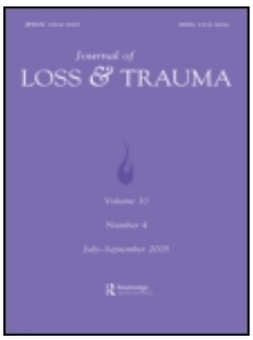

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Towards a Social-Structural Model for Understanding Current Disparities in Maori Health and Well-Being

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Colonization has resulted in Maori occupying a vulnerable position in New Zealand society. Comparatively poor health, along with complex social and economic problems, is a reflection of this fundamental insecurity. This article aims to put forward a historical and developmental perspective for understanding some of the current health disparities experienced by Maori, by exploring the concepts of historical trauma, loss of land, and alternative theories of development from post-development theory.

KEYWORDS historical trauma, colonization, land loss, health, Maori

Maori were the first human inhabitants of Aotearoa (New Zealand), with historians suggesting that they probably arrived sometime between the 12th and 14th centuries from eastern Polynesia (Belich, 1996; King, 2007). There is evidence to suggest that Maori life expectancy around the time of first contact between Maori and Europeans (between 1769 and 1777) was higher than that in Britain, and similar to some of the most privileged 18th-century societies. It is possible that Maori may have had a life expectancy at birth of more than 30 years, compared with less than 30 years for people in Britain.

After European contact, however, there was a major decline in Maori life expectancy and by 1891, the estimated life expectancy of Maori men

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was 25 and that of women was just 23 (Pool, 2011). Now, roughly 900 years later, Maori comprise only 7.4% of the New Zealand population and fare considerably less well than Pakeha (New Zealanders of European ethnicity) on almost every major health and well-being indicator. For example, in 2005 to 2007, male life expectancy at birth was recorded at 79.0 years for non-Maori and 70.4 years for Maori, and female life expectancy at birth was 83.0 years for non-Maori and 75.1 years for Maori (Ministry of Social Development, 2010).

Maori have higher rates of hospitalization than non-Maori for preventable conditions, including skin infections, glue ear, dental caries, injuries, asthma, bronchiectasis, bronchitis and bronchiolitis, diabetes and its complications, hypertension, congestive heart failure, acute rheumatic fever, and chronic rheumatic heart disease (Robson & Harris, 2007).

The age-sex standardized incidence rate for cancers overall in the period 2000 to 2004 was 9% higher for Maori than for non-Maori, and the age-sex standardized mortality rate for cancers overall was 77% higher for Maori than for non-Maori (Robson & Harris, 2007). Complications from diabetes were much higher for Maori than for non-Maori, with Maori 4.5 times more likely to have lower limbs amputated than non-Maori and 8.8 times more likely to go on to develop renal failure (Ministry of Health, 2012).

Over half of Maori become mentally ill during their lifetime, and just under a third will have been diagnosed with a mental illness within the past 12 months (Baxter, 2007). Substance abuse disorders are second only to anxiety disorders in prevalence for Maori, with over one quarter of Maori diagnosed with substance abuse disorders (most commonly involving alcohol or cannabis) during their lifetime. Substance abuse disorders were the third leading cause of hospitalizations for mental health disorders among Maori males between the years 2003 and 2005 (Ministry of Social Development, 2010).

Maori are over represented in the figures for young motherhood, with the rate of births to young Maori women in 1996 to 2003 being at least four times higher than to young non-Maori women (Policy Strategy and Research Group, 2007). Maori women have a high percentage of low-birth-weight babies, with 79% of low-birth-weight infants being born to Maori mothers in the years 2001 to 2002 (Policy Strategy and Research Group, 2007). Maori have higher rates of suicide than other ethnicities in New Zealand, with an age standardized rate of suicide deaths in 2007 of 16.1 per 100,000 population for Maori compared to 9.9 for non-Maori, and 28.1 per 100,000 population for Maori aged 15 to 24 years old compared to 12.3 for non-Maori (Ministry of Social Development, 2010).

Interestingly, indigenous people from different continents and societies also seem to suffer disproportionately from ill health and are overrepresented among the poor and the disadvantaged (Gracey & King, 2009; Walters, Beltran, Huh, & Evans-Campbell, 2011). As the 2006 Indigenous

World International Working Group on Indigenous Affairs points out, "Indigenous peoples remain on the margins of society; they are poorer, less educated, die at a younger age, are much more likely to commit suicide, and are generally in worse health than the rest of the population" (Stidsen, 2006, cited in Walters et al., 2011, p. 164). It is in light of these consistent disparities that a number of scholars are attempting to draw attention to the possibility that the disparities between indigenous and non-indigenous peoples may be directly related to the colonization experience (Brave Heart, 2003; Gracey & King, 2009; Lawson-Te Aho & Liu, 2010; Szlemko, Wood, & Jumper Thurman, 2006).

HISTORICAL TRAUMA THEORY

For a number of years, Native American scholars and researchers have been attempting to draw the links between the present-day health and well-being disparities between American Indian and Alaskan Native (AIAN) peoples and the rest of the United States population and the experience of being colonized. One useful concept for providing a framework for drawing these links is that of *historical trauma,* developed through the pioneering work of Maria Yellow Horse Brave Heart and her colleagues at the Takini Network, which involved "more than 20 years of clinical practice and observations, as well as qualitative and quantitative research" (Brave Heart, 2000, 2003, p. 7; Brave Heart & DeBruyn, 1998).

