Original Paper

A Qualitative Exploration of the Psychological Impact of War on Papua New Guinean Warriors

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Abstract: *This qualitative study explores the process by which warriors from the Eastern Highland Province of Papua New Guinea (PNG) make meaning from the experiences and emotions that accompany face-to-face inter-tribal warfare. Elements of the culture and interaction with outside influences are explored and the causes and culture of war are described to set the context. Seven participants were interviewed about their involvement in five wars from 1984 – 2003, using a semi-structured interview. The participants' experiences and their emotional recovery were then analysed using interpretative phenomenological analysis (IPA). At the beginning of war, most participants felt anger toward the enemy in response to perceived injustice. Soon after the war had ended feelings of guilt emerged, associated with specific actions. Sometimes participants also felt shame as they reflected on perceived personal failings. Two participants felt fear at the beginning of war rather than anger, leading to avoidance behaviours. How these two participants adapted to cope with the ever-present threat of war is explored. In time, many warriors became aware of the similarities between the enemy and themselves, leading to empathy and forgiveness. This study also explores the processes that occurred in the years after the war had ended. Some described a process of self-transformation that led them to advocate for peace for the wellbeing of the next generation. The information in this paper, obtained by in-depth interviews, may help Psychiatrists in PNG to better understand the complicated interactions between war, culture and society, and the mental health needs of this group.*

Keywords: *Papua New Guinea, War, Trauma, Forgiving, Loyalty, Ethnopsychiatry, Culture-Bound Beliefs, Organ Intentionality, Spirit Possession*

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THE INTERPLAY BETWEEN BELIEFS, TRAUMA AND CULTURE IN PAPUA NEW GUINEA

Rationale - ongoing debate regarding the cross-cultural impacts of war

There is a debate in the literature regarding the mental health needs of post-war populations across cultures (Van Ommeren, Saxena & Saraceno, 2005; Steel et al., 2009). Their needs will depend on the impacts caused by the war. Measuring the impacts of war between cultures using Western diagnostic categories of mental illness can be difficult as the culture-bound syndromes and local idioms of distress may not overlap with Western diagnoses (Nichter, 2010). Sometimes Western diagnoses are applied without first examining their construct validity (Miller, Kulkarni, & Kushner, 2006). Furthermore, a diagnostic category developed in the Western cultural context is not necessarily meaningful in another cultural context, simply because the symptoms can or cannot be identified in both (Kleinman, 1987). There has consequently been criticism towards the positivist approach of trauma-focused psychiatric epidemiology as organisations on the ground need to know how distress is experienced and expressed uniquely in their populations (Miller, Kulkarni, & Kushner, 2006; Summerfield, 2001). With these factors in mind, we sought to undertake a qualitative exploration of how members of an isolated area in the Highlands of PNG with no dedicated mental health services are affected by and recover from their experiences with war.

The interplay between cultural beliefs and behaviours in remote PNG

PNG is a growing country of over 8 million people (National Statistical Office, Papua New Guinea, 2011). With over 800 spoken languages, and 87% of the population living in rural areas, PNG is culturally diverse but geographically isolated (The World Bank, 2010). None of the seven practicing PNG psychiatrists are based in the Highlands (Muga, 2015).

One commonly held belief throughout PNG, and also present within the participant sample of this study, is a belief in the power of sorcery (Macfarlane, 2009). Severe illness is thought to be caused by sorcery, and sorcery is considered the treatment. Less severe forms of illness are believed to be treatable by a mixture of traditional and Western medicine (Goddard, 2011). This belief system also exists amongst educated Papua New Guineans, with 84% of surveyed tertiary education students believing sorcery could cause illness (Burton-Bradley, 1990), and 28% of final year medical students believing that mental illness could be caused by sorcery (Muga & Hagali, 2006). In a sample of 209 PNG-trained health workers, it was found that their confidence in diagnosing spirit possession and sorcery was higher than their confidence in diagnosing schizophrenia (Koka, Deane & Lambert, 2004). Similar beliefs coloured the stories and experiences of participants in this study.

