Dig to Live: An Investigation of the Psychological Well-Being of Women Miners in Davao Oriental, Southeastern Philippines

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This study aimed to determine the psychosocial health status of women artisanal miners in the Philippines. Their socio-demographic characteristics and psychosocial health status are described to formulate a self-efficacy enhancement program to respond to their needs. This study utilized a descriptive multiple case study design. Primary data were gathered via a simple questionnaire regarding the respondents’ socio-demographic profile and psychosocial health status. Other primary data sources included key informant interviews, respondents’ journal entries, observations and outputs during the structured learning exercises, focus group discussion transcripts, and a researcher’s log. Documentary reviews also were utilized to obtain additional facts. The respondents were selected through a fishbowl method. Results show that the participants’ coping process, attitude of perseverance and stress management have a moderate impact on their ability to manage life experiences. The study resulted in a proposal for a self-efficacy enhancement program to improve the psychosocial health of women artisanal miners.

Keywords: women miners, psychosocial health, coping process, stress management, self-efficacy

In March 2008, the theme “Babae, Yaman Ka Ng Bayan” [Woman, You Are a Treasure of the Nation], emphasizing the worth of women in nation building, was bannered to celebrate Women’s Month in the Philippines. In Barangay Puntalinao, Banaybanay, Davao Oriental, Philippines, active artisanal and small-scale magnesite mining activities are visible to the community and visitors. Banaybanay is the last municipality of Davao Oriental, bordering the municipality of the Pantukan, Compostela Valley Province. Women join men at tilling and extracting minerals from steep mountains. This site was visited in October 2007 for an environmental scanning and initial investigation. The idea of conducting a study was discussed with the artisanal miners and they showed interest in the benefits of the study.

The southern part of Mindanao is rich in mineral resources. Nickel reserves are worth $215 billion (USD), copper reserves are worth $6.49 billion and gold reserves are worth $2.01 billion. Mindanao accounts for 48% of the country’s gold and 83% of the nickel reserves. According to Ambassador Li Jinjun, investors believe that the mining industry is the “ace” of Mindanao. In agreement, former resident of the Republic and current congresswoman of the province of Pampanga, the Honorable Gloria Macapagal Arroyo has made the revival of the mining industry one of her key tools in sustaining the country’s economic growth (Bautista, 2005).

According to the United Nations Development Program (1999), women involved in mining are more likely to be family-centered than men and spend their earnings on food, clothing, education and agriculture. In the Philippines, women artisanal miners’ daily routine involves direct exposure to sunlight, climbing difficult
mountains, tilling and extracting minerals, and carrying heavy sacks of rocks, in addition to household chores and family obligations after work. Moreover, some women are undergoing the physiological discomforts of menopause.

In a focus group discussion (FGD) on perseverance, the women artisanal miners reported that they can bear the heat of the sun, the hazards at work and the workload at home in order to preserve their families and provide what is needed. Their husbands’ incomes are not enough for their families’ basic needs, typical of the life conditions of the rural poor in the Philippines. According to the Barangay Captain [Puntalinao community leader], these women persist at low-paying quarrying activities to subsist. Women artisanal miners manifest the spirit to persevere in life through their backbreaking work hours. This labor includes quarrying the rocks with a hammer and wedge, hitting the rocks in succession to break them into small pieces, packing them in a sack (which generally weighs no less than 110 pounds), and carrying the sacks to the buyer’s loading area. Workers aim to fill 25 sacks per day on average, which are sold to a local buyer for 10 pesos each in order to sustain daily family needs.

According to Greenspan (1992), households ideally spend up to 10% of total income to raise one child, 18% for two children and 26% for four children. Since many families lack the resources to raise children, the per-child share drops dramatically with each child. A household with four children spends 25% less per child than a household with two children. This information suggests that the sufficiency of the family economy depends on the number of children in the household, and thus establishes the need to work harder to ensure family survival as the number of children in the family increases. It is not surprising to find an extended family system among Filipino families (Mercado, 1974) and to see children helping their parents at income-generating endeavors.