Since the 1980s, it has been recognized by the mainstream mental health field that humans exhibit a range of psychological reactions to events that "cause great distress or destruction—a core wounding to the body/mind/soul/spirit of human beings" (Atkinson, 2002, p. 52). Such traumatic events include wars, environmental catastrophes, natural disasters, criminal violence, domestic violence, and childhood physical and sexual abuse, to name but a few. For indigenous peoples all over the world, the colonization experience was a major traumatic event. As Gracey and King (2009) note:

> The fabric of traditional societies was shredded by colonisation. Traditional life was suppressed by alien regulations imposed on people who had lived, sometimes for many thousands of years, with well-established traditional laws, languages, dress, religions, sacred ceremonies, rituals, healers and remedies. This legalised disruption was worsened by socioeconomic and political marginalisation, and by racial prejudice which was often entrenched and institutionalised. This process was hastened by the often brutal dispossession of traditional lands, and subsequent poverty, under-education, unemployment, exploitation by unscrupulous employers and landlords, and increasing dependence on social welfare or begging in cities and towns.

The concept of historical trauma responds to the need for a way of understanding the impact of the trauma of colonization on indigenous peoples that transcends the limitations of current mainstream trauma theory, which is almost solely informed by the concept of posttraumatic stress disorder (PTSD). The PTSD concept, as a number of authors have pointed out, is entirely inadequate as a framework within which to understand the multiple problems faced by contemporary indigenous peoples (Atkinson, 2002; Ehrenreich, 2003; Evans-Campbell, 2008).

There are three main reasons for this. First, the concept of PTSD pathologizes people's responses to trauma by transforming those responses into the "symptoms" of a "mental disorder." Thus, the ways in which people attempt to bear the unbearable are seen as indications of an underlying "dysfunction" within the individual, and the focus turns to dealing with those "dysfunctions" at an individual level (Taylor-Moore, 2009). This often means that the sociopolitical-economic context within which people are traumatized becomes obscured. Second, PTSD is really only capable of describing people's responses to relatively circumscribed traumatic events. The experiences of victims of prolonged disasters such as ongoing civil wars, long-term environmental disasters, and colonization are entirely outside the purview of the PTSD concept. Third, PTSD is limited in its ability to explore the cumulative effects of multiple traumatic events occurring over generations and offers "virtually no discussion on the intergenerational transmission of trauma from person to person or within communities" (Evans-Campbell, 2008, p. 317).

Brave Heart's (2003) conceptualization of historical trauma and its cross-generational impact on colonized peoples draws heavily upon the literature concerning reports of trauma among survivors of the Holocaust and their children after World War II. Most of the reports were done during the 1960s and thus were carried out within the psychoanalytic framework that dominated psychiatry at the time (Whitbeck, Adams, Hoyt, & Chen, 2004). Whitbeck et al. (2004) point out that the initial studies documented the "symptoms" of those who had survived the death camps and these studies suggested that, clustered together, the "symptoms," which include denial, depersonalization, isolation, somatization, memory loss, agitation, anxiety, survivor guilt, depression, intrusive thoughts, nightmares, and psychic numbing, signaled the existence of a "survivor syndrome."

The influence of the Holocaust literature can be clearly seen in Brave Heart's (2000, 2003) suggestion that there is a specific constellation of features that form the reaction to historical trauma. Brave Heart (2000) suggests that sufferers of historical trauma response experience survivor guilt, an ensuing fixation of trauma, reparatory fantasies, and attempts to undo the tragedy of the past. Other manifestations of historical trauma response include depression, self-destructive behavior, psychic numbing, and elevated mortality rates from suicide and cardiovascular disease (Brave Heart, 2000, 2003). Brave Heart (2003, p. 10) further suggests that "intergenerational

transmission [of historical trauma] may occur because descendants carry intuitive representations of generational trauma which become the organising concepts in their lives and perpetuate trauma transfer to successive generations." Secondary and subsequent generations also experience vicarious traumatization through the collective memory, story-telling, and oral traditions of the population, and traumatic events become embedded in the collective social memories of the population (Brave Heart, 2003).

It should be noted that the theorizing of Brave Heart and colleagues (2000, 2003) concerning the transmission of the historical trauma response, although strongly informed by the psychoanalytic approach used in the Holocaust literature, tends to focus not just on family dynamics as the primary mode of transmission, but also on community-level factors such as vicarious traumatization and historical unresolved grief. Historical unresolved grief is based upon the concept of disenfranchised grief, a state that, according to Brave Heart and LeBruyn (1998), occurs if a dominant group delegitimizes grief among another group. This results in the inhibition of the experience and the expression of the grief affects—sadness and anger—and leads to shame. Brave Heart and LeBruyn (1998, p. 63) note that grief, covered by shame, negatively impacts relationships with self and others and also "one's realisation of the sacredness within oneself and one's community."

