

# Examining the Impact of Workplace Literacy Programs on the Structure of Social Networks: A Study of Low-Income Somali Refugee Workers

Angela U. Nwude and Anna Zajicek, University of Arkansas

## Abstract

This study aimed to examine the impact of workplace literacy programs on the structure of social networks accessible to low-income Somali refugee workers. We conceptualized structure as network size and tie strength. Data were drawn using interviews with eighteen participants enrolled in a workplace literacy program. The classes offered included English as a Second Language, high school equivalency, and citizenship, and participants had attended classes for at least 3 months. The interview protocol was designed using a name generator instrument. The findings revealed that participation in classes had a positive impact on their network structure, through the acquisition of strong ties with co-workers.

**Keywords:** workplace literacy program; Somali refugee workers; social capital; social network structure; strong ties.

According to Hammond et al. (2011), civil war in Somalia has continued since 1988, and as a result, most of the country has been the site of conflict, forcing civilians to migrate to other countries. Pursuant to the establishment of the U.S. Refugee Act of 1980, Somali refugees have relocated to the United States in large numbers, making them the largest African refugee group in the labor force (Goza, 2011). In spite of their involuntary migration, Somali refugees in the United States possess a strong sense of communal identity, solidarity, cultural confidence, and pride that enable them to adapt and strengthen their

resilience in adverse situations (Eleonoora, 2016). They have a greater tolerance for risk and hard work, and are often described as entrepreneurial, pooling financial, labor, and other economic resources, thereby contributing to the U.S. economy (United Nations, 2018).

At the same time, as a minority ethnic group in the United States, Somalis are uniquely confronted with significant barriers that place them at risk of marginalization and discrimination (Fangen, 2006). First, although many of them are proficient in multiple languages such as Somali, Arabic, or Swahili, gaining English language proficiency

has been challenging and made their adaptation and upward mobility difficult (Eleonoora, 2016). Second, it is estimated that, in Somalia, about 42% of the population is illiterate, and the education of Somalis in refugee camps is almost non-existent (Hammond, 2013). Third, even for the Somalis who are educated, their prior educational achievements and work experiences remain unrecognized or undervalued in their host communities. Accordingly, many Somali refugees are educationally disadvantaged, experience frequent bouts of unemployment, or are overrepresented in low-skilled, low-earning jobs (Goza, 2011). Overcoming the barriers posed by low levels of overall literacy and English language proficiency is often fundamental to the process of social integration, employment, and mobility.

Recognizing the low levels of literacy among large segments of the U.S. labor force and the need to enhance the economic mobility of America's working poor (Bernstein, 2017), the U.S. government established the Workforce Innovation and Opportunity Act of 2014 (WIOA). Pursuant to the WIOA (2014), workplace literacy programs have been recognized as useful strategies for improving the literacy of educationally disadvantaged workers. The term "workplace literacy program" simply refers to a literacy or education program typically carried out at the workplace or in a setting provided by the employer (Milkulecky & Lloyd, 1997). Rather than teaching abstract skills, workplace literacy programs are needs-oriented, and aim at strengthening literacy skills such as reading, writing, listening, computation, speaking/language, and critical reasoning skills (Morgan et al., 2017). Over the years, these programs have benefitted immigrants, including refugees, and non-immigrant workers equipping them with the skill set necessary to succeed in the workforce, improve organization's

performance, as well as advance their personal and professional development (Wood, 2010).

In accordance with the provisions of the WIOA, workplace literacy programs are typically examined in the context of their economic benefits, conceptualized as human capital, essential for employment and productivity. However, emerging research suggests that the outcomes of these programs exceed economic benefits to include the promotion of social relationships – networks - that are fostered through learning (Kilpatrick et al., 2003; Schuller 2017). These social relationships have been associated with different outcomes – positive and negative – conceptualized and documented in the literature as social capital (Balatti et al., 2006; Field & Spence, 2000).

### **Examining Outcomes of Workplace Literacy Programs from a Social Capital Perspective**

Despite the evolving social capital scholarship, there are still genuine concerns about its measurement; particularly as it relates to the relationships that are fostered through learning or literacy development, and in the context of low-income minority social groups. Till date, various indicators, dimensions and/or scales have been used to examine social capital outcomes of learning. Some of them include trust, social inclusion, social cohesion, self-confidence, community engagement and civic participation etc. (Balatti et al., 2006; Kilpatrick et al., 2003; Tett & Maclachlan, 2007). Consequently, there is neither a universal measurement method nor a single underlying indicator established in the literature for measuring social capital outcomes of learning.

For instance, in a longitudinal study that

investigated the social capital development of adult learners in California, Macdonald and Scollay (2009) established that participation in learning resulted to greater connectivity between individuals which manifested in social trust and civic responsibility. In a similar study on Scottish adult literacy learners, Tett and Maclachlan (2007) opined that participation in learning fostered positive changes in learners' attitude, such as the development of self-confidence which facilitated social interactions. Desjardin and Schuller (2007) argue that learning facilitates the creation of social capital in the form of trust, social skills, and civic engagements, necessary for individual and community well-being.

