



Gold mining on Mayan-Mam territory: Social unravelling, discord and distress in the Western highlands of Guatemala



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ABSTRACT

This article examines the influence of a large-scale mining operation on the health of the community of San Miguel Ixtahuacán, Guatemala. An anti-colonial narrative approach informed by participatory action research principles was employed. Data collection included focus groups and one-on-one interviews from August to November of 2011. Over this period, we interviewed 15 Mam Mayan men and 41 women ($n = 56$) between the ages of 18 and 64 including health care workers, educators, spiritual leaders, agricultural workers and previous mine employees from 13 villages within the municipality. Participants' accounts pointed to community health experiences of social unravelling characterized by overlapping narratives of a climate of fear and discord and embodied expressions of distress. These findings reveal the interconnected mechanisms by which local mining operations influenced the health of the community, specifically, by introducing new threats to the safety and mental wellbeing of local residents.

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In this paper, we discuss the influence of a Canadian operation, the Marlin Mine, on the health of an Indigenous community in the Western highlands of Guatemala. The Marlin Mine is one of at least 20 gold and silver mining projects operated by Goldcorp throughout the Americas (Goldcorp, 2013). We worked with a predominantly subsistence farming Mam Mayan population in the municipality of San Miguel Ixtahuacán (SMI). The majority of the residents in this region live in poverty (Vandenbroucke, 2008). The Mam Mayan are 1 of 23 distinct Mayan Indigenous groups, and in addition to the Xinca and Garifuna, make up more than 40% of the Guatemalan population (Central Intelligence Agency, 2013). The purposes of our study were to examine the political context of local residents in close proximity to the Marlin Mine and the impact of mining operations on this community's wellbeing, including psycho-social, spiritual, physical and emotional aspects.

Present-day Guatemala must be understood as a product of a 36-year armed conflict (1960–1996) that culminated in the death of 200,000 people and 1.5 million displaced ([CEH], Guatemalan

Commission for Historical Clarification, 1999; [ODHAG] Oficina de Derechos Humanos del Arzobispado de Guatemala, 1998). This conflict was sparked by the United States-orchestrated deposition of Jacobo Arbenz in 1954, whom amidst a cold-war context, was viewed as a threat due to his progressive policies, especially, because of his commitment to agrarian reform that would limit the monopoly of the US-based corporation United Fruit Company. This paved the way for a repressive military dictatorship who under the rhetoric of national unity and anti-communist liberation, committed systemic acts of violence and genocide. Most victims were Indigenous peoples, making up 83% of the killed/disappeared. State and paramilitary forces were found to be responsible for 93% of the killings, including the decimation of 626 villages (CEH, 1999; ODHAG, 1998). Despite the signing of the Peace Accords in 1996, Guatemala continues to be shaped by a continued legacy of structural racism, inequity and neoliberal policies that fail to account for the needs of the rural poor majority of the country (IFAD, 2005; Fenton, 2012; Shirley and Donahue, 2009).

Given Guatemala's genocidal history and its lingering impact on Indigenous populations, we sought to develop an anti-colonial approach, a framework to identify and resist colonial hegemony in working towards Indigenous sovereignty (Shahjahan, 2005). In

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this way, we sought to contribute to a contextual understanding of the community's health experiences. In a previous publication, we described how the company's presence introduced and/or exacerbated oppressive forces of dispossession, gendered marginalization, poverty, and a genocidal legacy within a larger sphere of global inequity (Caxaj et al., 2012). In other regions, researchers have documented how Indigenous communities are uniquely affected by large-scale projects due to deeply entrenched legacies of colonialism (Endres, 2009; LaDuke, 2005; Simpson, 2009). Further, anti-colonial and postcolonial scholars have stressed the need to map out the interplay of colonial contexts and Indigenous subjectivities to construct more responsive understandings of psychological suffering beyond Western constructs of mental illness (Good et al., 2008; Sotero, 2006). In this paper, we discuss community-level accounts of suffering that we have termed *social unravelling* and describe two aspects of this experience, which we refer to as a *climate of fear and discord* and *embodied expressions of distress*.

While few health researchers have studied the impact of mining on community health, research in other fields suggests that transnational mining operations pose profound threats to communities. Several researchers have pointed to risks of heightened food insecurity, economic vulnerability, environmental contamination, conflict, and gendered inequity (Ahmad and Lahiri-dutt, 2006; Bury, 2004; Coumans, 2005). In SMI, previous reports indicate increased environmental risk, threats to water quality, housing and safety (Basu et al., 2010; [COPAE], 2010; Laudeman et al., 2010; Wauw et al., 2010). Guided by local residents' accounts and expectations, we sought to illustrate the collectively felt, or relational, threats to wellbeing experienced by local residents.

