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Culture and History Matter: Historical Trauma  
and Cultural Protective Factors on Alcohol Use Among Truku Tribal People

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**Abstract**

Culture and History Matter: A Mixed Method Study of Historical Trauma  
and Protective Factors on Alcohol Use among Truku Tribal People

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Indigenous peoples of Taiwan have experienced significant health disparities in comparison with their non-indigenous counterparts, the Han population. In Taiwan, indigenous peoples have a higher mortality rate than the majority Han population. Additionally, alcohol-related chronic liver disease/cirrhosis and accidental injuries are among the 10 leading causes of death within indigenous communities. Indeed, alcohol use has become one of the highest-priority concerns for Taiwanese indigenous communities. Recent research has explored interpersonal, social, and biological determinants of alcohol use among indigenous peoples in Taiwan, but few studies have explored the influences of historical context and indigenous cultural practices on alcohol use. This dissertation extends the historical trauma framework that was initially developed for American Indian and Alaska Native (AIAN) populations to investigate the influence of historical trauma on alcohol use and the protective roles of cultural practices among Taiwanese indigenous communities, especially the Truku tribal communities. The dissertation consists of three papers that focus on (1) exploring Truku tribal people's relationship with alcohol use by using an historical trauma framework; (2) measuring historical trauma by

developing historical trauma-related scales relevant to Truku tribal people; and (3) determining whether indigenous cultural practices act as protective factors that can ameliorate the negative effects of historical trauma on alcohol use disorder.

The first paper used direct content analysis of qualitative data (30 in-depth interviews with Truku tribal members) to investigate the applicability of a historical trauma framework for Truku tribal people and to explore their relationship with alcohol use utilizing the framework. Findings suggested that alcohol use was a stress coping approach, alleviating cumulative stress from historical traumatic events. These events resulted in many cultural losses among Truku tribal communities. Both historical traumatic events and losses were associated with responses such as depression, anxiety and alcohol use. Specific historical traumatic events, historical losses, and associated responses were also identified in the first paper. In the second paper, I developed three historical trauma related scales relevant to Truku tribal people based on the qualitative findings of the first paper. Then I conducted a cross-sectional quantitative survey of 245 Truku tribal members across 14 Truku tribal villages to assess the psychometric properties of these newly developed scales. Findings confirmed satisfactory psychometric properties of the new developed scales. The third paper assessed the relationships between exposure to intergenerational historical traumatic events, participation in indigenous cultural practices, and alcohol use disorder. In particular, I evaluated whether cultural practices could moderate the influence of intergenerational historical traumatic events on alcohol use disorder. Using the same cross-sectional data (n=245) as that in Paper 2, linear regression analyses were conducted. Findings indicated exposure to intergenerational historical traumatic events positively predicted alcohol use disorder, and the association was moderated by participation in cultural practices.

Collectively, my dissertation research provides additional insights to the understanding of the determinants of alcohol use among indigenous communities in Taiwan by adding historical trauma. Both qualitative and quantitative findings also suggest that historical trauma impacts contemporary Truku people's alcohol usage. The research underscores that indigenous cultural practices as significant strengths and resilience mitigate the negative influence of historical trauma on Truku people's alcohol use. Truku people who participate in cultural practices are less likely to engage in alcohol use disorder despite exposure to historical trauma. This study's findings suggest indigenous cultural practices should facilitate the development of culturally grounded interventions to promote healthy Truku communities, especially to defend against the damaging legacy of colonization facing their communities.

## TABLE OF CONTENTS

	Page
List of Figures .....	ii
List of Tables .....	iii
Introduction.....	1
Introduction. References .....	10
Paper 1. Determinants of Alcohol Use Among Truku People in Taiwan: Taking Account of Historical Trauma .....	14
Paper 1. References.....	43
Paper 2. Measuring Historical Trauma: Development and Validation of Historical Trauma Scales Among Truku Tribal Communities.....	48
Paper 2. References.....	86
Paper 3. Culture Matters: The Protective Role of Traditional Practices in the Relationship Between Historical Trauma and Alcohol Use .....	89
Paper 3. References.....	105
Conclusion .....	108
Bibliography .....	111
Appendix .....	120

## LIST OF FIGURES

Figure Number	Page
2.1. Measurement Model: Confirmatory Factor Analysis of the Intergenerational Historical Traumatic Adversity Scale.....	82
2.2. Measurement Model: Confirmatory Factor Analysis of Historical Loss Group Impact Scale.....	83
2.3. Measurement Model: Confirmatory Factor Analysis of Historical Loss Group Impact Associated Symptoms Scale .....	84
2.4. Structural Equation Modeling: The Structural Relationships among Key Factors.....	85
3.1. Indigenist Stress Coping Model.....	104

## LIST OF TABLES

Table Number	Page
2.1. Sample Size Across 14 Truku Tribal Villages.....	74
2.2. Demographic Characteristics and Descriptive Information of Truku people .....	75
2.3. Intergenerational Historical Traumatic Adversity .....	76
2.4. Percentage of Intensity of Historical Loss Group Impact.....	77
2.5. Percentage of Frequency of Emotional Responses to Historical Loss Group Impact .....	78
2.6 Factor Analysis of Intergenerational Historical Traumatic Adversity.....	79
2.7. Factor Analysis of Historical Loss Group Impact .....	80
2.8. Factor Analysis of Emotional Response Associated with Historical Loss Group Impact....	81
3.1. Demographic Characteristics and Descriptive Information of Truku people .....	101
3.2. Correlations between Exposure to Intergenerational Historical Traumatic Adversity, Alcohol Use Disorder, Cultural Practices and Sociodemographic Variables among Truku People.....	102
3.3. Results of Linear Regressions Predicting Alcohol Use Disorder among Truku People.....	103

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## INTRODUCTION

According to the United Nations Permanent Forum on Indigenous Issues (UNPFII), indigenous populations spread across 90 countries include approximately 370 million people (UNPFII, 2010). Although globally indigenous peoples share enormous diversity across their cultures, one unfortunate commonality is significant health inequalities in comparison with their non-indigenous counterparts. These health disparities include lower life expectancy, higher infant and child mortality, and higher substance misuse (UNPFII, 2015; Pulver et al., 2010; Bartlett, Madariaga-Vignudo, O'Neil, & Kuhnlein, 2007). In Canada, the average life expectancy for non-indigenous Canadians is approximately 10 years greater than that for First Nations Canadians (Kirmayer, Brass, Holton, Paul, Simpson, & Tait, 2007). In Australia, the life expectancy of Aboriginal and Torres Strait Islander people was 17 years less than that of their non-indigenous counterparts (Pulver et al., 2010).

As in many countries, Taiwanese indigenous populations have lived on the island for at least 8000 years before Han Chinese immigrants moved from Fujian to Taiwan in the 17<sup>th</sup> century (Blust, 1999). As of 2017, the total indigenous population (554,054) represents only approximately 2.38% of the overall population of Taiwan (Council of Indigenous Peoples, 2017). At least sixteen different indigenous tribes, who share diverse cultures, traditions and languages, have been officially recognized by the Taiwanese government; other indigenous tribes or communities such as Pinpu Indigenous Peoples are still fighting for recognition. Similar to indigenous communities across the world, Taiwanese indigenous peoples have been experiencing critical health disparities for decades (Cheng, Wen, Tsai, Chung, & Hsu, 2005). The Taiwanese indigenous peoples have a higher mortality rate than the national average (Council of Indigenous Peoples, 2016). As of 2013, there are 708.2 deaths per 100,000

Taiwanese indigenous populations, which are 1.8 times higher than the national average (435.3 deaths per 100,000 population in Taiwan) (Council of Indigenous Peoples, 2016). Although the Taiwan Indigenous Health Report of 2011 indicates there has been an increase of 2.1 years for indigenous life expectancy over the past 10 years, life expectancy is 8.7 years lower than the national average (Council of Indigenous Peoples, 2011). Alcohol-related chronic liver disease/cirrhosis and alcohol-related accidental injuries are two of the top ten leading causes of death among indigenous communities in Taiwan. Indeed, alcohol use has become one of the highest priority concerns for Taiwanese indigenous communities.

### **Determinants of Alcohol Use among Taiwanese Indigenous Peoples**

A growing amount of research has explored determinants of Taiwanese indigenous alcohol use. Genetic research indicates that Taiwanese indigenous peoples are more likely than the majority Han peoples to engage in alcohol use disorder (AUD) due to genes, related to alcohol metabolism, such as: alcohol aldehyde dehydrogenase (ALDH) and alcohol dehydrogenase (ADH) (Chen et al., 2001; Thomasson et al., 1994). Given that both ALDH and ADH genes can prevent some uncomfortable reactions from drinking alcohol (e.g., irritating flushing, headache, heart palpitation, shortness of breath, and etc.) (Chen et al., 2001), those individuals who have both genes are more likely to drink heavily and consume more alcohol. The discourse of indigenous genetic vulnerability to alcoholism considers that individuals' genes are responsible for the risk for alcoholism, which tends to attribute alcoholism to individuals' drawback or even to racial or ethnical deficiencies. Interpersonal and family factors (e.g., peer drinking and parental drinking) are also reported as the contributions to alcohol use among indigenous peoples (Yeh, 2003; Yeh & Chiang, 2005). Exposure to an environment with peers and/or family members who are engaged in alcohol drinking is found to effect alcohol usage and

alcohol consumption among indigenous youths (Yeh, 2003). Socioeconomic status (e.g., poor income, low educational attainment, unstable employment, etc.) and acculturation are also identified as important structural factors related to an increase of alcohol use among indigenous peoples (Cheng & Hsu, 1992; Ko, Liu, & Hsieh, 1994; Lai, Lung, Lee, Lu, & Shih, 2013). As indigenous individuals move across cultures, they may experience challenges of adapting into a new cultural system that may increase their psychological discomfort or stress. They then self-medicate with alcohol as a way to alleviate stress that has resulted from low acculturation (Yeh, 2004).

Although the dominant determinants of Taiwanese indigenous peoples' alcohol use include individual, interpersonal, family, and structural factors, these factors do not sufficiently explain the high rates of alcohol use. The growing research has underscored the importance of considering historical factors as one of several determinants of alcohol use among indigenous peoples in Taiwan. Using both long-term historical and political economy lens, the establishment of Taiwan Tobacco and Liquor Corporation (TTL) is considered to have had a dramatic impact on indigenous peoples' relationship with alcohol (Chen, 2010; Hsia, 2008). Since the Kuomintang or Nationalist (hereafter KMT) government took over Taiwan in 1945, TTL has distributed alcoholic beverages to local stores for selling commercial alcohol products which are not part of indigenous traditional alcohol. In 1957, the KMT government also issued an order that forbid indigenous people to produce homemade alcohol such as Millet wine. This order not only forbid indigenous people to access to their traditional alcohol, but it also shifted indigenous alcohol usage from traditional Millet wine to commercial alcohol products (e.g., beers, rice wine and liquor). This discourse of political economy took account of the effects of long-term social change on alcohol use among indigenous peoples. Another study investigates

Taiwanese Tao tribal people's alcohol use using the context of long-term social change, which further indicates that Tao people's mental health disorders and drinking behavior are due to their exposure to political, economic, and institutional disadvantages (Tsai, 2009). Although some growing research has tried to understand indigenous peoples' alcohol use using long-term historical lens, there is a need for more studies to focus on the influence of historical determinants of alcohol use.