These studies, though valid in terms of demonstrating a link between literacy acquisition and social capital development yet lack a theoretical basis for empirically measuring social capital. We suggest that any attempt to examine social capital should be grounded on a specific conceptual or theoretical framework. Without a conceptual/theoretical basis for examining social capital, its characteristics and potential remain unknown (Stone, 2001). This study represents a starting point for filling the research gap. Hence, inspired by the scholarships of Bourdieu (1986) and Granovetter (1973), we adopt a social network approach to examine the social capital outcomes of workplace literacy programs.

We define social capital as the structure of social relationships – network - accessible to an individual as a result of participation in classes, and that can be leveraged for support or used for productive purposes (Bourdieu, 1986; Granovetter, 1973; Lin, 2000). To this end, the primary research question is: how (and to what extent) does participation in workplace literacy program influence the structure of social networks accessible to low-income Somali refugee workers?

A focus on the structure of social networks allows for a more thorough investigation of the extent to which participation in classes may impact the quantity and quality of ties/relationships in an individual's social network, therefore influencing social capital development.

### **Conceptualizing Social Capital as Structure of Social Network**

The structure of social network has been well discussed in the empirical literature and examined using various approaches. The most common include network size (Bourdieu, 1986), tie strength (Granovetter, 1973), network density (Coleman, 1988), and network homogeneity/diversity (Cummings, 2003). However, for the purpose of this study, we shall conceptualize structure as the size, and the strength of the ties in the social network accessible to an individual as a result of participation in classes (Bourdieu, 1986; Granovetter, 1973).

### **Network Size**

Proponents of the structural network perspective have argued that the size or volume of an individual's network of relationships may affect the stock of social capital accessible to the individual (Bourdieu, 1986). Hence, individuals with large networks may have a larger pool of persons to call upon when in need, and as such have access to diverse social resources; such as emotional (e.g., companionship), instrumental (e.g., assistance in kind/cash), or informational (e.g., receiving novel information) (Smith, 2000; Van der Gaag & Snijders, 2004). On the contrary, those with fewer ties or small network may have restricted access to a variety of resources. For instance, in examining the structure of social networks of women, Cofie et al. (2017) found that women who had access to

large networks, were more likely to access both instrumental and emotional support compared with those who did not.

Although having access to a large social network is good, the diversity/heterogeneity of network members may be crucial for access to social capital. Several studies have shown that without diversity of contacts, the size of a social network may be ineffective in creating access to useful resources (Burt, 1992; Letki & Mierina, 2015). For instance, Gyarmati et al. (2014) argue that individuals typically benefit from having larger, less dense, and more diverse networks, as these kinds of networks can provide access to a wider range of resources, not available in the individual's close/immediate network. In the same vein, Son and Lin (2012) claim that diversity of social networks confers a relative advantage to the individual, because it reflects the extent to which additional resources are captured through relationships that are heterogeneous.

### **Tie Strength**

According to Granovetter (1973), tie strength is a combination of the amount of time, the emotional intensity, the intimacy and reciprocal relations that characterize an individual's network of relationships. Building on Granovetter's conceptualization, some scholars have emphasized the importance of strong ties in determining access to social capital. For instance, Coleman (1988) attributes a child's educational attainment to the strong ties that they hold with their parents. According to Rademacher and Wang (2014), strong ties reinforce trust in interpersonal relationships, foster solidarity, and promote mutual exchange of resources especially among people of similar backgrounds or with shared interests (McPherson et al., 2001; Portes & Sensenbrenner, 1993).

Due to their distinctive characteristics, some studies postulate that networks of strong ties are unlikely to provide resources beyond survival or coping needs, thus highlighting the importance of weak ties (Agnitsch et al., 2006). Recognizing the limitations of strong ties, Granovetter (1973) argues that a sparse network characterized by weak ties often provides access to a wider variety of resources not likely to be available in closed networks characterized by strong ties. In the same vein, Lin (2000) argues that disadvantaged social groups are further marginalized in the absence of networks rich in weak ties. His findings are consistent with Loury et al. (2005), who assert that among vulnerable social groups the social capital emerging from their strong ties, although helpful for stability and survival, but is insufficient for socioeconomic mobility.

What follows from these studies is that for individuals from lower socioeconomic backgrounds, e.g., low-income Somali refugee workers, the optimal effects of social capital are present when their social networks are large, and/or consist of both strong and weak ties (Flora et al., 2016; Lin, 2000). It is against this backdrop that we seek to evaluate the impact of workplace literacy programs on the structure of social networks.

### **Participants**

Participants for this study were recruited through a purposeful sampling from a group of Somalis employees working at a meat processing plant of a company located in the U.S. South. The plant was purposefully selected (Creswell & Plano Clark, 2011) on the basis that it provided opportunity for the literacy development of its employees with low literacy and language proficiency. Eighteen respondents were selected for this study, including 11 men and seven women, between 18-64 years of

age. At the time of the study, all the participants had lived in the country for at least 1 year, had received no form of education in the United States, and were enrolled in a workplace literacy program. Led by adult education instructors, the program offered free English, GED, and U.S. citizenship classes on-site at the plant, before and after work shifts. Participants were selected on the criteria that they had attended any of the classes for at least 3 months and were willing to participate in the study.

