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# **How Involvement in Adult Education and Family Literacy Programs Shapes Women's Social Networks, Social Support, and Mental Health**

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**Abstract:** This paper uses quantitative data from a mixed-methods study to examine how attending adult education and family literacy (AEFL) programs influenced women's (n=31) social networks, social support, and mental health. The complex, counter-intuitive findings are discussed. We conclude that relationships within AEFL programs must be cultivated, not assumed.

## **Introduction**

Women with limited income and formal education are disproportionately likely to have small, less supportive social networks and to experience depression and anxiety (Belle & Doucet, 2003). Estimates indicate that nine million U.S. adults experience limited literacy and depression (Weiss, Francis, Senf, Heist, & Hargraves, 2006). Factors such as poverty, single parenthood, having young children, use of public assistance, and caretaking responsibilities diminish social support and mental health, helping to explain women's higher rates of depression (Belle & Doucet, 2003; Brown & Moran, 1997; Lennon, Blome, & English, 2002). Most adult education and family literacy (AEFL) learners are low-income women, yet we know little about how program participation shapes their psychosocial well-being. Using quantitative data from a mixed-methods study, this paper examines (1) the types and frequency of social support that learners exchange inside and outside of AEFL programs, (2) how participation and programmatic factors affect formation of social ties, and (3) how program participation and social ties influence learners' mental health.

## **Literature Review**

We view AEFL programs as "resource brokers" (Small, 2006) that provide access to knowledge, information, emotional aid, material goods, and other resources, largely by offering informal opportunities to form social ties. These social ties profoundly shape human flourishing (Kawachi & Berkman, 2001). For poor women, social support, or "emotional and instrumental assistance from others" (Belle, 1982, p. 133), reduces anxiety and depression, and improves self-esteem and sense of control (Belle, 1982; Edin & Lein, 1997). Unsupportive or insular social ties, however, limit access to social resources (Edin & Lein, 1997); exacerbate stress, anxiety, and isolation (Belle & Doucet, 2003); and exact emotional and material costs (Kawachi & Berkman, 2001). The study also builds on research showing how women use AEFL programs to make friends, share advice, acquire cultural capital, and meet psychosocial needs (Horsman, 1990; Prins, Toso, & Schafft, 2009). In addition, experimental studies show that literacy education significantly reduced depression among low-literate adults (Poresky & Daniels, 2001; Weiss et al., 2006).

## **Research Methods**

This paper addresses the following questions: (1) Do the encouragement of friendships and frequency of small group work encourage the formation of social ties among participants? (2) Do women learners engaging in higher intensity participation establish more and higher quality social ties? (3) Do women who establish more and higher quality social ties experience improved mental health? A mixed-methods research design (surveys, interviews, observations, focus group, daily interaction records) was chosen to “provide the most informative, complete, balanced, and useful research results” (Johnson, Onwuegbuzie, & Turner, 2007, p. 129). Research sites include five family literacy (FL) programs and two health service education (HSE) programs in Pennsylvania. The inclusion of the latter allows comparison of managed enrollment (e.g., 7-week) programs that focus on test preparation with FL programs that have a broader focus and use a case management approach.

All newly enrolled women were invited to participate. The study included 44 women aged 18 to 56 (26 White, 9 Black, 6 Latina, 3 other), 53% of whom had less than a high school education. Their average monthly household income was \$1450 (median = \$1200).

We analyzed data from surveys collected in three waves: upon program enrollment and two post-surveys at four- to five-month intervals. In addition to demographic items, the survey included (1) the social contact, social stimulation, and family togetherness sub-scales of the Education Participation Scale (Boshier, 1991); (2) programmatic variables; (3) social interactions and social support among learners and teachers; (4) participant social networks (Marin & Hampton, 2007) and characteristics of relationships with network members; and (5) scales measuring depression (PHQ-9, Kroenke, Spitzer, & Williams, 2001), mastery (sense of control over one's life, Pearlin, Menaghan, Lieberman, & Mullan, 1981), social support (Zimet, Dahlem, Zimet, & Farley, 1988), and stress. Program records included descriptive data (e.g., number of participants) and research participants' standardized TABE (Tests of Adult Basic Education) reading and/or math scores and participation data.

Forty-four students (24 FL and 20 HSE) responded to the first survey. Thirty-one students (R's) responded to the second survey and participation data (hours in program) provided by the program (70% of original sample). Twenty-three R's (14 FL and 9 HSE students) completed the third survey and had participation data (52% of original sample).

Intensity of participation and survey results at the time of the final survey for each participant with follow-up data are used to address the research questions. Intensity of participation is the sum of adult education (AE) and parenting education (PE) hours between the first and final survey for each R. Consequently, the third survey was used as the final survey for 23 R's (74%) and the second survey was used as the final survey for 8 R's (26%). Between the first and final survey, learners participated in an average of 54.2 AE and PE hours, combined (min.=0, max.=315). A t-test indicated that FL and HSE participated in a similar number of AE and PE hours between the first and final survey ( $t=0.814$ ;  $df=29$ ;  $p=0.422$ ).

