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Social Networks, Social Participation, and Health among Youth Living in Extreme Poverty in Rural Malawi

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Abstract

Extensive research documents that social network characteristics affect health, but knowledge of peer networks of youth in Malawi and sub-Saharan Africa is limited. We examine the networks and social participation of youth living in extreme poverty in rural Malawi, using in-depth interviews with 32 youth and caregivers. We describe youth's peer networks and assess how gender and the context of extreme poverty influence their networks and participation, and how their networks influence health. In-school youth had larger, more interactive, and more supportive networks than out-of-school youth, and girls described less social participation and more isolation than boys. Youth exchanged social support and influence within their networks that helped cope with poverty-induced stress and sadness, and encouraged protective sexual health practices. However, poverty hampered their involvement in school, religious schools, and community organizations, directly through lack of required material means, and indirectly by reducing time and emotional resources and creating shame and stigma. Poverty alleviation policy holds promise for improving youth's social wellbeing and mental and physical health by increasing their opportunities to form networks, receive social support, and experience positive influence.

Keywords

Malawi; social networks; social participation; social integration; peer effects; cash transfer; poverty; health behavior

Introduction

In this paper, we examine the social networks and social participation of youth living in extreme poverty in rural Malawi. We analyzed baseline in-depth interviews conducted with youth (ages 13–19) and their caregivers who are participants in the Government of Malawi's Social Cash Transfer Program (MSCTP), a poverty alleviation program. We provide a rich description of youth participants' peer social networks, and compare network structure (e.g. size), function (e.g. social support) and social participation of girls and boys. We also

illuminate how the context of extreme poverty influences their networks, social participation, and their health and wellbeing.

Social wellbeing is conceptualized as an aspect of overall health, along with physical and mental health, in the World Health Organization's 1948 foundational definition (International Health Conference, 2002). Social wellbeing is defined as individuals' perceived quality of their relationships with other people in their social networks, neighborhoods, and communities (Keyes and Shapiro, 2004). Other definitions emphasize people's performance in social roles and their social participation (Larson, 1993). An extensive literature also examines various aspects of social wellbeing, such as social networks, as correlates or predictors of physical and mental health outcomes. Social networks have influence in many health domains, including chronic and infectious disease, mental health, and health-related behaviors (e.g. Kawachi and Berkman, 2001; Smith and Christakis, 2008). In Malawi, a robust literature documents relationships between social networks and HIV outcomes among adults (e.g. Helleringer and Kohler, 2007; Kohler et al., 2015). A smaller body of work examines social participation and physical and mental health (e.g. Myroniuk and Anglewicz, 2015).

Berkman and colleagues (2000) argue that to comprehend the multiple pathways through which social networks influence health, it is critical to conceptualize them as embedded within broader social and structural conditions – such as poverty and gender norms—that shape network structure and functioning. In high-income countries, measures of individuals' social status level and income predict social networks characteristics, such as size (e.g. Ajrouch et al., 2005). Menjivar (2000) depicted, in an ethnographic study, how a community's lack of material resources threatened social network stability by disabling the exchange of social support. Women have been found to have more intimate social ties than men and to provide more social support through their ties. For women with few resources to share, these relationships can generate rather than alleviate stress (Antonucci et al., 1998; Belle, 1987; Kawachi and Berkman, 2001). Studies also document how contextual factors relate to social participation—in an urban U.S. setting, neighborhood-level socioeconomic disadvantage was positively associated with rates of participation in neighborhood improvement organizations, but this relationship diminished at the highest levels of disadvantage (Swaroop and Morenoff, 2006).

Per Lin et al. (1999), social ties are organized in nested layers around the individual, ranging from participation in community and voluntary organizations within the outermost layer, to network relations within the middle layer, to intimate ties within the innermost layer. Each outer layer of ties affords the opportunity to construct inner layer ties. Empirically, community participation increases the likelihood of "constructing and maintaining interactive ties in social networks." We examine youth's social participation–in which we include involvement in formal and informal institutions such as schools, religious community, and community organizations— in addition to social networks in order to gain a more complete view of their social wellbeing, and deeper understanding of the extent to which their social and structural environment affords opportunities to build and exercise networks.