The miners’ common statement, “Maayo na lang ning pagpamato, bisan ginagmay kaysa wala jud sapi” [Even if mining gives us insufficient income, it is better than having nothing at all], reveals the working poor perspective that is important in considering ways to improve the miners’ psychosocial well-being. These women, ranging from young adults to elders, are vulnerable to stress; their self-efficacy is a powerful personal resource in the coping process (see Lazarus & Folkman, 1987).

While studies have explored the experiences of miners, these studies have failed to grasp fully the psychosocial health situation of women artisanal miners in Philippine rural communities. Since mining is a major contributor to the country’s economy, artisanal mining is expected to spread soon to other rural communities. Therefore, the experiences of community women require attention in order to better anticipate their emerging psychosocial health issues. The theoretical frameworks utilized in developing this study included Erikson’s (1963) psychosocial development theory, which posits that each person experiences psychosocial crises or internal conflicts linked to life’s key stages, which define growth and personality. Social-cognitive and self-efficacy theory (Bandura, 1992, 1997), defined as beliefs about one’s capabilities to produce levels of performance that influence one’s life, also was utilized to formulate this study.

**Method**

The author utilized a descriptive multiple case study design. Primary data were gathered using a researcher-constructed questionnaire that investigated each respondent’s socio-economic profile and psychosocial health status. Other primary data sources included key informant interviews, respondents’ journal entries, observations and outputs during the structured learning exercises (SLEs), FGD transcripts, and the researcher’s log. Documents provided by the barangay [community] secretary also were reviewed.
Participants
Twenty-six women ages 26–70 volunteered. Eight were between 35 and 43 years old and eight were within the ages of 53–61. Five of the respondents were between ages 44 and 52 and two respondents were 26–34 years old. The artisanal miners participating in the study were identified from the barangay list and via the assistance of the barangay secretary. Based on the socio-demographic data drawn from the selected women miners of Barangay Puntalinao, Banaybanay, Davao Oriental, the respondents generally belonged among the rural poor migrant settlers and had low levels of educational attainment. Most participants were mothers responsible for large families and obliged to participate in mining to sustain daily family needs. Most participants owned their homes; however, the houses were located on rental lots, causing some degree of insecurity in terms of permanence of residence.

Data Sources
A 21-item survey, translated from English to Cebuano, provided a socio-demographic profile and psychosocial health status of each respondent, covering perseverance, stress management and coping processes. It was clustered into three areas: personal data, family structure and housing arrangement. Items 1–6 aimed to determine level of perseverance. Items 7–16 covered the impact of stress management styles, and items 17–21 determined the impact of coping processes on managing life circumstances. Responses were tallied using the following scale: 1.00–1.99 indicating that the given life experience had a high impact on psychosocial health status over the past month, 2.00–2.99 indicating moderate impact on psychosocial health and 3.00–4.00 indicating low impact.

Other primary sources of data included key informant interviews, respondents’ journal entries, observations and outputs during SLEs, transcripts from the FGD, and the researcher’s observation logs from her 3-day community immersion. The key informants included the Barangay Captain, the Barangay Health Worker and a sari-sari [small grocery] store owner, all of whom were interviewed during the researcher’s community immersion. A formal approval to conduct a study in the area was requested from the Barangay Captain. The Barangay Health Worker was interviewed about health conditions among the women miners and the barangay’s health programs for women. An interview also was conducted with a sari-sari store owner who had firsthand knowledge of the women residents’ consumer behavior and lived in a house located at the mining compound. Daily logs recorded what was witnessed and experienced during the immersion. The Barangay Puntalinao Development Plan (2000) also was used to gather basic community information such as the history, demography and topography of the barangay.

SLEs were conducted after the baseline data on psychosocial health status were obtained. The SLEs focused on coping processes, perseverance and stress management. During each SLE, a lecture was conducted and an assignment given for follow-up discussion with the group before the activity concluded. Outputs from the SLEs formed part of the data for the multiple case studies. A FGD with 14 randomly selected miners was conducted after the last SLE, focusing on coping processes, stress management and perseverance. Outputs from the FGD were utilized to validate and expand on the data extracted from the survey questionnaires and SLEs. The psychosocial health status of the respondents was monitored three months after the conclusion of the last SLEs. It provided feedback on the sessions’ lasting effects on the psychosocial health management of the respondents, despite the assessment of medium-term effectiveness, not included in the objectives of the study.

