Political Connections and Psychosocial Wellbeing among Women’s Development Army leaders in Rural Amhara, Ethiopia: Towards a holistic understanding of community health workers’ socioeconomic status

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Abstract

Little empirical research exists on the effects of health work on Community Health Workers’ (CHWs’) social relationships and status, yet these factors are important in understanding the broad social and behavioral drivers and impacts of CHW programs. This is particularly true for unpaid CHWs. Engaging with others as a CHW might help a worker to embody a valued role in society as a selfless, caring individual; or it might strengthen bonds with others and improve social networks and social capital. By combining qualitative, ethnographic, and survey data collected in rural Amhara, Ethiopia from 2013-2016, we evaluated the extent to which unpaid female workers in Ethiopia’s Women’s Development Army (WDA) were better able than their peers to achieve cultural consonance by building desired social connections or fulfilling locally salient models of virtuous womanhood. We conducted a cultural consensus survey (n=74) and measured cultural consonance in a larger survey of adult women, including WDA leaders (n=422). We also conducted participant observation and interviews with health officials, local health staff, and WDA leaders.

In our study site, WDA leaders were more able than other women to fulfill the cultural ideal of having connections to various government officials. Yet these connections often did not lead to the benefits that WDA leaders hoped for. Also, in contrast to the findings of many other studies, achieving greater cultural consonance was not significantly associated with reduced psychological distress in this population. For women in this rural context, meanwhile, psychological distress is strongly associated with food and water insecurity, stressful life events, and social support. These findings point to the importance of social, economic and psychological support for rural women in Amhara, and specifically for unpaid CHWs.
Kidist, a stable, warm, and well-respected woman, was a pillar of the community in her small town in rural Amhara, Ethiopia. When we first met her, Kidist (pseudonym) was 40, living with her three children and supporting them alone; her husband had left, but she had kept her home in the divorce.

Kidist was a leader in Ethiopia’s Women’s Development Army (WDA), a government-organized cadre of unpaid Community Health Workers (CHWs). According to government policy, WDA leaders should be chosen for being “model women,” meaning they have adopted desired health behaviors, and will lead their neighbors to do the same. When we first met her, Kidist mentioned that she had been reluctant to become a WDA leader because of her already substantial workload:

*I am raising three children alone without their father helping me. I need to work hard and educate them very well. I was from a family of farmers; they didn’t send me to school. I don’t want my children to be in the same situation I am. So, I need to work hard, and the focus of my work should be my own home. That was why I initially refused to be a WDA leader.*

Eventually Kidist agreed to become a WDA leader when government officials promised it wouldn’t take much time. She explained that she did WDA work during “the gaps when I am free from my personal work.”
These gaps were not large. Kidist had two income streams, and was constantly in motion; her significant moneymaking operation was liquor distilling. Although many other women also distilled *areke* liquor, Kidist was much more successful than most. In her meticulously run operation in the front yard, she kept the fires going for eight distilling cauldrons, producing 42 liters of *areke* a day. At the weekly liquor market, while other women scrambled to make sales, Kidist dealt professionally, calculator in hand, with a line of liquor dealers from the city: her *areke* had an excellent reputation, and it sold out first.

Kidist also maintained several cows and an ox, and sold milk. The livestock stayed in one of the two rooms in Kidist’s modest dirt-floored home. The family’s room was furnished with two beds with straw mattresses, several heavily worn couches that had once been beige, and a wooden coffee table. The small TV—a rare luxury item that marked Kidist as wealthier than her neighbors—rested atop a glass case displaying a teacup set. From the family pictures on the straw-and-dirt walls, to the decorative accent squares hanging over the backs of the chairs and couches, Kidist’s shopworn room displayed her care for her family and her home.

Kidist at first limited her WDA work to quick-duration activities like distributing bednets, and assisting women with specific problems. She explained that she met with the women in her area on an as-needed basis,

> about different problems at home; for example about thieves, or conflicts at home. In such cases if they can come to agreement while I help them negotiate, that is okay, otherwise, I tell them to write their problems and I take it to the higher bodies.
Over the years we knew her, Kidist became a more involved WDA leader. She explained that she had entered into a useful savings circle with the women in her WDA group, and that she had a good relationship with her supervisor, a paid female CHW called a Health Extension Worker (HEW); Kidist described her as “like a sister.”

The work Kidist provided to the WDA was significant. For example, one night when we were staying at her house, a neighbor came over at 3 AM to ask Kidist to help a pregnant woman get to the health center. Kidist said that although her WDA work had become a significant time investment, she was hopeful that the government connections she was building through the work would prove useful:

*We know of course there is no payment [for WDA work] but what we are thinking is that, there may be some program to open some business for us by the government. We may also get a place for free in which to run a business. So I think it is good if we are patient and look forward to hearing these things from the government.*

Kidist said that she found the government’s advice on some issues, like fuel efficient stoves, helpful. Many larger needs, however, remained unaddressed. Kidist did not have secure ownership to the land her modest home was built on—in Ethiopia, all land is managed by the government, and while Kidist had obtained her land from her father and grandfather, it wasn’t technically hers. She had saved up enough money to build a new house, but lacking secure title
to the land, she felt that building on it was risky. Although some HEWs were able to get land from the government through their work, WDA leaders were not. Kidist commented,

\[
I \text{ don't have farmland, but I don't have a right to ask for that, because to whom would I ask this question? The only thing that I can do is to take care of the space that I have, but other than that, there is no government body that I can go to for help. I may ask my friends for help if I need to buy clothes for my children, but there is no government official that I would ask. I would ask no one.}
\]

Introduction

Across the world, many millions of CHWs serve their communities on an unpaid basis. These workers, often women, are tasked with providing critical health interventions in high-need settings.