While historical trauma theory offers much promise as a potential framework within which to understand the health and well-being problems faced by indigenous peoples, such as Maori in New Zealand, Walters, Mohammed, and Evans-Campbell (2002) note that scholarship on historical trauma is hampered by a number of factors. First, scholars in the field have used the term interchangeably with other terms—for example, terms such as soul wound, collective unresolved grief, collective trauma, intergenerational trauma, transgenerational trauma, intergenerational posttraumatic stress, and multigenerational trauma. Second, the term is often not clearly defined by those who are utilizing it.

Perhaps one of the most notable weaknesses of the research conducted around historical trauma to date, however, is the tendency to focus primarily on the individual person and his or her historical trauma response. This is unfortunate because one of the greatest strengths of the concept of historical trauma, in contrast to that of PTSD, is that it places the sociohistorical contexts in which traumatic events occur at its very center. The individualized focus of the current approach is perhaps most obvious in attempts by a number of historical trauma researchers (e.g., Brave Heart, 2003; Whitbeck et al., 2004) to prove that there is a cluster of symptoms that are particular to those who have suffered historical trauma and that these symptoms together constitute a syndrome: historical trauma response.

It can be argued that there is no need to posit the existence of yet another syndrome—the historical trauma response—with its own set of

symptoms (some of which overlap with PTSD and some of which do not), in order to make the case that the colonization experience is the root cause of the disparities between indigenous peoples and their non-indigenous counterparts. The focus on the psychological responses of the individual person also means that, to date, there has been little historical trauma theory research focused on the biological sequelae of the trauma experience and how those biological effects may manifest themselves, across the generations, in physical illness.

As Danieli (1998) points out, the ways in which trauma plays itself out across generations are incredibly complex and cannot be understood just by looking at one level of analysis (the individual) through one disciplinary lens (that of clinical psychology). To fully understand the ongoing impact of a cataclysmic event such as colonization, a theoretical framework is required that is flexible enough to incorporate multiple levels of analysis: biological, psychological/personal, family, community, and nation-state. The framework must also be able to incorporate a developmental aspect because, as Whitbeck, Walls, Johnson, Morriseau, and McDougall (2009) point out, historical periods, social location, and cultural contexts shape life trajectories in profound ways.

POST-DEVELOPMENT THEORY

Post-development theory is helpful in locating historical trauma within a developmental and social structural context. Post-development researchers aim to examine and expose denigrating colonial concepts and practices within current development theory, with the goal of stripping colonial paradigms from development studies and practice and demonstrating that current development theory is neo-colonial and immersed within a Western monocultural paradigm. Through such an examination, the challenge is posed to development practitioners to open their discourse to indigenous peoples' voices, with the ultimate goal of creating diverse approaches to development that can more accurately reflect the cultural and ecological diversity present globally. In this way, the psychological harm caused by colonial narratives and practices can be addressed through the emergence of approaches that are self-defined and self-directed by indigenous peoples (Reid, 2011).

Post-development theory emphasizes the importance of examining the impact of colonization on colonized peoples, including indigenous populations, and identifying the dominant social, political, and economic practices and narratives within societies that perpetuate the trauma of colonization. Researchers in this field have pointed out that the psychological trauma of colonization has compromised the social, economic, political, and cultural well-being of indigenous peoples and has placed "significant constraints on

indigenous communities meeting their development goals" (Reid, 2011, p. 78). In particular, the literature points out that continuing colonial narratives and practices of progressive developmentalism have caused serious and persistent psychological, social, and cultural harm to indigenous peoples by creating "sharp and painful conflicts in … self-understanding, aspiration, expectation and action" (Hogan, 2000, p. 10). That is, colonial views of development have generated a complex and contradictory interplay of dysfunctional narratives and practices among indigenous people at the level of the individual, family, and community. Furthermore, researchers argue that imposed development by Fourth World Western states does not work for indigenous peoples, and that development approaches need to be culturally matched, self-determined, and localized if indigenous peoples are to achieve their goals and improve their well-being.

Although varying from context to context, the noted effects of the dominance of colonial narratives, systems, and practices on indigenous populations include the loss of self-mastery, loss of autonomous personal dignity, loss of trust, loss of personal adequacy, loss of self-efficacy, negative self-opinion, self-doubt, and fractured identity through loss of cultural memory and imposed memories from cultural assimilation (Comas-Diaz, Lykes, & Alarcon, 1998; Kessaris, 2006; Moane, 2003; Nelson Varias-Diaz, 2003). The effects on the personal level generate unhealthy psychological and psychosocial patterns of behavior that include pervasive distrust, inaction, inertia, silence, indecision, fatalism, and ambivalence (Comas-Diaz et al., 1998; Kessaris, 2006; Moane, 2003; Nelson Varias-Diaz, 2003). Together, these create significant barriers to indigenous peoples mobilizing and taking coherent actions toward realizing their aspirations, which, in turn, have consequential impacts on their collective health and economic well-being.