In contrast to Taiwan, increasing research in indigenous communities globally has focused on the historical and cultural determinants of indigenous health. The Maori of New Zealand and American Indian and Alaska Native (AIAN) scholars, for example, have investigated indigenous health outcomes including alcohol use in the context of their histories (Duran & Duran, 1995; Lange, 1999). Recently, AIAN scholars have explored AIAN health disparities utilizing an Historical Trauma framework, which emphasizes that contemporary AIANs' health outcomes (e.g., substance use, suicide, psychological distress, etc.) are the far-reaching effects of historical traumatic events due to colonial oppression (Brave Heart, 1999, 2003; Evans-Campbell, 2008; Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009; Walters et al., 2011). Some scholars have further suggested that indigenous cultures and traditions serve as protective mechanisms to buffer the negative influences of historical trauma on their health outcomes (e.g., substance use, depression, anxiety, and post-traumatic stress disorder) (Walters & Simoni, 2002; Walters, Simoni, & Evans-Campbell, 2002).

### **Historical Trauma**

The concept of historical trauma was first introduced to indigenous studies by Brave Heart (1995), who built upon the frameworks of multigenerational legacies of trauma of Jewish Holocaust survivors' and descendants' experiences and suggested that contemporary AIAN

health outcomes are influenced by the AIAN genocide, ethnic cleansing, and forced acculturation policies. Brave Heart (2000) has defined historical trauma as the collective and cumulative emotional wounding across generations that results from elements of colonial oppression, such as forced attendance at Indian boarding school, forced relocation, and prohibition of traditional and spiritual practices. Since historical trauma has become a widely used concept in AIAN health research and the term has been used differently among historical trauma literature, Walters, Mohammed and colleagues (2011) differentiated definitions of historical trauma in four ways: (1) historical trauma as an etiological or causal agent of health outcomes, such as a stressor that impacts health outcomes (Palacios & Portillo, 2009; Walters, Beltran et al., 2011); (2) historical trauma as an outcome, such as historical trauma response (Brave Heart, 1999) and colonial trauma response (Evans-Campbell, 2008); (3) historical trauma as a mechanism for intergenerational transmission of health outcomes and behaviors, such as through narrative or storytelling (Mohatt, Thompson, Thai, & Tebes, 2014; Myhra, 2011; Palacios & Portillo, 2009; Denham, 2008) and secondary traumatization (Palacios & Portillo, 2009); and (4) historical trauma-related stressors, such as historical loss (Whitbeck, Adams, Hoyt, & Chen, 2004). This dissertation specifically focuses on historical trauma as one of several determinants of alcohol use among Taiwanese indigenous populations.

### **Indigenist Stress Coping Model**

The Indigenist Stress Coping Model (Walters et al., 2002) is a stress coping model relevant to AIAN populations. The model is expanded from Dinges and Joos's (1998) stress and coping research which suggests that, among AIAN populations, the associations between stressful life events and adverse health outcomes are mediated and/or moderated by potential environmental or personal resources (e.g., social support). The Indigenist Stress Coping Model

provides a wider lens to understand factors contributing to contemporary indigenous health outcomes including historical and lifetime traumas. Importantly, it also considers indigenous cultural strengths as vital protective mechanisms that potentially interrupt the negative effects of historical trauma and lifetime trauma on indigenous populations' health (e.g., substance use, depression, anxiety, post-traumatic stress disorder and morbidity).

Within the model, involvement in traditional health practices, connection with family and community, participation in spiritual coping and having sense of positive AIAN identity (e.g., enculturation and actualization) were identified as protective and resilience factors against the impacts of historical and lifetime trauma on AIAN health (Walters et al., 2002). The model underscored that family (which includes both blood and non-blood kinship networks) and community play significant roles to prepare and support AIANs to address current and historical trauma, such as providing a lifespan “guidance, support and role-modeling” (Walters et al., 2002, p. s111) as well as passing on resilient narratives and traditions within family circle (Denham, 2008; Evans-Campbell, 2008). Consistent with AIAN cultures which emphasize community and family ties, interdependence with community and family serve as a resource for AIANs against historical and lifetime trauma. Additionally, a positive AIAN identity can be considered as a protective factor to promote psychological wellness (Walters et al., 2002). Scholars posit that enculturation, which refers to the process of re-learning, identifying and maintaining one's indigenous cultural norms and traditional values, can alleviate the negative impact of lifetime or historical trauma (Walters et al., 2002; Simms, 2010). Spiritual coping methods and traditional health practices (e.g., healing ceremonies, use of traditional teas and roots, consultation with traditional healers) could improve adjustment to stressful life events and improve health outcomes (Walters et al., 2002).

## **Intent of the Dissertation**

Similar to AIAN communities who have faced a history of colonial oppression, Taiwanese indigenous peoples also experienced centuries of continuous colonization and assimilation by foreign governments. During the period of Japanese rule (1895 -1945), indigenous peoples experienced successive events: military conquest, forced indigenous children to attend Japanese elementary school, and forced relocation or separation of indigenous families to far distant places or to foothill areas. Since 1945, the KMT government from China replaced the Japanese colonial government in Taiwan and launched a series of assimilation policies, such as forcing indigenous peoples to give up their traditional native names and use Han Chinese names (Liu & Chang, 2014), forcing indigenous students to speak Mandarin Chinese at schools (Lin, Icyeh, & Kuan, 2008), prohibition of indigenous peoples' traditional hunting and gathering practices (Simon, 2013; Simon & Mona, 2013). Since an historical trauma framework and the Indigenist Stress Coping Model are two of several frameworks that emphasize the influence of colonial oppression on contemporary indigenous people's life, this dissertation is driven by both frameworks and purports to provide empirical evidence regarding the influence of historical trauma and cultural practices on alcohol use among Taiwanese indigenous communities, with a special focus on Truku tribe.

**Truku tribe.** Truku tribe is one of 16 indigenous tribes in Taiwan. The Truku population is 30,877 in 2017, and majority of them live in Hualien County, especially in Xiulin Township, Wanroung Township, Zhuoxi Township and Jian Township (Council of Indigenous Peoples, 2017). Truku tribe used to be misclassified as Tayal tribe. Since 2004, Truku tribe has been officially recognized by the Taiwanese government. Truku ancestors used to live in high mountainous areas, especially in the Central Mountain Range of today's Nantou County of

Taiwan. As the increase of the population, Truku ancestors gradually relocated to eastern side of the Central Mountain Range, which is located in today's Hualien County. Truku people traditionally practice hunting and gathering cultures, and their cultural practices are based on honoring and following their ancestral law of Gaya. Truku people believe that violation of Gaya can be punished by their spirits of ancestors. As other indigenous tribes in Taiwan, Truku tribal people have experienced a set of historical events relevant to colonial oppression during Japanese ruling (1895-1945) and KMT ruling (since 1945), and these events have resulted in wide range of impacts on Truku tribal people including cultural losses. The overarching goal of this dissertation is to investigate the relationships between historical events and the contemporary Truku tribal people's health such as alcohol use. The dissertation consists of three papers, and my broad aims for the dissertation are:

**Aim 1 (Paper 1).** To understand if historical trauma is applicable to Truku tribal people's alcohol use. To achieve this aim, I conducted directed content analysis of qualitative data from the Tminun Project, which is a qualitative research project involved in 30 in-depth interviews with Truku tribal members exploring the impact of historical trauma on contemporary Truku tribal people's health and health risk behaviors as well as existing protective factors among tribal communities. In Paper 1, I specifically investigate Truku people's experiences of historical trauma and how historical trauma is related to their alcohol use.

**Aim 2 (Paper 2).** To measure historical trauma among indigenous communities in Taiwan by developing historical trauma/historical loss-related scales relevant to Taiwanese indigenous communities, with special attention the Truku tribe. To achieve this aim, I developed historical trauma scales relevant to Truku tribal people based on the qualitative findings of the dissertation's Paper 1. Next, I tested the psychometric properties of the developed historical

trauma scales (e.g., reliability and validity) by conducting a cross-sectional quantitative survey—the Kmbiyax Project—with a sample size of 245 Truku tribal members across 14 different Truku tribal villages.

**Aim 3 (Paper 3).** To determine whether cultural practices (e.g., participating in traditional ceremonies, involving in hunting practices and hiking in traditional mountainous lands) act as protective factors against the negative impacts of historical trauma on alcohol use disorder among Truku tribal people. To achieve this aim, I conducted data analyses using the cross-sectional data with sample size of 245 Truku tribal members from the Kmbiyax Project. I used linear regression models to assess the main effects of historical trauma on alcohol use disorder. Then, I added cultural practices into the model to examine their main effects on alcohol use disorder. Next, I investigated whether cultural practices moderated the influence of historical trauma on alcohol use disorder by adding the corresponding interaction terms to the model. I hypothesize that exposure to historical trauma positively predict alcohol use disorder, and this relationship is moderated by participation of cultural practices.

## References

- Bartlett, J. G., Madariaga-Vignudo, L., O'Neil, J. D., & Kuhnlein, H. V. (2007). Identifying indigenous peoples for health research in a global context: a review of perspectives and challenges. *International journal of circumpolar health*, 66(4), 287-370.
- Blust, R. (1999). Subgrouping, circularity, and extinction: Some issues in Austronesian comparative linguistics. In: Zeitoun E, Li PJ-K, editors. *Selected Papers from the 8th International Conference on Austronesian Linguistics*, 31–94. Taipei, Academica Sinica.
- Brave Heart-Jordan, M. Y. H. (1995). The return to the sacred path: Healing from historical trauma and historical unresolved grief among the Lakota. (Doctoral dissertation, Smith College School for Social Work, 1995). (Copyright by Author: reprints available through the Takini Network, P.O. Box 4138, Rapid City, SD 57709-4138.)
- Brave Heart, M. Y. H. (1999). Oyate Ptayela: Rebuilding the Lakota Nation through addressing historical trauma among Lakota parents. *Journal of Human Behavior in the Social Environment*, 2(1-2), 109-126.
- Brave Heart, M. Y. H. (2000). Wakiksuyapi: Carrying the historical trauma of the Lakota. *Tulane Studies in Social Welfare*, 21-22, 245-266.
- Brave Heart, M. Y. H. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs*, 35(1), 7-13.
- Chen, T. L. (2010). The political economy of the Indigenous people's drinking-related health problems in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 97, 247-282.
- Chen, W. J., Chen, C. H., Huang, J., Yun-pung, P. H., Seow, S. V., Chen, C. C., & Cheng, A. T. (2001). Genetic polymorphisms of the promoter region of dopamine D2 receptor and dopamine transporter genes and alcoholism among four aboriginal groups and Han Chinese in Taiwan. *Psychiatric Genetics*, 11(4), 187-195.
- Cheng, T. Y., Wen, C. P., Tsai, S. P., Chung, W. S. I., & Hsu, C. C. (2005). Reducing health disparity in Taiwan: quantifying the role of smoking. *Tobacco Control*, 14(suppl 1), i23-i27.
- Cheng, T. A., & Hsu, M. (1992). A community study of mental disorders among four aboriginal groups in Taiwan. *Psychological Medicine*, 22(01), 255-263.
- Council of Indigenous Peoples. (2017). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C2484AF6CD1D5468A9>
- Council of Indigenous Peoples. (2016). *Health statistics of Taiwanese indigenous peoples 2013*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C29BCFEDF220570369>