There are several reasons why unpaid labor is often used for health programs in low-income contexts. Between structural adjustment and the unwillingness of donors to pay for health worker salaries, many Ministries of Health do not have the capacity to pay their CHWs a living wage (Closser et al., 2017; Lehmann and Sanders, 2007; Maes, 2016). In addition, ideology may push policymakers towards an unpaid, or “volunteer,” CHW labor force. Policymakers may believe that female CHWs should be motivated by “intrinsic motivation,” often framed as leading to a more committed workforce than paid work (Glenton et al., 2010).
CHWs across contexts themselves draw on discourses of the morality of caring for others—discourses that are often feminized—in explaining their motivation for their work (Swartz and Colvin, 2014; Topp et al., 2015). For example, some AIDS care volunteers feel a moral imperative to help provide acutely needed ARVs and palliative care (Akintola, 2011; Maes and Kalofonos, 2013). CHW work may thus enable workers to embody a helpful, caring role in society, one that is particularly valued for women.

Also, becoming a CHW can be an avenue for building closer ties with other community members (Kane et al., 2020; Vareilles et al., 2017). These improved social networks could in turn increase social capital. Research in high-income settings has shown that volunteering improves well-being through the feeling that one can help others, through improved social integration and as an investment in human capital (Borgonovi, 2008; Oman et al., 1999; Thoits and Hewitt, 2001; Wilson, 2000).

However, a growing critical literature on volunteering in low-income contexts problematizes these ideas. Volunteer CHW work is frequently a subsistence strategy taken up by people who cannot obtain paid work, and hope that volunteering will allow them to access material incentives or per diems, and perhaps ultimately a paid job (Closser, 2018; Colvin, 2016; Maes and Kalofonos, 2013; Ormel et al., 2019; Rosenthal, 2017). Thus volunteering can be an exploitative practice in which impoverished citizens perform essential state tasks for little reward (Prince and Brown, 2016; Swidler and Watkins, 2009). Further, many volunteer CHWs ability to build social capital through their work is limited by poverty (Gibbs et al., 2015; Vareilles et al., 2017).
The research we found quantitatively testing the relationships between volunteering, social support, and wellbeing occurred in high-income nations with data collected from relatively wealthy volunteers (Borgonovi, 2008; Oman et al., 1999; Thoits and Hewitt, 2001; Wilson, 2000). This bias leaves open the question of how immaterial social benefits may derive from and incentivize volunteering in low-income settings.

Our focus is on Ethiopia’s WDA, part of Ethiopia’s Health Extension Program, often hailed as a global exemplar for community-based health care (Banteyerga, 2011). Health Extension Workers (HEWs), salaried female secondary-school graduates like the one that supervised Kidist, are the cornerstone of this program. Each pair of HEWs serves around 5,000 people, leading to a significant workload. In 2011, the government initiated the WDA to relieve some of the burden on HEWs, and to address perceived cultural barriers to development (Kok et al., 2015; Teklehaimanot and Teklehaimanot, 2013).

The WDA is, at least in theory, one of the largest and most comprehensive CHW programs in the world. One woman out of every five households across rural Ethiopia is supposed to become a 1-to-5 WDA leader; in turn, a group of 1-to-5 leaders is led by a 1-30 leader. 1-30 leaders serve under the direct supervision of the HEW in each kebele, the smallest administrative unit in rural Ethiopia.

Our discussion and analysis here focus on 1-30 leaders. Like Kidist, these women ideally help during immunization campaigns, keep track of pregnancies and illnesses, and relay messages and
data between households and HEWs. They receive no pay. At the time of our research (although not currently), donors, NGOs, and other partners were also strictly instructed not to provide WDA leaders with incentives of any kind.

This paper is the final in a series of papers about the WDA, drawn from research carried out in the West Gojjam Zone in Amhara State between 2013 and 2016 (Closser et al., 2019; Maes et al., 2019, 2018, 2015a, 2015b). Our previous work examined the empowerment and subjective social status of WDA leaders, as well as their experiences of food and water insecurity, social support, and stressful life events. 1-30 leaders in the WDA are severely impoverished and experience more psychological distress than their peers, largely due to selection effects in recruiting WDA leaders, but also because in some cases being a WDA leader may exacerbate social tensions (Maes et al., 2019). Thus, in this population, the relationship between volunteering and psychological well-being found in wealthy populations does not hold (Borgonovi, 2008; Oman et al., 1999; Thoits and Hewitt, 2001; Wilson, 2000). This paper addresses related yet separate questions: to what extent are WDA volunteers better able to live up to local cultural models of a helpful community member than other women? And, does the volunteer role help them build desired social connections?

We use cultural consonance analysis to bring these two constructs into quantitative surveys of wellbeing. Cultural consonance is the extent to which an individual lives out the ideal beliefs and behaviors of their social group. The ability or willingness of a given individual to embody these shared ideals depends on their socialization, their social position, and the resources they have access to. In domains with high cultural consensus, an individual’s cultural consonance has
significant effects; across contexts, individuals with better cultural consonance experience better psychological and physical health outcomes (Dressler et al., 2007a, 2007b; Dressler and Bindon, 2000).