1. Review of the literature

Two interrelated bodies of literature were reviewed: (a) mining workers, 'mining towns' and mental health; and (b) political violence, conflict and the mining industry.

1.1. Mining workers, 'mining towns' and mental health

Most researchers who have identified mental health impacts of mining have focused on mining workers and the role that their work structure plays on their psychological wellbeing or quality of life. Recent studies have found that shift-work, fly-in/fly-out work and other workplace stressors may be related to increased loss of familial bonds, anxiety, depression, alcohol consumption/binge drinking, and other 'high-risk activities' (Donoghue, 2004; Gibson and Klinck, 2009; McLean, 2012; Sharma and Rees, 2007). The influence of large-scale mining work on community health in low and middle-income countries has received less attention. Further, limited research has explored broader health experiences of mining-affected communities, beyond work-related stressors.

A few studies have looked at the mental health challenges experienced by mining-affected communities. At the aggregate level, Dang and colleagues examined the mental health of a community residing in a mining zone in the Hubei province of China (2008). The mental health status of 93 villagers were compared to a control group ($n = 101$) using the Symptom Checklist 90 (SCL-90) and the State-Trait Anxiety Inventory (STAI). Results indicated that mining-affected residents had significantly elevated levels of somatization, obsessive-compulsive symptomatology, interpersonal sensitivity, depression, anxiety, and psychosis symptoms relative to the control group ($p < 0.05$). Further, these authors also found higher levels of heavy metal contaminants among the study residents. Dang et al.'s findings have implications for understanding the susceptibility of a mining town to mental health sequelae, and

suggests that further research is required to identify the mechanisms that make this particular population vulnerable to mental illness.

Because mining work continues to be a highly male-dominated sector, 'mining towns' — settlements designed around mining work or pre-existing communities that rely on a mining company as a primary employer — may perpetuate gendered inequity within communities and households (Sharma and Rees, 2007). Research has found that women in mining towns are vulnerable as a result of their economic marginalization, social isolation and increased household responsibilities due to often-absent partners (Sharma and Rees, 2007). Further, the influx of male workers into the region is often accompanied by increased levels of precarious sex work, intimate partner violence, sexually transmitted illnesses, and gendered discrimination as social relations are restructured to cater to predominantly male consumers (Ahmad & Lahiri-dutt, 2006; Bhanumathi, 2002; Gibson and Klinck, 2009; Sharma and Rees, 2007).

Goessling examined the mental health of 22 women in close proximity to Bauxite mining operations in the district of Andhra Pradesh, India. Open-ended group interviews revealed themes of stress/worry, anxiety/fear, economic stressors, and feelings of mistrust and vulnerability as a result of bribery, coercion violence and exclusive negotiations for land access with men (Goessling, 2010). Research with Indigenous women in other regions of the world reveal that mining operations may increase gendered vulnerability including mental health challenges due to environmental and economic precarity (Ahmad & Lahiri-dutt, 2006; Coumans, 2005). These studies provide insight into the psychological, emotional and social challenges experienced by women in local mining towns and how large-scale mining operations can perpetuate gendered health inequity but are limited in what they can reveal about community health as a whole. Conversely, anti-colonial scholars have described how larger political (e.g. state) mechanisms of exclusion, dispossession, violence, racism and paternalism inform corporate practices, ultimately, impacting Indigenous communities (LaDuke, 2005; Endres, 2009; Sherman, 2009). The focus generally, however, has not been on the health experiences of these communities.

1.2. Political violence, conflict and the mining industry

Researchers focused on the relationship between large-scale mining operations on community dispossession and systemic violence have identified threats to food security, erosion of spiritual/cultural relationships to the land and increased conflict and emotional insecurity (Bush, 2009; Gedicks, 2003; Gordon and Webber, 2008; Holden et al., 2011). The presence of mining operations has often occasioned increased militarization or forced displacement, introducing a climate of unrest and intimidation often shaped by historical processes of colonial displacement, genocide or war (Holden et al., 2011; Imai et al., 2007; Munarriz, 2008). The militarization of mining regions has also been associated with increased vulnerability, alcoholism, violence, and community fragmentation (Ahmad and Lahiri-dutt, 2006; Katsaura, 2010; Szablowski, 2002). While mining poses such threats to sociocultural structures (Eligio, 2012; Gedicks, 2003; Gilberthorpe and Banks, 2012; Hilson, 2002; Hirsch and Warren, 1998), health challenges arising from these changes remain largely unstudied.

