
Membership in Heterogeneous Groups

	Number of Institutions		
Were you a member of a group with people who differed from you based on _____?	1	2	3+
	Frequencies of Faculty		
Religion (χ^2= 10.017, Φ_{Cramer}= .393)			
Yes	12	10	22
No	10	9	3
Gender (χ^2= 1.346, Φ_{Cramer}= .144)			
Yes	18	14	21
No	4	5	3
Race (χ^2= 5.614, Φ_{Cramer}= .294)			
Yes	7	9	16
No	15	10	8
Occupation (χ^2= 0.149, Φ_{Cramer}= .048)			
Yes	15	14	17
No	7	5	7
Education (χ^2= 5.562, Φ_{Cramer}= .293)			
Yes	14	13	22
No	8	6	2

Results show that faculty who taught at two and three or more institutions made a higher number of phone calls made per week (Table 3). There was a moderate positive association between calls made and number institutions (r_τ= .302). Faculty who taught at two or three or more institutions received the most phone calls per week. There was a moderate positive association between calls made and number institutions (r_τ=.329).

Table 3
Phone Calls Made and Received

	Number of Institutions		
	1	2	3+
	Frequencies of Faculty		
Phone Calls Made Per Week (r_τ= .302)			
Less than 11	8	4	0
11-20	6	3	9
21-30	2	2	3
31+	6	10	12
Phone Calls Received Per Week (r_τ=.329)			
Less than 11	9	4	2
11-20	5	4	3
21-30	2	1	2
31+	6	10	17

Linking Social Capital

Trust in the national government was overwhelmingly low for all faculty regardless of the number of institutions taught at (see Table 4). No faculty member trusted the national government to a very great or great extent. In fact, 81.82% (*n* = 18) of faculty teaching at one institution, 57.89% (*n* = 11) teaching at two institutions, and 91.67% (*n* = 22) teaching at three or more institutions had small or very small trust in the government. There was a negligible positive association between institutions worked at and trust in the national government (r_τ= .052).

Table 4
Trust in Governments

	Number of Institutions		
How much trust do you have in the _____?	1	2	3+
	Frequencies of Faculty		
National Government (r_τ= .052)			
Very Small	14	2	15
Small	4	9	7
Neither	4	8	2
Great	0	0	0
Very Great	0	0	0
Local Government (r_τ= -.127)			
Very Small	12	2	11
Small	5	12	5
Neither	3	4	6
Great	1	0	2
Very Great	0	1	0

The lack of trust faculty had towards the national government was similar to the lack of trust that faculty had in the local government (see Table 4). A total of 77.27% (n = 17) of faculty who taught at one institution, 73.68% (n = 14) teaching at two institutions, and 66.67% (n = 16) who taught at three or more institutions trusted the local government to a small or very small extent. There was a low negative association between institutions and trust in the local government (r_τ= -.127).

Qualitative Responses

When asked about why they teach at multiple institutions, faculty members gave one of five reasons: (a) filling the need for qualified educators, (b) love for his or her subject area, (c) love for the students, (d) need for more financial income, or (e) love for Haiti. The two most common reasons for teaching at multiple institutions was a love for the subject and filling the need for qualified educators.

The most common reason for teaching at multiple institutions was that faculty members felt as if they needed to fill the need for qualified educators. E3 stated, "there lacks good teachers in entomology so, I must teach at various schools." This is echoed by E5 who wrote, "there lacks qualified individuals in human resources, so I must travel and teach." N4 stated, "I travel in order for me to share with the students quality information that will help them and our agriculture sector."

The next most common reason for teaching at multiple institutions was a love for the subject area. Examples of having a love for the subject include F13 who said, "my love for teaching agronomy compels me to teach at as many institutions as I can." And F21, who said, "there is no special reason for me teaching at multiple schools, I just really love my subject."

When asked about the impact of working at multiple institutions on their social capital, every faculty member mentioned that he or she is able to meet new students and colleagues. F11 mentioned, "I get to broaden my horizons and meet new people, mainly colleagues and students, when I teach at various universities. It's really good for me." C5 also said, "it puts me in in contact with groups that are very different from me." This was echoed by U2 who wrote, "I get in touch with a large amount of young people that can make an impact on the world."

Although faculty commented on the benefit of meeting new people as they work at multiple institution, some faculty believed that meeting new people did not translate directly into social capital. F22 mentioned, "I meet many new people, but I don't engage with most of them. I don't have the pleasure of getting to know the many people I meet." Another informant mentioned, "there is no impact on my social networks, I see many people but it does not benefit me in any way" (F14). Another informant stated,

> Teaching at four institutions does not impact my social networks, my contracting work does that. If I lecture at [university], I meet new people but I wouldn't necessarily network at the school since I have obligations at many other institutions. (N6)

Finally, one informant stated, "Sometimes less is more. If I worked at less institutions, I would have more time to invest in and benefit from encountering people" (E4).

Conclusions, Recommendations, and Implications

Bonding, Bridging, and Linking Social Capital

Bonding social capital. Teaching at multiple institutions was found to positively contribute to bonding social capital, but the low strength of the association suggests that although some faculty were exposed to more students, faculty, and communities through their multiple teaching duties, they had not been reaping the full benefits of having many opportunities increased bonding social capital.