Cultural consonance analysis enables quantitative measurements of the degree to which someone is able to live their lives in accordance with local cultural ideals (Dressler et al., 2005). Cultural consonance methods allow a holistic quantitative analysis of wellbeing that goes beyond universal measures like subjective social status, social support, and food insecurity, to include locally meaningful measures.

Ethiopia is a fascinating context for this kind of study because, during our research, the government was actively attempting to “develop” the country by engineering cultural consensus in various domains, including women’s social and health behavior. WDA leaders are supposed to promote the government’s chosen “model” behaviors for women, from vaccination and regular handwashing, to saving money and bee-keeping (Closser et al., 2019; Maes et al., 2015a). As with other female CHW programs, WDA leaders are “both the objects and the agents of reform” (Roalkvam, 2014, p. 912).

In this paper, we evaluate the hypothesis that volunteering as a WDA leader allows women in rural Amhara, Ethiopia to feel that they are better able than other women to achieve consonance in (i.e. emulate or “live up to”) locally shared models of a helpful, well-connected woman. Of course, being a WDA leader is not the only way to achieve these goals, but here we evaluate
whether it helps—an important question in this context of extreme poverty where many people struggle to emulate cultural models (Dressler et al., 2007b, 2007a; Maes et al., 2019).

We explore the following interrelated questions: first, in rural Amhara, what is the cultural model of a socially-connected and helpful woman? Second, how well are 1-30 leaders in the Women’s Development Army able to achieve consonance in (live up to) this cultural model, compared to other women? Third, what explains these patterns? Finally, we evaluate the effects of consonance in social connections and helpfulness on levels of psychological distress.

Methods

We employed anthropological tools to answer each of these interrelated questions. We first used cultural consensus analysis to establish cultural models, and then used cultural consonance analysis to examine variation in how women lived up to those models. We used ethnographic methods to explain our findings in context.

Cultural consensus analysis

To assess whether WDA leaders were better able to live out desired ways of helping others and to obtain desired social connections, we first needed to establish what those cultural ideals were in rural Amhara. The goal of cultural consensus surveys is to determine culturally “correct” answers to questions by evaluating the extent of agreement among respondents as to the answers
to those questions. Questions with greater consensus are reflective of strongly shared cultural knowledge and ideals (Romney et al., 1986; Weller, 2007).

We used a cultural consensus survey (n=74) to determine the cultural model of a good, respectable woman in rural Amhara, focusing on valued ways of helping others and valued social connections. We investigated these domains because ethnographic work in Ethiopia—including our own—makes clear they are important in the social lives of many women; in addition, these domains could plausibly be impacted by the work performed by WDA leaders. Appendix A presents details of the cultural consensus methodology. [INSERT LINK TO ONLINE FILE]

Cultural consonance analysis

Next, we used a larger survey (n=422) to evaluate whether volunteering in the Women’s Development Army was associated with engaging in ideal ways of helping others and with having desired social connections. Appendix B presents details of our methodology in developing measures of cultural consonance. [INSERT LINK TO ONLINE FILE] We administered this survey in four kebeles diverse in terms of accessibility and level of WDA activity. The survey also included other domains, ranging from socioeconomic status to psychosocial well-being (Maes et al., 2019, 2018). Our sample of 422 respondents included 73 1-30 leaders, 142 1-5 leaders, and 207 1-5 “members” (community members not selected as leaders).

To obtain our sample, we first asked HEWs in each kebele to prepare lists of current 1-30 leaders. One of the authors (RA) randomly selected fifteen to twenty-five 1-30 leaders from each
list, and approached them to complete surveys. At the end of each survey, she asked the 1-30 leader to name the 1-5 leaders under her supervision. She randomly selected and surveyed one to two of the 1-5 leaders. She then asked each surveyed 1-5 leader to name the women with whom she was expected to meet, and randomly selected two to three of these 1-5 members for surveys.

Using Multivariate Modeling to Test the Impact of 1-30 WDA Leader Status on Cultural Consonance

To examine the effects of being a 1-30 leader, we estimated the following models using ordinary least squares (OLS):

\[\text{Outcome}_{ij} = \alpha + \beta \text{Leader}_i + \lambda_j + \varepsilon_{ij} \quad (1)\]

\[\text{Outcome}_{ij} = \alpha + \beta \text{Leader}_i + \lambda_j + \tilde{S}_i + \varepsilon_{ij} \quad (2)\]

\[\text{Outcome}_{ij} = \alpha + \beta \text{Leader}_i + \lambda_j + \tilde{S}_i + \tilde{X}_i + \varepsilon_{ij} \quad (3)\]

where \(\text{Outcome}_{ij}\) is the outcome of interest for individual \(i\) in location (kebele) \(j\) and \(\text{Leader}_i\) takes a value of 1 if the individual is a WDA 1-30 leader. In model (1), \(\lambda_j\) is a vector of time-invariant location fixed effects to account for differences across geographic locations. We began the analysis of each of our outcomes with the equation where the coefficient of interest is \(\beta\), representing the effect of being a 1-30 leader. Standard errors were clustered on the group level to account for any within group correlation.