Conflict in the Highlands region of PNG

Two of the three authors have had previous contact with the area and it seemed a suitable setting to conduct this study given the endemic nature of conflict (Brace, 2014; Wiessner & Pupu, 2012). Historically, physical trauma is a prominent contributor to death in PNG (Watters, Dyke & Maihua, 1996). In one Highlands region, hospital arrow and spear wounds constituted 14% of all procedures (Watters & Dyke, 1996). And in another region, tribal fighting accounted for 24% of trauma admissions (Matthew et al., 1996).

METHODS

Ethics approval was obtained through the New South Wales Institute of Psychiatry Human Research Ethics Committee (HREC). Documentation was forwarded to the PNG Institute of Medical Research who acknowledged the receipt and did not request an amendment.

Consent

Contact was made with the Paigatasa village, located in the Eastern Highlands Province of PNG, through the project interpreter, a Paigatasa villager by birth, in order to seek community consent and ascertain feasibility. The village council was read a letter by a member of the study team in Tok Pisin (PNG pidgin) summarising the methods, aims and HREC requirements. Community feedback and feasibility were discussed on the phone during this meeting and the village council drafted a letter to the study team consenting their involvement.

Individual consent of all participants was obtained. Participants were given time to contemplate a translated participant information sheet which was read aloud by a member of the study team in their native language and consent was obtained.

Interview schedule

The semi-structured interview guide was informed by the principles of Patton and also Silverman (Patton, 2015; Silverman, 2004). The interviewer's conduct was guided by 'Kvale's List of qualification criteria of an interviewer' (Kvale, 1996). The interview guide was tested via a pilot interview with the project interpreter. Questions that translated poorly were adjusted iteratively as guided by the project interpreter. Recorded interviews took place in a private environment and typically lasted 1.5 hours. The quality of interpretation was assessed by a second interpreter. Transcribed interviews were deidentified by the allocation of pseudonyms and the interview recordings were destroyed after transcription.

Participants

The seven participants spoke of involvement in five wars from 1984 - 2003. Participants were all male as females have no direct contact with combat per tradition. Ages ranged from 40 to 60 years, and are estimates as birth certificates were not issued in this region. Participants had between 5-9 children and were all subsistence farmers, some drawing income from the sale of unprocessed coffee beans. Four participants had no formal education, two had completed primary school, and one had partially completed primary school. All but one participant identified their faith as Seventh Day Adventist. Participants were allocated the following pseudonyms to protect their identity: Caleb, Yauwii, Arex, Manuel, Amu, Nixaz, and Yosia.

Sociohistoric context of the study setting

The culture in Paigatasa is an interweaving of traditional and Western influences. External cultural influences from outside Paigastasa village have been slow to enter as there is no road access. Villagers are subsistence farmers and hunt for meat or keep limited livestock. Water is obtained from running streams and there is no electricity. Some families grow coffee and typically make <$50 USD equivalent annually.

The outside world entered Paigastasa during World War II when the most elderly of villagers recall dismantling crashed aircraft to make farming tools. The introduction of Western concepts of health came with the Kuru patrols of Dr Michael Alpers through the 1960s (Alpers, 2007). Democratic elections replaced the appointment of village chiefs.

In recent decades, religion emerged in Paigastasa and began to change beliefs. Seventh-day Adventist missionaries came to Paigatasa in the 1970s but there was conflict regarding their presence and they were asked to leave. Despite this, some villagers have been converted since then and the religion continued to grow until a church, run by native villagers, was established. It is one of the three institutional buildings, the two others being a primary school and a basic health clinic, all staffed by the local villagers.

Some technological innovation has also emerged. Mobile phones and radios are now in use, recharged using copper wire and disposable batteries. Models of understanding the world have been passed down intergenerationally in Paigastasa and slowly challenged by external cultural influences since the mid-20th century.

Analytic procedure

Interpretive phenomenological analysis (IPA) was performed as per Smith & Osborn (Smith, 2008). IPA is an inductive approach that does not test a predetermined hypothesis, but rather explores the making of meaning for individuals, who are recognised as experts in their own lived experience (Reid, Flowers & Larkin, 2005).