The number and quality of social ties were measured by 24 variables, with nine measuring characteristics of R's network (e.g., degree of closeness, extent to which network member makes too many demands), 11 measuring characteristics of the social ties R had with other literacy program students (e.g., considers them a friend), and four variables measuring perceived level of social support from friends, family, significant others, and overall. Mental health status was measured using (1) the PHQ-9 as a measure of depression, (2) a single question asking level of stress, and (3) the Pearlin Mastery Scale. Three distinct measures of depression were calculated from the PHQ-9: (1) severity of depression, (2) the severity score categorized into one of five levels, and (3) the extent that the PHQ-9

items (e.g., “little interest or pleasure in doing things”) were exhibited more than one-half of the days in a two-week time period.

Partial correlation coefficients between the predictor and outcome variables, controlling for the baseline value of the outcome variable from the first survey administration, were calculated to address the research questions. Two-tailed significance tests were conducted, and p-values of 0.05 or less were considered statistically significant. A statistical tendency was considered to have occurred for p-values of 0.10 or less. Due to the project being an exploratory study, adjustments were not made for multiple tests (i.e., Bonferroni adjustment). At the same time, the more conservative two-tailed tests were conducted rather than one-tailed tests.

## Findings

### *Descriptive Data on Social Ties, Social Support, and Mental Health*

Baseline (pre-survey) data show that on average, participants identified 7.4 people in their social network (e.g., people with whom they discussed important matters, socialized, or turned to for material or emotional support). Although learners generally described these relationships as “very close” (mean=1.3; 1=very close and 3=not at all close), they also experienced stress, worry, or conflict in 37% of these relationships, on average. This supports prior research showing that close relationships can exacerbate stress, particularly for women, who are more likely than men to absorb and internalize the problems and stress of their friends and family (Kessler & McLeod, 1984). For instance, during an interview a research participant noted that she tries not to get too involved in the lives of program participants because she takes on their problems and feels emotionally burdened.

In the pre-survey, learners named an average of 3.0 people they knew in the program (71% of whom they deemed friends), compared to 4.4 people at the final survey (76% were considered friends), which is a statistically significant increase ( $t=2.947$ ;  $df=30$ ;  $p=0.006$ ). The majority (69%-77%) of these were friends they met in the program. On average, participants could confide in 1.2 learners and 0.9 teachers at pre-test, compared to 1.4 and 1.3 at final survey; the increase in teacher confidants tended towards statistical significance ( $t=1.786$ ;  $df=25$ ;  $p=0.086$ ). This is consistent with interviews with participants who described discussing personal matters with students and teachers.

Participants talked or socialized with other students outside of class time nearly once a month. On average, they reported providing social support for other students between “every few months” and “once or twice a year” (e.g., listen, give encouragement, advice, or ride). They reported *receiving* support from both teachers and students less often than that; however, teachers provided more support than students. This makes sense teachers are like to be the primary source of emotional and informational support for newly enrolled learners.

At the baseline, learners perceived their significant other as being most supportive (mean=5.3, range: 1-7), followed by friends (5.1) and family (4.8). The total mean score (5.1) is lower than the average score of the college student norming group (5.8, Zimet et al., 1988), but higher than rural women inmates (4.71, Kane & Dibartolo, 2002), for example.

On average, respondents scored 7.2 on the depression severity measure (range: 0-27), 2.1 on the depression scale ranging from 1 to 5 (minimal, mild, moderate, moderately severe, severe), and 2.0 on the extent respondents exhibited PHQ-9 items more than one-half of the days in a two-week period (range: 0-9). Depression results at baseline were as follows: no depression (48%), mild (19%), moderate

to severe (33%). These percentages changed somewhat on the final survey, but not significantly. Also, student's sense of mastery was relatively high at baseline with a mean of 21.5 (range: 7-28). This suggests that they felt a fairly strong sense of control over their lives, despite the many obstacles that they described in interviews with us.

#### *Do Program Qualities Encourage the Formation of Social Ties among Participants?*

Results indicated that students who reported greater frequency of pair or small group work in their program at baseline were significantly more likely to talk or get together with another student outside of class time on the final survey (partial  $r=0.469$ ;  $p\text{-value}=0.024$ ). Frequency of small group work was not related to any of the other program network variables (e.g., number of people known in program, number of friends) on the final survey.

#### *Do Learners with Higher-intensity Participation Establish More and Higher-quality Social Ties?*

Between the first and final survey, one indicator of the number of social ties and three measures of social tie quality were related to intensity of program participation. One measure of the number of social ties was the number of groups and voluntary organizations in which R was involved (e.g., church, parent-teacher association). Learners with greater intensity of participation were involved with significantly more groups and organizations at the time of the final survey, controlling for involvement at baseline (partial  $r=0.336$ ;  $p\text{-value}=0.069$ ).