Among adolescents, research in high-income countries has shown the particular importance of peer social networks for health. Peers can provide critical social support during difficult transitions or life events, and promote prosocial health behaviors (Bernat and Resnick, 2009). However, the peer context also plays an important role in the initiation and maintenance of a range of risky behaviors and negative outcomes, including substance use, obesity, suicidal behaviors, and increased number of sex partners (Abrutyn and Mueller, 2014; Ali and Dwyer, 2011; Bauman and Ennett, 1994; Faris and Ennett, 2012). The strength of the influence of peer ties vary according to network characteristics such as size (Faris and Ennett, 2012), and individual characteristics such as gender (Widman et al., 2016).

Research on social ties and health in youth populations in sub-Saharan Africa, including Malawi, is limited, and predominantly focused on children and adolescents "affected by HIV" and HIV risk behaviors (e.g. Ruiz-Casares, 2010; Sikstrom, 2014; Skovdal et al., 2009). However, the importance of peer networks and social participation for health is clear. In urban Tanzania, Yamanis et al. (2016) found that young men who were members of close knit peer networks, locally referred to as "camps", had an increased likelihood of engaging in concurrency if the majority of their male camp members reported concurrency. Hargreaves et al. (2008) found lower HIV risk among school-attending youth in South Africa than among their non-school-attending peers. School-attending girls were less likely than non-school attending girls to have significantly older sexual partners, suggesting that school offers an environment for developing age-similar – and thus less risky--ties and sexual networks. In this paper, we aim to expand the limited research on peer networks and social participation of youth in sub-Saharan Africa using a gender sensitive lens. We examine how the economic context shapes youth networks and participation, and how networks and participation influence multiple aspects of health. We also consider the implications of our findings for how poverty alleviation policy could improve youth social wellbeing, mental health, and physical health.

Methods

Study setting

Malawi is one of the poorest countries in the world, with an annual GDP per capita of US $250 and a poverty rate of 50 percent. Fifty-four percent of the population is below the age of 18, and life expectancy is 55 largely due to an HIV prevalence rate of 12 percent. The HIV epidemic has resulted in an estimate of over one million orphans in the country. 31 percent of women age 20–24 report at least one live birth before the age of 18 (National Statistical Office, 2015).

The formal education system comprises eight years of primary education (Standard 1–8), four years of secondary (Form 1 – Form 4), and four years of university level education (World Bank, 2010). Nearly all primary school students and three quarters of secondary school students receive education through public institutions (World Bank, 2010). Although free primary education was introduced in 1994, families are often required to pay fees for school operational costs (Kadzamira and Rose, 2003). Three percent of children drop out of school after Standard 1, and 17 percent drop out between Standard 7 and 8. Differences in

dropout rates between males and females are not substantial, but rural children are more likely than urban children to drop out at all grades. Attendance rates among males older than age 15 are much higher than rates among females (National Statistical Office and ICF Macro, 2011).

Most people in rural Malawi attend regular religious services and activities (e.g. prayer groups), which foster a sense of community within congregations (Yeatman and Trinitapoli, 2008). Muslim youth commonly attend Madrassa, religious school. Rural villages are typically composed of huts, boreholes, churches and mosques, and spread out to allow for subsistence agriculture (Yeatman and Trinitapoli, 2008). Participation in religious community provides opportunities for interacting with diverse others of diverse experiences and social standing, which are relatively rare in this context, especially for women. While women spend much of their time farming and doing household tasks, usually with women from the same household, compound, or village, many men do paid work and spend time in bars where they meet varied individuals (Yeatman and Trinitapoli, 2008).

The MSCTP--an unconditional cash transfer program to improve the wellbeing of ultra-poor and labor constrained households and to promote investment in nutrition, health, education, shelter, and creation of productive assets— began as a pilot in the district of Mchinji in 2006. It now operates in 18 districts, reaching 750,000 people in 170,000 households. Households are eligible if they are unable to meet their most basic needs, including food, soap, and clothing, and have a high dependency ratio. This demographic targeting criterion effectively captures households who have lost prime-age members due to AIDS and are caring for orphans (UNICEF, 2007). Systematic targeting is used to identify beneficiary households. The Ministry of Gender, Children, Disabilities and Social Welfare administers the program with policy oversight from the Ministry of Finance, Economic Planning and Development and technical support from UNICEF-Malawi. The main financial contributors to the program aside from the Government of Malawi are the German government through KfW, the European Union, the World Bank, and Irish Aid.