Transcribed interviews were read several times and themes emerged with each reading. Themes were grounded to text by being linked to participant quotes, assuring themes emerged from the participant and not the authors. Themes were clustered by similarity, and superordinate themes were extracted. The same process was undertaken independently by another co-author to reduce confirmation bias. Differences in themes were reconciled in discussion between the researchers with oversight by the supervising author. Themes were culturally validated with the project interpreter.

LIMITATIONS

Attempts were made to limit confirmation bias by grounding the extracted themes to the participants' quotes and having a co-author independently do the same. Attempts were made to limit cultural bias by discussing the extracted themes with the project interpreter who is a member of the same cultural group as the participants. Biases may still have existed. Those who were severely traumatised may have chosen not to participate. Conversely, many participants were among the village elite. The translation may have resulted in a simplification of the richness of emotional language. It is possible that based on the influence of the interviewer, a Westerner from outside the participant's culture, participants may have consciously or unconsciously altered their dialogue.

OBSERVATIONS

THE ACT OF WAR
The causes and culture of war

Paigatasa village has no access to police or external justice systems so the task of enacting justice often falls to the aggrieved. All wars were started to seek 'payback' for perceived wrongs, by causing equal harm to the other. Wars were initiated in retaliation to perceived assassination by a type of sorcery called 'poison magic', adultery, murder, or political conflict. One prolonged war started in retaliation against members of one community robbing other communities, resulting in thirteen surrounding communities uniting against the offending community.

During the war, warriors resided in a grass hut known as the 'haus man'. They were not allowed to cohabit with their wives and children by tradition. All villagers were forbidden to hunt or harvest food, and only sweet potato was consumed.

The 'haus man' was a place for mentoring and coaching young males in the skills required on a battlefield. It was also a place to strategise, heal, network, receive praise, and assert status based on superior performance in war. Senior warriors assigned men to roles, such as shield-bearer, archer, border patrol, or resupplying arrows. Warriors removed embedded arrows from their bodies with razor blades, without antiseptics or analgesics.

For many participants, displacement from their traditional lands as a result of an invasion was their biggest fear, representing the end of intergenerational land inheritance, and threatening clan identity (Timotijevic & Breakwell, 2000). Warriors placed the preservation of village lands over their

personal wellbeing during the war. Nixaz summarised, "I don't care if I die. I fought for my family and the land and my community."

Ending war and reducing loss

Other than the extreme case of attempted genocide described in one war, most wars ended within a month. The length of a war is limited by several factors. The inhospitable conditions of the 'haus man' made a long war uncomfortable. Warriors couldn't maintain their personal hygiene as local streams and waterfalls are vulnerable places to become targeted by enemies. Wars could only continue until food supplies were exhausted. Getting proper sleep was difficult, as up to 100 warriors habited one 'haus man'. Warriors' minds turned to the welfare of loved ones, resulting in a conflict of roles between a defender of community and protector of family. Some warriors had relatives within enemy villages and feared seeing them in battle. Most importantly, the length of war was limited by the time required to achieve 'payback'. This occurred when an equal amount of loss or suffering was achieved between both parties.

Sometimes conflict ended with an aggrieved person voluntarily relocating from their community. This resulted in peace for both warring communities who identified that the conflict was actually between individuals and not the wider community.

In earlier wars, peace was made when 'payback' was achieved. In more recent wars, peace was negotiated by monetary compensation. In one of the wars, peace was never formally made. In another, peace between two warring villages was brokered by a third uninvolved village.

If peace was made by both communities, a ceremony was carried out in which warriors de-armed, warring parties had a feast together and a tree referred to as 'tunket' was planted at the village border. Caleb reported this ceremony as follows:

> "*They hold a plant. You know this 'tunket'? The enemy holds, the other enemy holds and they plant it. They said, 'This will never happen again'. They feast together. The warriors hold a piece of meat like this (gestures with hands out and palms up) and they give it to other people to eat. They were hugging and crying. Now all the peace came and all of them are brothers and sisters in the community.*"

CULTURALLY BOUND BELIEFS DURING WAR

Organ intentionality

During the war, warriors believed that normal bodily functions such as itching, sneezing or urination predicted the enemy's location. They ascribed this to organ intentionality (Lindeman & Saher, 2007) rather than an external force. Participants considered that alongside the ability to sense the enemy came the responsibility to use this for the benefit of those in battle. For example, Yauwii stated that knowing the enemy location meant a warrior could be in charge of the battle plan, "I urinate. When it drops I feel that somebody is there. My father told me that when this signal comes you are the leader of the battle." The belief has been passed down intergenerationally and warriors have an expectation that this phenomenon will occur. Warriors reported that it only occurred during battle.