- Council of Indigenous Peoples. (2011). *Indigenous health report of 2011*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C268F4A83AF39C97D5>
- Denham, A. R. (2008). Rethinking historical trauma: Narratives of resilience. *Transcultural Psychiatry*, 45(3), 391-414.
- Dinges, N. G., & Joos S. K. (1988). Stress, coping, and health: models of interaction for Indian and Native populations. *Behavioral Health Issues among American Indians and Alaska Natives: Explorations on the Frontiers of the Biobehavioral Sciences*, 1, 8-64.
- Duran, E., & Duran, B. (1995). *Native American postcolonial psychology*. New York, NY: SUNY Press.
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence*, 23(3), 316-338. doi:10.1177/0886260507312290
- Hsia, H. C. (2010). The de-spirited drink: Exploring the capitalization process of Indigenous societies in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 77, 5-58.
- Kirmayer, L. J., Brass, G. M., Holton, T., Paul, K., Simpson, C., & Tait, C. (2007). Suicide among Aboriginal people in Canada. Ottawa, ON: *Aboriginal Healing Foundation*.
- Lai, L. H., Lung, C. H., Lee, I. Y., Lu, Y. Y., & Shih, S. F. (2013). Merrily drunk and friendly interchange: Factors associated with alcoholism in an Aboriginal community. *Chinese Journal of Guidance and Counseling*, 36, 155-182.
- Lange, R. (1999). *May the people live: a history of Maori health development 1900-1920*. Auckland, AU: Auckland University Press.
- Lin, Y. R., Icyeh L., & Kuan, D. W. (2008). Indigenous language-informed participatory policy in Taiwan: A socio-political perspective. In D. V. Rau & M. Florey (Eds.), *Documenting and revitalizing Austronesian languages* (pp.134-161). Honolulu, HI: University of Hawaii Press.
- Liu, C., & Chang, Y. (2014). Ethnic status inheritance in Aboriginal-Han marriages and families. *Taiwan She Hui Xue Kan*, 54, 131-180. Retrieved from: <https://search.proquest.com/docview/1565691885?accountid=14784>
- Ko, Y. C., Liu, B. H., & Hsieh, S. F. (1994). Issues on aboriginal health in Taiwan. *Gaoxiong Yi Xue Ke Xue Za Zhi* 10, 337-351.
- Mohatt, N. V., Thompson, A. B., Thai, N. D., & Tebes, J. K. (2014). Historical trauma as public narrative: A conceptual review of how history impacts present-day health. *Social Science & Medicine*, 106, 128-136. <http://doi.org/10.1016/j.socscimed.2014.01.043>

- Myhra, L. L. (2011). "It runs in the family": Intergenerational transmission of historical trauma among urban American Indians and Alaska Natives in culturally specific sobriety maintenance programs. *American Indian and Alaska Native Mental Health Research (Online)*, 18(2), 17.
- Palacios, J. F., & Portillo, C. J. (2009). Understanding native women's health: Historical legacies. *Journal of Transcultural Nursing*, 20(1), 15–27.
- Pulver, L. J., Haswell, M. R., Ring, I., Waldon, J., Clark, W., Whetung, V., ... & Sadana, R. (2010). *Indigenous health—Australia, Canada, Aotearoa, New Zealand and the United States—Laying claim to a future that embraces health for us all. World health report*. Geneva, Switzerland: World Health Organization.
- Simms, S. T. (2010). "Exploring the Trail of Health: Enculturation, Sense of Coherence, and Well-being in American Indians." Master's Thesis, Arcata, CA: Humboldt State University.
- Simon, S. (2013). Of boars and men: Indigenous knowledge and co-management in Taiwan. *Human Organization*, 72(3), 220-229.
- Simon, S., & Mona, A. (2013). Human rights and Indigenous self-government: The Taiwanese experience. In S. S. Bagchi, & A. Das (Eds.), *Human rights and the Third World. Issues and discourses* (pp. 99-122). Lanham, MD: Lexington Books.
- Thomasson, H. R., Crabb, D. W., Edenberg, H. J., Li, T. K., Hwu, H. G., Chen, C. C., ... & Yin, S. J. (1994). Low frequency of the ADH2\* 2 allele among Atayal natives of Taiwan with alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, 18(3), 640-643.
- Tsai, Y. Y. (2009). *Mental disorders of the Tao Aboriginal minority in Taiwan: Modernity, social change, and the origin of social suffering*. Taipei, Taiwan: Linking Publishing Co.
- UN Permanent Forum on Indigenous Issues (UNPFII). (2010). *State of the world's indigenous peoples*. Retrieved from: <http://www.refworld.org/docid/4b6700ed2.html>
- UN Permanent Forum on Indigenous Issues (UNPFII). (2015). *State of the world's indigenous peoples, 2nd Volume*. Retrieved from: <http://www.refworld.org/docid/55c89dac4.html>
- Walters, K. L., & Simoni, J. M. (2002). Reconceptualizing native women's health: An "Indigenist" stress-coping model. *American Journal of Public Health*, 92(4), 520-524.
- Walters, K. L., Simoni, J. M., & Evans-Campbell, T. (2002). Substance use among American Indians and Alaska Natives: Incorporating culture in an "Indigenist" stress-coping paradigm. *Public Health Reports*, 117(1), 104-117.
- Walters, K. L., Beltran, R., Huh, D., & Evans-Campbell, T. (2011). Dis-placement and dis-ease: land, place, and health among American Indians and Alaska Natives. In L. M. Burton, S. A. Matthews, M-C Leung, S. P. Kemp, & D. T. Takeuchi (Eds.), *Communities, neighborhoods, and health* (pp. 163-199). New York, NY: Springer.

- Walters, K. L., Mohammed, S. A., Evans-Campbell, T., Beltrán, R. E., Chae, D. H., & Duran, B. (2011). Bodies don't just tell stories, they tell histories. *Du Bois Review: Social Science Research on Race*, 8(01), 179-189.
- Whitbeck, L., Adams, G., Hoyt, D., & Chen, X. (2004). Conceptualizing and measuring Historical Trauma among American Indian people. *American Journal of Community Psychology*, 33(3-4), 119-130.
- Whitbeck, L., Walls, M., Johnson, K., Morrisseau, A., & McDougall, C. (2009). Depressed affect and historical losses among North American Indigenous adolescents. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center*, 16(3), 16-41.
- Yeh, M. Y. (2003). Drinking behavior: a study of drinking behavior from the perspectives of aboriginal adolescents. *Indigenous Education Quarterly*, 32, 30-48.
- Yeh, M. Y. (2004). Exploring the effects of psychosocial and acculturation factors on drinking behavior among aboriginal adolescents in Taiwan. *Psychiatry and Clinical Neurosciences*, 58(5), 453-459.
- Yeh, M. Y., & Chiang, I. C. (2005). Comparison of the predictors of alcohol use and misuse among Han and aboriginal students in Taiwan. *Addictive Behaviors*, 30(5), 989-910

## PAPER 1 (AIM 1) – DETERMINANTS OF ALCOHOL USE AMONG TRUKU PEOPLE IN TAIWAN: TAKING ACCOUNT OF HISTORICAL TRAUMA

### **Introduction**

Internationally, alcohol use disorder (AUD) is one of several significant health issues among indigenous communities. Excessive alcohol use can increase an individual's risk of developing serious health issues. Similar to other global indigenous communities, Taiwanese indigenous peoples are faced with the challenge of AUD. The 2013 Indigenous Health Report indicates that alcohol-related chronic liver disease/cirrhosis and alcohol-related accidental injuries are 2 of the top 5 leading causes of death among Taiwanese indigenous communities (Council of Indigenous Peoples, 2013). In recent decades, certain studies have examined determinants of alcohol use among Taiwanese indigenous communities, and the majority of them have primarily focused on biological factors (Chen, Chen, Bair, Yao, Peng, Yang, & Yang, 2011; Lai, Lung, Lee, Lu, & Shih, 2013), family dynamics (Chen, Chang, Hsieh, Chen, Huang, & Kuo, 2015; Lai, 2008; Yeh & Chiang, 2005; Yen, Hsu, Liu, Huang, Ko, Yen, & Cheng, 2006), peer pressure (Yeh, 2003; Yeh & Chiang, 2005), socioeconomic status (Lai et al., 2013; Hung, Chang, Chen, Hsiu, & Chen, 2011), and acculturation (Lin, 1978; Yeh, 2004). Very few studies have explored the influences of historical factors on alcohol use. One of these factors are experiences of social change due to capitalist policies which are imposed by Kuomintang government (Chen, 2010; Hsia, 2010; Tsai, 2009).

In countries other than Taiwan, increasing research in indigenous communities globally has focused on the historical determinants of indigenous health. The Maori of New Zealand and American Indian and Alaska Native (AIAN) scholars, for example, have investigated indigenous health outcomes in the context of their histories (Duran & Duran, 1995; Lange, 1999). Recently, the AIAN scholars have explored AIAN health disparities utilizing an Historical Trauma

framework, which emphasizes that contemporary AIANs' health outcomes (e.g., substance use, suicide, psychological distress, etc.) are the far-reaching effects of collective and generational historical traumatic events due to colonial oppression, such as forced attendance to Indian boarding school, forced relocation and prohibited traditional and spiritual practices (Brave Heart & DeBruyn, 1998; Brave Heart, 1999, 2003; Evans-Campbell, 2008; Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009; Walters, Beltran, Huh, & Evans-Campbell, 2011). Driven by an historical trauma framework, this study expands the literature of determinants of alcohol use among indigenous peoples in Taiwan, exploring how historical trauma is related to alcohol use among Taiwanese indigenous communities with a focus on Truku tribal people.

### **Indigenous Peoples in Taiwan**

Taiwan is an island of Austronesian indigenous peoples. There are 16 different officially recognized tribes<sup>1</sup> with a total population of approximately 554,000, and unrecognized tribal groups (Council of Indigenous Peoples, 2017), representing approximately 2% of the total populations in comparison to the majority Han populations (95%). These tribes share diverse languages and cultures, and 31% of indigenous peoples are located in eastern Taiwan (i.e., Hualien and Taitung Counties) (Department of Statistics, 2016). There are significant disparities between indigenous populations and majority populations in Taiwan. The average age of indigenous peoples is approximately 34.2 years old, which is 6.4 years lower than the national average (40.6 years old) (Department of Statistics, 2016). Indigenous peoples, as compared to the general Taiwanese populations, also have lower rates of college degrees or above (8.1% vs. 22.5%; Ministry of Education & Council of Indigenous Peoples, 2014), lower annual household

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<sup>1</sup> There are 16 tribes officially recognized by Taiwan government. However, these tribes are still fighting for political sovereignty. Indigenous tribes in Taiwan do not have tribal councils/governments, which are recognized by Taiwan government.

income (\$21,937 vs. \$35,714<sup>2</sup>; Council of Indigenous Peoples, 2014), and higher unemployment rates (4.13% vs. 3.78%; Council of Indigenous Peoples, 2016).

**Indigenous health and alcohol use disorder in Taiwan.** Official statistics indicate that the indigenous peoples have lower life expectancy (71.3 years old) and a higher crude death rate (708.2 per 100,000 people) compared to the general population in Taiwan (80 years old and 435.3 per 100,000 people) (Council of Indigenous Peoples, 2013). An increase in research has suggested that health risk behaviors such as alcohol use are related to chronic liver disease/cirrhosis and accidental injuries which are the two main causes of indigenous death (Cheng, & Hsu, 1992; Hwu, Yeh, Wang, & Yeh, 1990; Ko, Liu, & Hsieh, 1994). Although there is a need for more research to investigate the direct link between alcohol use and the major causes of death in among Taiwanese indigenous peoples (e.g., chronic liver disease/cirrhosis and accidental injuries), several international studies have indicated that alcohol use disorder, dependence or abuse are correlated to negative health outcomes such as: liver cancer, high blood pressure, and injuries (Rehm et al., 2010; WHO, 2014).