Study design

The impact evaluation uses a mixed methods, longitudinal, experimental study design (Handa et al., 2014). The study districts, Salima and Mangochi, were chosen in order to integrate with the Government of Malawi's SCTP expansion plans, which were programed to begin there in 2013. The multi-stage stratified sampling design consisted of randomly selecting two traditional authorities (TAs) within the selected districts, followed by random selection of village clusters within TAs, and households within village clusters. The baseline sample includes 3,531 MSCTP-eligible households across four TAs, 1,853 in the treatment group and 1,678 in the control group. The baseline qualitative component included in-depth interviews (IDIs) with an embedded cohort of caregivers and youth aged 13–19 years from 16 treatment households, focus groups with community members, and key informant interviews. For the IDIs, purposive sampling was used to obtain a youth sample divided evenly between female and male, orphaned and not orphaned, sexually experienced and not, and currently attending school and not (Handa et al. 2014). Four households containing a youth who had participated in the quantitative survey and who fulfilled purposive sampling

selection characteristics were identified in each TA, and the youth and their primary caregiver were invited to participate in IDIs. The focus of this paper is the baseline IDIs with youth and caregivers.

Data collection

Four trained interviewers conducted 32 IDIs with youth and caregivers using semi-structured interview guides containing questions on: time use; household composition, economic situation, and social support; participant role in the household regarding chores and work; and community social capital. The youth IDI guide additionally contained questions on the participant's schooling, sexual behavior, experience with HIV, and inventories of peer social network and personal network members. In the peer network inventory, youth listed people their age at home, school, or in their community with whom they spent time, talked, and/or whom they considered to be their friends. Questions about each member named in the inventory were included such as, "What kinds of things do you talk about with [NAME]?" Interviewers obtained informed consent from caregivers and youth aged 18 years and over and informed assent from youth aged 17 years and under. They audio-recorded, transcribed verbatim, and translated IDIs from Chichewa and Yao to English, and produced detailed field notes. This study received ethical approval from the University of North Carolina-Chapel Hill Internal Review Board and Malawi's National Commission for Science and Technology (NCST), National Committee for Research in Social Sciences and Humanities (UNC IRB Study No. 14-1933; Malawi NCST Study No. RTT/2/20).

Data Analysis

Analysis began with close, iterative reading of youth and caregiver transcripts and field summary notes from IDIs. We developed inductive codes, based on themes identified in the data, and deductive codes, based on constructs and theory from published literature on social networks, social participation, social integration, and health (e.g. Thoits, 1995). We coded all transcripts using Atlas.ti software and sorted coded data into thematic areas derived from the research questions.

Coding the data to identify themes across participants' narratives provided a general view of the characteristics of peer social networks and social participation among youth participants, such as types of social support received and recreational activities. To obtain a contextualized view of individual participants' networks and participation, we created a narrative summary for each youth participant (Maxwell and Miller 2008). The summaries were comprised of four domains: household composition, level of youth responsibility for meeting household needs and youth time use; social network composition, social support exchanged, and interaction types; and participation in institutions and group activity. We created two matrices, one to compare the summaries and identify patterns (Miles and Huberman, 1994), and another to convert some codes into numerical counts to allow us to see patterns (e.g. linkages between gender and peer network size) with greater clarity, and verify emerging interpretations (Sandelowski, 2001).

For each caregiver/youth dyad, we used the youth data to describe youth experiences, networks, and participation, and the caregiver data to obtain additional detail on the broader

household and community context of these phenomena (e.g. social dynamics within the community). Throughout data analysis, we wrote memos to develop and reflect on our interpretations of the data and revised codes.

Findings

Study population

The average age of the youth participants in the qualitative sample was 15 years. Participants were divided evenly between male and female and enrolled in school and not enrolled. Seven were double orphans and four were paternal or maternal orphans. These characteristics closely reflect the quantitative study youth sample in which the mean age was 15, 50% were girls, 55% were enrolled in school, and 62% were paternal, maternal, or double orphans. One quarter of girls and three quarters of boys were in school. The average age of the 16 caregiver participants was 53 years old. Of these, 14 were female and two were male.

Experiences of extreme poverty

Study participants described their households' challenges in meeting basic needs, including food, soap, clothing, body oil, and household wares for cooking and keeping bodies warm. They faced perpetual hunger, and extreme food shortages during which they seldom ate if at all, or survived on maize cobs and wild vegetation. They cited drought and lack of fertilizer as barriers to agricultural productivity. Many participants described financial and logistical obstacles to their use of health services (e.g. transportation). All youth participants spent some proportion of their time on income generating activities such as *ganyu* –short-term rural piecework labor on the fields of other smallholders or on agricultural estates (Whiteside 2000)—selling firewood, and working on their household's own farm. Some youth participants were solely responsible for their household's income.