Post-development theory suggests that the complex problems that beset colonized peoples can be understood through a deconstruction of colonial narratives and their accompanying development practices. While the trauma suffered by indigenous peoples can indeed be examined within the parameters of such colonial narratives and discourses and the myriad associated practices that accompany progressive developmentalism, such an approach, although helpful, is inadequate for explicating the ways by which the trauma of colonization is transmitted across generations. That is to say, post-development theory may be able to point out the existing narratives and neo-colonial practices and systems that lead to psychological harm; however, it does not go so far as to enable the careful elaboration of the dynamic relationship between changes within individuals, families, and communities and changes within the larger social, political, economic, and cultural environment over time. This elaboration is necessary and would be particularly useful when attempting to explicate the mechanisms via which the initial trauma of colonization continues to persist across generations and through time. A chronosystem approach (Bronfenbrenner, 1986) that

incorporates a multi-temporal, multi-level, and developmental framework is useful for tracing and exploring such mechanisms.

TOWARDS A MULTI-LEVEL MODEL OF HISTORICAL TRAUMA FOR MAORI

Sotero (2006) developed a temporal framework for understanding the impacts of historical trauma that includes the following three sequential stages: First, there is a mass trauma experience where the dominant group subjugates a population, resulting in segregation and displacement, physical and psychological violence, economic destruction, and cultural dispossession; second, a trauma response is elicited in the first or primary generation that includes physical, social, and psychological responses; and, third, the responses are transmitted to subsequent generations via various pathways across all levels of analysis from the micro to the macro.

We will use here an adapted version of Sotero's (2006) framework as a basic template upon which to sketch out the various phases of the trauma of colonization for Maori from the first impacts upon primary generations through to the reverberating impacts on contemporary Maori. We will also draw on the work of a number of other authors (e.g., Cernea, 2004; Marmot, 2006; Perry, 1996; Walters et al., 2002, 2011).

First Stage: The Initial Mass Trauma Events

The first level of Sotero's (2006) temporal macro-level model of historical trauma is the original mass trauma event. Colonization belongs to a particular category of traumatic events—events that are prolonged, cumulative, and happen to large numbers of people. As Ehrenreich (2003, p. 19) notes, "there is no generally accepted name for this category of trauma." He suggests that the terms social trauma, collective trauma, or mass trauma capture some, but not all, aspects of it. Such traumas can include large-scale natural disasters such as famines and epidemics and, especially, sustained violence such as war, ongoing terrorism, ethnic cleansing, and colonization. Sotero (2006, p. 99) suggests that the primary aspect of the trauma of colonization is the "subjugation of a population by a dominant group" and notes that successful subjugation requires at least four elements: overwhelming physical and/or psychological violence, segregation and/or displacement, economic deprivation, and cultural dispossession. Interestingly, the loss of land is only implicit in these four elements, despite it being perhaps the most fundamental of all of the elements of subjugation.

Walters et al. (2011, p. 167) point out that for indigenous people, the relationship with the land is a profound one: "The earth (or land) is both literally and figuratively the first and final teacher in [their] understanding

of … world, communities, families, selves, and bodies." Indeed, Durie (2004) suggests that this strong sense of unity with the environment is the most defining element of indigeneity. In common with other indigenous peoples, Maori identity is linked to the land by a sense of belonging to it, of being part of it, and of being bonded with it (Durie, 1998a). This sense of belonging is evident in Maori cosmogony and tradition (Roberts, Norman, Minhinnick, Wihongi, & Kirkwood, 1995). Walters et al. (2011, p. 183) point out that "the seizing of land … has extracted a spiritual, physical, and mental toll on IP [indigenous people]. Assaults on the land are akin to assaults on the body and the people; displacement from the land is akin to being stripped from one's family of origin."

In addition to enduring a deep sense of loss at a spiritual, personal, and community level, Maori also endured the loss of their means of production and, consequently, their social and economic base. Such means of production were founded on a complex system of traditional property rights and were linked with stable and well-established social and political systems and practices. Reid (2011, p. 3) points out that while "land itself was not 'owned' as such, the different resource areas on the land … were owned by individuals, whanau and hapu through a complex array of rights dependent upon genealogical linkages, status, and occupation [of an area]." Despite the ownership of resources being quite well-defined according to a complex array of rights, the actual wealth accumulated through the management of these resources was continually redistributed throughout and between hapu (Firth, 1972). Significant emphasis was placed upon giving and, in particular, reciprocal obligations (Firth, 1972; Kawharu, 1977). Through the system of reciprocity, capital tended to circulate rather than reside with particular individuals or social units, thus ensuring the well-being of many (Reid, 2011). While Maori had done quite well during the early years of European contact, as the number of colonial settlers grew, so too grew the pressure on Maori ways of life. The loss of land and loss of access to resources—through land sales, land confiscations following the 1860s wars, Crown purchases, and the Native Land Court—led to the displacement of large numbers of Maori by the end of the 19th century (King, 2007; Reid, 2011).

Cernea's (2004) research highlights a number of factors that accompany land loss and are relevant to the Maori experience. These include economic and social marginalization, food insecurity, and increased morbidity and mortality. Cernea (2004, p. 18) notes, summarizing a large body of research on the effects of displacement and land loss in the Third World, that "losing land removes the main foundation upon which people's productive systems, commercial activities, and livelihoods are constructed. This is the principal form of [the] pauperization of displaced people." Thus, it is primarily via the loss of land that the seeds for the transgenerational transmission of the trauma of colonization are sown.