### Research Design, Data and Methods

To examine the impact of workplace literacy programs on the structure of social networks, individual interviews were conducted. Respondents were given the option of interview in English or Somali language. About half of the interviews were conducted in Somali language with the aid of an interpreter. The interviews took between 60-90 minutes. The interview schedule was organized into three sections. The first section contained questions regarding each participant's personal background, including their socioeconomic and sociodemographic characteristics (e.g., age, gender, marital status, ethnicity, religion, level of education, family size etc.).

Second, we examined impact of workplace literacy program on social network size, by counting and comparing the total number of contacts with whom a participant established social relationships with before attending classes and after or as a result of attending classes. To accomplish this, we utilized the name generator instrument. This instrument contained a series of name generating and interpreting questions to elicit information regarding the profiles of contacts in each participant's social network (Marin & Hampton, 2007).

Using the name generator instrument, each participant was asked to mention at least five names of key contacts, with whom they share particular social relationships, in each of the following categories: family/relative, close friend, co-worker, neighbor, and acquaintance; describe the occupation, gender, age, religion, and ethnicity of each contact mentioned; recall and list, from the aforementioned contacts, the names of key contacts (per category of social relationships) with whom they knew and interacted with before attending classes and after or as a result of attending classes. The third section of the interview protocol focused on the strength of ties associated with participants' social networks existing before attending classes and acquired as a result of attending classes.

### Measures of Tie Strength

Our indicators for tie strength were frequency of interaction and reciprocity or exchange of resources (Granovetter, 1973; Retzer et al., 2012). Frequency of interaction describes how often individuals are in touch with people in their social network (Manalel, 2018). In order to measure frequency of interaction, we referred to three of the key contacts generated in the preceding section, for each category of social relationships - family/relative, close friend, co-worker, neighbor, and acquaintance. We asked participants to describe how many times (daily, weekly or monthly) they were in contact or how often they interacted with each contact listed. We grouped each participant's responses into two distinct categories: often and not often. For instance, for interactions that occurred daily, weekly, or multiple times daily or weekly, we coded "often," and for interactions that occurred monthly or a couple of times a year, we coded "not often" (Haythornthwaite, 2002).

Reciprocity is the extent to which social support/resource is both given and received in a relationship (Retzer et al., 2012). Hence, to measure reciprocity, we asked participants to describe the nature of activities they engage in with each contact or support they have received and/or given – exchanged - as a result of their relationship. We coded participants' responses as two way (i.e., when activities were reciprocal or there was a mutual action of giving and taking), and one way (i.e., when activities were not reciprocal or mutual action was absent) (Petroczi, Nepusz, & Bazsó, 2007).

## Data Analysis Strategy

All interviews were audio recorded, and then transcribed. After reviewing the transcripts, our analysis proceeded in two phases. In the first phase, data were organized and analyzed using descriptive statistics, and non-parametric statistical tests in SAS software. This allowed us to examine and describe the demographic characteristics of the population (Table 1); measure and compare differences in size of participants' existing and acquired networks across social relationship types (Table 2); and measure, classify and compare the strength of ties in participants' existing and acquired networks.

Inspired by the preceding phase, the second phase of the analysis involved thematic coding of participants' responses into broad themes. The aims were to enhance the interpretation of the descriptive and non-parametric statistics obtained from phase one of the analysis and gain participants' perspectives on how participation in classes may have impacted the structure of their social networks. The results from the descriptive statistics, non-parametric statistical test and thematic analysis will be integrated, systematically presented and discussed in the sections below.

## Results

### Overview of Sociodemographic Characteristics of Participants

Table 1 summarizes the demographics of 18 study participants. Their ages ranged between 18-64. The average age was 32.8 years. Eleven (61.1%) of the participants were men, and seven (38.9%) were women. Six (33.3%) participants reported that they had received no education prior to their enrollment in the workplace literacy program. Five (27.7%) had less than an elementary education, and seven (38.8%) had less than a

**Table 1: Demographic characteristics of participants**

SOCIODEMOGRAPHIC CHARACTERISTICS	TOTAL # OF PARTICIPANTS	PERCENTAGE OF PARTICIPANTS (%)
<b>Gender</b>		
Male	11	61.0
Female	7	38.8
<b>Age Group</b>		
18-26 years	6	33.3
27-36 years	6	33.3
37-64 years	6	33.3
<b>Marital Status</b>		
Married	11	61.1
Single	7	38.8
<b>Education</b>		
None	6	33.3
< elementary	5	16.6
< high school	7	50.0
<b>Class enrolled</b>		
ESL	10	55.5
GED	7	33.8
Citizenship	1	5.5
<b>Family Role</b>		
Provider	11	61.1
Supporter	7	38.8
<b>Religion</b>		
Islam	18	100
Other	0	0

high school education. Out of the 18 participants enrolled in classes, ten (55.5%) attended ESL class, seven (44.4%) attended GED class, and one (5.5%) attended citizenship class. Eleven (61.1%) of the participants were married, while seven (38.8%) were single. Eleven (61.1%) participants described their households as large, while seven (38.8%) described their households as small. Eleven (61.1%) of the participants described their roles in the family as providers, while seven (38.8%) of them described their roles as supporters. All 18 (100%) participants were of the Muslim faith and practiced Islam.