Participants with more instructional hours between the first and final survey tended to report greater closeness with their network members, on average (partial  $r=0.318$ ;  $p=0.087$ ), controlling for closeness at baseline. In addition, those with greater intensity of participation tended to confide in more students in the program at the final survey (partial  $r=0.344$ ;  $p\text{-value}=0.063$ ). However, students who participated in more instruction reported significantly lower levels of social support from their families at the time of the final survey (partial  $r=-0.373$ ;  $p\text{-value}=0.043$ ).

The number of AE and PE hours between the first and final survey was unrelated to all of the remaining variables measuring number and quality of social ties.

#### *Do Learners with Higher-Intensity Participation or with More or Higher-quality Social Ties Experience Improved Mental Health?*

Learners who reported an increase in the number of friends in the program between the first and final survey tended to score higher on depression measures (partial  $r$  ranged from 0.348 to 0.366;  $p\text{-values}$  ranged from 0.061 to 0.075). Similarly, those who reported an increase in the number of groups and organizations they were involved with tended to score higher on two of the PHQ-9 depression measures—severity and frequency of symptoms (partial  $r$  ranged from 0.324 to 0.334;  $p\text{-values}$  ranged from 0.071 to 0.081). Respondents who reported an increase in the number of students they could confide in also scored higher on the depression measures (partial  $r$  ranged from 0.334 to 0.365;  $p\text{-values}$  ranged from 0.048 to 0.071). There was a tendency for students who reported an increase in perceived social support from friends to score higher on one of the PHQ-9 measures of depression (partial  $r=0.308$ ;  $p\text{-value}=0.098$ ). Consistent with these results, students who increased the frequency of socializing with other program participants reported significantly more stress on the final survey, controlling for their level of stress at baseline (partial  $r=0.0392$ ;  $p\text{-value}=0.032$ ).

Although intensity of participation between the first and final survey was unrelated to measures of depression and stress, it was negatively correlated with sense of mastery. Students who participated in more AE and PE hours scored lower on the mastery indicator at the time of the final survey, controlling for mastery at baseline (partial  $r=-0.391$ ;  $p\text{-value}=0.033$ ). Also, respondents who reported an increase in the number of students they could confide in scored significantly lower on the sense of mastery indicator at the time of the final survey, controlling for baseline levels of mastery (partial  $r=-0.485$ ;  $p\text{-value}=0.007$ ).

On the other hand, students who perceived an increase in social support from significant others scored significantly higher on their sense of mastery at the time of the final survey (partial  $r=0.395$ ;  $p\text{-value}=0.031$ ). Also, there was a tendency for students who reported an increase in perceived social support, overall (from family, friends and significant others) to score higher on the mastery indicator (partial  $r=0.335$ ;  $p\text{-value}=0.070$ ).

### **Discussion**

Since this was an exploratory study, the results should be viewed cautiously. In addition, we cannot establish causation. Nevertheless, several intriguing and counter-intuitive findings surfaced. Surprisingly, intensity of participation was not significantly related to knowing more students, but rather to involvement in groups and organizations, closeness to network members, and number of student confidants. Given the importance of having a confidant for mental health (Belle, 1982), the latter is a crucial finding.

The decline in social support from family with more instructional hours could reflect the phenomenon of resistance to women's learning (Muro & Mein, 2010). Although qualitative data suggest that most partners supported women's participation, this was not the case for at least two women in the study.

Given prior research showing that supportive social ties enhance mental health, the negative relationship between improvements in relationships with other program participants and mental health status, particularly depression, is surprising. One possible explanation is that on average respondents showed only mild depression, and although depression indicators worsened slightly, this change was not significant ( $p>0.85$ ). On the other hand, learners appeared to be fairly stressed at the time of the first survey (mean=6.0; range: 1-10).

Qualitative data also caution us from assuming that program participation—even if it provides social support—is sufficient to overcome the worry and depression that extremely stressful life events may engender. For example, during interviews two women described how they made friends and accessed social support in their program, yet when they answered follow-up survey questions they showed increased depressive symptoms, including suicidal thoughts. These symptoms arose from life situations including an abusive partner, unsupportive family members, and feeling overwhelmed by multiple responsibilities, children's academic problems, and childrearing difficulties. Alternatively, perhaps as learners feel more depressed or stressed they are more likely to seek out friendships within the program. Consistent with this hypothesis is the finding that the number and quality of social ties with respondent's networks were unrelated to mental health status on the final survey ( $p>0.10$ ).

We conclude that relationships within AEFL programs must be intentionally cultivated. Our qualitative data make it clear that some programs are more or less likely to foster relationships and

support. In addition, supportive relationships can mitigate the stress of external life events, even as these may increase their depressive symptoms.

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