Research involving displaced people shows that economic marginalization is often accompanied by social and psychological marginalization—their social status drops, they lose confidence in society and in themselves, and they experience feelings of injustice and deepened vulnerability. As Cernea (2004, p. 21) points out, there is a considerable body of research with peoples displaced due to various development projects that report "cultural and behavioural impairments, anxiety and decline in self-esteem." For Maori, not only did the loss of their land remove autonomy and freedom to self-govern, it also undermined their *mana*—a state of being characterized by a community's experience of its own independent authority, control, influence, status, charisma, and spiritual power. The process of undermining *mana* involved deep humiliation as well as personal, psychological, and spiritual denigration (Reid, 2011). As Armitage (1995, p. 156) points out, "the importance of assault on Maori land cannot be underestimated, as their relation to the land was central to their respective tribal identities."

Cernea (2004) also argues that another major risk associated with losing access to land is that people will fall into temporary or chronic undernourishment. By the end of the 19th century, most Maori made a precarious living from mixed subsistence farming because most of their good land had been bought or taken from them (King, 2007). Furthermore, any Maori who still did own land were denied access to the government assistance available to Pakeha for land development. This meant that many Maori could barely produce enough food to feed themselves, and some communities were close to starvation.

Cernea (2004) further reports inevitable declines in health levels due to a combination of displacement-induced social stress and psychological trauma and exposure to diseases that Maori had not previously encountered. For Maori, it was new introduced diseases in combination with other factors that "not only eroded social and economic life but also created a level of despondency that further predisposed Maori to debilitating illness and death" (Durie, 1998b, p. 33). Maori health was also impacted by resettlement sites often lacking the orderliness and standards of sanitation that had been a feature in their traditional communities. New dwellings tended to be damp, poorly ventilated, and overcrowded. Finally, dislocation meant that sources and preferences for food also changed (Durie, 1998b).

The final effect of displacement from land discussed by Cernea (2004) was social disarticulation, or the tearing apart of the existing social fabric. As Durie (1998b, p. 35) points out, the value of land for Maori lies not just in its capacity to produce—either for the market or for subsistence purposes—but also in its role as "an anchor stone providing a source of personal and tribal identity and a reason for cohesion with other members of the family group." Displacement effectively generated internal divisions and conflicts within Maori communities.

Exacerbating the trauma induced directly by land loss for Maori were other factors. For example, there were assimilationist policies deliberately aimed at eradicating Maori culture and traditions (Motohashi, 2007; Penitito, 2002). The Native Schools Act 1867 and the Education Act 1877 enforced compulsory schooling and English-language-only instruction, thus "turning the schools into tools for forced assimilation [resulting in the] near linguistic and cultural extinction of Maori language and traditional ways" (Motohashi, 2007, p. 74).

Another particularly damaging assimilationist policy was the Tohunga Supression Act 1907 (Penitito, 2002), which outlawed those who were, within Maori culture and society, the experts and the wise men. Indeed, Durie (1998b, p. 51) suggests that of all of the assimilationist policies enacted by the colonial government in New Zealand, this particular act represented the "greatest blow to the organisation of Maori knowledge and understanding." By outlawing *tohunga*, "the Act also opposed Maori methodologies and the legitimacy of Maori knowledge in respect of healing, the environment, the arts, and the links between the spiritual and the secular" (Durie, 1998b, p. 51).

The loss of land and the loss of power to self-determine, combined with a massive decline in population due to poverty and disease, essentially left Maori a disenfranchised and relatively impoverished minority in a land they once held dominion over.

Second Stage: The Trauma Responses of the First Generation

We will now briefly discuss some of the psychological and emotional—and psychobiological—responses to the kind of unremitting stress that the first generations of Maori exposed to subjugation and colonization would have experienced. We will then go on to outline the ways in which the traumas visited upon the primary generations have been carried down through the generations, resulting in health and well-being disparities between Maori and Pakeha.

Doucet and Rovers (2010, p. 94) outline some of the commonly seen psychological outcomes of traumatic experiences, which typically include emotional numbing, sadness, shame, anger, aggression, helplessness, depression, panic, and acute symptoms of anxiety. Other reactions to trauma include dissociation, psychotic disorders, and substance abuse. Van der Kolk (1999) points out that psychologists have been aware for over a century that many of the psychological responses to trauma are precipitated, and essentially informed, by the body's biological stress response. When a mammal is placed under intense stress, the hypothalamus increases the amount of corticotrophin releasing hormone and arginine vasopressin that it releases into the anterior pituitary gland. This gland responds by releasing adrenocorticotropic

hormone, which stimulates the adrenal gland to produce cortisol, a steroid hormone principally targeted at the brain. As Tarullo and Gunnar (2006, p. 632) note, cortisol is necessary for survival, "but when it is chronically elevated… it can have deleterious impacts on health."

