Fostering individual agency and wellbeing in women: an evaluation of the IMAGINE Kenya Initiative

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Elaine Millam supported and planned program activities, contributed to the analysis plan and reviewed and revised the manuscript.
All authors have seen and approve the final version of this manuscript.
Abstract

Background: A crucial driver of sustainable development and health is the empowerment of women. Multiple empowerment interventions exist, but gaps remain regarding their effect. Most programmes focus on the provision of needed outer resources, such as education or opportunity, yet neglect the crucial development of internal resources, such as self-efficacy (the belief in one’s ability to act) and agency (ability to act and make choices). We assessed the effect of the IMAGINE Initiative in Kenya, a programme intended to empower individuals through a 4-day workshop aimed at increasing self-knowledge and translating this into an actionable growth strategy towards personal health and development goals that was culturally adapted for this setting. Methods We identified 213 individuals from routine de-identified programme data who had applied to participate: 76 individuals had already completed the workshop and 137 individuals were awaiting entry to the workshop. Data included sociodemographic information; qualitative interviews of changes in health, relationships, education, and economics; and self-reported wellbeing and hopefulness. To minimise confounders and bias, we did conditional logistic regression using 1:1 matched pair analysis (matched on gender, location, socioeconomic status, education, and age). Findings Subscale analyses identified high levels of self-acceptance, purpose in life, and personal growth with no differences between trained and untrained individuals in this population. Workshop participants reported higher scores for positive relationships with others (ie, has satisfying, trusting relationships; odds ratio [OR] 2.00, p=0.041) and environmental mastery (ie, makes effective use of surrounding opportunities; 2.30, p=0.028) than did non-participants. Moreover, participants were more likely to report hope for the future (OR 2.63, p=0.020) and express agency (OR 2.33, p=0.033). Compared with untrained participants, trained participants were significantly more likely to report positive changes to their financial condition than were untrained participants (24% vs 83%), improved health (5% vs 55%), improved relationships (5% vs 75%), and improved access to education (7% vs 18%). Interpretation This evaluation supports the premise that facilitating human agency, a foundational component of empowerment, is not just possible, but feasible. This enhanced agency, in turn, might catalyse participation in other health and development opportunities. These data suggest more rigorous evaluations are warranted to better identify the effect of this novel empowerment intervention on the well being of disenfranchised women worldwide.

Introduction

The recognition that empowerment of women is a primary driver of sustainable development has led to numerous initiatives globally to raise access to opportunities and improve the status of women over the last several decades (IFAD, 2010; World Bank, 2005). In fact, the World Bank urges that empowerment of women be included as a key component of all social development programs. This commitment was affirmed by the Millennium Summit, where the Millennium Development Goal (MDG) 3 is aimed at promoting gender equality and empowering women by
ending gender-related disparities in access to assets and allocation of developmental resources and services and was reiterated for the post 2015-agenda (UN 2010). There has been some evidence of success, most notably in education; however, substantial obstacles remain to reducing violence against women, improving their access to basic needs, health services and economic opportunity (Buvinic, et al 2008).

Despite the clear rationale to invest in women and the commitment by some donors to do so, simply providing external resources can often fail to mobilize women, whose life experience and socio-cultural barriers may not have prepared them to pursue new educational, economic or personal opportunities availed to them (Sen, 1985). Moreover, there is the growing realization that information alone may not necessarily translate into action (Storey, 2011). There is an urgent need to identify innovative ways of empowering women that develop their capacity to take the actions necessary to tackle the many challenges they face. Within international development programming, there are many paths to women's empowerment; most traditionally, these programs focus on providing skills, education, opportunity and promoting equitable governance. These are important endeavors, however, efforts are needed that foster women's sense of self, resulting in greater self-esteem, motivation, self-respect and self-reliance. Indeed, this serves as the foundation that enables these other efforts to fully succeed (Sen, 1999).