Traditionally, the majority indigenous tribes in Taiwan use alcohol (especially homemade Millet wine) for ceremonies or celebratory occasions (Chen & Wang, 1993). Since the quantity of Millet wine was limited, indigenous peoples considered the wine as a precious belonging. Thus, excessively alcohol drinking seldom happened in traditional indigenous society. However, in recent decades, alcohol use has become a significant health concern among Taiwanese indigenous communities. A survey conducted between 1949 and 1953 with 11,442 indigenous individuals among four Taiwanese indigenous tribes (Atayal, Paiwan, Saisiat, and Amis) found

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<sup>2</sup> In 2014, Taiwan's national average annual household income is \$1,071,427 Taiwan dollars, which is equivalent to \$35,714 U.S. dollars. The average of indigenous annual household income is \$658,117 Taiwan dollars, which is equivalent to \$21,937 U.S. dollars.

that alcohol addiction rate of indigenous peoples (0.1%) is 10 times higher than the majority Han populations (0.01%) (Rin & Lin, 1962). Another study implemented in the late 1980s with 993 indigenous participants further showed that the prevalence of alcohol addiction is 42.2% - 55.5% among indigenous peoples (Cheng & Chen, 1995). Thus, it is important to note that alcohol addiction rate among Taiwanese indigenous peoples has rapidly increased since 1950s.

**Truku tribal people's health and alcohol use.** The Truku tribe is one of 16 officially recognized indigenous tribes in Taiwan. As of 2017, there are 30,877 Truku people, and approximately 73% of Truku tribal people live in Hualien County, which lies on the east coast of Taiwan (Council of Indigenous Peoples, 2017). Similar to other indigenous peoples in Taiwan, accidental injuries and chronic liver diseases are also two of the top ten causes of death among Truku people (Council of Indigenous Peoples, 2010). Given that the majority of studies focus on pan indigenous results, research has not yet empirically linked the two causes of death among Truku people to alcohol use, but community leaders allude to these connections in their descriptions of Truku tribal people's health. There is a significant prevalence of alcohol consumption among Truku people<sup>3</sup> (Chen & Wang, 1993). For example, among Truku people 15 years of age and older living in Xiulin Township,<sup>4</sup> on average, each Truku individual drinks at least 12.3 kilograms of alcoholic beverages, which is 2.4 kilogram more than the national average (Chen & Wang, 1993). Although there is no recent updated statistics regarding Truku

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<sup>3</sup> Chen and Wang (1994) indicate that Tayal people who live in Hualien county has higher alcohol consumption than the national average. Truku people used to be recognized as part of Tayal people until Truku tribe was officially recognized by Taiwan government in 2004. Those Tayal people who live in Hualien were supposed to be Truku people.

<sup>4</sup> Xiulin Township is in Hualin County of eastern Taiwan. The main population of Xiulin Township is Truku people, which accounts for nearly 80% of total population in the township.

people's use of alcohol, community leaders still suggest alcohol use as one of several crucial health challenges among Truku tribe.

**Determinants of alcohol use among Taiwanese indigenous peoples.** There are an increasing amount of studies which explore alcohol use among Taiwanese indigenous peoples. However, the majority of these studies focused on genetic factors (e.g., alcohol aldehyde dehydrogenase and alcohol dehydrogenase genes are responsible for the risk for alcoholism), interpersonal and family factors (e.g., exposure to peer drinking and parental drinking), and structural factors (e.g., low socioeconomic status and acculturation). Only a few studies have investigated indigenous alcohol use using long-term historical and political economy lens, and these studies especially underscore the impacts of Taiwan Tobacco and Liquor Corporation (TTL) establishment on indigenous peoples' relationship with alcohol (Chen, 2010; Hsia, 2010). Alcohol use among a Tao tribe in Taiwan using social suffering theory underscored mental disorders and alcoholism among Tao people resulted from ongoing political, economic, and institutional inequalities (Tsai, 2009). Although a growing but small amount of research has suggested the importance of using historical lens to investigate indigenous peoples' alcohol use, more studies are needed to elucidate historical determinants of alcohol use.

### **Historical Trauma and Its Impact on Alcohol Use among Global Indigenous Communities**

Just as in Taiwanese indigenous communities, AUD has also been a significant health concern among indigenous peoples in other countries, such as AIANs in the U.S. (May, 1995; Whitesell et al. 2007), indigenous peoples in Canada (Chansonneuve, 2007) and in Australia (Wilson, Stearne, Gray, & Saggars, 2010), and Maori people in New Zealand (Connor, Broad, Rehm, Vander Hoorn, & Jackson, 2005). In addition to the classic determinates of alcohol use among indigenous peoples (e.g., socioeconomic status, biological factors, etc.) (May, 1995;

Ehlers, 2007), a growing global literature has suggested the effects of historical events on alcohol use among indigenous peoples, such as exposure to colonial oppression due to encountering with foreigner settlers (Duran & Duran, 1995). Indigenous scholars and communities have also widely utilized the historical trauma concept to investigate indigenous health outcomes including alcohol use.

**Historical trauma.** The concept refers to an event or a set of events relevant to cultural destruction, genocide, or ethnocide perpetuated upon a group of people who share a group identity and/or affiliation, and the event(s) have resulted in collective trauma impacting substantial members of the group or the community (Walters, Beltran, Huh, & Evans-Campbell, 2011). Three superordinate components of historical trauma emerge across the current literature: (1) one or a series of historical traumatic event(s) with the intention of cultural destruction, genocide, or assimilation targeted on a group of people who share a particular group identity; (2) traumatic responses resulting from the historical traumatic event(s); and (3) the transmission of the traumatic responses from one generation to the next generation.

**Historical traumatic events.** Historical traumatic events, often related to colonial oppression, refer to events that originate with the subjugation of a population by a dominant group with the intent to destroy the cultural heritage of a group who have a shared identity. Within the literature, a range of historical traumatic events have been discussed, and these include forced removal of children through Indian boarding school or residential school policies, forced relocation, confinement in a reservation, and prohibition of spiritual and cultural practices (Brown, 1970; Legters, 1988; Thornton, 1987). These events have contributed to profound cultural losses, such as the loss of language, land, loss of traditions, spirituality, Indian identity,

self-respect, and family and community ties (Brave Heart, Chase, Elkins, & Altschul, 2011; Whitbeck et al., 2009).

***Responses to historical traumatic events.*** Within the literature, the historical trauma responses have focused primarily on the individual level and been described as poor psychological and mental health (e.g., anger, anxiety, intrusive trauma imagery, depression, survivor guilt, elevated mortality rates, suicidal ideation, and substance abuse), and poor physical health (e.g., diabetes, heart diseases, cancer, and high blood pressure) (Brave Heart, 1995; Brave Heart, 2000; Whitbeck et al., 2009). However, since historical trauma responses are considered as reactions to the historical traumatic events, Evans-Campbell (2008) uses a multilevel framework and suggests that responses to historical trauma are not only at the individual level but also at the family and community levels. Responses at the family level include stress around parenting (Brave Heart & DeBruyn, 1998; Brave Heart, 1999; Evans-Campbell, 2008). At the community level, responses include high prevalence of AUD and breakdown of traditional culture and values (Evans-Campbell, 2008). Evans-Campbell (2008) further indicates that the responses at the three levels are interrelated, which means that the individual responses are influenced by their family and community experiences, and vice versa.

***Historical trauma transmission.*** Historical trauma transmission refers to the concept that the responses of historical trauma are transmitted from one generation to another. Some studies have suggested that historical trauma responses are learned and perceived through a narrative or storytelling (Mohatt, Thompson, Thai, & Tebes, 2014; Myhra, 2011; Palacios & Portillo, 2009; Denham, 2008). For example, children may learn their parents' behaviors that are directly or indirectly effected by historical traumatic events and then internalize these impacts, and this process could perpetuate itself in the next generation (Myhra, 2011). Research has also proven

that family or public narratives can foster the transmission of historical trauma (Mohatt et al., 2014).

### **Colonization and the Indigenous Peoples in Taiwan**

Although there is limited research utilizing historical trauma framework to explore alcohol use among indigenous communities in Taiwan, it is noticeable that indigenous peoples in Taiwan and in other countries share several similarities, given that many of them and/or their ancestors have experienced a set of historical events related to colonial oppression through encountering different foreign governments since the 17th century, including Dutch, Spanish, Chinese Ming and Qing dynasty, Japan, and the Kuomintang (KMT) government. Some examples of the historical events include: forced relocation or separation of indigenous families to far distant places or to low mountainous areas (Jian, 2014), forced indigenous peoples to give up their traditional native names and use Han Chinese names (Liu & Chang, 2014), and forced indigenous students to speak Mandarin Chinese at schools (Lin, Icyeh, & Kuan, 2008). Generally, as the results of colonization, Taiwanese indigenous peoples including Truku people have experienced a series of policies that caused them to lose their lands, natural resources, languages, traditional lifestyles, cultures, and indigenous identity.

### **Intent of the Study**

Very few alcohol use studies among Taiwanese indigenous peoples have explored how indigenous experiences of historical events are related to their contemporary alcohol use. The majority of historical trauma-related studies have focused on indigenous populations who encountered European settlers. It is uncertain whether the historical trauma framework is applicable to indigenous peoples in Taiwan. Given the above concerns, to understand if historical

trauma is pertinent to Taiwanese indigenous peoples' alcohol use, with a focus on the Truku tribe in particular, the specific aims of the study are the following: (1) to explore in what ways Truku tribal people have experienced historical trauma, (2) to identify components of historical trauma among Truku people, and (3) to investigate how historical trauma is related to Truku people's alcohol use.

## **Methods**

### **Participants and Setting**

The qualitative data was drawn from the Tminun Project, which was implemented by the author between July 2013 and December 2013 in Truku tribal communities of Taiwan. The aim was to explore historical and cultural influences on indigenous health in Truku tribal communities and to identify whether Truku peoples experience historical trauma. The participants of the Tminun Project were 30 Truku tribal members between 20 and 86 years old, who had lived in the north area of Hualien County in East Taiwan. The eligibility criteria for participants were as follows: (1) 20 years or older, since 20 is the legal age of adulthood in Taiwan; (2) who were registered as a Truku tribal member in Taiwan household registration system; and (3) currently residing in or have been serving in formal or informal social service agencies in Truku tribal communities for over 5 years. Participants were selected using a snowball sampling strategy through referrals from community leaders to recruit those who were viewed as experts regarding the history of the Truku tribal communities or who were considered familiar with community's general conditions. Participants were asked to provide their perspectives and thoughts regarding what historical traumatic events Truku people have experienced, and what the impacts of those events have been on the tribal community, and how those events impact tribal people's health today.

**Study design and procedure.** I implemented a directed content analysis of the qualitative data from the Tminun Project using in-depth individual interviews, which were conducted in two stages. The first stage of the project involved 24 individual interviews in the Tkijig community; which were chosen because of the availability of access to the community. Then, in the second stage, the remaining 6 individual interviews were conducted within other Truku tribal communities. The purpose of this stage was for member-checking and confirming the information generated from previous interviews in the Tkijig community that can apply to could apply to the entire Truku tribe.

The Tminun Project was reviewed by the Tkijig tribal community members and by the Institutional Review Board (IRB) at University of Washington. Upon IRB approval, I contacted community leaders whom I knew already (e.g., church leaders and heads of tribal villages' general affairs) and gave them a summary of the study proposal (e.g., research purposes, aims, research methods, analysis approach, implications, and potential benefits for community). Prior to conducting data collection, community leaders suggested beginning the Tminun project with a Truku traditional *Boda Gaya* ceremony, which aims to gather tribal members together and ask the ancestors for their blessing. Following community leaders' suggestion, some community elders, members and I conducted together the *Boda Gaya* ceremony, which was implemented at the beginning of July, and many community members were invited to the ceremony. During the *Boda Gaya* ceremony, all ceremony participants received a document of the Tminun Project's description. The document included a summary of the research purposes and aims, research methods (i.e., procedures and recruitment plans), implications, and potential benefits for community. All ceremony participants were also asked to provide feedback regarding the study

design. Additionally, at the request of the community, the study's interviews were conducted as individual interviews.