It is not necessary to discuss the complex biological processes that occur during chronic ongoing stress in detail at this point; it is suffice to say that such stress permanently alters how the organism deals with its environment on a day-to-day basis and interferes with how it copes with subsequent episodes of acute stress (Van der Kolk, 1999). One of the major outcomes of this, psychologically, is that while traumatized people may show relatively good psychological adjustment under normal circumstances, they are less able to cope with subsequent stress. Under pressure, they may feel or act as if they were being subjected to trauma all over again.

Van der Kolk (1999) suggests that high rates of arousal seem to selectively promote the retrieval of traumatic memories, sensory information, or behaviors associated with previous traumatic experiences. This can create a feedback loop where physiological arousal—for whatever reason—can trigger trauma-related memories that then, in turn, precipitate even more physiological arousal. As Van der Kolk (1999) points out, such a feedback loop could be one of the mechanisms that "tips" people "over the edge" into "clinical PTSD," and they become unable to function due to the intensity of their psychobiological "symptoms." Thus, if people are subjected to chronic, ongoing stress of any kind after an original trauma, they will be very likely to be debilitated by their own psychobiological responses—or, in psychiatric parlance, they will develop PTSD. Because colonization is an ongoing and chronic experience rather than just one discrete trauma, it would be very likely to cause such cumulative stress. This would be particularly so for those people whose normal sociocultural support systems had been destroyed. It can be argued that a number of Maori may have suffered quite severe psychological reactions that, in some cases, may have been quite debilitating.

Furthermore, there is no doubt that such severe psychological reactions would have major repercussions for relationships within families, particularly if the potential buffering effects of extended family networks had been destroyed or compromised in some way. As Atkinson (2002) points out, anger and aggression are natural human responses to traumatic loss, and violent behavior against others and/or against the self often follows trauma. This propensity to violence is then complicated by the use of alcohol and drugs (which, it may be argued, is a form of violence against the self) as a coping mechanism during times of traumatization.

Misuse of alcohol and drugs is now a well-documented response to the stresses induced by traumatic events. Alcohol abuse, among others, is a phenomenon that has been seen not only among Maori, but also among other indigenous peoples that have been subjected to the colonization process (Bramley, Hebert, Tuzzio, & Chassin, 2005). Lastly, research also shows

that chronic stress often manifests itself as physical ailments and disease—sometimes many years later (Shonkoff, Boyce, & McEwen, 2009).

Third Stage: The Transmission of Trauma Through the Generations

One of the major questions for those who claim that the trauma of colonization is responsible for the woes of contemporary indigenous peoples is: How is the trauma of colonization transmitted across generations? To date, most research on the intergenerational transmission of trauma has tended to focus on the psychological and/or psychosocial mechanisms of transmission. The majority of the research has focused on relationships within families—in particular, relationships between offspring and their traumatized parents. More recently, however, researchers have acknowledged that conditions outside of the family unit may also impact upon family relationships. Researchers have also begun to recognize some of the biological mechanisms involved in the transmission of trauma from one generation to another (Weingarten, 2004).

While many of these individual-level factors—biological, psychological, and psychosocial—undoubtedly play a role in the transmission of trauma across generations, it can be suggested that what keeps the trauma of colonization alive are the fundamental societal-level structural and systemic changes brought about by the process of colonization—foremost among these being the loss of economic and political power and the loss of culture and traditional ways of life wrought by the loss of land.

Supporting the suggestion that it is the structural inequities wrought by land loss that may be driving the transmission of trauma across generations is the fact that the psychosocial and health problems faced by Maori are strikingly similar to those faced by other indigenous peoples—for example, by First Australians and Native Americans—whose experience of early colonization was considerably more brutal. If it was simply the repercussions of the initial trauma of colonization itself that was driving contemporary psychosocial and health problems, then it would have been very unlikely that Maori would be suffering in such similar ways and often to a similar degree to these groups (Bramley et al., 2005).

It should be noted that the way in which historical trauma is conceptualized within the following discussion differs in terms of its core focus from the conceptualization of historical trauma articulated by Brave Heart and her colleagues (i.e., Brave Heart, 2000, 2003; Brave Heart & LeBruyn, 1998). As Walters et al. (2002) note, historical trauma theory specifically focuses on historical collective traumatic events and responses as being the reason for the disparities in health and well-being seen between indigenous peoples and their non-indigenous counterparts. Within the context of post-development theory, however, historical trauma may also be seen more

broadly as the trauma visited upon a population not just by a major traumatic event or series of events but, crucially, by the impacts of the *structural repercussions* of that event or series of events. As Gagne (1998, p. 368) points out, the trauma of colonized peoples "is inter-generational in the sense that economic, social and political dependence—the effects of colonialism—are inter-generational." It is not that Brave Heart and her colleagues (Brave Heart, 2000, 2003; Brave Heart & LeBruyn, 1998) do not acknowledge this, but it does not form the core of their conceptualization of historical trauma.

Indeed, it may make more sense to call this broader post-developmentalist interpretation of historical trauma colonization trauma. Conceptualizing such trauma in this way encourages awareness that what is occurring here is not just due to historical events per se—with all of the connotations of *in the past* and *no longer occurring* that accompany the word *historical*—but that it is also due to the ongoing continuation of that trauma through the continuation of the structural conditions wrought by those historical events. Such a renaming would make it clear that, for many indigenous peoples, the colonization process did not just happen in the past, but that it is still currently happening, as demonstrated by the continued existence of structural and systemic forces that disadvantage them and do not work for them. We will, however, continue to use the term *historical trauma* within this article in order to retain a sense of continuity and cohesion within the discussion.