Anxiety and symptoms of depression due to the struggles of poverty were common experiences amongst these youth. As Karim (15 years) described, "I worry about food availability, clothing and school. If my family was doing well I wouldn't do what I do but I do it for survival because the problems we have are just too much." Participants identified the worry related to food insecurity, in addition to hunger, as causing weakness and poor physical health outcomes.

The struggle to meet basic needs affected school attendance, attainment, and/or performance in some way for all youth participants in this study. Participants not enrolled in school had dropped out because of the lack of soap for cleaning school uniforms and bathing, school supplies, money for exam and other school fees, and/or time that had to be used for income generation. Attending school with a dirty uniform was socially unacceptable. Eliza, a 17-year-old orphan, explained multiple, overlapping reasons for leaving school,

> I dropped out [because] there were a lot of problems. I did not have a change of clothes. The same clothes I had to wear to school, to the fields, and here at home. It wasn't working out, so I just stopped going…I had no writing materials…I also

> stopped [going to school] to work in *ganyu* for food—my grandmother is very old, and she cannot manage.

Karim who spent most of his time doing *ganyu* to support his grandmother and disabled mother, emphasized the role of food scarcity in keeping him from attending school and his desire to re-enroll,

> If only we could be eating well, good food, and I could be going to school and that money would not be a big problem so that we could be buying clothes and allow me to go to school. I would be happy going to school and if we would be able to find food without problems, and knowing that I will be able to find food at home after school.

Female youth participants who were pregnant or had children—comprising half of the female youth participants in this sample—also discussed pregnancy as a principal reason for leaving school.

School-going youth lived under the constant, often stress-inducing, threat of being forced to drop out. Their school performance suffered when they missed lessons and when they had trouble concentrating in class because they were hungry or worried about the work to be done to supply their households with food and soap. Many, such as 13-year-old Shadreck, an orphan whose grandmother and siblings relied on him to support their household through *ganyu*, were constantly absent and held back repeatedly:

> Things are not going well for me in class because I am sometimes absent for a week which means I don't know what my friends learn[…]I repeated so many classes; I repeated standard 2 twice and[…]standard 3 once because of my constant absenteeism. If a person is absent from school so many times, they wouldn't know what their friends are learning.

Despite his struggles in school, Shadreck described his school friends and teachers as caring, understanding, and sources of companionship. However, he had limited time to nurture these social ties and draw benefits from them due to his regular absence from school.: "[I spend time with my friends in school] when I have time and if I don't go to the mountains [for ganyu] that day." For some participants, the combination of absence and poor performance was a precursor to dropping out-of-school, which cut off access to this social environment altogether.

Poverty also restricted youth involvement in religious communities. In the past, Karim – who lives in Salima, a predominantly Muslim district where going to Madrassa after school is commonplace –also participated. He spoke of his religious beliefs throughout his interview, more than other participants. His faith in God guided his daily activities, and helped him to cope with uncertainty and the struggles of poverty:

> Interviewer: When you don't have money in the house, what do you do?
>
> Karim: God provides in his own way.
>
> Interviewer: How does he do it?
>
> Karim: Somehow he guides you, 'go this way you will find a way to make money.'

However, Karim had to stop participating in Madrassa because he could not afford the long pants, shirt, and cap required to attend and had no one he could ask for help to acquire these items. Despite his religiosity, Karim was barred from this type of social participation due to his lack of financial means and excluded from the possibility of expanding his social network and receiving social support or other potential network benefits.

Youth described minimal involvement in community-based organizations. Many said there were no organizations in their communities or were unsure of what existing ones did. Two male participants noted involvement in organizations: Isaac was student chairperson of a school-based HIV prevention club and Jafar was involved in an agricultural group. No participants spoke of youth-focused community based organizations other than the HIV prevention club in Isaac's case and soccer teams. Loveness (15-years-old) noted that there are several village banks, but that poverty prevented her from participating in them: "…those who participate in these have food. Can we take money to keep there when we don't have food?" A few participants had, at some point, received help from organizations in the form of cottonseed, maize, medicine, or a school uniforms, but did not play an active role in the undertakings of these organizations or in helping other community members.