Indigenous peoples' experiences with large-scale mining are uniquely shaped by their relationship to resource-rich land, unique socio-economic systems and modes of governance, and, an ongoing legacy of colonial violence and dispossession. Several authors have framed the experiences of Indigenous communities' experiences with mining operations as 'resource conflicts,' 'resource wars',

'resource colonialism' or even paradigmatic wars (Endres, 2009; Gedicks, 2003; Mander and Tauli-Corpuz, 2006; Whiteman, 2009). These terms reflect divergent views of the land, resources and ownership between Indigenous communities and mining corporations that can result in conflict. Failure on the part of mining companies to obtain Free Prior and Informed Consent (FPIC) from local communities can further provoke conflict by posing a threat to residents' community sovereignty, spirituality or economic systems (Endres, 2009; LaDuke, 2005; Sherman, 2009). Among mining-affected Indigenous communities, lax regulation, systemic impunity for those supporting the mine coupled with the criminalization of dissent and extrajudicial killings/kidnappings of those opposing the mine have been observed ([UDEFEQUA], 2009; Katsaura, 2010; Vandenbroucke, 2008).

2. Research design

This study was informed by two theoretical and philosophical perspectives: Indigenous Knowledges (Kovach, 2009) and a Critical research approach. Indigenous knowledges have unique potential to re-map Indigenous histories and identities and articulate a community vision of self-determination, in the face of historical/ongoing colonization often shaping the context of large-scale mining. Such perspectives typically draw attention to the inseparability of the wellbeing of people and their environments, as well as physical, mental, emotional and spiritual realms (Dei et al., 2008; Kovach, 2009). A Critical research orientation seeks to deconstruct privileged knowledge claims, or 'taken-for-granted truths,' examine historical/political forces shaping present realities, and generate knowledge that contributes to meaningful action or change (Bathum, 2007; Fontana, 2004). By engaging with both of these philosophical perspectives, the first author, a Guatemalan-born Mestiza woman of Quiche/Kachiquel/European ancestry educated in a North American institution (a doctoral student at the time), wished to transparently address methodological tensions inherent in carrying out research with anti-colonial aims. This required a continuous reflection on her situated identities, both her privileges and shared struggles, in relationship with the lived realities of SMI residents (Caxaj and Berman, *in press*).

We employed an anti-colonial narrative methodology, a storied approach with the intent to contribute to decolonization. An anti-colonial lens is largely influenced by Indigenous knowledge systems. It recognizes the inherent value of cultural difference, collective history and ontological pluralism. Further, it examines colonialism as an ongoing reality, emphasizing the role of Indigenous peoples' survival and resistance (Alfred and Corntassel, 2005; Caxaj et al., 2013; Fanon, 2008; Shahjahan, 2005). Stories are important anti-colonial strategies as they can contest colonial representations and uniquely articulate cultural, spiritual and political self-determination. Since Indigenous ways of knowing are often guided by experiential, interpretative and relational frameworks (Barton, 2004; Castellano, 2000; Kovach, 2009) story-based methodologies helped facilitate the centring of Indigenous knowledge into the research process (Kovach, 2009). Our aims for knowledge co-construction were further facilitated through the integration of PAR principles (Khanlou and Peter, 2005; Soltis-Jarrett, 1997) throughout the investigation. PAR scholars seek to develop context-bound projects by building democratic or 'communicative spaces' and incorporating community priorities that ultimately contribute to meaningful change or solutions (Bodorkos and Pataki, 2009; Burton and Kagan, 2005).

A year prior to the start of fieldwork, a research proposal was presented to community leaders as a 'blueprint.' Community leaders helped us design the study in a way that would ensure community respect and relevance. For instance, select villages

approached throughout recruitment were based on community leaders' goals of diversity of genders, experiences and religious backgrounds. Selected villages were also based on community leaders consideration of safety, known collective willingness to participate, and levels of trust among villages as a whole. Likewise, village participants were often nominated by a larger group of village residents. Salient factors included individuals considered representative, unique or most likely to understand the community's experiences. In other cases, individuals who were comfortable participating stepped forward. Community consent was also sought at the village level and participants collectively chose their preferred strategy for data collection. In subsequent visits, we invited participants to co-construct preliminary findings through iterative dialogue and ongoing feedback. Further, we asked participants to brainstorm potential knowledge translation activities that could emerge from the study. A community-wide meeting was then organized to determine the preferred strategy for knowledge translation. Here, residents voted on a grassroots, or 'popular' trial that provided a space for residents from the municipality and other countries of MesoAmerica to give testimony in an event called the Peoples International Health Tribunal (www.healthtribunal.org/). Indigenous scholars have long acknowledged the importance of testimonial or testimonies for their decolonizing emancipatory potential (Smith, 1999).