During the interviews, I asked the participants' general perspectives regarding the following questions: (1) what are the major health challenges among their tribal communities; (2) what are the determinants of the health challenges; (3) when did the tribal people begin to encounter these health challenges; and (4) what significant historical events have the tribal people experienced, and how have these events influenced the present day's health challenges among their tribal communities. The interview guide is provided in the Appendix. Most of the Truku people speak Mandarin Chinese; therefore, the interviews were conducted primarily in Mandarin Chinese. However, several Elders preferred to speak the Truku language during the interviews, and so an interpreter fluent in both Truku language and Mandarin Chinese was hired. Each participant received \$300 Taiwan dollars (equivalent to \$10 US dollars) for their time and effort. The conversations were audio-taped and then transcribed. The Truku language interviews were translated and transcribed into Mandarin Chinese, and the translations and transcriptions were verified by the interpreter. For this paper, selected quotes were translated from Mandarin Chinese into English. A translator fluent in Mandarin Chinese and English verified the translation between both languages. No identifying information other than gender and tribal village was made available in the transcriptions.

**Positionality.** My interests in historical trauma and Taiwanese indigenous health disparity is inspired and informed by my experiences as an indigenous woman born in the Truku tribe of Taiwan, especially in the Tkijig community. Although I am immersed in Truku culture, which has largely influenced my worldview, my college and graduate education in social work has also shaped my perspectives by incorporating a social justice orientation. Moreover, my

educational journey from Hualien County to Taipei City (the capital city of Taiwan) has increased my awareness of differences and diversities between indigenous tribal communities and dominant society in Taiwan. This fosters my attention to explore the unique approaches to work with indigenous communities given that they have different preferences and needs than the majority Han populations in Taiwan. My further educational journey in the United States has also influenced my understanding of indigenous health disparities in a global context. For example, I have developed connections with AIAN scholars and community members that have provided me the opportunity to learn the concept of historical trauma. Rather than try to suspend these preconceptions, I believe that my personal biography is a strength of this project.

**Analysis.** The direct content analysis underscores adopting existing theory to guide analysis by identifying key concepts as initial coding categories (Hsieh & Shannon, 2005). The analysis was guided by three principal components: (1) historical traumatic event(s), (2) traumatic impacts or responses resulting from the historical traumatic event(s), and (3) the transmission of the traumatic impacts or responses from one generation to next generation.

Predetermined codes were grounded in the three principal components. Memos have outlined the understandings of the major meanings, experiences, and themes for each individual transcript. This step has allowed for a general sense of the data. Next, three transcripts were selected and meaning or codes applied to pieces of texts that were particularly relevant to the principal components of the historical trauma framework. Codes from the three transcripts created a detailed codebook. To address the potential limitation of the directed content analysis (that a researcher may only focus on information related to the existing theory and may ignore other information that is irrelevant to the theory), I created open codes for those texts, which might be unrelated to historical trauma framework. Systematically, I moved through coding the

remaining transcripts and constructed a narrative about the relationship of the components of historical trauma as described by the Truku people.

### **Findings**

Participants reported that historical experiences of colonization contribute to today's excessive drinking among Truku tribal communities. Five major themes emerged from the data: (1) excessive drinking is a significant health challenge in present day, but Truku people were healthy and rarely engaged in excessive drinking before encountering foreign settlers; (2) excessive drinking is a stress coping strategy, and part of stress comes from historical colonial oppression; (3) Truku people have experienced a series of significant historical events that have caused devastating historical losses in their tribal communities; (4) there are a variety of responses (e.g., emotional reactions and alcohol drinking behavior) toward the losses due to significant historical events; and (5) Those responses toward historical traumatic events and historical losses transmit across generations.

#### **Truku People's Relationship with Alcohol Has Changed**

More than half of participants of this study, especially elders, underscored that Truku people have a long tradition of using alcohol, but excessive drinking is not part of the tradition.

Alcohol is part of sacrificial offerings in our ceremony. For example, they (Ancestors) drank alcohol when hunters brought their prey back or when there were friends visiting from far places. Besides, they (ancestors) lived in the mountain areas. If they got drunk, they could easily fall into the valley. For safety consideration, it's impossible for our ancestors to over drink alcohol. – A Truku male elder

Truku people used to drink homemade millet wine. Since the KMT government occupied Taiwan, the government-owned corporation, TTL has begun to sell commercial beverages in local stores (Chen, 2010; Hsia, 2010). At the same time, the KMT government also issued an

order to forbid indigenous people to make wine themselves (Hsia, 2010). After that, without access to the traditional alcohol, Truku people shifted their drinking behaviors to indulge in commercial alcoholic beverages, such as beer and various rice wines.

Sometimes you can see several tribal people drink in the street together beginning in the early morning. But you know, drinking heavily and drunkenness are not allowed in our tradition. My grand-mom used to tell me that she never saw other people over-drink when they lived in mountainous places. People were very healthy there (mountainous areas). The alcohol beverage they drank was homemade with millet. Traditionally, millet wine was rare because they were only able to make a small amount of millet wine each time. Therefore, it was unlikely for our people to over drink before. Drinking has become an issue after people were relocated to the foothills. People begin to drink beer, rice wine, and Kaoliang liquor through purchasing from local stores. Today, no matter people are happy or not happy, they all drink. They definitely drink more when they are not happy.  
– A Truku female elder

### **Drinking is a Stress Coping Strategy**

TTL opened Truku people's access to commercial alcoholic beverages. However, it still cannot fully explain the increased prevalence of alcohol consumption among Truku people. More than half of the study's participants connected Truku people's alcohol use to stress, and most of them also mentioned that part of stress results from the accumulation of colonial oppression in addition to exposure to discrimination.

Han people should not blame our people for drinking alcohol. They drink because they need to relieve the cumulative stress. Since encountering foreigners from Japanese to Han people, our people have been experiencing a long history of colonial oppression, which not only forced our people to change our traditional lifestyles, but it also blocks the passage of our culture and traditions to the next generations. We not only face difficulties regarding adaptation to dominant culture, but we also have been losing a lot of significant cultural and traditional knowledge, which used to be important ways helping our people to overcome stress as well as to have healthy and balanced life. Losing those cultural knowledge and strengths, we have nothing to rely on to cope with stress, so that many of our people turn into using alcohol to numb and to forget unhappy things in their life. – A male Truku leader

Some participants further indicated that when they are around Taroko National Park or see the cement factory of Asia Cement Corporation, their stress is reinforced, because they recall

memories regarding tribal peoples' and upper generations' experiences of historical traumatic events related to colonial oppression given that both the national park and location of the cement factory used to be Taroko people's traditional lands.

I live around Taroko National Park... When I face the mountains, I feel sad and frustrated. Our ancestors used to live there, but they were forcibly relocated to today's place. When I see the mountains, I see our people's painful history, I see injustice, I see our losses. Our people used to be so strong and independent living in the mountains. Today, we are like second-class citizens in this country. Every time when I see the national park, I feel stressed and powerless. – A male Truku member

### **A Series of Historical Traumatic Events and Historical Losses**

Most participants mentioned that Truku people have been experiencing colonial oppression by the foreign governments (i.e., Japanese and KMT governments) since 1895. During the period of Japanese rule in Taiwan (1895-1945), as in many Taiwanese indigenous communities, Truku people experienced the following events: (1) suppression of Truku people by armed force; (2) forced relocation from high to low mountainous areas to enable easy surveillance, or even removing some Truku tribal members from the indigenous tribal area to live in different and far-ranging places; (3) forcing Truku children to attend special elementary schools for learning Japanese language and culture, schools that were specifically designed for indigenous peoples; (4) limitations on Truku people's hunting cultural practices; and (5) prohibition of Truku cultural traditions including facial tattoos and headhunting.

It is important to note that when participants described their experiences of different historical traumatic events, they also underscored that historical events have resulted in many losses among Truku tribal communities. The losses included loss of land, language, family ties, indigenous identity, connection with traditional land for present and future generations, connection with ancestral spirits, traditional spiritual practices, the belief in Gaya (Truku tribe's

traditional rules and believes), hunting culture, traditional ecological wisdom and knowledge, children's and grandchildren's respect for elders for traditional ways, and trust in tribal people.

In addition, participants noted a distrust of the majority Han people.

**Truku battle.** The Japanese government occupied Taiwan for around 50 years (1895-1945). In the first two decades, the Japanese launched several different policies with the purpose of controlling the entire island of Taiwan (Schubert, 2016; Li, 2003). However, some indigenous peoples, including the Truku initiated several resistance attacks to prevent themselves from succumbing to Japanese rule. To weaken the opposite forces of indigenous peoples, the Japanese government instituted a *Five-year Settling the Barbarians Plan* in 1910, which aimed to use armed force to suppress those indigenous tribes who refused to accept the Japanese government (Schubert, 2016; Pan, 2012; Yudaw, 2015). Since the Truku people were considered one of most fearless indigenous groups who were against Japanese rule (Sioulin Township Office of Hualien County, 2009), the Japanese deployed 20,749 soldiers in armed conquest of the Truku tribal communities, who had only about 3,000 warriors (Yudaw, 2015). The attack is also known as the Truku Battle, which lasted over 3 months between May and August 1914 (Li, 2003; Sioulin Township Office of Hualien County, 2009; Pan, 2012). Numerous Truku warriors died in the battle, and the rest of the tribal people were forced to surrender (Yudaw, 2015). Several of this study's respondents reported that the Truku people's life changed after the *Truku Battle*, and they also tied loss of tribal members to the Battle.

I heard from my father that my grandma experienced the Truku Battle. They (Japan) used armed attack on our tribal villages. She (grandma) was a kid, and she remembered a lot of our people were screaming and died. She told my father that we lost a lot of our people, especially warriors. Some women and kids were also killed in the battle. After the battle, the Japanese government assigned several police officers to stay close to our tribal villages and control our life. My grandma said those police officers were very ferocious. They would strike our tribal people with a whip if our people did not follow their orders.

Since then, our people have been losing our abilities of resistance and they began to obey the foreign government's rule. – A Truku female elder

**Forced relocation and family separation.** A series of traumatic events happened to the Truku people after the Truku Battle (Jian, 2014). Among several significant events, forced relocation, including family separation, was frequently mentioned by most of the participants. Loss of traditional ways of organizing tribal people, loss of family ties, and loss of traditional culture were also mentioned often when they described their exposures to forced relocation.

My grandpa told me that after the Truku Battle, his father's family was forced to relocate from the high to low mountain areas. My great-grandpa's family used to live in the inner and top mountainous areas of the Taroko National Park. The Japanese government forced them (his great-grandpa's family) to relocate from the top mountain areas to low mountain places to enable easy surveillance. They (Japanese government) even separated family members from my grandpa's tribal community and relocated them into different places to weaken their family's cohesion. You know, family is the primary unit among our Truku people. Traditionally, each Truku tribal community was built based on blood-related families. I think the Japanese government did it (family separation) probably because they wanted to break our families' unity so that we were unable to have abilities to organize our tribal people and to fight against them... If we never had experienced these events, our people would probably have stayed in the top mountain areas, and would have a healthy life. Our people today probably wouldn't drink too much. The young generation would still know how to access the places where their grandparents or great-grandparents used to live. They would still know our culture and have knowledge about how to live in the mountains. We have been losing a lot of our cultures since the Truku Battle. — A Truku male member

**Forced attendance of special elementary schools.** In the late 1930s, the Japanese government announced the Kōminka Movement, which aimed to fully Japanize Taiwanese society, including indigenous communities, as well as to build Japanese spirit among the populations of Taiwan (Pu, 2005). Indigenous children were required to attend special elementary schools to learn Japanese language and culture, and the schools were particularly designed for indigenous people (Pu, 2005). Several participants of this study also mentioned that although the Japanese government did not launch a policy to force them to stop speaking their

traditional languages, forced attendance of the special elementary schools to learn Japanese language and culture could have impacted Truku children's losing their Truku identity.