This is an interesting observation to consider. The causal connection of seemingly unrelated events has been shown to increase in times of stress and ambiguity (Keinan, 1994; Keinan, 2002; Lasikiewicz, 2016). It has been suggested to arise due to the adaptive utilisation of causal relationships in the setting of incomplete information (Foster & Kokko, 2009; Killeen, 1978). Not knowing the enemy's location during battle may represent a time of stress and uncertainty, priming participants for

such a phenomenon. However in this example, the participants described anticipation that this would occur as told to them by their elders, so they expected it. This belief is culturally and intergenerationally influenced, and seems to reinstate a sense of control and purpose (Beck & Forstmeier, 2007; Friedland, Keinan & Regev, 1992; McNamara, Green & Olsson, 2006).

Belief in 'poison magic'

Participants spoke of a type of assassination referred to as 'poison magic' performed by sorcerer assassins called 'poison people'. They killed by taking a sample of bodily fluids from the victim which was wrapped in a leaf that was thought to possess magical qualities. This leaf was stored in a hidden place and the victim became sick. When the bodily fluid was dried in the sun the victim died. The participant Yosia spoke of a village chief dying by 'poison magic':

> "*They are called 'poison people'. They get spit from his mouth, or blood. They wrap it in this special leaf. Then they see that the person is sick. Swelling legs or the stomach swollen up. He cannot eat. When they dry the fluid in the sun the chief will pass away.*"

Yosia spoke of a ritual to invite the spirit of the deceased chief to disclose the assassin's identity. Paigatasa village waged war with their neighbouring village as a result of the ritual, killing livestock and burning houses in the process.

The influence of the dead on the living

Some participants also believed that the dead could influence the living directly. Arex conceptualised that his desire for vengeance during the war was due to the spirit of the dead entering his mind to avenge their assassination. Arex also believed another living villager may be possessed by a spirit, and the spirit may control their body. Other members of the village may then follow the possessed person who will walk in a trance-like state to disclose the location of the 'poison person'. The person identified was often killed, fulfilling the requirement for 'payback', and avoiding war. This phenomenon was not unique to Paigatasa village. The literature describes individuals in the Highlands of PNG being killed by mobs of angry villagers in the belief that the person targeted was a 'poison person' (Forsythe & Eves, 2015).

THE EFFECTS OF WAR ON PARTICIPANTS

Emotions at the onset of war

Many participants described surprise and anger at the unexpected onset of conflict. Some participants arrived at a mediation meeting between aggrieved clans to find that one side had come prepared for the war. Most participants described anger at perceived injustice and felt this could only be redressed by enacting 'payback'. Alongside anger, some felt fear and anticipatory sorrow. Caleb felt sorrow regarding the prospect of his birth clan being displaced from traditional lands, "My tears fell down upon the bed. It put me down. Very sad time."

Manuel described anticipatory sorrow at the inability to support his family and afford a funeral feast for the dead. This was because his coffee produce has been destroyed by the enemy clan, depriving him of a source of income. Manuel reflected:

> "*I could not get money for the feast. It is the only way I normally get money. I would be suffering for a year. I have many kids so it was very hard. Very, very sad time for me and my family.*"

In contrast, Nixaz identified as a seasoned warrior and felt excitement at the onset of war, "*When you get the shield and go to battle, you will shout. When they hear me shout they will think, 'Oh. That's Nixaz coming'. I shout when I'm excited to go and fight.*"

Both Nixaz and Yauwii were initially excited to participate in war. Nixaz conceptualised war as a game, while Yauwii likened combat to hunting animals in the forest. Both described feeling little emotion through the war and attribute this to being preoccupied with the task ahead of them, grounded in a sense of duty to defend their village. Their task preoccupation and initial excitement did not protect them from later feeling guilt and remorse. After the war had ended, they reflected on some of their actions with regret.