The following quote from the UNDP (Grown et al, 2005) clearly articulates the challenge that we face in the context of women’s empowerment:

“The concept of women's empowerment is related to gender equality but distinct from it. The core of empowerment lies in the ability of a woman to control her own destiny. This implies that to be empowered a woman must not only have equal capabilities (such as education and health) and equal access to resources and opportunities (such as land and employment), they must also have the agency to use those rights, capabilities, resources and opportunities to make strategic choices and decisions”

The empowerment process is not a constant, but rather a continuing development that involves changes to strengthen and exercise the ability to act to gain control and mastery over life, community, and society. Building upon empowerment theory (Zimmerman 2000; Sen, 1985), this assessment focuses on understanding the distinction between empowering processes and outcomes. While community participation and shared leadership may be empowering
processes, we explore the capacity of this intervention to foster individual perceived control and resource mobilization skills. The program, IMAGINE: Kenya, is designed specifically to build and foster human agency for disenfranchised women. This program is part of the larger initiative of the Empowerment Institute, IMAGINE: A Global Initiative for the Empowerment of Women begun in 2010. The primary emphasis of this program is to help individuals increase their self-knowledge so they can discover what’s important to them; translate this knowledge into a compelling vision; identify and transform the limiting beliefs that inevitably arise when creating something new; and adopt an actionable growth strategy to attain their goals. These empowerment tools then serve as part of an ongoing support system to enable further personal growth over time and enhance the program’s impact, beyond the woman, to her family and community (Gershon and Straub, 2011). This paper reports on the program evaluation to assess the outcomes of this program in populations of rural and urban poor in Kenya.

Setting and Methods

This evaluation was conducted in an urban slum of Nairobi (Kayole Spring Valley slum, population approximately 6000) and in towns and rural regions of Nyanza Province (Migori and Rusinga Island, population approximately 60,000). The Empowerment Workshop was conducted with members of local women’s self-help groups in the area by a trained Empowerment Facilitator. This program was conducted with members of several women’s self-help groups including the Kayole Women’s Group (Nairobi) and in Nyanza Province, the Sanga Women’s group, the Kiringi Women’s group, the Karanda Self-Help Group in God Jope, the Lambwe Women’s Group, the Kamasegere-West Women’s Group and the Peterson-Gunda Women’s Group on Rusinga Island. Membership in these women’s self-help groups can also include men and therefore some of the participants in the workshop and for this evaluation were men (approximately 10%). All participants in this evaluation are members of these women’s group; however, not everyone had yet participated in the empowerment intervention. The local Kenyan program is implemented by trained empowerment facilitators who are fluent in the local language, knowledgeable about the local environment and culture and have strong relationships with the local women’s self-help groups in the area.

The empowerment intervention: The program implemented the Empowerment Workshop, developed by David Gershon and Gail Straub, founders of the Empowerment
Institute and has been utilized over the past 30 years to facilitate positive behavior change and enhance voluntary participation (Gershon, 2009). In the workshop, generally lasting 4 days (approximately 32 hours of engagement), individuals participate in an introspective examination of their lives, thoughts and environmental context and they review issues of critical importance to them, including their dreams and goals for the future. Over the course of the workshop individuals review seven areas of their lives: emotions, relationships, sexuality, body, money, work, and spirituality. Each IMAGINE workshop is adapted to serve the local context and culture of the population being trained. This allows discussion in each of the seven areas of life to reflect the current needs and challenges these individuals face. For example, Nyanza province has some of the highest HIV prevalence rates in the country and the discussion around sexuality included health information related to practices that increase HIV transmission and practices that may help mitigate the negative effects of the disease. Information on local health non-governmental organizations (NGOs) and governmental programs able to provide additional assistance is also discussed. The primary enhancements to the basic empowerment methodology are generally related to health, economic and work opportunities. Moreover, culturally relevant examples, either from religious texts or local social norms are used to emphasize specific points during the discussion. The basic structure of the workshop is maintained and the exercises are created to facilitate learning and include significant interactive discussion among the group. A workshop generally consists of approximately 20 participants, one or two facilitators and one or two assistants to document the activities of the workshop. Women are not paid to attend the workshop, but are provided with food and drink during the workshop.

Program evaluation

A total of 213 individuals, primarily women (90%) and men (10%), were interviewed for this program evaluation. This included 137 individuals who were interested in participating, but had not yet undergone the training in the Empowerment Workshop and 76 individuals who had completed this training. Since March 2011, over 200 individuals from this region have participated in the Workshop. All untrained individuals were part of these same women’s self-help groups in the area.