Bonding social capital can provide significant benefits to faculty members, like strong support groups with faculty who teach similar subjects, which would ultimately benefit students (Aldridge, Halpern, &Fitzpatrick, 2002; Ferren et al., 2001; Putnam, 1995; Woolcock & Narayan, 2000). Although there is a positive association between teaching at multiple institutions and bonding social capital, faculty and higher education institutions are not maximizing on the opportunity to increase faculty resources through increased bonding social capital. (Aldridge et al., 2002). A lack of resources is one of the greatest challenges to the higher education system. The ability of social capital to change into other forms of capital can be a used as a tool that mitigates the severe lack of resources within higher education (Portes, 1998). For example, social capital can transform into financial capital when a faculty uses his or her networks to locate and borrow a $300 textbook that is needed for curriculum and content design of his or her course (Portes, 1998). This, in turn, would be expected to yield benefits for students. Because Haiti lacks financial capital, it is even more important for Haitian faculty to maximize on social capital.

Bridging social capital. Faculty who taught at more institutions were more likely to demonstrate indicators of bridging social capital, as based on membership in heterogenous groups. In particular, they were more likely to be members of groups in which they interacted with people of differing religious, racial, and educational backgrounds. This was true to a lesser extent for gender and occupation, suggesting there may cultural norms restricting interaction with the opposite gender and/or interacting with those above or below the faculty member in the academic hierarchy.

The data for bridging social capital ought to be understood in light of faculty's need to teach at multiple institutions, which at times is caused because of a lack of personal financial capital (Dumay, 2010). Networking with heterogeneous groups can be greatly beneficial for faculty when bridging social capital is transformed into other forms of capital allowing the faculty member to be more productive (Aldridge et al., 2002; Ferren et al., 2001; Portes, 1998; Putnam, 1995; Woolcock & Narayan, 2000).

Linking social capital. Faculty who taught at more institutions had a slightly higher association with trusting the national government but distrusting the local government. Overall, regardless of the number of institutions faculty taught at, there was a culture of distrust towards the government. This distrust is the summation of a long history of political and social instability within the country (Arias et al., 2013). These findings are understood in light of historical turmoil Haitians have faced by those in power, specifically by the government.

The distrust that faculty have towards the government poses a problem for higher education institutions in Haiti. Although five of the six leading institutions are private institutions, the government still oversees all higher education policy and

activities throughout the country. Furthermore, agricultural students often end up working for the Haitian Ministry of Agriculture, Natural Resources and Rural Development (MARNDR). Despite faculty's distrust towards the government there is a necessary connection between higher education and government in Haiti. A lack of linking social capital between faculty and government would mean that faculty would be less likely to be included in dialogue that directly impacts them and their students. Furthermore, agricultural students would not benefit from social networks faculty could have with the government.

Because of the importance of social capital, it would behoove institutions to invest in initiatives that would increase social capital among their faculty. To increase social capital agricultural institutions should build an academic culture which encourages a culture of togetherness beyond staff meetings by creating opportunities for faculty interactions built around faculty interests and needs. One such example would be routine opportunities for professional development. This would require better institutional support for faculty development, which faculty had previously identified as inconsistent but desired (Pierre et al., 2018).

Faculty's Perception of Social Capital

The qualitative portion of this research showed that overall, faculty taught at multiple institutions for different reasons and most of the reasons were positive. Dumay (2010) stated that faculty teach at multiple institutions because of a desire to enjoy a decent standard of living, but this research showed that faculty taught at multiple institutions because of a sense of responsibility, patriotism, and love for students and the subject area. The discrepancy between Dumay (2010) research and this present research is perhaps due to the fact that in depth research on Haitian higher education faculty has not been conducted and parts of their stories have not been captured, but there is also the possibility that the faculty's responses in this study were influenced by a desire to provide responses believed to be socially acceptable. The lack of comparable scholarly research focused on higher education in Haiti hampers efforts to confidently develop conclusions.

Although faculty are eager to continue supporting agricultural development through teaching at various institutions, many are only reaping basic benefits to their social capital through their multiple teaching appointments. Institutions and faculty both are not tapping into the full benefits of being able to be exposed to various colleagues, students, and communities. On the contrary, faculty mentioned that their social capital is not increasing because of the number of institutions at which they teach. The increased demands on time created by employment at multiple institutions prevented the faculty studied from developing meaningful relationships, although they had access to larger networks. These missed opportunities represent a real cost in terms of the lost potential for developing social capital, but the lack of qualified educators to fill Haiti's teaching needs means faculty are likely to continue having multiple jobs for the foreseeable future.

Recommendations for Additional Research

This study examined social capital at a single point in time. Each day faculty have the potential to meet new people and build new relationships. The authors are also aware of a faculty development program sponsored by USAID that was open to faculty from all these universities that was

implemented just after this data was collected, which may have influenced the findings of this research. A re-examination of the social capital of Haitian faculty would be warranted to see how it may be different.

Social capital is a complex phenomenon. The current study only begins to explore it in the context of Haitian agricultural universities. A more in-depth methodology like ethnography or case study research within the academic community at each university could really help advance the understanding of how social capital impacts the university, faculty performance, and ultimately student success.

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