Participants described stigmatization by community members and bullying by schoolmates because of their extreme poverty and/or orphan status. Most participants who experienced social stigma were female and out-of-school. Silvia, a 15-year-old orphan living in a household headed by her 21-year-old sister, perceived that community members gossiped about and looked down on her family:

> Interviewer: Is there anything that concerns you or worries you about your safety or wellbeing?
>
> Silvia: Yes, we don't have parents so we lack so many things that a person needs in life[…]also what people say.
>
> Interviewer: What do people say?
>
> Silvia: So many things[…]that we don't have parents, we are orphans and that we don't manage to take care of ourselves.

Silvia perceived that community members spoke disparagingly of their inability to meet their basic needs. While Silvia had a small network of peers (comprised mostly of acquaintances), she experienced social isolation on the level of the broader community. Jafar (14 years old) also experienced stigma related to his orphan status at school: "there a lot of bullies in our school who make fun of me. They make insensitive jokes and call me an orphan."

Eliza, an orphan (17-years-old) who lived with her grandmother and younger sisters, described stigma related to extreme poverty:

> Interviewer: There is no person you see that could help you if you could ask?
>
> Eliza: No, there is no one we can rely on here, everybody says bad things about us
>
> Interviewer: What do they say?

Eliza: That we are beggars.

Stigma precluded Eliza's social interaction and prevented her household from seeking out social support.

Youth and caregiver participants referred to a value of independence and self-reliance within their communities, which was tied to stigmatization of those who must rely on others to survive. Many youth named being independent as an important aspect of their aspirations for the future and caregivers cited independence as a primary hope for the youth's futures as well. As Annie, a 50-year-old caregiver, explained, she could not ask neighbors or friends for support in times of need because this would constitute a lack of independence: "Even if I went there to beg porridge they cannot give me, they say, you should be independent." Community members who were unable to meet their own needs due to poverty and/or orphan status —resulting, for example, in begging, an act of extreme dependence on others —were stigmatized through gossip and name-calling. As the quotation above from Eliza illustrates, this lead some youth participants to avoid seeking support through social ties and thus to self-isolate.

Peer Social Networks

Within this context of limited opportunities for social participation, participants described having peer social networks of varying sizes, types of members, and levels and modes of interaction, through which they received differing levels and types of social support and influence. We describe these peer network characteristics and how they were linked with participants' social participation.

Size, composition, and support—Participants named from 1 to 5 peers in their peer social network inventories (median: 3). Networks were comprised of close friends, extended family members, and acquaintances. Girls' network size ranged from 1 to 4 (median 2) while boys' were larger, ranging from 2 to 5 (median: 3).

We categorized peer network members as "close friends" when participants explicitly identified them as "important," "close," or "good" friends; described receiving emotional support from them in terms of sympathy ("they come to see me when I am sick"), understanding, strong affection, and mutual trust ("we don't tell lies about each other"); provided one other with intimate companionship ("we are always together"); and/or noted the relationship's long duration as in the case of a childhood friend. Silvia described how she and her close friend Afiya helped one another cope emotionally with anxiety about poverty: "we tell each other that we shouldn't be very worried about poverty[…]that we shouldn't worry very much when we lack money and food, that we should just work hard." Silvia and Afiya also helped one another actually secure means to alleviate their poverty-related worries by telling each other about *ganyu* opportunities. Loveness described how she and her close friends supported one another emotionally by listening to one another talk about their hardships, and financially: "we help each other all the time, even though the money is small[…]These ones I rely on because they give emotional support when I need it and we tell each other our troubles." Some participants had close friends who were also schoolmates

–they socialized while in school, helped one another with schoolwork, and sought out supplies together.

Participants' peer networks also included acquaintances—that is, people with whom they spent time doing work, having casual conversation, or playing soccer, for example, but who were not close friends. These included neighbors, people in the community with whom they exchanged greetings, and schoolmates. Participants exchanged instrumental support with some acquaintances, such as a pen for school or a little money. Silvia's network included both close friends and acquaintances. Whereas Afiya was a close friend as described above, Jennifer, Malifa and Mary were acquaintances in that they were essentially friends of convenience: "[they] are not that close to me, we just go together to fetch water and to the fields because our farms are nearby."