The evaluation process included a structured interview that included basic socio-demographic information and two scales of well-being. The Ryff Scales of Psychological Well-
Being (Ryff and Keyes, 1995) and the Hope Scale (Snyder, 1995) (Table 1). The Ryff inventory consists of 54 questions (medium form) and includes a series of statements reflecting the six areas of psychological well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The Hope Scale, based on the work by Snyder (Snyder, 1995) has 8 focused questions that attempt to capture hope as a combination of willpower (agency) or “waypower” (pathways) (Pattengale, 2004).

A short open-ended interview was also conducted on approximately 80% of all participants (101 untrained, 71 trained, total 172). These interviews were conducted by assistants fluent in both English and Kiswahili and/or Luo, using dual-language ethnographic field guides. This short interview included an open format with questions on the specific stories of success since the time of the workshop (if individuals had not participated in the workshop, they were asked to describe a positive story since the time that the workshop had been conducted in their area) as well as answer specific questions on changes in the condition of the educational status for themselves or those they are responsible for, changes in the condition of their relationships with others, changes in the economic condition and changes in the condition of health for themselves or those they care for. The short interviews lasted from 10-25 minutes each. All interviews were transcribed into English.

Each short interview was reviewed and responses were coded for the presence or absence of specific behavior change. Qualitative analysis was done through a targeted coding of interviews based on specific a priori content areas determined to be of interest to the program activities. This included information since the time that the workshop was held in their area: 1) Changes in education status for themselves or those they care for (improved, same or decreased); 2) Changes in their relationship with family and/or friends (improved, same or decreased); 3) Changes in health status for themselves or those they care for (improved, same or decreased); and 4) Changes in economic condition due to increased capital earned or diversification of income sources (improved, same or decreased).

Quantitative interviews were entered into an Access database and data analysis was conducted with SAS 9.3 for windows. All interview forms were translated into either Kiswahili (for Nairobi slums) or Luo (for Nyanza province). Seven interviewers were trained to conduct the interviews among the group members. Interviewers were trained to review the rating system (1 to 6) and to review each question to ensure appropriate understanding.
The local implementing entity (Sanga Woman’s Group, a Kenyan NGO) considered this activity to be a program evaluation and not research. Nevertheless, ethical guidelines were followed to protect respondents. All participation in the evaluation was voluntary. Verbal informed consent was obtained from each of the leaders of the women’s groups as well as from each of the participants in accordance to international ethical standards. Consent of the local non-governmental organization was also obtained. This study and all analysis procedures were reviewed by the Johns Hopkins University ethical review board and deemed exempt from human subjects review as these analyses included secondary de-identified data. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Data analysis

Specific scores for the Ryff and Hope scales were calculated by adding the scores from each of the specific questions in each scale. About half of the questions in the Ryff scale were reverse scored. For each sub-scale, a high score indicates that the respondent has a mastery of that area in his or her life. Conversely, a low score shows that the respondent struggles to feel comfortable with that particular concept. Preliminary bivariate and multivariate analyses were done to compare groups (UNTRAINED versus TRAINED) for all respondents. Due to non-normality of the scales, non-parametric statistics were calculated using categorical data based on scores that were higher/lower than the population mean. A power analysis determined that at 5% level of significance, with the available sample size we could detect at least a 25% difference between the two groups.

Principal components analysis (PCA) was used to create a socio-economic score (SES) from a pool of questions related to material possessions such as access to electricity, type of latrine used and occupation of the female and occupation of the male in the household. A final SES index was created that included access to electricity, possession of a radio, TV, mobile phone or bicycle and the primary occupation of male head of household. The Cronbach’s alpha for the SES score was 0.69.

Two types of analyses were conducted to assess impacts of the empowerment workshop on scales of well-being 1) multiple logistic regression analysis controlling for key variables and 2) matched pair analysis on a subsample of participants. Multiple logistic regression analysis
compared proportion of those participants scoring above the mean for the specific sub-scale (classified as scoring high). The model controlled for 1) gender, 2) location (rural or urban), 3) SES (high or low), 4) education (primary school or less versus secondary school or higher) and 5) age.