### Impact of Workplace Literacy Program on Size and Strength of Ties in Social Network

**Impact on network size.** We examined impact of participating in workplace literacy program on the size of participants' social network by calculating/counting and comparing the total number of contacts with whom a participant established social relationships with before attending classes and after or as a result of attending classes. The total size of existing

**Table 2: Descriptive Statistics of Network Size across Social Relationship Types**

NETWORK SIZE – MEAN		
Relationship Type	Existing	Acquired
Family	5.05	0.11
Close Friends	3.16	1.16**
Co-workers	2	2.44**
Neighbors	2.38	1.39**
Acquaintances	1.5	1.44**
Gender	Existing	Acquired
Men	13.8	5.54*
Women	14.5	8.14*

\*  $P < 1$  statistically significant level

\*\*  $P < 0.05$  statistically significant level

social network was 254. Per an individual, the maximum existing social network size was 21, while the minimum was 8. The mean and median values of participants' existing social network size was 14, respectively. The total size of the networks increased by 118 contacts, a 47% increase. The maximum number of newly acquired contacts was 9 and the minimum was 2. The mean and median values for the acquired contacts were 6.5 and 6.0 respectively. We assumed that a participant acquired a large network if their network size increased by at least six contacts. More than half of the participants (61%) acquired a large social network, 45% of them were men, and 55% of them were women. 86% out of all women had a large social network size compared to 45% of the men. Hence, as a result of classes, women acquired more contacts when compared to men.

Before attending classes, relationships with family/relatives accounted for the bulk of participants' social network contacts (36%); while relationships with co-workers and acquaintances accounted for a smaller proportion of their existing network contacts (14% and 11%, respectively). However, as a result of attending classes, participants reported more contacts in their non-familial/kinship relationship types; and relationships with co-workers and acquaintances constituted the majority of their acquired network contacts (37% and 22% respectively); while family relationship was the least impacted with the smallest proportion of contacts listed (2%). Relationships with neighbors and close friends were also positively impacted as a result of attending classes (21% and 18%, respectively).

We conducted a Wilcoxon Signed Rank (non-parametric) test to examine whether the differences between existing and acquired network

size across relationship types were statistically significant. While the difference in the size of family relationships is not significant ( $Z = 0.5$ ;  $P$  value = 1.00); the differences in the number of contacts across all other relationship types are significant (close friends -  $Z = 39$ ;  $P$  value < 0.0005; co-workers -  $Z = 76.5$ ;  $P$  value < 0.0001; neighbors -  $Z = 60$ ;  $P$  value < 0.0001; and acquaintances -  $Z = 45.5$ ;  $P$  value < 0.0002).

**Impact on tie strength.** We measured tie strength by combining participants' (coded) responses to questions regarding their frequency of interaction and reciprocity with their contacts existing before they participated in classes and acquired as a result of participating in classes. We assume that ties are stronger where there is frequency of interaction and reciprocity between the participants and their contacts (Granovetter, 1973). Conversely, ties are weaker when there is less interaction and not as much reciprocity or exchange of resources between the participants and their contacts (Marsden & Campbell, 2012).

For the reasons above, we assigned numerical values (from a scale of 1 to 4) to each combination of coded responses according to their presumed effectiveness in indicating/measuring tie strength; and then we transformed the scale items into categories of tie strength (Retzer et al., 2012). For instance, we assigned the highest value of "4" when the frequency of interaction is coded "often," and exchange of resources is coded "two way;" we assigned the lowest value of "1" when the frequency of interaction is coded "not often," and exchange of resources is coded "one way."

### Categories of Tie Strength in Participants' Social Networks

We identified four categories or dimensions of tie

strength which we characterized as:

1. **Strong ties** - "often and two way" - i.e. when the frequency of interaction between the participant and the contact is "often," and exchange of resources is "two way" (Granovetter, 1973).
2. **Intermediate strong ties** - "not often and two way" - i.e. when the frequency of interaction between the participant and the contact is "not often" and exchange of resources is "two way" (Retzer et al., 2012).
3. **Weak ties** - "often and one way" - i.e. when the frequency of interaction between the participant and the contact is "often" and the exchange of resources is "one way" (Marsden & Campbell, 2012).
4. **Latent ties** - "not often and one way" - i.e. when the frequency of interaction between the participant and the contact is "not often," and the exchange of resources is "one way" (Haythornthwaite, 2002).

By means of cross tabulation and chi-square analysis, we calculated, and compared the different categories of tie strength across participants' existing and acquired social networks. At a 0.1 or 90% significant level, we found evidence of a relationship between the tie strength in the existing and acquired social networks ( $\chi^2 = 6.59$ ; D.F = 3;  $p$  value = 0.086). All four categories of tie strength - strong (80.6%), intermediate strong (4.9%), weak (5.9%) and latent (8.6%) - were represented in both existing and acquired social networks, although in various proportions. Overall, strong ties constituted the largest category of tie strength in participants acquired social network (75%) and shall be the center of discussion.