While most participants had reached sexual debut, none named romantic and/or sexual partners as members of their current peer networks. Some reported having had boyfriends, girlfriends, and/or sexual partners in the past. Female youth who had young children talked about the fathers of their children in terms of dissatisfaction with their level of support, sadness, or barely knowing them. As Patuma (18-years-old) spoke of her child's father, "[our relationship] is not in good terms […] he just impregnated me and left." One male participant, Ibrahim, described an ex-girlfriend as a current friend. Four female youth described receiving instrumental support – i.e. money--from a sexual partner. As Loveness stated, "he was selling maize so I liked the way he behaved, his behavior was good, he was chatting with me well when I went there, other times he would give me money."

Five youth participants, all female, described experiences of social isolation in the forms of having few or no social ties outside of their households and families, avoiding social interaction due to the stresses of poverty, having little time for socialization, and/or limiting their mobility due to the shame of being unable to wash their clothes or bathe. Overall, fewer girls than boys described receiving emotional support or instrumental support from their peers. Eliza, for example, was extremely socially isolated. She had no social network and did not engage in social participation. Her social realm was largely limited to her home, where she received emotional support from her grandmother and sisters. Eliza had one childhood friend, Khomba. Eliza's interactions and opportunities for exchange of social support with Khomba were limited by the time she had to spend supporting her household. Eliza cut herself off from relationships, both platonic and romantic, because she felt limited in her mental and emotional capacity to deal with the possible stress or conflict that can arise from social ties: "[…] with all the problems I have I don't have time for friends, I don't want disagreements […] with the thoughts I have in my head for me to be disagreeing with someone, I don't want, I just stay here at home." She was not involved in any formal or informal institutions in the community and perceived that community members looked down on her family. Eliza's narrative illustrates how social ties can be viewed as a burden in context of extreme economic hardship.

Modes of interaction—Participants interacted with their peer network members through school, income generation activities (e.g. farming, selling firewood, looking for *ganyu*), household chores, chatting, Madrassa, and recreational activities such as soccer, video

shows, and singing and dancing games. Fewer girls than boys (two versus six) were enrolled in school, and no girls participated in soccer or Madrassa. Overall, boys discussed engaging in recreational activities with their friends more frequently than girls did. The most popular modes of interaction with peers among boys were recreational activities—mainly soccer—and school-related activities, and among girls were chatting and income generation or chores.

Participants who were enrolled in school interacted with peers both within the school environment and through school-related activities such as helping one another with homework, talking about school, and seeking out school supplies. Isaac, a highly engaged school-enrolled participant, had a network that was defined and bolstered by the context of school. Among what he called his "many" friends, four were close -- they studied together, addressing each boy's particular weaknesses in school, and encouraged each other to wait to have romantic relationships that could derail their progress. They also supported one another's religious engagement, played soccer, talked through community issues, and provided each other with intimate companionship. As Isaac described:

> **Isaac**: There is Malijani with whom I spend most time with, he is with me most of the time…With this one we encourage each other about both school and religion. Majidu, we encourage each other about Madrassa and the other two we mostly talk about school[…]
>
> **Interviewer:** How is your relationship with Mangani?
>
> **Isaac:** The reason why we are close?[…]what happens mostly is we teach each other. We are amongst the best performing students so what I am good at maybe my friends are not and what my friends are good at I am maybe not so we sit down together and teach one another[…]we also talk about soccer, issues that are happening in our community or when one of us was wrong in something else we also talk about it.

Isaac's ties with these four friends were supported by the opportunities they had to interact in school and studying; in turn, the relationships helped him succeed and stay in school by providing informational support, encouragement, and a group norm of academic achievement. Indeed, Isaac pointed to the ways that the friends enabled each other's school success as the heart of the relationships. The activities that 14-year-old Salome -- another school-enrolled participant reporting "many friends" -- shared with her best friend and schoolmate also support strong school performance: preparing for tests together and talking about school, which may foster a sense of school engagement.

Five participants talked about participating in religious activities -- three boys spoke of attending Madrassa, Muslim religious school, and two girls spoke of receiving spiritual or instrumental support from religious leaders. As quoted above, when Isaac first portrayed his network of close friends, he described its structure in reference to the two formal institutions that the friends share, school and religious school. These institutions were defining features of the network and important to the ties that constitute it -- for Isaac, Malijani and Majidu, mutual involvement in Madrassa provided a source of shared experience and commitment,

which sustained the bonds between them. In turn, his network supported his involvement in Madrassa through the "encouragement" that the friends gave one another.