Amu helped to initiate the war in which he fought. Amu described feeling anger to the exclusion of all other emotions prior to and during the war. His wife had asked him not to go to war, as she was afraid to raise their children alone if he died, but he went regardless. His anger subsided once an enemy villager had been killed, however the battle continued. His wife sent a message to him pleading to stop the war for the welfare of their family. Amu went on to feel shame that he had ignored his wife's plea and placed his family's welfare in jeopardy by risking his life.

As an adolescent during the war, Caleb felt abandoned and vulnerable as his family were killed around him. As the prospect of victory appeared unlikely, he was overwhelmed with despair and fled, "*I don't have anyone to secure me. We would be going nowhere. I took all my small brothers and sisters away.*"

Resolving residual negative emotions after war

Those whose anger was satisfied by taking 'payback' took part in the peace ceremony. They felt no animosity towards the enemy after the war had ended, but their discourse contained self-oriented negative emotions, such as self-criticism, remorse, and guilt. Being confined to the 'haus man' led to feelings of guilt as warriors lamented not fulfilling their role as protector of their family. Some warriors described remorse after taking life in the war. Fear of ongoing retaliation was felt by one participant as 'payback' had not been achieved and peace never been made. Yosia and Caleb were adolescents during the war and both were displaced from their homelands. They never forgave the enemy as they fled and both struggled to forget what had not been forgiven. Caleb disclosed that he has nightmares about the war since his village was attacked and has difficulty resolving the trauma he experienced, summarising, "*The feelings that I had in the war… (the) dreams that I have, my thoughts, I will never forget. So when I become old at the end of my life it will stop.*"

Conflicting loyalties

During war, participants described experiencing conflict between their loyalty to the community versus their loyalty to their clan. The community is defined by the geographical boundaries of the village, while the clan comprises blood relatives and those who have entered the clan by marriage or adoption. Participants' loyalties could be interpreted with the framework of social identity theory, which explores a person's sense of who they are based on their group memberships (Hogg & Ridgeway, 2003; Tajfel & Turner, 1979).

Clan structures often existed across communities, causing conflicts between participants' loyalty to their clan versus the community. This can make it difficult for those participating in war to see the warring community as an enemy as they also contain members of the clan, thereby decreasing the between-group distinctiveness of the two warring sides (Abrams et al., 2000). For example, Yauwii struggled to resolve his loyalty to his clan versus his village, as he had an uncle fighting with the enemy. To protect each other, Yauwii and his uncle would sneak away from the 'haus man' by night and meet at the border to exchange battle plans to keep each other safe. The tension between these two opposing loyalties is highlighted by the requirement for both to maintain secrecy in treachery. Having family members on both sides led Yauwii and his uncle to advocate for peace.

Caleb was adopted from a different language group at a young age. When war broke out in his birth village his loyalty to his adopted village was in conflict with his loyalty to the clan he was descended from. He resolved to fight in secret for his birth clan. At the time, Caleb was seen as an outsider within his adopted village. He also felt he did not fully belong there and therefore had a low level of group identity. Defection from this group may have carried less social cost, in keeping with the observations of Marques who noted that in-group deviants are generally rated more harshly than out-group deviants (Marques, Abrams & Serĵdio, 2001; Marques & Dario Paez, 1994).

Yosia decided never to engage in war again. In addition to the fear he felt towards the enemy, his wife was born in another village and he worried that if he died in battle his wife's claim to his lands would not be recognised. His loyalty to his family trumped his loyalty to the village, at least as far as future participation in wars was concerned.