EXPLICATING THE MECHANISMS OF THE TRANSGENERATIONAL TRANSMISSION OF HISTORICAL TRAUMA

As noted earlier in the discussion, the loss of land and access to resources means that Maori are no longer able to sustain themselves in traditional ways and are forced into participating in the colonist's economic, political, and social world, where they will be in a position of major disadvantage. Such disadvantage tends to amplify over the generations, particularly if little is done to ameliorate it. It is suggested that this persisting disadvantage—initiated during the colonization period and primarily rooted in the loss of land—is the single largest contributor to the transgenerational transmission of the trauma of colonization.

It is within this context of persisting disadvantage that the various individual (i.e., psychological and biological) and inter-relational (i.e., family and community) mechanisms outlined by historical trauma and intergenerational trauma researchers work to create the kind of psychosocial and health problems that have become a serious issue for contemporary Maori. In other words, the forces set in motion by the colonization process have

directly led to the economic, social, political, and cultural marginalization of Maori.

It must be noted that Maori have sought to re-empower themselves and work has been done in the direction of establishing an equal partnership with Pakeha, although many of these efforts have been effectively derailed by subsequent government policies, such as those introduced in the 1980s. While some Maori elites may do well in the current New Zealand economic and political environment, the fact remains that most Maori will not. In common with all marginalized peoples elsewhere, large numbers of Maori continue to face economic and social disadvantages, and such disadvantages place huge stresses on individuals, families, and communities. In addition to structural disadvantages, Maori also face continuing interpersonal and institutionalized racism, which, in and of itself, is extremely stressful (Harris, Martin, Jeffreys, & Waldegrave, 2006; Reid & Robson, 2007).

Psychological Suffering

As a huge body of research now attests, persistent economic and social disadvantage limits people's opportunities in life and also places people under considerable stress. This stress often has very negative repercussions for children born into economically and socially disadvantaged families. The structural poverty faced by many Maori families is one of the major means of transmitting the historical trauma of colonization through the generations.

Duncan, Brooks-Gunn, and Klebanov (1994, pp. 312–313) report that the income and poverty status of a family are "powerful determinants of the cognitive development and behaviour of children" even after other differences—in particular, family structure and maternal schooling—between high- and low-income families are taken into account. These authors report that "the effects of persistent poverty were 60 per cent to 80 per cent higher than the effects of transient poverty," suggesting that "the effects of poverty are cumulative" (Duncan et al., 1994, pp. 312–313). This is particularly significant for many Maori who continue to be in a situation of persistent poverty. Economic and social disadvantage exert a powerful effect on children, not just via the limited educational resources available to them, but crucially "through the detrimental psychological effect [such disadvantages] exert on their parents" (Duncan et al., 1994, p. 315).

More specifically, McLoyd and Wilson (1991) note that economic hardship has been shown to correlate with more punitive and less supportive parenting styles, and harsh child-rearing practices are predictive of a range of socioemotional problems among children. This "strongly suggests that, at the least, some of the psychological and behavioural problems of poor children are mediated by negative parenting precipitated by economic hardship" (McLoyd & Wilson, 1991, p. 112). In addition, economic hardship and poverty

will almost inevitably lead to problems not only between parents and children but between parent and parent. Research shows that parental conflict is associated with negative schooling outcomes for children, behavior problems, early and non-marital family formation, lower quality adult relationships, and lower psychological well-being (Musick & Meier, 2008; Peterson & Zill, 1986; Reid & Crisafulli, 1990).

Not surprisingly, outcomes are even more adverse for children whose parents' relationship involves violence of any sort (Jouriles, Murphy, & O'Leary, 1989). A study by Fergusson and his colleagues (cited in Policy Strategy and Research Group, 2007) found that children who were exposed to violence between their parents were at increased risk of mental health problems, substance abuse, and criminal offending. In a report by the Policy Strategy and Research Group (2007), it was noted that parental conflict and domestic violence occur at a high rate in Maori families, as do economic hardship and persistent poverty.

Physical Illness

In addition to the research illustrating how the colonization process has left large numbers of Maori economically and socially disadvantaged, and the research showing that low socioeconomic status is persistently linked to negative health outcomes, there is also an extensive body of evidence linking adult chronic disease to processes and experiences that may have occurred decades before—in some cases, as early as intrauterine life—across a wide range of impairments. In a review of the literature, Shonkoff et al. (2009) note that research suggests that early experience can affect future health in at least two ways: one, by the biological embedding of adversities during sensitive developmental periods, and, two, by accumulating damage over time. In both cases, there can be a lag of many years, even decades, before early adverse experiences are expressed in the form of illness. If the damage occurs through a cumulative process, chronic diseases can be seen as the products of repeated encounters with psychologically and physically stressful experiences. Thus, for example, when children are exposed to such stressors during sensitive periods of development, "their effects can become permanently incorporated into regulatory physiological processes, and subsequent adult disease may be viewed as the latent outcome of critical events that occurred during early periods of special susceptibility" (Shonkoff et al., 2009, p. 2253).