While Isaac's large network of close ties was unusual among participants, his case illustrates patterns that we observed more broadly: in-school youth had slightly bigger, more interactive, and more supportive social networks than out-of-school youth. In-school youth named a median of three people in their peer network inventories (range: 2–4) while out-of-school youth named a median of 2 (range: 1–5). In-school youth talked about engaging with their friends in nearly all modes of interaction–income-generating activities, chores, school related activities, and recreation--more commonly than did out-of-school youth. More in-school than out of school youth described receiving emotional and instrumental support from peer network members, and fewer in-school youth experienced social isolation. The two participants who attended Madrassa were also school-enrolled. The four participants in this study who did not describe receiving any particular type of support from those they named as peer network members were out-of-school youth.

All but one male participant and no female participants discussed playing soccer, the most frequently mentioned group recreational activity overall. Boys played formally on teams in and outside of school, and informally in the community. It was a central mode of interaction for male friends and acquaintances and topic of conversation. Soccer was the only mode of social participation and primary mode of social interaction for Karim, whom poverty forced to drop out of both school and Madrassa. Despite having limited time for socialization due to his heavy *ganyu* burden, he played as a club member and casually with friends.

Five youth said that they chatted about sex and relationships with their friends. In all cases except one, they described the risk of HIV as the typical topic of such conversation. For example, Loveness and her friends discussed potential devastating consequences of sex: "We talk about the future[…]that it should turn up well[…we tell] each other that we should not have sexual relationships because we could destroy our lives[…]maybe contract a disease then die." The health risks of sex also came up in George's conversations with his friends, as well as how to mitigate them: "we encourage each other to protect ourselves if we are in relationships."

Discussion

We found that extreme poverty threatened the social well-being of youth living in extreme poverty in rural Malawi. Poverty hampered youth participants' engagement in both formal and informal institutions in which they could create, exercise, and maintain social network ties, namely school, Muslim religious school, and community organizations. The impact of poverty was direct, by denying the material means required for participation (e.g. clothes, school fees), and indirect, by reducing time and emotional resources for socializing, and creating stigma of poverty and orphanhood that led to self-isolation. These social effects of poverty echo those from other studies in SSA and the Mideast. Impoverished youth in South Africa and Yemen described being shamed by their peers and feeling different from others for having foods, clothing, hairstyles, and poor personal hygiene that signify poverty, which led them to drop out of school and engage in transactional sex (Adato et al., 2016; Samuels

and Stavropoulou, 2016). In Rwanda, orphans with fewer assets experienced significantly higher levels of stigmatization and isolation from their communities (Thurman et al., 2008). Our participants' feeling that they could not reach out to members of their community for support and the stigma of not being independent may reflect a decline in informal safety nets that traditionally help in times of need in rural Malawi, which research has partially attributed to worsening poverty (Devereux, 1999; Tsoka and Mvula, 1999).

We found that girls described less participation in both formal and informal institutions, and smaller, less interactive, and less supportive networks than boys. For boys, soccer offered an opportunity for social participation and physical activity that weathered fluctuations in their economic circumstances; although Karim had to drop out of both school and Madrassa to support his family, he continued to participate extensively in soccer, for example. Conversely, once girls dropped out of school, they had few environments in which to engage with existing ties or develop new ones, which may render them less resilient to some of poverty's negative social impacts. Further research should strive to better understand this social isolation and its health consequences, and build an evidence base for appropriate programmatic and policy responses, such as interventions to increase social support among girls (Erulkar et al., 2013).

When youth were able to participate in school, they experienced multiple benefits for their social wellbeing. School-enrolled youth had larger, more interactive, and more supportive social networks than non-enrolled youth. School provided opportunities to socialize, and school enrolled youth engaged in activities with their school-enrolled peer network members that supported school participation and good performance (e.g. studying, finding school supplies) – and thus the possibility of staying enrolled. In Isaac's narrative, for example, social norms of and support for strong academic performance were transmitted within his school-based peer network. We thus saw a feedback loop: participation in the school environment allowed youth to build social networks, which in turn bolstered sustained participation. We saw a similar dynamic in the relationship between participation in religious school and social networks. Our results support Lin and colleagues' (1999) notion of the dependency of social network formation on social participation. However, we see a bidirectional relationship: not only do network ties depend on social participation, but social participation depends on networks. Importantly, we also identified negative social dynamics in school, e.g. bullying, which targeted participants' poverty and have adverse effects on school participation, social, mental, and physical health. Further research on such variation in youth's social experiences with peers in the school context is merited.