Data collection occurred over a four-month period. We worked with 56 participants aged 18 to 64 from 13 villages. Participants were given the option of choosing their method of data collection. All community members opted for group interviews often stating the importance of their shared histories. Four individuals additionally chose to participate in one-on-one interviews. Both focus group and individual interviews ranged from 60 to 90 min in duration and were carried out in the participant's location of choice, which included churches, community spaces and centrally located private homes. Several group interviews were conducted in each village over three to five visits. Consent was solicited on an ongoing basis. Pseudonyms are used throughout to protect the anonymity of study participants. The primary authors' university granted ethics approval before the study was initiated.

In addition to analysis and planning with participants, we employed McCormack's framework for narrative approaches to deepen the analysis (2000a). This framework involved multiple lenses: (1) active listening/engagement; (2) identifying processes; (3) recognizing the context in which the story is told; and (4) identifying unexpected events. This process guided the types of questions that were introduced into interviews and follow-up conversations. For instance, if a focus group revealed experiences of coercive land loss due to mine operations (e.g. "What are some of the challenges faced by your community?"), subsequent questions might explore the role of context (e.g. "Do you think being Indigenous affects this experience?") Or, unexpected events or processes were discussed by expanding on previous topics raised by participants (e.g. "Has it always been like this? What do you think allows x or y?"). The first author and two fellow Spanish speakers (hired transcribers), all of whom had familiarity with the political context of mining-affected communities, transcribed the audio-recordings. Then, we incorporated reflective field notes into our review of each audio-recording along with readings of the text in order to capture inflexions, emphasis and intended meanings not captured in the literal text. These impressions were documented through the use of track changes. Then, we colour-coded phrases and words in the text, consistent with McCormack's heuristic of different narrative lenses. These narrative pieces were then parsed together into a cohesive story by organizing the text into *abstracts* which might include a story title, orientation, narrative process, evaluation and coda. We balanced the use of this heuristic with the

community emphasis on collectivity and circularity in the framing of stories. A thematic organization of the stories emerged from the analysis in order to emphasize shared, although diverse, experiences, beyond individual stories. Following this step, salient quotes were identified and translated into English.

3. Research findings

The impact of local mining operations manifested as an overarching theme of *social unravelling*. Evident in these themes were community narratives of a *climate of fear and discord* and embodied *expressions of distress*.

3.1. Climate of fear and discord

A pervasive worry for many residents related to the rupture of community bonds, increased mistrust, and fear for basic safety. Deeply divided in their views about the mining company, many observed that their sense of unity, or collective spirit, had been eroded. Aura expressed, “the people differentiate you by whether you are against the company or in favour of it... we are divided, every person with his group.” Through bribes, gifts, and threats, residents reported that the company sought to influence community leaders, workers and other select groups. These reports of corruption and enforced allegiance, led to deep-seated divisions between “friends of the company” and individuals critical of company operations. Ultimately, residents experienced a loss of democratic structures and community capacity, giving rise to further alienation and polarization at the community level. Consequently, many residents became disengaged and suspicious of decision-making structures and community authorities.

The company’s presence also sharply increased the divide between the ‘haves’ and ‘have-nots,’ as only an elite few were offered jobs at the mine. Residents reported that this economic privilege newly available to some residents enabled them to engage in threats of violence, further perpetuating a context of impunity. This left participants with little recourse to pursue justice or ensure their safety. Juan explained:

Mine employees think that they can just pay a fine or a sum of money [for hurting or killing someone] because they make so much... we make about 35.00 Quetzals a day [4.50 Canadian \$] for work in the field... but they make Q300.00 a day [38.50 CDN \$], that’s why they figure they have enough; this is how they see it... it’s not like they are going to maintain the family of whoever dies... they have the power of money...

As a result, participants felt that the company had tipped the balance of power in the community, provoking community fragmentation and physical insecurity.

Conflict also manifested through economic elitism and discrimination. Matilda reported:

There is a lot of discrimination and domination among the men and women and also among their daughters and sons, because the ones who have work [at the mine] they buy things for their kids... the kids of people who work at the mine have good shoes, good clothes, good coats, and they mock those who don’t.

In some cases, social derision was not just an articulation of economic privilege, but also an attempt to silence those who resisted, through tactics of shunning, isolation or humiliation.