Amu and Naziz spoke of experiencing psychological tension between their requirement to reside in the 'haus man' versus their desire to return home and protect their family. Amu described feeling buoyed to continue the war effort by the warriors around him despite his wife's initial pleas for him to stop the war and return safely. Nixaz worried about his family's welfare while he was at war but considered leaving the 'haus man' to be against established wartime culture. Both were strongly identified as wartime leaders by themselves and those around them. Zdanuik & Levine (2001) propose that those strongly identified within a group will tend to conform to group norms even when it conflicts with their personal interests. Jetten & Hornsey (2014) note that in those with a high level of group identification, dissent serves to damage both group cohesiveness and positive attribution towards the dissenter. Furthermore, dissent threatens group locomotion by distracting the group from its goal (Kruglanski & Webster, 1996). Amu and Naziz kept fighting to maintain in-group cohesion and their reputations as leaders despite a conflicting desire to return home.

Changing identity through war

According to Identity Process Theory, identity is regulated by the dynamic processes of accommodation and assimilation (Breakwell, 1993). War results in loss, and threatened loss. Trauma and loss necessitate individuals to revise their place in the world, revise their assumptions, and seek meaning (Ann Barbato & Irwin, 1992). The culture around the individual defines what is available to influence accommodation and assimilation.

In addition to traditional beliefs, most participants identified as believing in religion. A villager-run church exists in the village. To participants, the church represented a place where they could discuss and process negative emotions such as shame and guilt, which were still present once the war had ended. They would be invited by the pastor to speak of their difficulties before the church attendees. Yosia summarised this with the statement, "*In the church, I forgot about what happened in the war.*"

Through religious teachings and the process of self-transcendence (Reed, 1991) many eventually found forgiveness towards their enemy and themselves. Some who identified as leaders during wartime came to identify as church leaders in the years after, filling a recently evolved societal position. Such actions fit with 'positioning theory', which proposes individuals actively foster identities by positioning themselves relative to the dominant and subordinate discourses within their culture (Harré & Van Langenhove, 1998). Many participants who identified as leaders on the battlefield felt they had personal qualities that they believed would also make them suitable church leaders, such as proactivity, negotiation skills, self-confidence, and the ability to motivate others.

In contrast to most participants, Caleb and Yosia identified as the victims of war rather than leaders. Yosia was an adolescent during his first and only experience with war. He identified as inexperienced, dependent and powerless. However, through his elders' mentoring and role-modelling his cognitions shifted and he came to see his fear as a liability. He rejected the vulnerable self through internalising the projected confidence of his mentors. Despite this, after the war ended he found himself with a continuing fear of the enemy. He could not bring himself to walk past the enemy village despite peace being made, describing high levels of fear at the thought. For years afterwards,

he would take a long alternative road when exiting his village. Yosia engaged in avoidance as a defence against fear, and eventually relocated to another geographical area.

Caleb was young when a long war started in his village. He was without facial hair when the war began, but when peace was eventually made he had grown a full beard. Half of Caleb's village was killed in an act of attempted genocide and young Caleb witnessed the death of some family members. As a result of developmental traumas, he identifies as being hypervigilant and prone to anger as an adult. Caleb missed most of his education through his youth and he felt this reduced his prospects for future success. He fled the village and did not return for several years. The death of his family, destruction of his birth village, loss of education and requirement to flee his lands has disrupted his sense of continuity and distinctiveness. He felt without people, threatening his sense of identity (Ethier & Deaux, 1994). Within the uncertainty of these years, Caleb sought to establish control within the limits of the available options. He reflected that during his schooling years he instead learned how to fight. He eventually resettled in his adopted village and sought to resolve his identity threat by becoming adept in the art of battle, fighting alongside his host village in subsequent wars. He achieved positive distinctiveness within the warrior in-group and now identifies as a warrior despite ongoing symptoms of psychological trauma.