One concern with equation (1) is that our estimate of \(\beta\) (which we denote as \(\hat{\beta}_1\), where “1” represents the estimate from equation 1) may be biased due to selection. As we explored in
previous publications (Maes et al., 2019, 2018), 1-30 leaders are different in a number of ways (i.e. older, less likely to be married, etc.), and it may be these pre-existing differences that generate a difference in outcomes between 1-30 leaders and others, not their experience as a volunteer leader. To assuage such concerns, we estimated equation (2) where the vector \( \tilde{S}_i \) contains selection controls, which are all of the key characteristics from our larger survey where differences between 1-30 leaders and others were statistically significant at the 5% level. Appendix C contains the full list of selection controls. [INSERT LINK TO ONLINE FILE]

We then compared our estimate of \( \beta \) between equation (1) and (2) (\( \hat{\beta}_1 \) vs. \( \hat{\beta}_2 \)). Relatively stable estimates present suggestive evidence that selection bias is limited, under the assumption that we have data on all relevant characteristics that are different between 1-30 leaders and others. In order to improve the statistical precision of our estimate of \( \beta \), in equation (3) we included a set of additional controls represented in the vector \( \tilde{X}_i \) that we believed could affect cultural consonance. The standard error for \( \hat{\beta}_3 \) should thus be smaller than \( \hat{\beta}_2 \). These additional controls are listed in Appendix C. [INSERT LINK TO ONLINE FILE]

Still, there may be some unobserved differences between 1-30 leaders and other women that may generate selection bias. A common approach to tackle this issue is to compare the stability of estimates for \( \beta \) (i.e. comparing \( \hat{\beta}_1 \) to \( \hat{\beta}_2 \) to \( \hat{\beta}_3 \)). The idea is that if our estimate for \( \beta \) does not vary across regressions of equations (1) through (3), then the unobservable differences probably are not generating a selection bias. This assumes that the degree of selection between our observed differences (what we have data on) and unobserved differences (what we lack data on) is similar. We took an additional step in this study to generate estimates of \( \beta \) that take all
unobserved differences into account. In other words, what would our estimate of $\beta$ be if we could theoretically control for all relevant variables?

To do this, we applied a statistical method developed by Oster (2019) to generate an estimate of $\beta$ that would approximate the results of a regression that included all relevant controls (the ones that we currently have data on and the ones that we don’t). We denote this estimate as the restricted estimate ($\hat{\beta}_R$) following Oster’s notation (see Appendix C for additional details about this estimate). Under the previously stated assumption that the degree of selection between observed and unobserved differences is proportionally similar, $\hat{\beta}_R$ approximates the results of a regression that includes all relevant controls. To generate standard errors for statistical inference, we employed bootstrap methods (Cameron and Trivedi, 2005).

In the final stage of our analysis, we examined a multivariate model of psychological distress symptom loads (SRQF score). The model included the following independent variables: 1–30 leader status, marital status, social support, subjective socioeconomic status (SES), confidence in future gains in socioeconomic status, and measures of deprivation and stressful life events. Details are presented in Appendix D. We examined beta coefficients and p-values for each variable to identify which independent variables were significantly associated with the outcome (SRQF score dichotomized using a cutoff score of 8 or more symptoms). To account for potential non-independence of data collected from members of the same 1–30 group (given our sampling strategy described above), and thus generate robust error and parameter estimates, we used the Generalized Estimating Equation (GEE) procedure in
SPSS. We specified the subject variable as the ID number of the 1–30 leader linked to each individual respondent and the within-subject variable as the individual ID number, and set the working correlation matrix as exchangeable.

What explains these patterns? Participant observation and interviews

In this paper, we use material from our participant observation and interviews to contextualize and explain our quantitative findings. We also use them to investigate causality, which is hard to establish with confidence from cross-sectional survey data.

We conducted our ethnographic work in six kebeles, including the four where we conducted our survey. We interviewed 68 WDA leaders, members, and HEWs, many of them multiple times, for 109 interviews in total. We also interviewed 33 policymakers and government officials at kebele, woreda (district), state and national levels. We conducted participant observation in health posts and in the homes of seven WDA leaders and HEWs, taking detailed fieldnotes.

Both the ethnographic and quantitative work was carried out collaboratively over four summers (2013-2016) by two white American anthropologists, an Ethiopian anthropologist, and an experienced Ethiopian research assistant, along with five American undergraduates. Given our varied backgrounds, we brought different experiences and perspectives to the research and the analysis, a strength of the collaborative approach. We worked together throughout, establishing consensus on our interpretation of the findings.
Our diverse research participants responded to various members of our research team differently, depending on our perceived identities. The member of our team who built the closest relationships with our WDA respondents was RA, a young local woman with an understated, kind demeanor who visited many research participants multiple times over the course of years; this ultimately led to relationships characterized by great warmth.

At first many respondents were friendly but guarded, not surprising given the political context (Østebø et al., 2018). Over time, our relationships with these women deepened, leading to much more thoughtful and complex conversations.

We obtained ethical approval for this study from Anonymous College and Anonymous University. All names presented here are pseudonyms, and we have removed identifying details of our study participants.

Results

Here, we describe the findings of our cultural consensus analysis, and then explore whether being a WDA leader helped women achieve local cultural ideals in their own lives. We also investigate the effects of these dynamics on psychological distress. Finally, we use ethnographic methods to explain our findings in context.
**What is the cultural model of a good, respectable woman? Cultural consensus analysis**

Our consensus survey consisted of 66 items, provided in Appendix A, which correspond to a cultural model of a “good woman.” A factor analysis of the respondent-by-respondent agreement matrix confirmed that the participants in our consensus sample, which included HEWs, 1-30 leaders, and other women and men, shared a cultural model of respectable womanhood (see Appendix E). [INSERT LINK TO ONLINE FILE]

That the list of desirable behaviors and social connections was heavily agreed upon is not surprising. It confirms our expectation, based on ethnographic work, that people in these highly patriarchal rural communities have largely agreed-upon norms for women’s behavior, maintained and shaped by social relations in families, churches, and communities, and through interactions with the Ethiopian government. Many of the ways of being socially active, helping others, and getting others’ respect in our consensus sample were consistent with historical and ethnographic literature (Hoben, 1973; Illiffe, 1987).