Many reported that the community had been safe and peaceful before the arrival of mining operations. With the arrival of the

company however, participants reported experiences of more overt targeting and control exerted through local militias that they believed to be hired or paid for by Goldcorp. Adding to this militarized environment was an increased ownership of guns in the community – particularly among mine workers seeking to protect their earnings outside of a banking system. Participants recounted experiences of being followed and monitored, as well as threats, intimidation, kidnappings, torture, witnessing the murder of loved ones and being victims of attempted murder. Threats and intimidation were often delivered via cell phone messages, drunken yelling outside of individuals’ homes, in person, or hand-delivered notes. Concha’s family, for instance, received a text message that read “you are pure shit for the people, why don’t you want development, just leave the house and we will kill you.” Walking home with his 6-year-old granddaughter, Fausto ran into a neighbour carrying a gun. After insulting Fausto for being critical of the mining company, he showed him his gun and said, “my son just finished someone off [killed somebody].” Fausto believed that the presence of his granddaughter had saved his life. Many noted that past notions of their surroundings as a place of *home* or *community* dramatically changed because their environment had become a contested or militarized space, a war zone in which they were maligned as ‘terrorists,’ or ‘enemies.’ Often, participants felt, isolated without protection or resources resulting in feelings of powerlessness (loss of control, agency, voice) and despair.

Violent acts were also enabled by false accusations and the silence or ‘neutrality’ of authorities. Even small forms of support for the resistance movement made individuals vulnerable to criminalization or targeted attacks. Thus, residents felt deeply betrayed and hurt as neighbours and family members often turned against each other. Daisy described the events that led to the persecution and murder of her peer, Manuel:

The company had organized, well, they had communicated with the authorities to have night watch. And that is how they started generating suspicion about Manuel... More than anything, [what made him a target], was that sometimes when I would go to meetings, he would pick me up in his motorcycle... so they would be watching who was supporting us and that is why they lynched him. They accused him of so many things, but he was innocent! I can testify here that he was an honourable person, a decent person, he didn’t participate in what they said... They burned [him and] his house down with gasoline... He was burning so he ran into the water [river] and when he got out... they grabbed him... When Silvia [Manuel’s brother] saw that they were pouring gasoline all over the house and lighting it, she said, since they are Christians – there are Evangelicals and Catholics – she said, that they didn’t have to do this without proof and they told her “shut your mouth lady because you too [might be killed]; we should lynch this woman as well because she is also against the mine, let her try to bring people from other communities to defend her *now*,” they said... And before, nothing like this had happened!

These incidents evoked a profound fear for safety and grief for murdered loved ones. Many felt the company was the only benefactor of such conflict and divisiveness as a fear for loved ones/their own safety, effectively served to limit dissent.

In an earlier publication (Caxaj et al., 2013), we discussed intersecting systemic injustices that shaped the health context of this municipality. Here, we have looked in-depth at the community-level factors that shape residents’ health experiences. It is clear that increased polarization, victimization and threats marked individuals’ day-to-day health with terror and mistrust, ultimately leading to feelings of alienation and impotence.

Witnessing such violence was a source of sadness and grief for a loss of relationships, kinships and community. These profound shifts in the socio-cultural landscape and community life were largely shaped by the presence of mining operations in the region.

3.2. Embodied expressions of distress

Individual experiences of distress often manifested as intricately entwined physical, emotional and spiritual afflictions, or, *embodied*, unified (Wilde, 1999) experiences of suffering. The most severe mental health challenges were often reported by individuals who had been victimized as a result of their opposition to local mining operations. Residents reported symptom clusters overlapping with Western constructions of anxiety, depression, panic attacks and PTSD. The Central American *idiom of distress* (a culturally salient indicator of affliction), 'susto,' an intense response to fright, associated with loss of sense of worth, energy as well as weight loss, sadness, insomnia and physical pain (Durà-Vilà and Hodes, 2012) was commonly reported. Further, more general experiences of suffering characterized by somatic pain/physical symptoms and resignation were prominent in participants' accounts.

Many participants described recurring nightmares and hyper-vigilance due to a fear for survival and basic security. Cora, who suffered physical and mental health challenges for years due to resisting mining operations remarked, "Sometimes I get it in my head that I am going to die... since I am already sick, maybe I am going to die..." Ester, who had witnessed the attempted murder of an individual with a firearm, reflected, "Now that one has lived it... you keep thinking, the same thing can happen again." Many of the participants reported new fear and discomforts when walking outside, while prior to the arrival of the mine they had done so with ease. Some described sleep disturbances due to "nerves," anxiety, or fear of what could happen to them. This constant state of alertness was accompanied by difficulties with concentration/memory retention and other cognitive impairments, ultimately influencing residents' ability to carry out daily tasks.