Since the Japanese government occupied our tribal area, our lives and cultures had been full of restrictions. I remembered that when I was kid, I had to attend the Japanese elementary school. I didn't want to go but I had to. Otherwise, they (Japanese police officers) would physically punish or verbally threaten my parents. Those Japanese police officers were very strict, so I had to attend. They taught us how to speak and write the Japanese language in the morning. They also taught us to believe the Shinto religion, which was the Japanese religion. I didn't think I learned anything at school besides Japanese language and their culture... They (school teachers) wanted us to believe that being Japanese was honorable. I knew some of our people did change their identity to be proud of being Japanese, but it didn't work for me. — A Truku female elder

**Prohibition of traditional and cultural practices.** Several participants mentioned that the Truku people also experienced being forbidden to have facial tattoos and the loss of the weaving traditions during Japanese period. Due to these prohibitions, the loss of Truku identity, traditional culture, and connection across generations were also mentioned by participants.

My grandma told me that she experienced being forbidden to have facial tattoos and practice weaving traditions during the Japanese ruling period. Japanese police officers told our people that facial tattoos were ugly. They didn't want to see any more of our people getting facial tattoos. Facial tattoos were very sacred for the Truku. It is not only for beauty, but it also represents who we are as Truku people. My grandma wanted to have facial tattoos, but her parents and she were too afraid to have it because of the intimidation of the Japanese police officers. She also told me that police officers did not like them to practice weaving culture. They (police officers) wanted everybody to go out and do farming instead of staying at home weaving. They thought that weaving is a lazy behavior. Therefore, if they (police officers) heard the sounds from the looms, they would punish those people who were weaving, using physical abuse. Weaving is an important cultural tradition to our people. Women need to know how to weave to cross the rainbow bridge to meet with our ancestors after we die. Every weaving pattern has its own story. Those stories are passed down from mothers to daughters from one generation to the next. Forbidding weaving not only blocks the transgenerational stories among women but it also detaches the strong connections between younger generations and their ancestors. Every time I think about it, I feel angry and sad... Today we only have a few elders who know how to weave. — A Truku female member

After World War II, the KMT government replaced the Japanese, taking over Taiwan in 1945. Since then, the KMT government has launched a series of assimilation policies for

indigenous peoples: for example, (1) They forced indigenous peoples to use Chinese names; (2) They forced indigenous peoples to speak Mandarin Chinese (known as Mandarin Speaking Policy) in public settings (e.g., schools); (3) They prohibited traditional hunting practices as well the utilization of natural resources; and (4) They also established a national park and cement factory within Truku people's traditional territories. These historically traumatic events had destructive effects on Truku people, such as destroying their connections with lands, communities, families, and the spirit of ancestors. Moreover, other effects of the historical traumatic events included loss of languages, loss of indigenous identity and pride, and loss of traditional knowledge, practice and spirituality.

**Forcing indigenous peoples to use Chinese names.** Participants also shared that they were forced to give up their Truku names and to use Chinese names. The Truku tribe is a patriarchal society. Their traditional naming patterns are the combination of children's name and father's name. For example, as a Truku tribal member, my full Truku name is Ciwang Teyra. Ciwang is my given name and Teyra is my father's given name. The Chinese naming pattern, which underscores the composite of a family name followed by a given name, is very different from the Truku naming pattern. Since 1995, indigenous peoples in Taiwan have been allowed to use their traditional names due to an amendment legalizing the use of indigenous names. By 2016, 4.5% (25,104) of the total Taiwanese indigenous peoples changed their names to indigenous ones (Council of Indigenous Peoples, 2016). Although a growing number of indigenous people have used their indigenous names, most of them have retained Chinese names due to the complex household registration system in Taiwan.

Participants also mentioned that many impacts have resulted from the policy of being forced to use Chinese names, such as the loss of Truku identity and loss of family ties.

The Kuomintang government was not better than Japanese government. Although they neither used armed attack on our people nor physically abused us, their policies didn't treat us well. They even asked indigenous people to give up our traditional names and to change to Han Chinese names. You know, there is no first name and last name in our Truku's naming pattern. They wanted our people to use their Han Chinese names, which come with surnames. You know in their Han Chinese culture, surnames link to family names. People from the same family should have the same surnames. The Kuomintang government not only forced us to use Han Chinese names, they also randomly gave our tribal people different surnames even though they are from the same family. In our family, my father has five siblings, but the government gave them all different surnames. Can you believe that? Siblings came from the same family but they were given five different surnames. This happened in other families too. I am worried that our next generations won't remember we are actually from the same family. Being forced to use Han Chinese names not only can impact the identity of being Truku people, but it also can impact family cohesion among our tribal communities. – A Truku male leader

**Mandarin speaking policy.** Many participants also described being forced to speak Mandarin Chinese. In 1951, the KMT government instituted the *Mandarin Speaking Policy*, which required people to speak Mandarin Chinese in any public setting. Any other languages were forbidden, especially in schools. If students spoke their traditional languages in schools, they would be punished by teachers. Punishment included physical punishment, cleaning toilets, imposing a fine, or public humiliation. Although the *Mandarin Speaking Policy* has been abolished since 1987, most participants believe that this past policy is the main cause of losing the Truku language.

The Kuomintang government followed most of the Japanese rules. They forced us to learn and speak Mandarin Chinese. I remember that when I was in the elementary school, most of our tribal people in my generation were very good at speaking our Truku language. Teachers forced us to learn Mandarin Chinese at school. We were not allowed to speak any of our mother language at school. I remembered that one day I spoke our language and was caught by my teacher. He (teacher) wanted me to carry a big sign in front of my chest with the words "I will not speak dialect." I had to carry the sign and stop by every classroom... I know that a lot of our tribal people had similar experiences. My cousin was punished by her teacher by telling her to put her knees down on the ground for one class period. These were very painful memories. That's why some of our people in my generations didn't teach their kids to speak our language because they didn't want the same things happening to their children, so you can see not many of our young generations can speak our Truku language. Although today the government and many schools encourage indigenous students to learn their traditional languages, I think it

is too late. Our language is still dying. If they (KMT government) didn't force us to not speak our language before, the majority of our young people would still know how to speak our language fluently. — A Truku female member

**Prohibition of traditional hunting practices.** Participants described Truku people's experiences of prohibition of traditional hunting practices. The Truku experienced a hunting ban after the KMT government passed the National Park Law in 1972 and later established the Taroko National Park in 1986. The National Park Law prohibits any hunting or gathering activities within national parks. Since the establishment of the Taroko National Park, the Truku have not been allowed to hunt animals or utilize natural resources within the national park, which used to be part of their traditional territory. Additionally, the KMT government enacted the Wildlife Conservation Act in 1989, which added more constraints on indigenous people's hunting rights. In the worldview of Truku people, hunting is not just a way to access food; it is also a crucial cultural practice connecting Truku with the spirits of their ancestors and with traditional mountainous lands. When participants described their experiences relevant to the prohibitions of hunting rights, many expressed concerns such as: losing hunting culture, losing traditional spiritual practice, losing traditional ecological wisdom and knowledge, and losing the connection with traditional land for the present and future generations.

Hunting culture is very important in our tribe. Hunting requires a lot of knowledge. I am a hunter. I learn hunting skills and wisdom from my father. Our people hike in the mountains for hunting. Also, prior to going hunting in our traditional mountainous lands, we need to launch a hunting ceremony. It allows us to connect with the spirits of our ancestors in the mountain. With their blessing, our hunting journey would be safe and bring back lots of prey. Without practicing hunting knowledge and culture, we cannot survive in the mountainous area. Hunting practices connect us with traditional mountainous land and the spirits of our ancestors. Today, hunting is forbidden. It not only destroys our people's connection with the spirits of our ancestors, but it also impacts our people's connection with the traditional-mountainous lands. Our traditional mountainous knowledge is being lost too. I am very worried that our next generations will not be able to carry on our hunting knowledge and culture. — A Truku male elder

**Traditional lands were taken away by government or large enterprises.** Several participants mentioned that the establishment of Taroko National Park forced some Truku people to relocate. The KMT government took the lands from the Truku without informed consent.

Our family used to have several lands within the areas of Taroko National Park. Our ancestors lived there for hundreds of years. However, after Taroko National Park was established, we were not allowed to live in the lands. We were also not allowed to utilize any natural resources there. The ownership and management rights of those lands belong to the central government. Those places are our traditional mountain lands. We believe that our ancestors' spirits still stay there today. The KMT government took the lands away from us. Losing access to the traditional mountain lands, our people are also losing our connection with the spirits of our ancestors. — A Truku male member

Some participants also noted a lack of trust of the majority Han people related to the establishment of a cement factory within the Taroko National Park.

The KMT government forced our people to move out of the Taroko National Park. They declared in public that the main purpose of establishment of national park is to protect wildlife and natural resources. However, the KMT government allowed the Asia Cement Corporation to build a large cement factory within the area of the Taroko National Park. They claimed that they wanted to protect wildlife so they had to move our people out of national park zones. However, they (KMT government) allowed a cement factory to exist within the national park, and allowed them to mine cement from the mountains. It is ridiculous. They (KMT government) lied to us. How can we trust them?  
— A Truku leader

### **Emotions and Alcohol Use Associated with Historical Events and Losses**

Many participants expressed their responses towards the losses related to historical traumatic events, such as: anger, sadness, rage, worry, and fear. Three primary responses emerged: depression, posttraumatic stress disorder (PTSD), and alcohol use.

I feel angry and sad when I think about our language being lost due to the Mandarin Speaking Policy. I experienced it when I was a child in elementary school. We were not allowed to speak our traditional language at school. If teachers found out we spoke our traditional language, they would physically punish us in front of the class. They also would ask us to carry a sign with the term "I will not speak dialect" to walk around the entire campus as a warning to others. I felt very embarrassed. I was just a child. I had no idea why I would be punished because of speaking our own language. Even though it

happened several decades ago, every time when I think about it, I still feel super mad. Why was speaking our language wrong? Although the Taiwan government today has recognized some indigenous rights, sometimes I am still worried and afraid a similar event will happen again to hurt our young generations. — A Truku female leader

More than one fourth of participants also noted feeling hopeless, being unable to fall asleep, feel shamed and engaging in alcohol use.