## Discussion

Overall, our findings support the hypothesis that participation in learning positively impacts social capital development amongst economically/ educationally disadvantaged social groups, such as low-income Somali refugee workers. Participation in classes increased the size of participants' social network through their acquisition of non-kinship relationships such as close friends, co-workers, neighbors, and acquaintances. Participants' relationships with co-workers (who were in most cases classmates) accounted for most of their newly acquired contacts. In addition, women acquired more contacts when compared to men. A possible explanation for this difference is that women may be more likely than men to engage in frequent social interactions and activities (McDonald & Mair, 2010).

Although attending classes had no significant impact in the size of family relationship, however, few participants (22%) reported that taking classes enhanced the quality of their relationships with family members, due to the support they rendered. For instance, one of the participants claimed:

Taking classes has helped me to find a different way to interact with my family/relatives and close friends. For instance, I baby sit my sister's kids sometimes and I have to speak English to them because they understand that perfectly, even more than me (Habiba, woman, 21, GED).

In as much as participant's existing social networks constituted mainly of strong ties with family and close friends. Our analysis, however, indicates that participation in classes fostered the emergence of strong ties predominantly with co-workers (95%). We found evidence that taking classes facilitated frequent social interactions which triggered reciprocal relations between participants and their contacts. For instance, several participants admitted that on account of participating in classes they became more socially

engaged with their peers. As a result, they were more willing/motivated to render and request specific support from them, and that strengthened their relationships. One participant recalled:

Class has made me more social, it helps me to understand people outside the job, and who are not Somali. Also, I am like a teacher's assistant in class. I help to break down some of the learnings for the other students who are a bit slower than myself. This brings us closer and helps to maintain the relationship and this would not have been possible without the classes (Usaru, man, 36, citizenship class).

Regardless of cultural and sociodemographic characteristics such as ethnicity, religion or gender, the classrooms created avenues for the development of strong networks for mutual support among individuals. This fostered solidarity, and enhanced access to tangible support that were unlikely to be available in their existing kinship network. Such support was instrumental in assisting individuals carry out their daily activities, such as getting a ride to work, assistance with homework etc. For instance:

Ktoo, the Burmese guy who is my friend and co-worker, whom I didn't know so well before classes ..., he and his brother promised to always give me a ride to class. They have also helped me a lot in my studies because we learn from each other. I would not have got all the help that I get from them because before classes we were not close enough for me to ask for certain favors or assistance such as a ride, but as a result of attending classes together, we have each other's phone number ... (Saber, woman, 28, GED).

To this end, evaluating social capital outcomes of workplace literacy programs, based on changes in the structure of social networks, reveals the various ways in which classes structured opportunities for the formation, expansion and strengthening of relationships, thereby creating and enhancing access to resources/support that otherwise might have been difficult or impossible to access.

## Key Factors Influencing the Structure of Social Networks

Participant's responses provided some insights into some factors that may have contributed to the changes in the structure (size and strength of ties) of their social networks. Our analysis clustered around four themes namely: literacy/language proficiency, shared interests, mutuality, and trust.

### Literacy and Language Proficiency

Participation in classes improved participants' communicating skills, and that played a significant role in the formation, expansion and strengthening of new relationships. Most (94%) of the participants attributed their ability to form new friendships to the improved communication skills they acquired from taking classes; and this was irrespective of the type of class enrolled in. For instance, a GED student recalled:

My ability to speak English has really helped me to interact with people that are not only from Somalia, but other places and we can all speak English. I communicate now with a lot of people because of English ... This would not have been possible without attending class. After class I became more friendly and outgoing. I am able to talk to a lot of people at work and I speak more in general. I now know more coworkers that are not from Somalia, than I used to (Saber, woman, 28, GED).

To the extent that participants were able to meaningfully communicate with their peers in the dominant spoken language, minimized communication barriers, alleviated vulnerabilities, and thus reinforced solidarity. For instance, one of the participant's described how her ability to communicate coherently in English language strengthened her relationship with a co-worker from a different ethnicity, and thus enhanced her access to useful support:

Lynda my co-worker and a Hispanic lady said she didn't approach me initially because she didn't think she could communicate with me. When I approached her and spoke

English to her she was surprised, and then we became friends... For example, there was a day I fell down, she took me to the nurse and stood as a witness, without her help I would have been severely injured. And subsequently we became close friends. She was able to help me because I could understand her question and speak to her. I was able to interact with her (Hamsaphat, woman, 21, GED).

Consistent with studies that have established a link between literacy development and self-confidence (Tett & Maclachlan, 2007), we found that participant's ability to communicate effectively had a remarkable impact on their confidence levels; which motivated them to socialize with individuals who were different in outlook, interests and/or race. Consequently, promoting opportunities for the formation of weak ties, and expanding their networks. As revealed in this testimony:

Now I have more confidence than before because I am taking English classes and because I can speak some English even though not so much I like to talk to white people, and I like to talk to people that are good. (Nurtu, man, 26, ESL)

Thus, the more proficient participants were in communicating in English, the more confident they were, and the less barriers they encountered in expanding their networks. Needless to say, in addition to limiting an individual's ability to form, expand or strengthen their social networks, literacy and language deficiency may create formidable challenges to the expansion of an individual's positive sense of self, and potential. As a participant described:

The people in my class mostly Mexicans and so there are language barriers ... I only speak to the ones who understand me. For instance, I tried to talk to my supervisor but he couldn't understand me ... I am handicapped, and I can't make much friends and participate in activities because I cannot really interact and communicate because of the language barriers (Jada, man, 37, ESL)

## Shared Interests

Literacy and language proficiency were not the only elements influencing the structure participants' social network. The establishment of shared interests was also found to be one of the key elements influencing the formation of strong ties. Classes served as a meeting point for individuals who shared similarities along unique dimensions such as minority status, occupational backgrounds, religion, education level etc. Thus, consistent with the homophily principle (McPherson et al., 2001), our analysis revealed that participants were more likely to socially interact and establish strong ties with their classmates based on shared similarities, interests, or experiences. Several participants claimed that their relationships with peers were, for the most part, built and strengthened as a result of having shared interests, and that triggered feelings of solidarity and cooperation amongst them. For instance:

Attending classes has helped me to be closer to some of my friends. For instance, Halimo, Zainab, and Abdi are my close friends who I met in school because we take classes together, we also speak the same language - Somali, and we face the same struggles of trying to make it each day ... We pray together, and we have mutual understanding. This makes us closer, and because we are there for each other... (Saheed, man, 41, ESL).

Therefore, participation in classes set the background for establishing strong ties based on shared interests. In addition, the setting in which classes took place also shaped the nature and type of resources accessible through their strong ties. This in turn impacts their social capital development.

## Mutuality

Mutuality was also key to establishing and maintaining strong ties. Mutuality suggests an

ongoing interdependence which refers to the state of being reliant and dependent upon one another for assistance or support (Fehr, 2008). Hence, the concept of mutuality is built upon meaningful social interactions, and reciprocal relations. In view of this, we found that the social settings in which learning occurred enabled participants to become more familiar with each other; and the more familiar they were, the more likely they were to engage in reciprocal relations. For instance, participants revealed that participation in classes provided the context for the credible flow and exchange of resources or support, essential for their stability and daily survival.

Taking classes has helped my relationships ...We talk to each other a lot, my friends call me and I call them back ... we use social media like WhatsApp, we play together sometimes and we also eat together ...because we are available for each other...so our relationship gets stronger...For example, I help Nuru to interpret or translate in English, when he wants to pay a bill or rent. I also help Ahmed especially when he is doing groceries and cannot communicate with the sales associate, and this makes us closer (Hazzah, man, 21, GED).

## Trust

Trust can be defined as the positive expectation of goodwill (Glanville & Paxton, 2007); and is created through reliable processes of exchange and expectation (Adler & Kwon, 2000). When trust is low, social isolation is high, and the potential for reciprocal relations is weakened. In other words, one of the reasons why individuals socialize and engage in collaborative activities is because there is a certain degree of trust established and sustained. Our analysis revealed that participation in classes engendered trusting relationships among participants and their network member. Moreover, trust was key to fostering collaborations, and strengthening relationships. For instance, one participant explained:

The class is pretty diverse, but we all have the same goal which is learning. The class allows me to interact with all people from Somalia, Mexico, and Burma. We understand each other at work so it is pretty nice to understand each other in class as well. The class provides a place for us to interact with people and this helps us build trust, this helps us to be closer and help each other when in need (Usaru, man, 36, citizenship classes).

In all, participants' interactive experiences and mutual understanding achieved in the classroom environment built trust, which in turn has not only created a strong basis for establishing friendships and collaborations but has also fostered feelings of security and reliability, thereby, enabling them to act together more effectively in pursuit of their shared objectives. In our study, trust appears to be antecedent to the formation of relationships, as well as a consequence of the maintenance of social relationships.

## Conclusion and Implications

Workers from disadvantaged groups, especially international refugees and low-skilled immigrants, are not only disadvantaged by their lack of literacy and skills - human capital, but also by their limited access to social capital. Traditionally, employers have an incentive to invest in workplace literacy programs to optimize their human capital resources while maximizing organizational productivity, competitiveness, and profitability (Clymer, 2011; Descy & Tessaring, 2005; Singh & Mohanty, 2012). The findings of this study are significant in that they contribute to the emerging literature suggesting that workplace literacy programs extend beyond the economic effects to include other non-economic outcomes (Desjardin & Schuller, 2007; Hartley & Horne, 2006; Taylor et al., 2012). Specifically, they support the importance of creating opportunities for literacy development as a way to provide an important tool for breaking down barriers to social capital development among economically/educationally

disadvantaged groups, which consequently bridges the gaps in social inequality.

Fundamental to the development of social capital is the ability of individuals to socially interact in meaningful ways and engage in collaborative activities or social exchanges. However, given their low levels of literacy and language proficiency, low income Somali refugee workers are restricted in their ability to meaningfully interact in ways that may positively influence the structure (size and tie strength) of their social networks. In this context, our analysis suggests that among low income Somali refugee workers participation in workplace literacy programs positively impacts the structure of their social networks, i.e., their social capital. Classes provided the social context for the establishment, strengthening and maintenance of non-kinship strong ties/relationships, predominantly with co-workers/classmates. Their newly acquired relationships proved effective for accessing useful resources that assisted participants in carrying out their daily activities, such as, transportation, companionship, studying/learning assistance etc. In addition, the potential for expansion and/or strengthening of relationships was influenced by certain key factors such as, literacy/language proficiency, shared interests, mutuality, and trust. Alternatively, changes in any of these factors may likely affect the structure (size and strength of ties) of their network, and social capital development. Our findings are consistent with prior studies (Ballati et al., 2006; Tett & Macalachan, 2007; Desjardin & Schuller, 2007) that have been able to establish a link between learning and social capital development in the context of disadvantaged groups.