Balancing hope and hopelessness for future peace

Hope has been defined as, "*The confident yet uncertain expectation of achieving a future that is realistically possible and personally significant*" (Hollis, Massey & Jevne, 2007). Participants were hopeful that war would occur less in the future. The adoption of Western education models has encouraged youth to seek higher education outside their village, resulting in increased inter-village marriages. Amongst participants, this was the greatest feature of hopefulness for the prevention of war, with Caleb summarising, "*It's hard for them to attack us because they are our relatives.*"

Many felt that if individuals were more careful interacting with other villages then war could be avoided. This notion reflects the kinship of this culture, whereby an individual is part of a clan, and the clan is part of the community. Therefore, if an individual is wronged this can become a community-wide issue. Participants felt community engagement with religious teachings may reduce the incidence of war, and that the church offered another avenue of mediating grievances. Participants thought that democratic elections would see leaders more accountable, reducing the likelihood of war. Some identified poor communication as a precipitant of war. Yosia hoped that improved telecommunications may lead to conflicts being resolved remotely, reducing the likelihood of physical violence. Some also voiced a belief that the younger generation is increasingly adopting Western practices and values, equating this with a movement away from a culture of war.

Arex felt that displacement from land as a result of the war led to an ongoing cycle of intergenerational conflict due to the initial offence never being resolved, and stories of unrighted wrongs being passed down intergenerationally. He summarised his belief by stating, "*The clan in the new location will still be enemies. They will tell the history and the story and it will never end.*"

DISCUSSION: FINDING FORGIVENESS FOR THE SELF AND THE OTHER

This study documents the cognitive, emotional and social processes of remote PNG villagers exposed to war, and explores the meaning ascribed within their sociohistoric context. The context is unique and rapidly changing as outside elements are introduced.

During the war, the participants described shifting and conflicting emotions that paralleled shifting and conflicting cognitions. Generally, participants described initial anger at perceived injustice. The resolution of anger towards the enemy was followed by feelings of guilt or shame

towards the self. Anger is attributed to the external locus, being wronged by others (Neumann, 2000). Guilt is a situation-specific negative emotion attributed to the internal locus, while shame is a negative emotion directed at one's global self (Lewis, 1971). To cope with negative self-affects individuals may forgive, excuse, or punish themselves (Griffin et al., 2016). A person who feels guilt will tend to seek forgiveness (Baumeister, Stillwell & Heatherton, 1994; Reik, 2010), whereas a person who feels shame will tend to employ avoidance-oriented behaviour (Leith & Baumeister, 2008; Wolf et al., 2010). The latter was employed by three participants who felt shame; Caleb, Manuel and Yosia.

Having the participants describe their war experiences rooted in the distant retrospect allowed the journey of forgiveness towards the self and others to be explored. Forgiving the perpetrator may enhance psychological wellbeing in the victim, and is enhanced in the context of a strong commitment to the relationship (Karremans et al., 2003). With geographic proximity, trading ties and intermarriage, the commitment of neighbouring villages is likely strong. This highlights the peace ritual's importance at the end of war. In the two wars between members of different language groups, the peace ritual was not spontaneously enacted. It could be hypothesised that the commitment to the relationship's longevity was weaker compared to wars that took place between villages of shared language.

The 'peace ritual' represented a form of socially imposed forgiveness. Rituals of forgiveness as a gesture of post-war community reconciliation have been documented in other cultures (Christie, Wagner & Winter, 2001; Honwana, 1997; Stark, 2006). The ritual facilitates emotional forgiveness, showing that the other is valued, and revalidates shared values. Post-transgressional effort predicts forgiveness (Strelan, McKee & Feather, 2016), and the act of preparing and serving food to the enemy represents an effortful gesture in seeking forgiveness. Decisional forgiveness follows, with the intention to behave towards the perpetrator in positive ways (Worthington et al., 2010). The participants described that there was an almost immediate re-establishment of trade and normality with the former enemy after the peace ritual was completed.

Enright and Fitzgibbons defined six styles of forgiveness with each stage possessing increasing moral character (Enright & Fitzgibbons, 2000; also see Kohlberg, 1981). The peace ritual seems best fitted to style five, termed 'forgiveness as social harmony', whereby forgiveness is exchanged to maintain social harmony. The peace ritual may not represent true transformative forgiveness as it is a ritualised forgiveness imposed upon the individual through societal expectations (Cleary & Horsfall, 2014). However, during the peace ritual participants described conversing with the enemy about their shared hardships. This exposed the enemy's humanness, allowing the focus on personal suffering to dissolve into an appreciation of common suffering and interconnectedness, allowing empathy and a movement towards transformative forgiveness (Rowe & Halling, 1998). Arex came to realise that the suffering he felt through relatives' death is the same suffering shared by the enemy, and summarised, "*They are just like us*". Understanding how the other has become a perpetrator may also facilitate forgiveness (Higgins, 1994). Participants who were both the perpetrator and victim of violence tended to see the self and the enemy as similar and found forgiveness easier than those who identified purely as victims.