Most of the highly desired social connections for rural women were government employees, both within and beyond the health system. Classic ethnographic work in rural northern Ethiopia suggests that women are often strongly concerned with advancing ties to patrons in local government (Hoben, 1973; Illiffe, 1987). Such connections are also critical in the 21st century: the Ethiopian state owns all land, giving smallholders temporary usufruct rights (Lefort, 2007). At the time of our research, the authoritarian, development-oriented Ethiopian ruling party, the EPRDF, also controlled access to a range of other resources, from health services to fertilizer (Lefort, 2012; Østebø et al., 2018).
How well are unpaid CHWs able to live up to that model, compared to other women?

Cultural consonance analysis

Our cultural consonance survey measured WDA leaders’ and other women’s consonance in the domains of social connections and ways of helping others. It showed that being a WDA leader helped women achieve the local model of respectable womanhood by facilitating desired social connections. However, taking on the WDA leader role did not affect the degree to which women were able to help others.

Tables 1 and 2 show response frequencies among the entire sample of 422 women (including both WDA leaders and other women). Most women said that they did not have many locally desired social connections (Table 1), with two exceptions: HEWs and religious leaders.

<table>
<thead>
<tr>
<th></th>
<th>No/poor relationship (%)</th>
<th>Good/very good relationship (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kebele administrators</td>
<td>61.6</td>
<td>38.4</td>
</tr>
<tr>
<td>Health center workers</td>
<td>89.3</td>
<td>10.7</td>
</tr>
<tr>
<td>HEWs</td>
<td>30.8</td>
<td>69.2</td>
</tr>
<tr>
<td>Local school teachers</td>
<td>88.2</td>
<td>11.8</td>
</tr>
<tr>
<td>District women's affairs officers</td>
<td>96</td>
<td>4</td>
</tr>
<tr>
<td>Religious leaders</td>
<td>13.7</td>
<td>86.3</td>
</tr>
<tr>
<td>Agricultural extension workers</td>
<td>79.6</td>
<td>20.4</td>
</tr>
</tbody>
</table>
Table 1. Existence of desired social connections, as reported by our full sample of women (n=422). Raw percentages for each response category (e.g., no relationship, bad, good, very good) are in Appendix F. [INSERT LINK TO ONLINE FILE]

Our respondents tended to say that they did not worry about whether they were doing enough to help others (Table 2). However, more than half of women said that they sometimes or often felt that they were not doing enough in three areas: showing hospitality, visiting sick people, and helping others get medical care.

<table>
<thead>
<tr>
<th></th>
<th>Never (%)</th>
<th>Sometimes (%)</th>
<th>Often (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperating to celebrate weddings/holidays</td>
<td>56.6</td>
<td>27.5</td>
<td>19.9</td>
</tr>
<tr>
<td>Helping with farm work</td>
<td>57.6</td>
<td>23.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Reconciling people who are quarreling</td>
<td>57.8</td>
<td>20.6</td>
<td>21.6</td>
</tr>
<tr>
<td>Hosting others in your home</td>
<td>38.9</td>
<td>34.6</td>
<td>26.5</td>
</tr>
<tr>
<td>Visiting sick people</td>
<td>35.8</td>
<td>28.7</td>
<td>35.5</td>
</tr>
<tr>
<td>Helping others get medical care</td>
<td>43.8</td>
<td>26.5</td>
<td>29.6</td>
</tr>
</tbody>
</table>
Table 2. Ability to live up to desired ways of helping others, as reported by our full sample of women (n=422) (“I never, sometimes, often think I’m not doing enough”)

Summary scores, where higher scores denote greater consonance, show that most women have low consonance in the domain of desired connections, and moderate consonance in the domain of helping others. Among the full sample, the mean consonance score for desired connections was 2.9 (SD=1.8) out of a maximum possible 10. For ways of helping others, the mean score was 7.3 (SD=3.7) out of a possible 12.

For ways of helping others and desired connections, respectively, Cronbach’s alpha was 0.86 and 0.68. While the latter value is relatively low, it is still close to the generally accepted cutoff of 0.7, suggesting that these scales are internally consistent measures of their respective latent constructs.

Table 3 presents mean consonance scores in both domains across both 1-30 leader and marital status. We included marital status because married and unmarried women were different in many significant ways (Maes et al., 2019). In the domain of helping others, mean scores were fairly consistent across these categories, with only very slightly elevated scores among 1-30 leaders. In the domain of desired connections, mean scores were higher among 1-30 leaders, with unmarried 1-30 leaders having the highest mean score.
<table>
<thead>
<tr>
<th></th>
<th>Helping others, mean (SD)</th>
<th>Connections, mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarried other women</td>
<td>7.0 (3.5)</td>
<td>2.9 (1.6)</td>
</tr>
<tr>
<td>Married other women</td>
<td>7.3 (3.8)</td>
<td>2.5 (1.6)</td>
</tr>
<tr>
<td>Unmarried 1-30 leaders</td>
<td>7.6 (3.8)</td>
<td>5.1 (1.9)</td>
</tr>
<tr>
<td>Married 1-30 leaders</td>
<td>7.8 (3.7)</td>
<td>4.3 (1.8)</td>
</tr>
</tbody>
</table>