From the pool of controls, we created a 1:1 matching subsample to allow for controlled analyses. Matching was done by 1) gender, 2) location (rural or urban), 3) SES (high or low), 4) education (primary school or less versus secondary school or higher) and 5) age (+/- 10 years). With respect to age, 80% of the matched cases were within 2 years of their control and 90% were within 5 years of their control. The final number of matched pairs available for analysis was 69. Analysis for the matched pairs included matched-pair t-tests for continuous data and conditional logistic regression analysis for matched case-control studies producing an odds ratio.

Results

The participants represented some of the most disenfranchised populations in Kenya. Most participants were women (90%) from rural (85%) areas, having no access to electricity (85%), having primary schooling or less (72%) and participating in subsistence farming (76%). In addition to high rates of poverty and low levels of education, this region suffers from high rates of HIV resulting in some of the lowest life expectancies in the country (47 years) (Society for International Development, 2004). Table 2 compares basic socio-demographic characteristics for the two samples. From this unmatched analysis, it appears that those trained tended to be older, more likely to own a radio, more likely to use a pit latrine or better.

Table 3 presents the results of the multiple logistic regression on the data for each of the outcome sub-scales for well-being. In this adjusted analysis, we found high levels of self-acceptance (i.e. possessing a positive attitude towards ones-self) were expressed by more than 50% of participants in both the trained and untrained and did not differ between the groups. Overall, participants also reported very high positive scores related to purpose in life (i.e. having a sense of goals and directedness in their lives) and personal growth (i.e. having a feeling of continued development) with no differences found between the trained or untrained participants.

There were two Ryff sub-scales where trained participants scored significantly higher than untrained participants 1) positive relationships with others and 2) environmental mastery. In positive relationships with others (i.e. has warm, satisfying, trusting relationships), trained
participants were nearly twice as likely to score higher on this scale than untrained counterparts [45% untrained vs 62% trained, OR=1.88; CI 95% 1.02-3.45; p=0.04]. For environmental mastery (i.e. has a sense of competency in managing the environment and makes effective use of surrounding opportunities), trained participants were more than 3 times more likely to have a higher score on this subscale [43% untrained vs 68% trained, OR 3.06; CI 95% 1.60-5.82; p=0.0006]. By contrast, in the area of autonomy (i.e. is self-determining and independent), trained participants were less likely to score higher on this subscale (OR=0.74); however, the result was not significant. Of note, in this culture, autonomy is not considered as a desirable trait as cooperation with others is more greatly valued. In addition, trained participants were twice as likely to express hope for the future [56% untrained vs 71% trained, OR 2.10; CI95% 1.10-4.01; p=0.03] and nearly twice as likely to express agency [48% untrained vs 63% trained, OR 1.89; CI95% 1.02-3.50; p=0.04] than those who had not undergone the Empowerment Workshop.

A conditional logistic regression for the matched pairs conducted on 69 pairs showed nearly identical results (Table 4). Individuals who had undergone the empowerment training scored significantly higher in areas related to positive relations to others, environmental mastery, hope and agency.

The qualitative interviews described even greater improvements in reported life changes since the empowerment workshop. In order to quantify reported changes in these areas, we used data from the qualitative reports (n=172) to compare those who had not yet undergone training (n=101) and those who had completed training (n=71). From the full pool of data we find positive changes in education (7% of untrained compared with 18% trained); in health (5% of untrained compared with 55% of trained); in the area of economics (24% untrained compared with 83% trained) and in the area of relationships (5% untrained compared with 75% trained).

Excerpts from the qualitative interviews provide a context for the experiences reported by these women. In order to illustrate some of these changes, we present quotes from the field interviews related to the four areas of behavior change that were discussed. In the area of relationships, one woman reported:

“After doing the training, I realized that I don’t have to be alone. I understood that in unity with others you have greater strength. Overall, my relationships have improved
with others. I am better at managing my emotions, especially as I remember the death of my husband and my three children.”

Widowed, 66 years, Farmer

As a result of the staggering HIV epidemic in this region in the past decade, women are faced with significant trauma, loss and isolation. The group format for the workshop allowed women to engage together and share their grief while looking to the future. The interviews revealed that building positive relationships was a central component to these women’s sense of hope and healing.