For some, moments of extreme stress, sometimes due to near-death experiences had caused them intermittent experiences of depersonalization in which they felt like detached observers, external from their own bodies. For Emilio, his afflictions stemmed from worries due to the criminalization/persecution he had experienced due to being vocal against the company:

It's very hard the situation that I've lived because of the mine... I was really weakened, there was the problem of the nerves, and the nerves have this impact; they affect us in any type of work, and that affects our sense of worth. Sometimes, I had little sense of worth which made me feel like I didn't have what it takes to do things; this has affected me... it [the nerves] gave me this head problem, I felt like... it was a load of fire over my head, if not, it would appear in the palms of my hands, if not, then in my feet, along my sides... this is the extent of the worries that one has had... but a pain... like an iron pressing intensely with fire, it was unmanageable... What felt so bad was that my feet no longer responded, I couldn't stand up with any strength... I suffered quite a bit, but it was the worries that gave me that reaction. It left me without being able to feel better, because no matter what, it was going to leave me without any strength...

Many victims reported 'reliving' these experiences in various ways. One man who had been kidnapped and beaten with a nail-spiked wooden stick described a sudden sense of fear and 'burning' sensation in his feet whenever he heard a loud bang. Others reported numbness, headaches, insomnia, prolonged sadness, tingling, faintness, gastrointestinal symptoms, shortness

of breath, loss of bodily control as well as somatic pain or pressure on their upper body either as a result of pronounced/chronic worry.

Similar experiences of distress were described by friends, relatives and neighbours. Closely tied to a *climate of fear and discord*, that is, an erosion of trust, a loss of significant relationships and a sense of isolation and betrayal; participants often expressed a sense of self-doubt, a loss of self-worth and/or of life purpose. One individual, an advocate for children who developed physical symptoms that she attributed to the mine described her suffering:

These were serious problems last year as I told you. From that I got sick with depression. I was really affected. Oh, I felt so bad because I didn't know... We thought it was simply a matter of telling the truth and trying to help the kids; it wasn't to accuse anyone, only to see what we could do to get them treatment. This was our intention, that the kids be cured. That is why we informed other organizations, but from then on, the mine pushed the people to force me out, but that wasn't the solution. [She begins to cry].

For others, particularly men, threats or intimidation due to engaging in the resistance contributed to a normalization of risk or fatalism. Reflecting on the danger he was in, Hector remarked, "There isn't much hope [in the community] because it's very possible that they will kill us or kidnap us. But what I think is, that if they kill me, or kidnap me, it doesn't matter. What can we do?!"

Distress in the face of physical threats and violence were also informed by a lived history of genocide and militarization. Patti explained how past memories shaped current threats occasioned by local mining operations:

When I see guns I get nervous, I start to tremble and I feel very anxious... it is always scary, it is concerning to see armed men when you have seen, you feel [it like] a hard blow... I have seen murdered people, in the face, in the heart, without feet. I have seen it many times so then that pain, you feel it, you don't even want to talk or hear someone talk in that way [harshly]... There [company grounds], the armies [security guards] stand by the entrance. One cannot enter... it's very controlled.

Participants' poignant stories reveal the *embedded* nature of health experiences amidst a context largely structured by the presence of local mining operations. Participants reported a range of mental health challenges as much physical as emotional, cognitive, or relational. Those most severely afflicted used terms such as 'nerves,' 'depression,' 'anxiety,' and 'susto' to describe their distress responses. Ultimately, expressions of suffering were multi-dimensional and *integral/embodied* often provoked by threats posed by local mining.

4. Discussion

4.1. Social unravelling amid a climate of fear and discord

The findings of this study reveal that local community health challenges were strongly linked to the presence of mining operations as a result of their negative impact on socio-cultural structures and community dynamics in the region. Consistent with previous investigations (Hilson, 2002; Holden et al., 2011; Van de Sandt, 2009) study findings illustrate how increased conflict, militarization, economic inequity and social unrest are influenced by the presence of local mining operations. These findings expand current understandings of mining conflict and militarization by

illustrating the psychosocial and relational health consequences of these threats.

Reports of community polarization and divisions, loss of social cohesion (togetherness), uncertainty and mistrust within a climate of fear/conflict are consistent with other descriptive accounts of the lived context of residents of SMI (Imai et al., 2007; Slack, 2012; [UDEFEQUA], 2009; Vandembroucke, 2008). Challenges such as these have also been found among diverse populations amidst political violence or war (Lira, 2010; Miller and Rasco, 2004; Pedersen et al., 2008; Summerfield, 2000). Notably, researchers studying the impact of violence on communities note that traumatic responses are most strongly felt through overlapping threats such as food insecurity, social division, isolation and mistrust (Gelkopf et al., 2012; Miller and Rasco, 2004; Summerfield, 2000). The notion that local residents' emotional suffering is a response to both overt violence and socio-cultural upheaval and disruption to economic systems, is supported by residents' accounts. Given the multi-faceted nature of threats posed by mining operations, mining-affected communities may be particularly susceptible to subsequent psychological distress or trauma.