This study is of particular importance in the light of Title II of the Workforce Innovation and Opportunity Act (WIOA, 2014) which focuses on evaluating literacy programs solely on

employment and productivity— conceptualized as human capital development. In view of our findings, we suggest that the WIOA standards for evaluating workplace literacy programs should be revised and broadened to include the potential for social capital development, conceptualized as the structure (size and strength of ties) of social

networks accessible to an individual(s). By doing so, the workforce literacy programs may be able to strengthen its programming, develop approaches that are potentially tailored to meeting the social integration needs of the workers, and better and more holistically document progress of the individuals in the program.

## References

- Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17-40. <https://doi.org/10.5465/amr.2002.5922314>
- Agnitsch, K., Flora, J., & Ryan, V. (2006). Bonding and bridging social capital: The interactive effects on community action. *Community Development*, 37(1), 36-51. <https://doi.org/10.1080/15575330609490153>
- Balatti, J., Black, S., & Falk, I. (2006). *Reframing adult literacy and numeracy course outcomes: A social capital perspective*. National Center for Vocational Education Research.
- Bernstein, J. (2017). *Improving economic opportunity in the United States*. Center on Budget and Policy Priorities.
- Bialecki, A., Gotta, L., & Pilegi, P. (2018). Health beliefs, literacy and education of Somalia refugees. [https://www.umassmed.edu/contentassets/fd824ec9c4624c6da9d03499312c79e6/refugee2\\_phc-final-poster.pdf](https://www.umassmed.edu/contentassets/fd824ec9c4624c6da9d03499312c79e6/refugee2_phc-final-poster.pdf)
- Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). Greenwood Press.
- Brown, J., Taylor, M., McKenzie, P., & Perkins, K. (2015). *Investing in workforce literacy pays: Building employer commitment to workplace language, literacy and numeracy programs*. Australian Council for Educational Research.
- Burt, R. (1992). *Structural holes: The social structure of competition*. Harvard University Press.
- Cofie, L. E., Barrington, C., Singh, K., Sodzi-Tettey, S., Ennett, S., & Maman, S. (2017). Structural and functional network characteristics and facility delivery among women in rural Ghana. *BMC Pregnancy and Childbirth*, 17(1), 425.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.
- Cresswell, J., & Plano Clark, V. (2011). *Designing and conducting mixed method research*. SAGE Publications Inc.
- Cummings, J., & Cross, R. (2003). Structural properties of work groups and their consequences for performance. *Social Networks*, 25(3) 197-210
- Desjardins, R., & Schuller, T. (2007). *Understanding the social outcomes of learning*. Organization for Economic Co-operation and Development.
- Eleonoora, S. M. (2016). Socioeconomic status and mental illhealth in Russian, Somali and Kurdish origin migrants: A population based study (Unpublished master's thesis). University of Helsinki, Finland.
- Fangen, K. (2006). Humiliation experienced by Somali refugees in Norway. *Journal of Refugee Studies*, 19(1), 69-93.
- Fehr, B. (2008). Friendship formation. In S. Sprecher, A. Wenzel & J. Harvey (Eds.), *Handbook of relationship initiation* (pp. 29-54). Psychology Press.
- Field, J., & Spence, L. (2000): Informal learning and social capital. In F. Coffield (Ed.), *The necessity of informal learning* (pp. 32-42). Polity Press.
- Flora, C., Flora, J., & Gasteyer, S. (2016). *Rural communities: Legacy + change*. Boulder, CO: Westview Press.
- Hammond, L. (2013). Family ties: Remittances and livelihoods support in Puntland and Somaliland. *Nairobi, Kenya: FSNAU*.
- Glanville, J. L., & Paxton, P. (2007). How do we learn to trust? A confirmatory tetrad analysis of the sources of generalized trust. *Social Psychology Quarterly*, 70(3), 230-242.
- Goza, F. (2011). Somalian Immigrants. In R. Bayor (Ed.), *Multicultural America: An encyclopedia of the newest Americans* (pp. 1965-1971). Greenwood.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380. <https://www.journals.uchicago.edu/doi/pdf/10.1086/225469>