In the area of health, women reported changes from a wide range of disorders and diseases. These included improved adherence to HIV medications for infected individuals, improvements in oral/dental health, improved care for infectious as well as non-infectious diseases and injury. As stated by a widow left caring for her young children,

“With respect to health I learned that some diseases that are result of carelessness. I never used to use a mosquito net for my children or even myself. I kept treating malaria now and again. Since the training I become careful and the rate of sickness in my family has reduced.”

Widow, 44, small business owner

For education, individuals were most likely to describe a change that has come about as a result of the increased economic conditions in the family. For girl children, however, there are additional challenges. These include time taken from school that could otherwise be used for basic household chores and the lack of proper feminine hygiene products that permit menstruating girls to attend school on a regular basis. As reported by a rural woman,

“My eldest daughter dropped out of school because of the many challenges she faced. Over time, I have been able to improve my relationship with her and I was able to convince her to go back to school and study hard. I feel that I am able to guide my children daily and now my third child, a son, is now also doing better. I don’t know if it could be this way before. I feel like I can guide my children and support their education”
Widow, 50, small business owner

The changes in economic conditions for those participating in the workshop resulted from increased awareness of money management and budgeting as well as improved relationships and interactions with those who were knowledgeable about potential small businesses. While there were no predetermined pathways to viable economic activities presented during the workshop, the discussion led individuals to seek out available information from local NGOs and development organizations. An example is as follows:

“For many years I used to walk every day with bananas on my head to sell to the marker in Migori which was more than 5 kms away. At the end of the day, I never had more than 400 shillings in my pocket. With the women I met at the workshop I was encouraged to create a liquid soap business. I learned many things from this and my life changed a lot. I am now a trainer and I train people on how to make the liquid soap. The training woke me up and had become more active in how I handled things. My heart feels lighter.”

Married, 42, small business owner

A subset analysis of the qualitative interviews was done in an effort to examine changes over time using data from the matched pairing where qualitative interview data were complete (n pairs=51). We examined three groups a) untrained (n=51) b) trained within 4 months (n=23) and c) trained more than 4 months ago (n=28) (Figure 1). Four months was chosen as the cut-off as it was the median time since the participants had completed a workshop in this population. From figure 1, we see that in each of the four content areas, individuals who participated in the workshop reported positive improvements as compared with those who had never participated in the workshop. For three of the content areas, health, relationships and economics, substantial improvements were seen within 4 months, with the greatest improvements in the area of relationships and economics. After 4 months, in the area of economics over 90% of those trained reported some type of positive economic change, compared with less than 25% of those untrained. In the area of education it appears that significant positive changes are more likely to occur after 4 months; likely due to the fact that economic conditions generally have to improve first before expenditures for education can be made.
Study limitations

These data come from a program evaluation and while strict standards of data collection were maintained, the data were obtained within the context of the existing program implementation. There was no blinding of status within the population so that both the interviewers and the participants were aware of who had obtained the intervention. There was spillover from this intervention as many of those individuals who had not yet participated in the Workshop had mentioned they were knowledgeable about the workshop and content. In some cases individuals reported that their interest in the workshop was a result of observing changes in others in the community.

Conclusion

Since the 1970’s there has been increased recognition of the critical role of women in development which has led to concerted efforts to effectively engage women in development programing (Boserup, 1970). The Beijing Conference in 1995 (UN, 1995) brought together an agenda for global action to promote gender equality and empowerment of women which led to inclusion of women’s empowerment as the third millennium development goal (MDG) 3 promoting gender equality by ending gender-related disparities in access to assets and allocation of developmental resources and services. These efforts coincided with the post Alma-Ata (1978) activities calling for increased community participation thus veering away from one-sided technical expert driven development. This has resulted in the creation of targeted empowerment efforts geared to providing critical outer resources, such as access to health care, education and opportunity expected to support essential advances in development. However, significant gaps remain in reaching both the stated millennium development goals and the empowerment of women.