Results
Socio-Demographic Profile and Psychosocial Health Status
The general conditions of poverty resulted in multiple burdens, including reproduction. The high numbers of respondents’ children may have indicated that respondents spent much of their childbearing years within
marriage. Six of the artisanal miners had four offspring. One of the respondents had nine and another had 14 children. Eighteen miners had children aged at least 22 years old. Three respondents had children 1 year old or younger, which suggests that more time and effort were needed to exert in mining to provide the needs of these children in the early stages of human development. Aside from economic needs, data implied that the women miners lived with their husbands and managed time for child care, despite long days at the mines.

**Coping processes.** The results showed that Filipino women artisanal miners’ coping processes had a moderate impact on recent life experiences for which they employed these coping strategies. The respondents had the ability to handle different trials in life, but the ability to use common coping strategies had a fair influence on being able to manage life circumstances well. It was evident from the women’s disclosures that multiple workloads consumed their being. However, the coping processes they employed had a low impact on solving family problems.

“Lisod kaayo ang among kahimtang labi na og mag-abot ang mga problema sa pamilya” [Our situation is very difficult most especially when the entire family encounters problems at the same time]. Because the women miners were responsible and accountable for problems encountered by the entire family, they became concerned when the family experienced difficulty. This finding was similar to findings from the United Nations Development Program (1999), which reported that women were more likely than men to devote resources for family upkeep, food and children’s education. Furthermore, prioritizing the needs of the family demonstrates adherence to the traditional Filipino value of *kagandahang loob* [compassion] (Miranda, 1992).

Among the 14 respondents who participated in the SLEs, coping behavior was utilized regarding problematic circumstances with their husbands’ vices and behaviors such as drinking, infidelity, physical abuse and financial neglect. Marital cases brought to the barangay office are usually reconciled through forgiveness and for economic reasons. Problems related to their children included participants’ daily absence from home, no contact while away from their children, early marriage and inability to support their children. According to the key informant, mining is considered a survival strategy despite its health risks, low compensation and daily starting time, as early as 5:00 a.m. (see Table 1).

According to one informant, a Barangay Health Worker who happened to be a neighbor of the miners, the miners often channeled time and effort into their mining in order to regain a sense of self-worth and focus on caring for their families, despite health risks and low compensation. During the FGD, the women miners mentioned using prayer as a coping strategy. Some Filipino women miners join religious organizations in order to express their feelings with fellow members. Miners’ journal entries indicated that they believed their present situation was their destiny.

### Table 1

<table>
<thead>
<tr>
<th>Coping Processes Indicator</th>
<th>( M )</th>
<th>( SD )</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coping strategies employed</td>
<td>2.71</td>
<td>.65</td>
<td>MI</td>
</tr>
<tr>
<td>Conflicts with in-laws or household members</td>
<td>1.84</td>
<td>1.01</td>
<td>HI</td>
</tr>
<tr>
<td>Conflicts with immediate family members</td>
<td>2.23</td>
<td>1.03</td>
<td>MI</td>
</tr>
<tr>
<td>Conflicts with friends</td>
<td>1.42</td>
<td>.58</td>
<td>HI</td>
</tr>
<tr>
<td>Being taken advantage of</td>
<td>2.58</td>
<td>1.27</td>
<td>MI</td>
</tr>
<tr>
<td>Lots of responsibilities</td>
<td>3.69</td>
<td>.62</td>
<td>LI</td>
</tr>
</tbody>
</table>

*Note. LI = low impact, MI = moderate impact, HI = high impact.*
Perseverance. The women miners’ attitude of perseverance had a high impact on their effective socializing with their neighbors. During FGDs, participants shared that the community had not encountered cultural problems because of respect for one another; in addition, most participants belonged to the Cebuano tribe. Based on the observation log, the women artisanal miners cared for each other and showed respect to everyone by treating each other without bias. Jocano (1999) wrote that the Filipino value delicadeza [being proper], is manifested, for instance, when one does not abuse a friendship by doing something that would be hurtful or embarrassing to a friend. This value is apparent in the practice of sabot that allows women to express and meet their needs for help without sacrificing their pride and dignity. Enriquez (1978) discussed kapwa as a mode of Filipino social interaction which he defined as “recognition of shared identities as well as the compassionate generosity to others in need.”