The importance of incorporating social/institutional reparations into mental health programming particularly in areas of conflict (Burton and Kagan, 2005; Hobfoll et al., 2011; World Health Organization, 2005) has been recognized. This necessitates transcending narrowly defined biomedical constructions of care (Pedersen et al., 2008; Ray, 2008). The ongoing threats posed by continued mining activities, including fragmentation, mistrust and economic/environmental precarity will pose complex barriers to comprehensive mental health interventions in mining-affected communities. It will be necessary to anticipate and address these challenges to best develop mental health approaches relevant to this population.

4.2. A social unravelling: embodied expressions of distress

Participants attributed a multitude of mental health challenges and symptoms to Goldcorp's presence in the region. Among these were: (a) "nerves" or anxiety characterized by hypervigilance, nightmares, insomnia, difficulties concentrating and memory impairments as a result of ongoing stress/stressors; (b) depression or prolonged sadness in which participants reported low self-worth, ongoing grief, isolation and loss of energy or motivation; (c) acute episodes of "nerves" (*ataque de nervios*) or panic attacks, described as a loss of bodily control, somatic pain or weakness, depersonalization and despair; (d) resignation or lack of hope and (e) "susto" or re-experiencing, ongoing grief, physical pain and/or debilitation. In listing symptoms in this way, we are wary of conflating "local idioms of distress" (Pedersen et al., 2008) to limited biomedical constructions of mental illness (Estrada, 2009; Ray, 2008; Thomas and Bracken, 2004). The almost exclusive use of these constructions to explain distress among diverse populations, however, makes it difficult to depart from these categories. Further, we would be equally remiss to romanticize or downplay participants' suffering (Glazer et al., 2004; Lira, 2010).

In the few mental health studies with mining-affected communities, anxiety and/or depression-like symptoms including prolonged sadness, loss of energy or motivation, insomnia, ongoing stress and isolation have been documented (Ahmad & Lahiri-dutt, 2006; Coumans, 2005; Goessling, 2010). While these studies have focused on women's health experiences, similarities among study participants' accounts indicate that these studies may have wider applicability in understanding mining-affected communities. More commonly however, mining health research has focused on mining workers, with only a few studies examining the wider community's mental health symptoms (Gibson and Klinck, 2009; Sharma and

Rees, 2007). Thus, the breadth of mental health challenges, their relationship to local mining activities and the broader community still requires further investigation.

Participants' accounts of sadness, depression, fear or panic were typically accompanied by physical symptoms or somatic pain. According to Summer (2000), psychosomatic symptoms may be the most universally experienced responses to violence and are considered either communicative (serving to elicit support) or physiological consequences of emotional and psychological suffering. For some nursing scholars, somatic pain is a manifestation of the embodied unity of the self, encompassing body, mind and soul and as such, requires a holistic view of the health threat (Benner, 2000; Wilde, 1999). For participants, these conditions included debilitation, an interruption of daily activities and/or a loss of physical control pointing to the severity of many individuals' suffering and the need for further support.

Experiences of hypervigilance, re-experiencing traumatic events, depersonalization and nightmares reflected PTSD-like symptomatology. Some criteria for PTSD have been found to be broadly relevant to diverse populations who have experienced political violence (Al-Krenawi and Graham, 2012; Hobfoll et al., 2011; McPherson, 2011; Miller and Rasco, 2004; Sabin et al., 2006). The focus of this body of work however has been on externally displaced refugees, not current residents in contested colonial struggles, and more generally, on survivors of *episodic* trauma (Miller and Rasco, 2004; Veronese et al., 2010), rather than patterns of events and pervasive threats. Pederson and colleagues, on the other hand, examined the impact of chronic political violence on the health of a rural Peruvian Quechua Indigenous community who remained in a war-torn region (2008). The authors found that there was significant overlap with symptoms reported by participants and those

commonly associated with PTSD. Participants however, also reported culturally-distinct typologies of suffering and expanded constructions of traumatizing events beyond armed victimization to include interruptions in cultural protocols, loss of livelihood/environment, poverty and displacement (Pedersen et al., 2008). Similarly, SMI residents discussed the destruction of community life and cultural systems in prompting collective *grief* and *resignation*. While these communities' experiences are largely incommensurable, it may be that shared histories of Spanish colonialism, genocidal conflict and contemporary exclusion (e.g. racism, poverty) have shaped constructions of distress/mental health. Other studies with Indigenous/campesino communities with histories of civil war/genocide and colonialism have found similarly broad indicators of psychological distress (Brave Heart et al., 2011; Burton and Kagan, 2005; Pedersen, 2006).