Research that suggests that adult disease and risk factors for poor health can be embedded biologically during sensitive periods has shown that poor living conditions early in life (e.g., inadequate nutrition, other constraints on fetal and infant growth, and recurrent infections) are associated with increased rates of cardiovascular and respiratory diseases in adulthood. Such factors have also been associated with higher rates of psychiatric problems.

This body of research has also suggested that Type 2 diabetes in adults—once unknown amongst indigenous peoples but now a major health concern (Adelson, 2005)—may be caused, at least in part, by metabolic adaptations of the fetus in response to maternal malnutrition. This disorder is then propagated through subsequent generations via hyperglycemic pregnancies (Benyshek, 2005, cited in Sotero, 2006).

Research focusing on the hypothesis that damage accumulates over time suggests that the weathering of the body under persistent adversity—in particular, the overuse and dysregulation of neural pathways normally used for adaptation to threat—results in an acceleration of the normal aging processes (Geronimus, 1992, cited in Shonkoff et al., 2009). In addition, research that has asked participants to report retrospectively on childhood trauma has shown consistently that the more traumatic events they experienced as children, the greater prevalence they showed of a wide array of health impairments, including coronary artery disease, chronic pulmonary disease, and cancer, as well as cardiovascular risk factors such as obesity, physical inactivity, and smoking (Dong, Giles, & Felitti, 2004, cited in Shonkoff et al., 2009). Importantly, given the unreliability of retrospective reporting, longitudinal studies have found similar linkages (Caspi, Harrington, Moffitt, Milne, & Poulton, 2006, cited in Shonkoff et al., 2009).

Dulin, Stephens, Allpass, Hill, and Stevenson (2011) observe that while there is general agreement that inequalities in resources such as income, education, and housing, and the psychosocial stressors that flow from these, are the primary cause of health inequalities, research also suggests that there are additional factors involved. Dulin et al. (2011) specifically point to the effects of colonization and land confiscations, structural and interpersonal racism, and unequal access to quality health services as being at the root of these inequities. In their overview of the New Zealand Health, Work and Retirement Study (Dulin et al., 2011, p. 1420), they note that:

> The factors assessed in the Maori group in this study are indicative of a population that, across the course of recent history, has experienced both low control and lack of autonomy stemming from the distal effects of colonisation. This issue may manifest itself in a set of health parameters that have not only a socio-contextual effect, but could also have a biological effect.

Research by renowned epidemiologist Michael Marmot (1998, 2003, 2004; Marmot & Wilkinson, 2001) strongly suggests that low social position, with its associated lack of control, autonomy, and dignity, is correlated with a number of biological markers—for example, raised cortisol levels—that then impact negatively upon physical health and well-being, especially when such factors occur in the presence of behaviors such as smoking, lack of

exercise, and bad eating habits, all of which are more likely to occur among socioeconomically disadvantaged groups.

There is also direct evidence linking the personal experience of racial discrimination to poorer health outcomes (Reid & Robson, 2007). A national survey carried out by Harris and his colleagues (Harris, Martin, et al., 2006; Harris, Tobias, et al., 2006) in New Zealand found, first, that Maori were more likely to experience racial discrimination than any other ethnic group and, second, that reported experience of racial discrimination was significantly associated with various measures of poor health, independent of the effect of socioeconomic position.

Harris, Tobias, et al. (2006, p. 1428) noted that there is strong research evidence of a "dose-response relationship between the number of reported types of discrimination and each health measure." These authors point out, however, that the measures of racial discrimination in this study largely reflect interpersonal discrimination and do not capture institutional racism very well (Harris, Tobias, et al., 2006). It is the latter form of racism that is perhaps the most powerful in determining ethnic inequalities in health (Jones, 2000). As Krieger (2000, cited in Harris, Tobias, et al., 2006, p. 1436) points out, "discrimination is a socially structured and sanctioned phenomenon … intended to maintain privileges for members of dominant groups at the cost of deprivation for others." Such findings are particularly interesting in light of Maori health statistics, with Maori being considerably more likely to die of ischemic heart disease, cancer, and diabetes than non-Maori and having a significantly shorter life expectancy than Pakeha. As Harris, Tobias, et al. (2006, p. 1438) point out, the findings "lend support to the growing body of evidence that racism is a major determinant of health and a driver of ethnic inequalities in health."

CONCLUSION

In sum, essentially, what has been achieved here is that a general framework has been sketched out for how one might go about explicating the mechanisms involved in translating the trauma of colonization into the various kinds of psychological and physical suffering experienced by generations of Maori. The strength of this framework lies in its ability to lay out the basic structural inequities faced by indigenous peoples, which are a product of the colonization process, and then to clearly illustrate, utilizing material from the huge body of developmental and neurodevelopmental research, how such structural inequities lead, almost inevitably, to adverse psychological and physical consequences for those affected by them. This general approach thus provides a template for carrying out a detailed explication of the various mechanisms involved in transmitting the original trauma of colonization into specific adverse health outcomes for Maori.

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