Poverty also threatened youth participants' mental and physical health. Food insecurity, the threat and/or experience of having to drop out of school, the burden of responsibility for household basic needs, and the shame of lacking soap and clothing lead to anxiety and symptoms of depression. The lack of basic needs may also have fostered development of social ties that increased risk of negative health outcomes: some female youth described receiving money from sexual partners, which is known to be associated with heightened risk of HIV acquisition, pregnancy, and school drop out (e.g. Adato et al., 2016; Dunkle et al., 2004).

However, we also observed that youth exchanged social support and influence within their peer social networks that buffered these negative mental health effects, and encouraged protective sexual health practices. Emotional support helped youth cope with negative mental health impacts of extreme poverty, especially anxiety. Talk with friends about "problems," "troubles," and "worries" about money and food may have mitigated their stress by helping them to externalize it or to focus on problem solving--e.g. "just working hard," in Silvia's case. When they shared their *ganyu* opportunities with one another, they also helped one another secure material means to deal with the anxiety-producing lack of necessities.

Youth exchanged information and normative influence about HIV prevention by discussing the potential fatal consequences of sex and counseling one another to use protection or to be abstinent. This finding echoes Watkins' (2004) findings of frequent conversations about HIV within adult social networks in rural Malawi, in which they developed locally appropriate prevention strategies. She argues that this collective "cultural work" amongst those whose lives are affected may be important and effective in stemming the epidemic. Our findings suggest that peer networks may play a parallel role in helping youth navigate the epidemic as they transition to adulthood. The fact that most youth said that their conversations about sex with their peer network members centered on abstinence and HIV prevention may also reflect their efforts to align with socio-cultural norms discouraging sexual activity among unmarried adolescents (Munthali et al., 2006). Further research should investigate the relationship between communication about HIV risks within youth networks and behavior, and consider using forms of data collection that minimize social desirability bias.

Our findings indicate that poverty alleviation policies such as cash transfer programs could be effective in improving youth social well being, and social pathways through which they could improve youth mental and physical health. By enabling households to meet basic needs, a cash transfer program could improve youth's participation in school, religious community and community organizations, and reduce social isolation and stigma (Attah et al., 2016); consequently, youth would have more opportunities to build more interactive and beneficial peer networks (Pavanello et al., 2016). Locations where the cash transfers are distributed could even themselves be transformed into new spaces for social gathering (Pavanello et al., 2016). The strengthening of social participation, peer networks, and reduction in social isolation could then improve health and social wellbeing, such as improved coping with anxiety and depression, and reduced HIV risk behaviors.

However, given our findings regarding gender disparities in youth social participation and networks, an influx of cash that allows households to meet basic needs and frees up resources for social participation could, in this social context, benefit young men more than young women regarding social, mental and physical health. A study of Kenya's unconditional cash transfer program on mental health outcomes of young people found that the program had significant positive effects on mental health for young men, but not for young women (Kilburn et al., 2016). Our findings suggest that gender differences in the social networks and participation of that study's youth participants could help explain the disparity. To guard against creation of disparities or other negative effects, cash transfer programs should consider linking beneficiaries with complementary services that can target specific vulnerabilities of beneficiary sub-populations, e.g. interventions to keep girls in

school (Adato et al., 2016; Samuels and Stavropoulou, 2016). Additionally, poverty alleviation policy monitoring and evaluation must track both positive and unintended negative social and health effects.

Limitations

Our results are based on a small, purposive sample and should not be generalized to a larger or different population. Our use of translated interview transcripts may have obscured intended meanings. Also, our analysis does not explore cultural elements of the context in depth, such as culturally specific patterns of kinship, which would be necessary for a more complete view of these peer networks and participation.

Conclusion

We illustrate ways that poverty and gender influence the structure and functioning of youth social networks and social participation in a rural Malawian context. Youth who work to survive and to help their households survive have limited resources – whether cash, time, emotional capacity, or access to environments for social interaction– to pursue, maintain, or exercise relationships with peers. Consequently, their opportunities to receive social support and positive influence through relationships, which help them cope with stress and discourage risky sexual behavior, are curtailed. Poverty alleviation programs that ensure respectful, empowering interactions between implementers and beneficiaries (Attah et al., 2016) and are responsive to needs of beneficiary sub-groups hold promise for increasing social participation, social networks, and mental and physical health of young women and men in this context.

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