Table 3. Consonance scores (means and standard deviations) in two domains (helping others and desired connections) across 1-30 leader and marital status

We next examined whether our two consonance variables were associated with each other. Based on a generalized estimating equation accounting for non-independence of data, we found that greater consonance in helping others was weakly associated with lower consonance in social connections (Beta = -0.166, 95% CI -0.349, 0.017, p=0.076). Again using generalized estimating equations, we then examined associations between our consonance variables and four aspects of psychosocial wellbeing: psychological distress symptom loads (SRQF score), social support, subjective socioeconomic status, and confidence in future gains in socioeconomic status (SES) (Table 4). Consonance in helping others was not associated with any of these aspects of psychosocial wellbeing. Greater consonance in social connections, in contrast, was strongly associated with lower psychological distress symptom loads and greater confidence in achieving future gains in SES (both p<0.001).
Table 4. Associations between two consonance variables (social connections and helping others) and aspects of psychosocial wellbeing. Beta estimates, 95% confidence intervals (in parentheses), and p-values based on generalized estimating equations accounting for non-independence of data (n=422). * p < 0.05; ** p < 0.01; *** p < 0.001

We then examined causal relationships between 1-30 leader status and responses to individual items on the cultural consonance survey. The full results of this analysis are in Appendix G; here, we present our results graphically. [INSERT LINK TO ONLINE FILE]

Figure 1 shows the effect of being a WDA leader on desired ways of helping others. Each dot represents our estimate of $\beta$ from equation (3) where the outcome is denoted on the y-axis. 95% confidence intervals are included. WDA 1-30 leaders reported feeling slightly better than other women about their ability to support others in socially desired ways, but in all cases these differences were minor and did not reach statistical significance.
Figure 1. Effect of being a 1-30 WDA Leader on desired ways of helping others in the community (n=422).

Figure 2 shows the effect of being a 1-30 leader on desired social connections. 1-30 leaders reported better relations than other women to all desired social connections in our cultural consonance survey. In the majority of cases, these differences were statistically significant. Thus, volunteering as a WDA leader in our study site improved cultural consonance in social and political connections. We are comfortable asserting causality here both because of our quantitative methods, and because of the qualitative work described below, even though, as we will describe in the qualitative section, some selection bias is likely in play in these findings.
Figure 2. Effect of being a WDA leader on desired social connections (n=422).

In the final stage of our analysis, we examined a multivariate model of the dichotomous outcome of 8 or more psychological distress symptoms. In the model (Table 5), we included the dummy variables for marital status, 1–30 leader status, and their interaction (the latter allows us to examine if the association between 1-30 leader status and the outcome differs by marital status). We also included our two consonance measures, as well as all of the independent variables we examined in a recent paper (Maes et al 2018). In this model, neither of the consonance variables were associated with psychological distress. The variables that were associated with psychological distress are similar to what we previously reported: social support (p<0.05), water
insecurity (p<0.05), food insecurity (p<0.001), and stressful life events (p<0.001). In this model, the 1-30 leader variable was also marginally associated with the outcome (p=0.071); this variable was not associated with the outcome in the model in our previous paper.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Beta</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>0.15</td>
<td>-1.13, 1.42</td>
<td>0.824</td>
</tr>
<tr>
<td>1-30 leader a</td>
<td>-0.76</td>
<td>-1.59, 0.07</td>
<td>0.071*</td>
</tr>
<tr>
<td>Marital x 1-30 leader status (interaction)</td>
<td>0.15</td>
<td>-1.28, 1.58</td>
<td>0.838</td>
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<tr>
<td>Subjective SES (ladder score)</td>
<td>0.05</td>
<td>-0.13, 0.23</td>
<td>0.553</td>
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<tr>
<td>“Very concerned” about SES</td>
<td>0.11</td>
<td>-0.50, 0.73</td>
<td>0.719</td>
</tr>
<tr>
<td>“Very confident” in future SES†</td>
<td>-0.55</td>
<td>-1.27, 0.17</td>
<td>0.134</td>
</tr>
<tr>
<td>Social support</td>
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<td>-0.10, -0.002</td>
<td>0.042*</td>
</tr>
<tr>
<td>Workload</td>
<td>-0.04</td>
<td>-0.12, 0.04</td>
<td>0.356</td>
</tr>
<tr>
<td>Water insecurity</td>
<td>0.07</td>
<td>0.01, 0.12</td>
<td>0.022*</td>
</tr>
<tr>
<td>Food insecurity</td>
<td>0.20</td>
<td>0.09, 0.30</td>
<td>0.000***</td>
</tr>
<tr>
<td>Stressful life events a</td>
<td>0.49</td>
<td>0.27, 0.72</td>
<td>0.000***</td>
</tr>
<tr>
<td>Consonance in connections</td>
<td>0.11</td>
<td>-0.07, 0.28</td>
<td>0.236</td>
</tr>
<tr>
<td>Consonance in helping others</td>
<td>-0.04</td>
<td>-0.10, 0.03</td>
<td>0.248</td>
</tr>
<tr>
<td>Intercept</td>
<td>-2.68</td>
<td>-5.00, -0.36</td>
<td>0.023</td>
</tr>
</tbody>
</table>

*indicates p < 0.1; *indicates p < 0.05; **indicates p < 0.01; ***indicates p < 0.001

†The 1-30 leader beta is negative because the 1-30 leader variable is reverse coded (i.e. 0=1-30 leader, 1=other woman). 1–30 leaders reported an average of six symptoms, significantly more than the rest of the sample (see Maes et al. 2018).
Table 5. GEE of 8 or more psychological distress symptoms (n=422)

What explains these patterns? Participant observation and interviews

Our qualitative material sheds light on why being a WDA 1-30 leader would lead to improved relationships with government officials, but not to greater consonance in the domain of assisting others. It also helps explain why achieving greater consonance in desired social connections did not significantly reduce psychological distress.