Part of the challenge lies in the definition of empowerment as there has been considerable debate on this topic as noted in the review by Malhotra, Schuler and Boender (2002). While we do not attempt to resolve this debate, we believe that the most pertinent definition is one that describes empowerment as an expansion of one's capacity to create positive behavioral change.
Attitudes and beliefs are critical components to this process, however, it is through enhancements in human capacity and decision making leading to behavior change that advancement in one’s life can be achieved. Within the context of development activities, the discussion of empowerment requires greater recognition of the distinction between resource-based empowerment (such as skills, education or opportunity) and agency-based empowerment (for example, programs focused on self-efficacy, intrinsic motivation) (Samman and Santos, 2009). Human agency can be defined as the capacity, condition, or state of acting or of exerting power that is focused on their ability to formulate strategic choices and to control resources and decisions that affect important life outcomes (Bandura 1986; 1999a). Sen’s seminal work in this area emphasizes the importance of agency as an end in itself. He writes “agency freedom is freedom to achieve whatever the person, as a responsible agent decides he or she should achieve” (Sen, 1985) and this is considered to be a foundational means to other development outcomes (Sen, 1999).

Nearly all behavior change theories include the components of human agency, self-efficacy, and/or motivation as key elements necessary to facilitate behavior change. Yet, the vast majority of development and public health programs focus on the improvement of critical outer resources whereas human agency and its related components receive far less attention. The literature is replete with examples of how agency is required to create and promote development and positive health outcomes, yet little has been published on programs specifically designed to foster this at the individual level. Importantly, there should be greater recognition that agency is not necessarily an in-born trait but can be acquired and nurtured (Bandura, 1999b; 2000). Few development initiatives are focused on fostering agency and even fewer have been empirically examined for their impacts.

The lack of attention to programs that directly foster agency may be due to an underlying premise that basic needs, such as food, security, shelter, as described in Maslow’s hierarchy of needs (Maslow, 1943) are a prerequisite focus of activities before needs in the higher levels (including self-actualization) can act as motivators. While there is validity to the idea that unfulfilled lower needs can dominate one’s thinking and actions, it is missing the fact that increasing one’s awareness of their environment and cognitive processes could foster more effective engagement and creation of solutions to address their basic needs.
An examination of behavior change initiatives finds that most programs are created and targeted at specific behaviors to be changed from the perspective of what activities and actions have been deemed important by the creators of the particular program in question. These programs channel the behavior change messages towards individuals through informational exchange, social mobilization and social support. Rarely are individuals asked to identify what is important for themselves, their own lives and their own goals.

The results of our evaluation of the IMAGINE program provides evidence that facilitating human agency, a foundational component of empowerment, is not just possible, but is feasible and can be accomplished in a relatively short time with minimal costs. This enhanced agency in turn, can catalyze participation in other development activities, leading to significantly more effective utilization of existing opportunities and resources. Additionally, the combined focus on fostering individual agency and the group format that facilitates collaborative learning and leveraging existing relationships can result in substantial advancements in key areas of social and economic development.

The world is witnessing tremendous interconnectedness and information exchange that on the one hand provides a global view of development solutions and on the other hand allows adaption and growth that is consistent with the local socio-cultural context. Building human resource capacity at its very core through the development of human agency is essential to allow individuals to learn to navigate and successfully adapt to this constantly changing environment. Moreover, grounding behavior change in the context of individual life goals may likely maintain intrinsic motivation in the long run, allowing for appropriate audit and feedback, leading to continued positive learning. Identifying ways to build human agency that engender hope, self-efficacy, and positive behavioral change is requisite to women’s empowerment. Individuals living in poverty or other dire circumstances may not have created those conditions, but they are the primary agents who must be engaged to change these circumstances for themselves and their society.
References


Table 1. Description of each of the scales used in the study

**Definitions of Theory-Guided Dimensions of Well-Being**

**Self-acceptance**
*High scorer:* Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self, including good and bad qualities; feels positive about past life.
*Low scorer:* Feels dissatisfied with self; is disappointed with what has occurred with past life; is troubled about certain personal qualities; wishes to be different than what he or she is.

**Positive relations with others**
*High scorer:* Has warm, satisfying, trusting relationships with others; is concerned about the welfare of others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships.
*Low scorer:* Has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others.

**Autonomy**
*High scorer:* Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards.
*Low scorer:* Is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways.

**Environmental mastery**
*High scorer:* Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values.
*Low scorer:* Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world.

**Purpose in life**
*High scorer:* Has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living.
*Low scorer:* Lacks a sense of meaning in life; has few goals or aims, lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning.

**Personal growth**
*High scorer:* Has a feeling of continued development; sees self as growing and expanding; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness.
*Low scorer:* Has a sense of personal stagnation; lacks sense of improvement or expansion over time; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors.