Based on the statement of the sari-sari store owner who was a neighbor of the respondents, the women miners usually incurred credit for food to be paid the following day. This practice of sabot [agreement] maintains social relations based on asal [consideration] as discussed by Jocano (1999) and kagandahang loob [compassion] as depicted by Miranda (1992). The moral undertone of these terms is best expressed by the Filipino concept of pakikiramay, or going out of one’s way in order to share the sorrow of others in times of crisis (Miranda, 1992). The practice of sabot, therefore, addresses the survival needs of the women in a manner that does not compromise their self-esteem, kindness and generosity.

It is evident that the women artisanal miners are insecure in terms of their housing, because most of their homes are built on property owned by other people. The participants’ attitude of perseverance had a moderate impact on dealing with the knowledge that the lot their houses were on could be revoked at any time. At the time the study was conducted, most of the houses had to be relocated to accommodate a road-widening project by the provincial government. Houses were uprooted and moved at least 10 meters from the road, causing the miners uncertainty about where to locate, or how far a potential relocation might be from the workplace.

Individual case studies showed that the women artisanal miners performed multiple roles including mother, wife, grandmother and household manager, as well as miner. Since these women were willing to sacrifice for their family, it was important for them to nurture their attitude to persist. Though they had the determination to continue with their various roles, they also needed to recharge from time to time. Their ability to manage the toll of their physical and psychological loads led them to a greater sense of self-efficacy. Such a sense allowed them to select challenging settings, explore their environments or create new ones (see Table 2).

Table 2

<table>
<thead>
<tr>
<th>Perseverance Indicator</th>
<th>M</th>
<th>SD</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perseverance</td>
<td>2.88</td>
<td>.46</td>
<td>MI</td>
</tr>
<tr>
<td>Having your contributions overlooked</td>
<td>2.62</td>
<td>.85</td>
<td>MI</td>
</tr>
<tr>
<td>Hard work to look after and maintain house</td>
<td>3.70</td>
<td>.55</td>
<td>LI</td>
</tr>
<tr>
<td>Gossip about yourself</td>
<td>2.42</td>
<td>1.14</td>
<td>MI</td>
</tr>
<tr>
<td>Findings your work too demanding</td>
<td>3.88</td>
<td>.59</td>
<td>LI</td>
</tr>
<tr>
<td>Financial conflicts with family members</td>
<td>2.31</td>
<td>1.29</td>
<td>MI</td>
</tr>
<tr>
<td>Feeling alone</td>
<td>2.85</td>
<td>.97</td>
<td>MI</td>
</tr>
<tr>
<td>Experiencing high levels of heat</td>
<td>3.85</td>
<td>.61</td>
<td>LI</td>
</tr>
<tr>
<td>Ethnic or tribal conflict</td>
<td>1.62</td>
<td>.70</td>
<td>HI</td>
</tr>
<tr>
<td>Dissatisfaction with your physical fitness</td>
<td>1.85</td>
<td>1.12</td>
<td>HI</td>
</tr>
<tr>
<td>Dissatisfaction with your physical appearance</td>
<td>1.81</td>
<td>.81</td>
<td>HI</td>
</tr>
<tr>
<td>Disqualifying positives</td>
<td>2.00</td>
<td>1.06</td>
<td>MI</td>
</tr>
<tr>
<td>Disliking your daily activities</td>
<td>2.85</td>
<td>1.05</td>
<td>MI</td>
</tr>
</tbody>
</table>

Note. LI = low impact, MI = moderate impact, HI = high impact.
Stress management. The women miners’ stress management styles had a moderate impact on their management of the stressors they encountered. Thus, there was room for improvement in their repertoire of stress management techniques to help prevent exhaustion or burnout. The data, moreover, showed that the miners did not harbor insecurities regarding their physical appearance and fitness. In addition, because of the forgiving attitude of the participants, violent family conflicts were avoided and rarely compounded their difficulties. Instead of borrowing trouble, the women generally opted to forgive.