Self-transformation after trauma is also essential to the nature of forgiveness (Fehr, Gelfand & Nag, 2010; Rowe et al., 1989; Williamson & Gonzales, 2007), and involves gaining wisdom by finding larger meaning. Arex described his transformation from a young formidable warrior to eventually becoming known in the village as 'The Peacemaker'. He became a church leader who seeks to lead the community away from war. This action parallels the final stage of Mihalache's (2012) stages of forgiveness; 'Expansion of meaning', whereby through self-healing an individual allows others to heal. Most participants sought healing through the church, using this platform to urge younger generations to avoid war, becoming the catalysts for intergenerational transformation.

The theme of sorcery and traditional beliefs, which featured prominently during participants' descriptions of the causes and acts of war, was not mentioned as a means for resolving lingering negative affects after the war had ended. The authors wonder whether this reflects the fact that much of the emotional healing that took place after war occurred within the church, where such themes may be taboo. It is also possible that a cultural shift may be taking place as participants move away from

traditional beliefs and toward introduced religion. The perception of a changing culture was described by the participants. A limitation of this study was not exploring how previous generations of warriors resolved lingering negative affects after the war, prior to the introduction of the church. An intergenerational comparison represents an interesting avenue for future research.

The most traumatised participants were exposed to war at a young age. Proximity to attachment figures buffers youth during war (Garmezy, 1983; Masten & Narayan, 2012), dose effects correlate with enduring consequences (Furr et al., 2010; Gleser, Green & Winget, 1981; Korol et al., 2002), and spiritual support correlates with posttraumatic resilience (Klasen et al., 2010). Caleb was young, fought outside his adopted village, witnessed genocide, and was the only participant not to join the church after the war. Yosia was also young, came to fear war, and resolved never to participate again.

CONCLUSION

Western concepts have been assimilated or accommodated with increased exposure since the mid-20th century. Participants generally felt their region and culture were prone to conflict, that outside influences would reduce the likelihood of war, and felt positive about this. Younger generations are becoming more educated, and as a result, travelling outside the village for education beyond primary school. This has led to an increasing number of inter-village clanships through marriage. The older generation has sought to uphold peace for their children's property and family that now spans village boundaries.

Most participants felt anger and a desire for vengeance at the onset of war. The ameliorative power of the traditional peace ritual in quelling anger and fostering forgiveness towards the enemy was striking, however many participants were left with shame and guilt for perceived wrongs they themselves had committed in war.

Traditional beliefs such as organ intentionality, spirit possession, and sorcery form part of the culture's explanatory principles during war-making. Despite this, traditional beliefs were not mentioned as playing a part in emotional healing in the years after war, which mainly took place within the community and teachings of the local church.

Participants spoke of their journey toward forgiveness and personal transformation. Some became catalysts for intergenerational change, discouraging youth from violence as a means of conflict resolution.

Two participants who were involved in the war at a young age had responses to trauma seen across other cultures, such as avoidance, nightmares, hypervigilance, and emotional distress. In the Western psychiatric model, these symptoms may have met the criteria for PTSD and warranted treatment. There is in fact evidence that psychological treatments can be of benefit to those residing in low- and middle-income countries who are traumatised by humanitarian crises such as armed conflict (Pugato et al, 2018), including those who are internally displaced (Uphoff et al, 2020).

However, in place of psychological therapy, participants were able to discuss and process lingering negative affects within the forum of the church and perceived this as a positive influence on emotional healing. A lack of mental health services in remote PNG seems likely to continue into the near future (Marai, 1997). Local community health workers, religious organisations who provide counselling, and non-governmental organisations who assist those traumatised by war may wish to study the effectiveness of psychological interventions in remote PNG populations in order to establish an evidence base for their acceptability and outcomes.

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