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*a This table was taken from Ryff and Keyes (1995, p.1072)
The Trait Hope Scale (ref Snyder, 1995)

The Hope Scale has only 12 questions, 8 focused questions and 4 distractor questions. The following are the eight questions actually measured. Although the standard process asks participants to rate these questions from 1 (definitely disagree) to 4 (definitely agree), we used the same scale from 1 to 6 to indicate degree of agreement. The sum of these answers provides the Hope Score. The designation of questions is in parentheses: willpower (agency) or waypower (pathways). There are also 4 distractor questions that are not listed here.

Question 1. (Pathways) I can think of many ways to get out of a jam.
Question 2. (Agency) I energetically pursue my goals.
Question 3. (Pathways) There are lots of ways around any problem.
Question 4. (Pathways) I can think of many ways to get the things in life that are most important to me.
Question 5. (Pathway) Even when others get discouraged, I know I can find a way to solve the problem.
Question 6. (Agency) My past experiences have prepared me well for my future.
Question 7. (Agency) I’ve been pretty successful in life.
Question 8. (Agency) I meet the goals that I set for myself.

Table 2. Comparison of basic socio-demographic indicators for total interviewed sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
<th>Untrained (n=137)</th>
<th>Trained (n=76)</th>
<th>p value</th>
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<tbody>
<tr>
<td>Age group</td>
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<tr>
<td>30 and below</td>
<td></td>
<td>43 (31%)</td>
<td>11 (14%)</td>
<td>p=0.020*</td>
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<td>31-40</td>
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<td>28 (20%)</td>
<td>17 (22%)</td>
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<td>41-50</td>
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<td>28 (20%)</td>
<td>14 (18%)</td>
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<td>51+</td>
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<td>38 (28%)</td>
<td>34 (45%)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>120 (88%)</td>
<td>72 (95%)</td>
<td>p=0.094</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>17 (12%)</td>
<td>4 (5%)</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td>10 (7%)</td>
<td>2 (3%)</td>
<td>p=0.155</td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td>95 (69%)</td>
<td>49 (64%)</td>
<td></td>
</tr>
<tr>
<td>Widowed/divorced</td>
<td></td>
<td>32 (23%)</td>
<td>25 (33%)</td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td>18 (13%)</td>
<td>13 (17%)</td>
<td>p=0.432</td>
</tr>
<tr>
<td>Mobile phone</td>
<td></td>
<td>99 (72%)</td>
<td>60 (79%)</td>
<td>p=0.283</td>
</tr>
<tr>
<td>TV</td>
<td></td>
<td>33 (24%)</td>
<td>20 (26%)</td>
<td>p=0.719</td>
</tr>
<tr>
<td>Radio</td>
<td></td>
<td>87 (64%)</td>
<td>59 (78%)</td>
<td>p=0.033*</td>
</tr>
<tr>
<td>Bicycle/motorbike</td>
<td></td>
<td>36 (26%)</td>
<td>22 (28%)</td>
<td>p=0.675</td>
</tr>
<tr>
<td>Toilet facilities</td>
<td>Field or other</td>
<td>24 (18%)</td>
<td>5 (7%)</td>
<td>p=0.027*</td>
</tr>
<tr>
<td></td>
<td>Pit latrine or better</td>
<td>112 (82%)</td>
<td>70 (93%)</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Primary or below</td>
<td>100 (73%)</td>
<td>54 (71%)</td>
<td>p=0.761</td>
</tr>
<tr>
<td></td>
<td>Secondary or above</td>
<td>37 (27%)</td>
<td>22 (29%)</td>
<td></td>
</tr>
<tr>
<td>Occupation (female)</td>
<td>Subsistence farming</td>
<td>107 (78%)</td>
<td>57 (75%)</td>
<td>p=0.606</td>
</tr>
<tr>
<td></td>
<td>Service or business</td>
<td>30 (22%)</td>
<td>19 (25%)</td>
<td></td>
</tr>
<tr>
<td>Occupation (male)</td>
<td>Subsistence farming</td>
<td>100 (73%)</td>
<td>58 (76%)</td>
<td>p=0.596</td>
</tr>
<tr>
<td></td>
<td>Service or business</td>
<td>37 (27%)</td>
<td>18 (24%)</td>
<td></td>
</tr>
</tbody>
</table>

*indicates a significance value of p < 0.05
Table 3. Results of the impact of the empowerment workshop on well-being using multiple logistic regression analysis on the full dataset, adjusting for socio-economic status, age, location, educational status, gender.