Data showed that the stress management styles of the women miners had high impact with regard to viewing the future and remaining optimistic and hopeful. As for techniques employed, one participant stated that watching teleseryes, or television series, was a common means of relaxation among the women in the community. Women often finished doing household chores in the evening and watched television. Based on the study log, the miners and their children and grandchildren typically gathered inside the house around 7:30 p.m. to watch television. Teleseryes provided a medium for sympathetic catharsis. For instance, when the women witnessed someone’s misfortune, they compared it with their own and felt better afterward. When they viewed someone being oppressed on television, they tended to feel better about their own situation. When the oppressed character fought back, the viewer identified with the character’s desire to oppose malevolent forces. More importantly, sympathetic catharsis brought stress to a manageable level (see Table 3).

Table 3

<table>
<thead>
<tr>
<th>Stress Management Indicator</th>
<th>M</th>
<th>SD</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress management techniques</td>
<td>2.54</td>
<td>0.45</td>
<td>MI</td>
</tr>
<tr>
<td>Unsatisfactory housing and conditions</td>
<td>2.35</td>
<td>0.85</td>
<td>MI</td>
</tr>
<tr>
<td>Trying to secure loans</td>
<td>3.08</td>
<td>1.16</td>
<td>LI</td>
</tr>
<tr>
<td>Too many things to do at once</td>
<td>3.52</td>
<td>0.64</td>
<td>LI</td>
</tr>
<tr>
<td>Take on the burdens of the entire family</td>
<td>3.70</td>
<td>0.79</td>
<td>LI</td>
</tr>
</tbody>
</table>

Note. LI = low impact, MI = moderate impact, HI = high impact.

The Barangay Health Worker who was interviewed for the study happened to own a karaoke machine and stated that the women miners sometimes came over and sang whenever they had extra money (each song costs one peso on the videoke machine). These were occasions for the miners to bond and socialize as they sang, danced and laughed. During the FGD on stress management, it was mentioned that playing bingo also was one of the miners’ common pastimes, providing another social activity and an opportunity to connect with others and meet a very basic human need for the women.

Based on the survey of psychosocial health status, stress management strategies had a low impact on addressing stressful daily activities. According to one participant, “Usahay kapuyon ko og makabati og sakit sa lawas tungod kay dili lalim ang akong trabaho” [I get tired sometimes and do not feel good physically because my work is not that easy].

Discussion

The participants in this study indicated a need to enhance their coping strategies to cope with adversities in their lives. While they have the fighting spirit, their coping strategies could be improved further. A sense of self-worth must be further developed for the participants to be aware of their respective capabilities to exercise control over stressful situations. If this need was met further and more positive self-efficacy achieved, the miners would be better able to enhance their psychosocial health status.
Most of the women artisanal miners married at an early age and were financially unable to finish school. They were driven to engage in mining for many years to sustain the basic needs of their families. Most of the respondents have husbands and children who mine as well. More often than not, children are forced to discontinue school and begin work to help support the family. Despite being poor, the women have not surrendered to the trials of life, holding on to aspirations and possessing the following self-related cognition: “I can do it.” This attitude allows them to overcome the lack of opportunities by mining as a way to earn income and sustain the needs of their families.

Mining is perceived as God-sent and affords the women an opportunity to be self-reliant and gain a measure of control over their daily experience. Most of the respondents have persevered for the sake of their children and grandchildren. In addition to their labor, physical and emotional abuse from their husbands increases their suffering; yet they tend to be forgiving. Coleman (1998) advocated the therapeutic value of forgiveness as follows: “Forgiveness is a must in any family problem where there has been deep hurt, betrayal, or disloyalty” (p. 78). If there can be no reconciliation, forgiveness is the process that enables the forgiver to move on with life unencumbered with the pain of betrayal. Madanes (1991) further asserted, “The only way we can survive from day to day without emotional breakdown is by forgiving and forgetting” (p. 416). This study did not explore why the women miners forgive the wrongs done to them. It was found, however, that the women tend to forgive their husbands, although some still nurse hurts and resentment.