Becoming a WDA leader did not provide women with additional time or monetary resources to assist others in socially desired ways. Most WDA leaders said that their workloads did not provide them the freedom to devote much time to unpaid work. Kidist, presented at the beginning of this paper, was unusual in how much she ended up assisting others through her WDA position; yet even she commented that she didn’t hold regular meetings with other women because of time constraints.

Becoming a WDA leader did not give a woman more time to visit sick neighbors, and it did not give them extra resources to use in hosting guests or celebrating special occasions. Instead, being a WDA leader took up time, sometimes resulting in tension with other work demands. In general, the WDA leaders we knew responded to the demands on their time from many sides by prioritizing tasks; because WDA work was unpaid, they often let it go. “They are not paying
me,” one explained, “so I am often ignoring WDA work because it is better for me to work at my house and sell tella [an alcoholic tea] to get money.”

One afternoon, we accompanied a nurse and an HEW as they visited the homes of children who health post records showed were not fully immunized. It turned out to be an inefficient endeavor. We spent hours walking a circuit of many kilometers to visit houses, only to find in all but one case that the child was in fact fully vaccinated. Ideally, the immunization records would have been kept up to date by the WDA leaders who served those areas.

This waste of time irked the nurse; evening was gathering and she had work to do back at the health center. No doctor wanted to be posted to this rural health center, so the ten nurses who worked there were managing all of the clinical tasks with the HEWs. The nurse talked animatedly as we walked.

_We get 200 patients a day at the health center; there’s not enough staff. The HEWs aren’t careful about the vaccination registration book, because they have so much work and they’re not getting the help they’re supposed to from the WDA leaders. The WDA leaders want to be paid, so they’re not supporting the program and the HEWs._

HEWs and local NGO officials also commented that getting WDA leaders to do complex or time-consuming tasks could be difficult. Many agreed with the nurse’s opinion that if WDA leaders were expected to do significant work, “they should be paid something.”
WDA leaders did have better relations with government officials than other women. One reason for this was that women were sometimes chosen as WDA leaders precisely because of the existence of these relationships. Despite our best efforts to control for selection bias in our quantitative analysis, some effect of the government’s process of choosing 1-30 leaders is still likely at play in our findings. In particular, government officials’ tendency to recruit women they already knew for 1-30 leader positions likely explains leaders’ stronger relationships with kebele administrators and model farmers. Some HEWs said that they preferred to select 1-30 WDA leaders whose husbands’ previous government work suggested that “there will be a good experience in that home.”

WDA 1-30 leaders were a mix of very poor women, often widowed or divorced, and women who were married to kebele staff or model farmers (Maes et al., 2019). Other scholars have argued that model farmers (a government-organized association of rural men) provide support to the ruling party coalition in exchange for agricultural supports (Lefort, 2012). Our interviews suggest that kebele administrators and model farmers sometimes encouraged their wives to become WDA leaders to demonstrate their support of the EPRDF and of local officials. One HEW explained that most WDA leaders were “those whose husbands are model farmers, or have other leadership roles in the community, and as such the husbands want their wives to be selected as a leader.”

Government pressure to participate could be significant. One woman commented that men who worked in the natural resource protection program brought their wives to WDA meetings, “otherwise there will be a punishment by the government.”
Yet our qualitative material also suggests that beyond these selection effects, the work of being a WDA 1-30 leader itself strengthened desired bonds with government officials, especially for those women who did not have these connections to begin with. The most obvious and deepest connection was with the HEW, who was supposed to meet regularly with 1-30 leaders. Both HEWs and 1-30 WDA leaders said that their relationships with each other had been strengthened through the program. “We are closer because of working together,” one WDA leader said. An HEW asserted, “Now, since we eat and drink with them [the WDA leaders] and pass our time with them, we perceive one another as sisters.”

Beyond facilitating connections to the Health Extension Worker, being a 1-30 WDA leader also gave some women greater access to other desired community connections, including religious leaders and police. Women told us that WDA leaders formed bonds with government officials by participating in government-organized trainings and meetings.

Beyond trainings, the work itself involved additional contact with these people. Meetings between 1-30 WDA leaders and HEWs in some cases took place at church on Sunday, potentially giving 1-30 leaders greater exposure to church officials. Religious leaders were often included in health promotion campaigns. The police were often present at the kebele meetings that 1-30 leaders were encouraged to attend.

Kidist said that her work brought her into contact with government officials with a mandate to handle issues of women’s justice. She also mentioned that WDA activities included interactions
both with *kebele* administrators and with the police—valued connections that our quantitative analysis suggests were strengthened by WDA work.

In rural Amhara, forming strong ties with government workers and officials was a key pathway to resources like land and loans. In the extremely resource-limited settings of our fieldsites, the prospect of strengthening these connections was the reason some women had agreed to be WDA leaders. One commented, “I think the importance of the WDA is that the government may sometime in the future bring some help . . . the government might support us in some income generating work, which would benefit us.”