4.3. Embodied distress within a climate of fear and discord: the relevance of colonial trauma

Anti-colonial scholars have developed alternative frameworks to understand the well-being of Indigenous populations exposed to chronic, cumulative and collective violence (Estrada, 2009; Palacios and Portillo, 2009). Historical trauma, for instance, also known as colonial trauma or intergenerational trauma, is a condition shaped by a culmination of historical and present-day experiences of collective violence, or chronic violence. Most commonly applied to victims of the Jewish holocaust, Palestinian communities under siege, and Indigenous populations in the Americas, the affliction is characterized by a variety of mental health challenges. These include identification with ancestral suffering, unresolved guilt, self-defeatism and *intergenerational transmission* (Brave Heart and DeBruyn, 1998; Haskell and Randall, 2009; Palacios and Portillo, 2009). While some research indicates that generational

transmission is physiologically determined, *Transmission* at a systemic level, is understood as both a cycle and legacy of lived violence as colonial mechanisms undermine a community's socio-cultural structures, impoverish/restrict livelihood and as such, generate fragmentation and inequity within and among communities (Josewski, 2012; Kirmayer et al., 2001; Palacios and Portillo, 2009; Sotero, 2006). Given the long and violent history of colonization and genocide against the Indigenous majority of Guatemala, it appears that this understanding could also be relevant to residents of SMI. For instance, local reports of ongoing grief related to genocidal violence, loss of livelihood; despair and resignation related to systemic discrimination and a climate of fear and impunity; as well as a social fragmentation due to increased inequity for instance, all fit with a colonial trauma framework (Wesley-Esquimaux, 2007).

Important to this discussion of colonial trauma, is a recognition that “the colonizers never left,” and true reconciliation remains to be seen (Alfred and Corntassel, 2005). Quite to the contrary, unceasing large-scale mining operations and collusion by nation-states to protect these private interests over Indigenous peoples' rights to decide their development priorities represent yet another mechanism of colonialism (Alfred and Corntassel, 2005; LaDuke, 2005; Sherman, 2009). In fact, large-scale mining on Indigenous territory has been identified as a ‘new’ form of colonialism in that it can threaten spiritual relationships to the land, distinct ways of life, unique cultural systems as well as physical survival (Gedicks, 2003; Whiteman, 2009). More broadly, colonial mechanisms of environmental dispossession of Indigenous populations have been characterized by exclusion from decision-making, as well as threats to economic and cultural systems (Tanner, 2008). Residents' loss of livelihood, decision-making structures, inequity, environmental destruction, company/state silencing and consequently, a sense of resignation, powerlessness, vulnerability and uncertainty may point to experiences of colonial trauma and dispossession.

5. Conclusion

Our findings illustrate community processes of *social unravelling* and the erosion of community health in a mining-affected community. Social unravelling was characterized by cumulative mechanisms of threat manifesting as interconnected narratives of a *climate of fear and discord* and *embodied expressions of distress*. Conflict/violence and an environment of intimidation and fear were inseparable from concerns of social divisiveness, livelihood, mistrust and increased inequity. This reflected the *embedded* landscape of psychosocial challenges occasioned by local mining operations.

The cautious use of Western constructions of psychological distress as well as the incorporation of local idioms and narratives of suffering are important to developing comprehensive health analyses of mining-affected communities' experiences. There is a need to develop support strategies to address severe and *embodied* experiences of distress reported by afflicted residents. Given the politicized and structural nature of health threats, adequate mental health rehabilitation will require attention to socio-cultural and political structures that have been eroded through a climate of fear and discord. Constructs that account for political histories/contexts, such as colonial trauma and an anti-colonial lens, may be particularly useful to developing responsive approaches to the unique challenges and priorities of this population. Like other mining-affected Indigenous communities, SMI residents ask that their way of life, their livelihood, and their health be respected. Thus, nation-states must regulate corporations to prevent health and human rights violations, and to safeguard the rights of Indigenous peoples to Free Prior and Informed Consent. Ultimately, Indigenous

communities right to determine their own vision and priorities for development, a strong determinant of their health and wellbeing, must be valued and respected.

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