Sometimes when I sit in my yard and watch the mountain, I would feel hopeless. We have been trying several times to fight for hunting rights for so many years. Today, we are still unable to legally go hunting. You know, I still practice hunting culture, but I have to go hunting during mid-night to avoid being caught by the national park's police officers. I felt I was like a thief. I had to sneak into the mountains within the areas of Taroko National Park to practice hunting culture. Every time I went hunting, I had to act like a thief in those mountainous areas which were supposed to be our traditional lands (sighs)... I felt ashamed and guilty that I wasn't able to act like a warrior and openly walked into the traditional mountainous lands for hunting. I hope our ancestors' spirits can forgive me. I wish I could be stronger to act like a real warrior as they did before... Every time I think about it, I cannot fall asleep. I am very worried that our young generations are going to forget our hunting culture. I also feel angry toward the government and the Taroko National Park. You know. I am not the only one feeling this way. My father feels the same way as I do. I think this is the reason he has been drinking a lot. Sometimes, we would drink together. Drinking makes me feel relaxed. — A Truku male member

By reviewing findings, it is important to note that when participants described their direct or indirect exposure to historical traumatic events, they also underscored the losses that resulted from the events. Discussions of these historical events and losses were often coupled with emotional responses as well as involvement with alcohol use.

### **Emotions Responses and Alcohol Use toward Historical Traumatic Events and Loss Transmit Within Family and Community**

The majority of participants indicated that they learned the group's shared history including historical traumatic events through parents, grand-parents and or community members' narratives. Some of them developed emotional reactions when they were gaining the knowledge of the historical traumatic experiences. A lot of them further underscored that they engage in

alcohol use through interaction with their previous generations (e.g., parents, grandparents, etc.), and their family members who used alcohol as a coping strategy to relieve stress resulting from their experiences of historical traumatic events and losses.

My father is a hunter. He wants me to study hard so that I can go to college to achieve higher educational opportunities. He is unwilling to teach me our Truku cultures and languages, but he is willing to share hunting culture and knowledge with our neighbors or other community members. However, every time when I asked him about hunting culture and asked him whether I could go hunting with him together, he always changed the topic. I can tell that he did want to teach me about our culture. I thought he did not want to teach me because he did not like me. We didn't have a close relationship. I didn't know how to get close to him. He drinks a lot. Every night. Sometimes, he would have some violent behaviors after he got drunk. Also, when he was drunk, he often yelled and complained about the government's policies related to oppression. He told us that his grandma was physically abused by Japanese police due to practicing our weaving tradition. He also mentioned he was almost caught by national park police due to go hunting. He also referred to his experience regarding being forced not to speak our traditional language at school. I was mad when I heard about those painful experiences that our family members used to experience. I also feel that he drinks a lot of alcohol to numb his frustration, anger and pain toward those experiences of historical traumatic events. I also remembered that one time he was drunk again, and he told me that his life is hopeless and he didn't want me to experience those traumatic events they used to experience. That's the reason he didn't want to teach me about our culture. He wanted to protect me. He wanted me to be like Han people so that I would have a better life. However, he did not know that I feel frustrated about knowing nothing about our culture. I doubt about myself. I feel I am not qualified as a Truku member. Unconsciously, I acted like him to drink alcohol to numb my inner struggles. – A Truku male young adult

The above story does not only reflect the view of one specific participant, it is also a mirror across many young adult participants. Children learned and adopted alcohol use behaviors from family (parents, grandparents, etc.) and/or community members regarding using alcohol as a coping strategy to alleviate life challenges as well as cumulative stress from numerous historical traumatic events. Given that more and more tribal individuals engage in alcohol use, it has become a collective health challenge. Since excessive alcohol use is a common behavior among tribal communities, it is often mistaken for a symbol of being a qualified Truku member among young Truku generations. The way participants spoke about alcohol, and its impact on

family structures, parenting practices and community might be seen almost as a factor that fosters the disruption and effects of colonization.

I used to believe that drinking alcohol was our culture, because I saw many of our community members engaging in excessive alcohol use, including my family members, my parents, grandparents. I was also influenced by the information from social media and news that often linked indigenous people with alcohol use. I started to drink when I was in middle school because I wanted to look like as a Truku member and a true indigenous person. Until one day, I met a pastor, who is also a Truku elder, and he knows a lot of our culture and traditions. He shared with me our tribe's stories and history. He also told me that heavily drinking alcohol is not our culture. He mentioned that Truku people started to engage in alcohol use after encountering foreign governments. His words shook my world. I wish I knew it earlier. – A Truku male young adult

Young generations showed less knowledge about community history than elders. The stereotype reports from social media also affect young peoples' awareness of community's relationship with alcohol. Elders play important roles to pass down traditional knowledge and cultures which can be more accurate to reflect to tribal peoples' history.

### **Discussion**

The findings of this pilot study are the first to explore alcohol use among indigenous peoples in Taiwan using an historical trauma framework. The conceptualization of Truku historical trauma illustrated cumulative historical traumatic events across generations that have resulted in a series of cultural and collective losses among their tribal people, which in turn have negatively affected their emotions and health behaviors. The framework also offers an alternative perspective to connect alcohol use behavior to a group's history. The findings suggest that alcohol use as a historical trauma response has been transmitted from one generation to the next through narratives and interactions with family and community members. Alcohol is used as a stress coping strategy to self-medicate the cumulative historical traumatic events and their accompanied losses. Even though younger generations did not directly experience traumatic

events targeted on their tribal people and communities, they have been learning the collective history through narratives within families and communities. Younger generations also have adopted alcohol use as their stress coping approaches from interaction with their parents, family members, or other community members. The findings are consistent with the literature of intergenerational transmission of historical trauma, which underscores that trauma can transmit through narratives and parenting within families (Denham, 2008; Myhra, 2011).

The results also indicate that contemporary generations have demonstrated similar emotional and behavioral responses toward those historical traumatic events that their previous generations experienced. Their responses to historical traumatic events and losses are not only at an individual level but also at family and community levels. Since many individuals are involved in alcohol use among Truku tribal communities, alcohol use has become a crucial collective health challenge. The findings confirm that Truku people's alcohol use is influenced by historical and structural factors (e.g., colonial oppression and its associated policies). These findings also challenge some dominant discourses that alcohol use is solely an individual's fault and the responsibility of Truku people.

Additionally, the majority of participants in the study demonstrated awareness of Truku people's historical events, especially those events that happened during the Japanese and KMT governments eras. Although Taiwan has been colonized by several foreign governments prior to the Japanese and KMT, these results are not surprising, given that the timelines of the events presented in the findings are closer to participants themselves, their parents, or grandparents. Furthermore, many participants, especially older generations, demonstrated strong emotional reactions (e.g., anger, rage, and anxiety) toward those historical traumatic events. One reason could be that some of the traumatic events happened within the past hundred years, which means

that the temporal distance between the timeline of the events and contemporary generations is not large. Therefore, participants themselves and their previous but recent generations (e.g., parents and grandparents) might have directly experienced those events. It is not unforeseen that the current generations may demonstrate strong emotional reactions in response to those historical traumatic events and losses. Another potential reason could be that some of the historical traumatic practices have not yet been totally discontinued. One example is that the prohibition of hunting practices is ongoing today due to the restriction of the National Park Law. Those indigenous groups whose traditional hunting territories are located within national parks including several Truku tribal communities, are prohibited from practicing their hunting traditions. Hunting practice plays significant roles in many indigenous communities, such as maintaining and restoring the balance of physical, mental, and spiritual well-being. Thus, the continuing prohibition of hunting practices may result in significant impacts, including emotional symptoms, among indigenous communities.

The study has many strengths, but there are also some limitations. First, the study specifically focuses on Truku tribal people, so the results might not be generalizable to other indigenous groups in Taiwan. However, it also could be the study's strength. Given that different tribes might experience different significant historical events, imposing generalization could be problematic but I think the framework should still work. Second, the majority of the study's participants are from one particular Truku tribal community. Although the study included a few participants who are Truku tribal leaders from other Truku tribal communities to provide their perspectives, the results may not adequately reflect the experiences of all Truku communities. Future study is needed to expand from the current study and explore historical trauma among other Truku tribal communities. Third, although the study results suggest that the

intergenerational transmission of alcohol use is through family and community narratives and interactions, there is a need for a more rich description regarding how historical trauma and alcohol use are transferred. Future research should consider interviewing multiple generations of a family. This is important for this type of research, since one person's response captures only his or her version of an experience. Fourth, the study proposes that direct or indirect exposure to historical traumatic events and/or historical losses may result in diverse pathological outcomes (e.g., emotional symptoms and drinking behaviors) among Truku people. However, not every Truku member demonstrates negative health outcomes and/or health risk behaviors, and many Truku people have positive health outcomes and well-being. Research with American Indians has indicated that indigenous cultures have significant strengths that can alleviate negative health outcomes (e.g., substance use, depression, anxiety, etc.) as well as promote resilience (Walters, Simoni & Evans-Campbell, 2002; Denham, 2008). Future study should investigate specific indigenous cultural strengths and other potential mechanisms that can foster resilience when faced with historical trauma. Furthermore, since indigenous peoples also face with several contemporary traumatic events relevant to interpersonal and structural discrimination and violence, it is important to consider the intersection of historical and contemporary trauma. Research with AIAN populations has suggested that when AIAN peoples experience contemporary traumatic events, the AIAN context of historical trauma may increase or trigger their reactions or responses to the contemporary events (Evans-Campbell, 2008). Future research should further explore the interplay between historical and contemporary trauma among Truku tribal people.

## **Implications**

Using a historical trauma framework, the study expands the literature of determinants of alcohol use among Taiwanese indigenous peoples and suggests that alcohol is used as a self-medicating approach toward intergenerational historical traumatic events and losses. To alleviate alcohol use among indigenous communities in Taiwan, those who work with indigenous peoples should acknowledge the influences of historical trauma on their drinking behaviors and avoid attributing these risk behaviors solely to indigenous people's own failures. In addition to continually exploring the relationships between historical trauma and alcohol use along with other health outcomes, future research is encouraged to investigate how to interrupt the intergenerational transmission of historical trauma together with the potential approaches which can heal historical trauma.

## References

- Brave Heart-Jordan, M. Y. H. (1995). The return to the sacred path: Healing from historical trauma and historical unresolved grief among the Lakota. (Doctoral dissertation, Smith College School for Social Work, 1995). (Copyright by Author: reprints available through the Takini Network, P.O. Box 4138, Rapid City, SD 57709-4138.)
- Brave Heart, M. Y. H. (1999). Oyate Ptayela: Rebuilding the Lakota Nation through addressing historical trauma among Lakota parents. *Journal of Human Behavior in the Social Environment*, 2(1-2), 109-126.
- Brave Heart, M. Y. H. (2000). Wakiksuyapi: Carrying the historical trauma of the Lakota. *Tulane Studies in Social Welfare*, 21-22, 245-266.
- Brave Heart, M. Y. H. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs*, 35(1), 7-13.
- Brave Heart, M., Chase, J., Elkins, J., & Altschul, D. B. (2011). Historical trauma among indigenous peoples of the Americas: Concepts, research, and clinical considerations. *Journal of Psychoactive Drug*, 43(4), 282–290. doi:10.1080/02791072.2011.628913
- Brave Heart, M., & DeBruyn, L. M. (1998). The American Indian Holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research*, 8(2), 56-78.
- Brown, D. (1970). *Bury my heart at wounded knee*. New York, NY: Holt, Rinehart & Winston.
- Chansonneuve, D. (2007). *Addictive behaviours among Aboriginal people in Canada*. Ottawa, ON: Aboriginal Healing Foundation.
- Chen, T. L. (2010). The political economy of the Indigenous people's drinking-related health problems in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 97, 247-282.
- Chen, Y. L., Chen, L. J., Bair, M. J., Yao, M. L., Peng, H. C., Yang, S. S., & Yang, S. C. (2011). Antioxidative status of patients with alcoholic liver disease in southeastern Taiwan. *World Journal of Gastroenterology: WJG*, 17(8), 1063-1070.
- Chen, H. M., & Wang, M. H. (1993). Alcohol consumption and drinking problems of the Formosan Aborigines in the reservation areas. *Journal of Geographical Research*, 20, 57-100.
- Chen, C. H., Chang, Y. C., Hsieh, Y. H., Chen, Y. C., Huang, Y. C., & Kuo, H. W. (2015). The association between drinking habits and family relationships in 3 villages of indigenous Taiwanese. *Asia Pacific Journal of Public Health*, 27(2), NP2721-NP2731.
- Cheng, A. T., & Chen, W. J. (1995). Alcoholism among four aboriginal groups in Taiwan: High prevalences and their implications. *Alcoholism: Clinical and Experimental Research*, 19(1), 81-91.