<table>
<thead>
<tr>
<th>General Scale</th>
<th>Specific scale</th>
<th>Untrained</th>
<th>Trained</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% scoring high on scale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures of social agency</td>
<td>Self-acceptance</td>
<td>56%</td>
<td>58%</td>
<td>1.09</td>
<td>(0.60-2.00)</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>Positive relations w/others</td>
<td>45%</td>
<td>62%</td>
<td>1.88</td>
<td>(1.02-3.45)</td>
<td>0.04*</td>
</tr>
<tr>
<td></td>
<td>Autonomy</td>
<td>50%</td>
<td>43%</td>
<td>0.74</td>
<td>(0.40-1.36)</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>Environmental mastery</td>
<td>43%</td>
<td>68%</td>
<td>3.06</td>
<td>(1.60-5.82)</td>
<td>0.0006*</td>
</tr>
<tr>
<td></td>
<td>Purpose in Life</td>
<td>62%</td>
<td>58%</td>
<td>0.76</td>
<td>(0.41-1.41)</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Personal growth</td>
<td>52%</td>
<td>59%</td>
<td>1.40</td>
<td>(0.77-2.55)</td>
<td>0.28</td>
</tr>
<tr>
<td>Measures of hope</td>
<td>Hope</td>
<td>56%</td>
<td>71%</td>
<td>2.10</td>
<td>(1.10-4.01)</td>
<td>0.03*</td>
</tr>
<tr>
<td></td>
<td>Agency</td>
<td>48%</td>
<td>63%</td>
<td>1.89</td>
<td>(1.02-3.50)</td>
<td>0.04*</td>
</tr>
<tr>
<td></td>
<td>Pathways</td>
<td>54%</td>
<td>63%</td>
<td>1.56</td>
<td>(0.85-2.86)</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*indicates a significance value of p < 0.05
Table 4. Case-control matched (n=69) conditional logistic regression comparisons and odds ratios for well-being scales

<table>
<thead>
<tr>
<th>General Scale</th>
<th>Specific scale</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Chi-Sq</th>
<th>Odds Ratio</th>
<th>Pr&gt;ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures of social agency</td>
<td>Self-acceptance</td>
<td>-0.118</td>
<td>0.344</td>
<td>0.117</td>
<td>0.89</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>Positive relations w/others</td>
<td>0.693</td>
<td>0.340</td>
<td>4.163</td>
<td>2.00</td>
<td>0.04*</td>
</tr>
<tr>
<td></td>
<td>Autonomy</td>
<td>-0.693</td>
<td>0.387</td>
<td>3.202</td>
<td>0.50</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>Environmental mastery</td>
<td>0.833</td>
<td>0.379</td>
<td>4.835</td>
<td>2.30</td>
<td>0.03*</td>
</tr>
<tr>
<td></td>
<td>Purpose in Life</td>
<td>-0.435</td>
<td>0.387</td>
<td>1.266</td>
<td>0.65</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td>Personal growth</td>
<td>0.208</td>
<td>0.373</td>
<td>0.309</td>
<td>1.23</td>
<td>0.58</td>
</tr>
<tr>
<td>Measures of hope</td>
<td>Hope</td>
<td>0.965</td>
<td>0.415</td>
<td>5.396</td>
<td>2.63</td>
<td>0.02*</td>
</tr>
<tr>
<td></td>
<td>Agency</td>
<td>0.847</td>
<td>0.398</td>
<td>4.523</td>
<td>2.33</td>
<td>0.03*</td>
</tr>
<tr>
<td></td>
<td>Pathways</td>
<td>0.431</td>
<td>0.356</td>
<td>1.462</td>
<td>1.54</td>
<td>0.23</td>
</tr>
</tbody>
</table>

*indicates a significance value of p < 0.05
Figure 1. Percentage of individuals reporting improvements in education, health, relationships and economics by participation in the Empowerment Workshop and time since participation.