For the women, mining plays a major role in survival. The activity is described as a means of livelihood, a family bonding activity and source of hope for life. Furthermore, it also is seen as a chance to establish good relationships with colleagues, or pakikipagkapwa, and to enjoy work despite discomfort and hard work.

Most participants aim to build a semi-concrete house with comfortable rooms in a lot that they would own. In addition, the security of their residence is questionable when affected by the road-widening project of the provincial government. Still, the respondents expressed optimism as symbolized by the blooming flowers and abundant trees in their drawings (their output during their SLE), depicting joy and love in their households (see Appendix for an example).

Women artisanal miners in the Philippines would benefit from learning strategies to effectively address problems they encounter. They need to develop a sense of personal efficacy for approaching threatening situations with assurance that they can exercise control over these threats. The miners are hopeful and optimistic; therefore, it would be worthwhile to engage them cognitively and affectively and to facilitate decision-making that would allow them to gain insight into how to better manage resources and improve psychosocial health.

**Implications**

Given the socio-demographic characteristics, as well as the presentation of different life experiences, aspirations and psychosocial health status of the women artisanal miners, this study discovered that the miners would benefit from an intervention that revitalizes them, despite day-to-day stressors. Although the women are able to cope with various life difficulties, there is a need to enhance their coping strategies for managing stress. The miners should be more aware of their capabilities to exercise control over their own functioning and over the events that affect their lives, and thereby develop a stronger sense of personal efficacy. If these needs are met and self-efficacy achieved, the women miners will be able to enhance their psychosocial health status.

Optimism is commonly manifested in the stories told by the women artisanal miners. According to Bandura (1992), people with high assurance of their own capabilities approach difficult tasks as challenges to be mastered rather than threats to be avoided. Such an efficacious outlook fosters interest and engrossment in activities. A
person who believes in being able to cause events can conduct a more active and self-determined life course. This can-do cognition mirrors a sense of control over one’s environment, and reflects the belief of being able to master challenging demands by means of adaptive action. This attitude also can be regarded as an optimistic view of one’s capacity to deal with stress (Bandura, 1992; Maddux, 1995; Wallston, 1994). This study reveals the importance of helping women miners enhance self-efficacy to maintain psychosocial health.

After the exploration of the women miners’ psychosocial health status, the researcher discovered that the miners need an intervention in order to be revitalized despite the various obstacles they encounter from day to day. They need training on how to maintain a positive outlook on life and how to believe in their potential to endure as a mother, wife, grandmother and daughter, as well as person. Considering the lifestyle and psychosocial health status of the women miners in terms of perseverance, coping processes and stress management, the self-efficacy enhancement program focuses on effective ways of creating a strong sense of efficacy among the miners in order to sustain the perseverance needed to succeed.

Conclusion

The stories of the women artisanal miners suggest that their coping processes, attitude of perseverance and stress management strategies have a moderate impact on their ability to manage their respective life experiences. As the 14 individual case studies were examined further for their psychosocial health status, the author found that most of the women artisanal miners face economic crises as well as maternal and marital problems. Despite these challenges, they manifest a forgiving attitude, which reflects the notion that such sacrifice is necessary for the sake of the family’s survival.

The miners also are optimistic about the future, an attitude that was manifested during the sharing of their aspirations in life through drawings. All participants mentioned positive life visions and goals. Flowers and trees were commonly drawn, which symbolized the participants’ desires to have happy and harmonious families. Children wearing togas and parents pinning ribbons on a graduation day also depict the participants’ yearning for the education and advancement of the next generation. Semi-concrete houses with comfortable rooms are illustrated to show longing for comfort and security in living conditions. All these aspects of the drawings (see Appendix) demonstrate that the women artisanal miners have plans and hopes in life that give them the determination to persist. Optimistic processes are an essential key to gaining a sense of self-efficacy.

The women miners possess the optimistic attitude to carry on, but there is room for them to discover more about how to control their functioning and manage their psychosocial health status more effectively. Therefore, it is necessary to help them enhance their coping strategies and stress management techniques.

Conflict of Interest and Funding Disclosure

The authors reported no conflict of interest or funding contributions for the development of this manuscript.

References


Barangay Puntalinao Development Plan. (2000). Davao City, Philippines


### Appendix

A Miner’s Drawing of Life Aspirations