However, at the time of our research, WDA leaders’ improved connections to government officials had not generally lead to material benefits (Closser et al., 2019). Like Kidist, many WDA leaders were disappointed by this.

One WDA leader was initially hopeful about a savings circle her WDA group had started—she hoped the government would “help us start a business because we are saving money.” Later, however, she noted that this “had not happened.” Other women commented that the work they provided to the WDA personally brought them “no benefit” and was “disappointing,” a dynamic which helps explain our finding that an increase in desired social connections did not alleviate psychological distress for WDA leaders.
Discussion

Severe poverty and heavy workloads shaped the lives of unpaid female CHWs in rural Amhara (Maes et al., 2018). Our work confirms Dressler and colleagues’ (2007a, 2007b) hypothesis that in general, people with low socioeconomic status struggle to emulate cultural models. Women in our study had trouble achieving cultural norms of successful womanhood because they lacked the money, land, and time to do so.

Like many unpaid CHWs in low-income contexts across the world (Kane et al., 2020), WDA leaders hoped that unpaid community health work would be a way to achieve access to resources in the face of severe economic constraints. Government work is desirable in Ethiopia because it provides opportunities to build patron-client relationships that offer chances to access scarce resources controlled by the government. Smallholders have experienced a decline of 25% in average farm size during the past 20 years, deepening vulnerability to food insecurity (Ellison, 2009; Little, 2008). Anthropologist Dan Mains found that in Jimma, a town in southwest Ethiopia, widespread unemployment left young men unable to achieve their ideals of economic independence. These young men desired government jobs (Mains, 2007). Some chose to join government-organized youth groups in the hopes of gaining access to government benefits, or at least of avoiding harassment by police (Mains, 2012).

Our study involved a different population, but many of the same dynamics were at play. Women hoped that being a WDA leader would provide new ties to government patrons (cf. Swidler and Watkins, 2009). Unpaid work as a 1-30 leader did in fact strengthen these ties, although access to government resources did not necessarily follow in the way that women hoped.
The needs of WDA leaders and the desires of the Ethiopian government did not neatly align. WDA leaders hoped for material supports that would help alleviate severe poverty. The government, for its part, saw such desires as “rent-seeking,” and wanted instead a self-sufficient population of model women engaging in development-minded behaviors (Closser et al., 2019; Maes et al., 2015a).

As in other CHW programs across the world (Roalkvam, 2014), WDA leaders were expected to mold themselves and their neighbors into very specific kinds of agents: ones that would promote and encourage government-endorsed behaviors, like giving birth in health facilities, while simultaneously remaining silent about the material needs of their families. These expectations were fed in part by globally pervasive visions of selfless female CHWs (Closser et al., 2019; Ramirez-Valles, 1998).

WDA leaders, however, made their own decisions about what they would do. Engaged in constant work to provide for their families, they adopted WDA tasks they found time-efficient, and let the rest go. Kok et al. (2015) observed similar dynamics in SNNP, in southern Ethiopia: while HEWs found the WDA infrastructure helpful, many WDA leaders were inactive.

CHW work across settings co-exists, and at times competes, with other work responsibilities for low-income women (Kane et al., 2020). Often, work for CHW programs is at least in part an income-generating strategy (Closser, 2018; van de Ruit, 2019). For these reasons, in high-
poverty contexts, volunteer CHWs generally need pay, or incentives with monetary value, to feel that their work and their time is valued (Vareilles et al., 2017).

Vareilles et al. (2017) note that without material supports, volunteer CHWs in low-income contexts are likely to feel that they cannot live up to community expectations, “cannot feel sufficiently respected or valued and, as a result, cannot expect to improve their social status by volunteering” (p. 9). These observations resonate with our finding that becoming a WDA leader did not improve cultural consonance in desired ways of helping others; these women did not have the time or resources to provide culturally valued care and support to their neighbors.

Our study design had some limitations: as we noted, some selection bias was likely at play in our finding that becoming a WDA leader improved connections with government officials. We are nonetheless comfortable asserting causality here for two reasons: first, our quantitative methods were designed to take these dynamics into account, at least to some degree. More significantly, our ethnographic work showed clearly that WDA leaders were in fact gaining additional exposure and access to government officials through their WDA work, although these connections did not lead to the benefits women hoped for.

Political and economic motivations for taking on CHW work are often viewed negatively by donors and directors, but taking them seriously is crucial to program design. Community health and development programs are inherently political, constituted by complex relationships between actors with various priorities and levels of power. In the absence of pay, WDA leaders, like other CHWs in socially precarious positions, hoped for other benefits from CHW work.
Networks are central in achieving cultural consonance in Ethiopia, as in many other parts of the world. Our analysis points to the importance of nurturing desired connections in supporting CHWs. Professional development for CHWs could go beyond knowledge and tasks to include facilitating the development of socially valued networks—just as it does for high-level doctors and researchers. Such an approach could reduce inequalities in who has the capacity to establish professional connections—with local officials or with national policymakers—and to use them to both advance professionally and improve community health.

For women in this rural context, chronic food and water insecurity, and other stressful experiences, continue to be a familiar and recurrent part of life (Maes et al., 2019). CHW programs would do well to address impoverished women’s needs, providing them with the material supports that would allow them to make the time and space to support the health system and care for their neighbors.

**Works Cited**


Maes, K., Closser, S., Tesfaye, Y., Gilbert, Y., Abesha, R., 2018. Volunteers in Ethiopia’s women’s development army are more deprived and distressed than their neighbors. BMC Public Health 18, 258.


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