- Gyarmati, D., Leckie, N., Dowie, M., Palameta, B., Hui, T. S. W., Dunn, E., & Hébert, S. (2014). *UPSKILL: A credible test of workplace literacy and essential skills training*. Social Research and Demonstration Corporation.
- Hammond, L., Awad, M., Dagane, A. I., Hansen, P., Horst, C., Menkhaus, K., & Obare, L. (2011). Cash and compassion: The role of the Somali diaspora in relief, development and peace-building. *Nairobi: UNDP Somalia*.
- Haythornthwaite, C. (2002). Strong, weak, and latent ties and the impact of new media. *The Information Society, 18*(5), 385-401.
- Kapteijns, L., & Arman, A. (2008). Educating immigrant youth in the United States: An exploration of the Somali case. *Bildhaan: An International Journal of Somali Studies, 4*(1), 6.
- Kilpatrick, S. U. E., Field, J., & Falk, I. A. N. (2003). Social capital: An analytical tool for exploring lifelong learning and community development. *British Educational Research Journal, 29*(3), 417-433.
- Letki, N., & Mierîna, I. (2015). Getting support in polarized societies: Income, social networks, and socioeconomic context. *Social Science Research, 49*, 217-233.
- Lin, N. (2000). Inequality in social capital. *Contemporary sociology, 29*(6), 785-795.
- Loury, G. C., Modood, T., & Teles, S. M. (Eds.). (2005). *Ethnicity, social mobility, and public policy: Comparing the USA and UK*. Cambridge University Press.
- Manalel, J. (2018). *Social networks over the life course: Continuity, context and consequences* [Unpublished doctoral dissertation]. University of Michigan.
- Marin, A., & Hampton, K. N. (2007). Simplifying the personal network name generator: Alternatives to traditional multiple and single name generators. *Field Methods, 19*(2), 163-193.
- Marsden, P. V., & Campbell, K. E. (2012). Reflections on conceptualizing and measuring tie strength. *Social Forces, 91*(1), 17-23.
- McDonald, B., & Scollay, P. (2008). Outcomes of literacy improvement: A longitudinal view. In S. Reder, & J. Bynner (Eds.), *Tracking adult literacy and numeracy skills: Findings from longitudinal research* (pp. 312-328). Routledge.
- McDonald, S., & Mair, C. A. (2010). Social capital across the life course: Age and gendered patterns of network resources. *Sociological Forum, 25*(2), 335-359.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology, 27*(1), 415-444.
- Mikulecky, L., & Lloyd, P. (1997). Evaluation of workplace literacy programs: A profile of effective instructional practices. *Journal of Literacy Research, 29*(4), 555-585.
- Morgan, K., Waite, P., & Diecuch, M. (2017). The case for investment in adult basic education. Proliteracy. <https://www.proliteracy.org/Portals/0/Reder%20Research.pdf>
- Petróczi, A., Nepusz, T., & Bacsó, F. (2007). Measuring tie-strength in virtual social networks. *Connections, 27*(2), 39-52.
- Portes, A., & Sensenbrenner, J. (1993). Embeddedness and immigration: Notes on the social determinants of economic action. *American Journal of Sociology, 98*(6), 1320-1350.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*(1), 1-24.
- Rademacher, M., & Wang, K. (2014). Strong-tie social connections versus weak-tie social connections. *Scholarship and Professional Work - Communication, 103*.
- Retzer, S., Yoong, P., & Hooper, V. (2012). Inter-organisational knowledge transfer in social networks: A definition of intermediate ties. *Information Systems Frontiers, 14*(2), 343-361.
- Schuller, T. (2017). *What are the wider benefits of learning across the life course? Future of skills & lifelong learning project*. Foresight, Government Office for Science
- Singh, R., & Mohanty, M. (2012). Impact of training practices on employee productivity: A comparative study. *Interscience Management Review, 2*(2), 74.

- Smith, S. S. (2000). Mobilizing social resources: Race, ethnic, and gender differences in social capital and persisting wage inequalities. *The Sociological Quarterly, 41*(4), 509-537.
- Son, J., & Lin, N. (2012). Network diversity, contact diversity, and status attainment. *Social Networks, 34*(4), 601-613.
- Stone, W. (2001). *Measuring social capital: Towards a theoretically informed measurement framework for researching social capital in family and community life*. Australian Institute of Family Studies.
- Strawn, C. L. (2003). *The influences of social capital on lifelong learning among adults who did not finish high school*. National Center for the Study of Adult Learning and Literacy, Harvard Graduate School of Education.
- Taylor, M., Trumpower, D., & Pavic, I. (2012). A social capital inventory for adult literacy learners. *International Forum of Teaching and Studies, 8*(2), 12.
- Tett, L., & Maclachlan, K. (2007). Adult literacy and numeracy, social capital, learner identities and self-confidence. *Studies in the Education of Adults, 39*(2), 150-167.
- United Nations. (2018). *Policy guide on entrepreneurship for migrants and refugees*. United Nations Conference on Trade and Development. [https://publications.iom.int/system/files/pdf/policy\\_guide\\_migrants\\_refugees.pdf](https://publications.iom.int/system/files/pdf/policy_guide_migrants_refugees.pdf)
- Van der Gaag, M., & Snijders, T. (2004). Proposals for the measurement of individual social capital. In H. Flap & B. Volker (Eds.), *Creation and returns of social capital: A new research program* (pp. 197-210). Routledge.
- Workforce Innovation and Opportunity Act, Pub. L. No. 113-128, 128 Stat. 1425 (2014). <https://www.govinfo.gov/content/pkg/PLAW-113publ128/pdf/PLAW-113publ128.pdf>