- Cheng, T. A., & Hsu, M. (1992). A community study of mental disorders among four aboriginal groups in Taiwan. *Psychological Medicine*, 22(01), 255-263.
- Connor, J., Broad, J., Rehm, J., Vander Hoorn, S., & Jackson, R. (2005). The burden of death, disease, and disability due to alcohol in New Zealand. *The New Zealand Medical Journal (Online)*, 118(1213).
- Council of Indigenous Peoples. (2010). *Indigenous health report of 2010*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C2A87C75321B627225>
- Council of Indigenous Peoples. (2013). *Indigenous health report of 2013*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C29BCFEDF220570369>
- Council of Indigenous Peoples. (2014). *Employment status survey of indigenous peoples 2014*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=19F6DD25969C101D&DID=0C3331F0EBD318C220B560FFD65CEA03>
- Council of Indigenous Peoples. (2016). *Employment status survey of indigenous peoples 2015*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=19F6DD25969C101D&DID=0C3331F0EBD318C214A0DCEC42E53941>
- Council of Indigenous Peoples. (2017). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C2484AF6CD1D5468A9>
- Department of Statistics. (2016). *Indigenous demographics*. Department of Statistics, Ministry of Interior, Taiwan. Retrieved from: [http://www.moi.gov.tw/stat/news\\_content.aspx?sn=11295](http://www.moi.gov.tw/stat/news_content.aspx?sn=11295)
- Denham, A. R. (2008). Rethinking historical trauma: Narratives of resilience. *Transcultural Psychiatry*, 45(3), 391-414.
- Duran, E., & Duran, B. (1995). *Native American postcolonial psychology*. New York, NY: SUNY Press.
- Ehlers, C. L. (2007). Variations in ADH and ALDH in Southwest California Indians. *Alcohol Research & Health*, 30(1), 14-17.
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence*, 23(3), 316-338. doi:10.1177/0886260507312290

- Hsia, H. C. (2010). The de-spirited drink: Exploring the capitalization process of Indigenous societies in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 77, 5-58.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Hung, Chang, Chen, Hsiu, & Chen, (2011). Exploration on health-risk behavior and its related factors in aborigines. *Journal of Chang Gung Institute of Technology*, 14, 67-78.
- Hwu, H. G., Yeh, Y. L., Wang, J. D., & Yeh, E. K. (1990). Alcoholism among Taiwan aborigines defined by the Chinese Diagnostic Interview Schedule: A comparison with alcoholism among Chinese. *Acta Psychiatrica Scandinavica*, 82(5), 374-380.
- Jian, G. W. (2014). Ri zhi shi qi tai lu ge zu de ji tuan yi zhu. *Newsletter of Taiwan Studies*, 82, 26-27.
- Ko, Y. C., Liu, B. H., & Hsieh, S. F. (1994). Issue on aboriginal health in Taiwan. *Kaohsiung Journal of Medical Sciences*, 10(7), 337-351.
- Lai, L. H. (2008). Factors associated to alcoholism in Aboriginal community- A study on some villages in central Taiwan. Master's thesis, China Medical University, Taiwan.
- Lai, L. H., Lung, C. H., Lee, I. Y., Lu, Y. Y., & Shih, S. F. (2013). Merrily drunk and friendly interchange: Factors associated with alcoholism in an Aboriginal community. *Chinese Journal of Guidance and Counseling*, 36, 155-182.
- Lange, R. (1999). *May the people live: a history of Maori health development 1900-1920*. Auckland, AU: Auckland University Press.
- Legters, L. (1988). The American genocide. *Policy Studies* 16(4), 768-77.
- Li, G. S. (2003). *Zou guo cai hong: Muda hakaw utux*. Hualien, Taiwan.
- Lin, Y. R., Icyeh L., & Kuan, D. W. (2008). Indigenous language-informed participatory policy in Taiwan: A socio-political perspective. In D. V. Rau & M. Florey (Eds.), *Documenting and revitalizing Austronesian languages* (pp.134-161). Honolulu, HI: University of Hawaii Press.
- Liu, C., & Chang, Y. (2014). Ethnic status inheritance in Aboriginal-Han marriages and families. *Taiwan She Hui Xue Kan*, 54, 131-180. Retrieved from <https://search.proquest.com/docview/1565691885?accountid=14784>
- Ko, Y. C., Liu, B. H., & Hsieh, S. F. (1994). Issues on aboriginal health in Taiwan. *Gaoxiong Yi Xue Ke Xue Za Zhi* 10, 337-351.
- May, P. A. (1994). The epidemiology of alcohol abuse among American Indians: The mythical and real properties. *American Indian Culture and Research Journal*, 18(2), 121-143.

- Ministry of Education & Council of Indigenous Peoples. (2014). *White papers on Indigenous educational policy in Taiwan*. Retrieved from:  
<http://ws.moe.edu.tw/001/Upload/3/refile/6315/6922/48189f8c-7f30-4aef-90bf-cb49bb9c8900.pdf>
- Mohatt, N. V., Thompson, A. B., Thai, N. D., & Tebes, J. K. (2014). Historical trauma as public narrative: A conceptual review of how history impacts present-day health. *Social Science & Medicine*, *106*, 128–136. <http://doi.org/10.1016/j.socscimed.2014.01.043>
- Myhra, L. L. (2011). “It runs in the family”: Intergenerational transmission of historical trauma among urban American Indians and Alaska Natives in culturally specific sobriety maintenance programs. *American Indian and Alaska Native Mental Health Research (Online)*, *18*(2), 17.
- Palacios, J. F., & Portillo, C. J. (2009). Understanding native women’s health: Historical legacies. *Journal of Transcultural Nursing*, *20*(1), 15–27.
- Pan, J. D. (2012). Tai lu ge shi jian. *Newsletter of Taiwan Studies*, *72*, 14-15.
- Pu, C. C. (2005). As regards the educational reform of indigenous people and influence. *Contemporary Educational Research Quarterly*, *13*(4), 1-32.
- Rehm, J., Baliunas, D., Borges, G. L., Graham, K., Irving, H., Kehoe, T., ... & Roerecke, M. (2010). The relation between different dimensions of alcohol consumption and burden of disease: An overview. *Addiction*, *105*(5), 817-843.
- Rin, L., & Lin, T. (1962). Mental illness among Formosan aborigines as compared with the Chinese in Taiwan. *Journal of Mental Science*, *108*, 134-146.
- Schubert, G. (Ed.). (2016). *Routledge handbook of contemporary Taiwan*. New York, NY: Routledge.
- Sioulin Township Office of Hualien County. (2009). *Tai lu ge zu kang ri zhan yi : Li shi yu kou chuan*. Hualien, Taiwan: Author.
- Thornton, R. (1987). *American Indian holocaust and survival: A population history since 1492*. Norman, OK: University of Oklahoma Press.
- Tsai, Y. Y. (2009). *Mental disorders of the Tao Aboriginal minority in Taiwan: Modernity, social change, and the origin of social suffering*. Taipei, Taiwan: Linking Publishing Co.
- Walters, K. L., Simoni, J. M., & Evans-Campbell, T. (2002). Substance use among American Indians and Alaska Natives: Incorporating culture in an “Indigenist” stress-coping paradigm. *Public Health Reports*, *117*(1), 104-117.
- Walters, K. L., Beltran, R., Huh, D., & Evans-Campbell, T. (2011). Dis-placement and dis-ease: land, place, and health among American Indians and Alaska Natives. In L. M. Burton, S.

- A. Matthews, M-C Leung, S. P. Kemp, & D. T. Takeuchi (Eds.), *Communities, neighborhoods, and health* (pp. 163-199). New York, NY: Springer.
- Whitbeck, L., Walls, M., Johnson, K., Morrisseau, A., & McDougall, C. (2009). Depressed affect and historical losses among North American Indigenous adolescents. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center*, 16(3), 16-41.
- Wilson, M., Stearne, A., Gray, D., & Saggors, S. (2010). The harmful use of alcohol amongst Indigenous Australians. Retrieved from: [http://www.healthinonet.ecu.edu.au/alcoholuse\\_review](http://www.healthinonet.ecu.edu.au/alcoholuse_review)
- World Health Organization, & World Health Organization. Management of Substance Abuse Unit. (2014). *Global status report on alcohol and health, 2014*. World Health Organization.
- Yen, C. F., Hsu, C. C., Liu, S. C., Huang, C. F., Ko, C. H., Yen, J. Y., & Cheng, C. P. (2006). Relationships among mental health status, social context, and demographic characteristics in Taiwanese aboriginal adolescents: A structural equation model. *Psychiatry and clinical neurosciences*, 60(5), 575-583.
- Yeh, M. Y. (2003). Drinking behavior: a study of drinking behavior from the perspectives of aboriginal adolescents. *Indigenous Education Quarterly*, 32, 30-48.
- Yeh, M. Y. (2004). Exploring the effects of psychosocial and acculturation factors on drinking behavior among aboriginal adolescents in Taiwan. *Psychiatry and Clinical Neurosciences*, 58(5), 453-459.
- Yeh, M. Y., & Chiang, I. C. (2005). Comparison of the predictors of alcohol use and misuse among Han and aboriginal students in Taiwan. *Addictive Behaviors*, 30(5), 989-1000.
- Yudaw, T. (2015). Cong tai lu ge zu dui ri zhan yi kan chuan tong jia zhi mian dui zhi min tong zhi. *Yuan Zhu Min Zu Wen Xian*, 21, 18-21.

**PAPER 2 (AIM 2) – MEASURING HISTORICAL TRAUMA:  
DEVELOPMENT AND VALIDATION OF HISTORICAL TRAUMA SCALES  
AMONG TRUKU TRIBAL COMMUNITIES**

**Introduction**

Evidence shows alarming health disparities between indigenous populations and the majority Han population<sup>5</sup> in Taiwan (Wen, Tsai, Shih, & Chung, 2004; Council of Indigenous Peoples, 2011). The average life expectancy of indigenous peoples is 70.8 years, which is 8.7 years lower than the national average (Ministry of Health and Welfare, 2014). To address disparities in the health of Taiwanese indigenous peoples, it is necessary to explore its determinants. Although a small but growing number of studies suggest the importance of taking into account historical factors among Taiwanese indigenous peoples, those studies are primarily conceptual or qualitative in nature (Chen, 2010; Hsia, 2010; Kao, 2010; Tsai, 2009; see also Paper 1 above). In global indigenous health scholarship, researchers have identified historical factors, such as historical trauma, as one of several primary determinants of indigenous health (Walters, Simoni, & Evans-Campbell, 2002; Evans-Campbell, 2008; Gone, 2013). Empirical quantitative evidence also indicates that the pathological health outcomes among indigenous peoples, including substance use, depression, anxiety, and PTSD symptoms, are connected to historical trauma (Brave Heart, 2003; Whitbeck, Adams, Hoyt, & Chen, 2004). However, no empirical quantitative research has yet assessed the linkages between historical trauma and Taiwanese indigenous health. Therefore, this study aims to develop historical trauma-related scales to test the linkages between historical trauma and health outcomes among indigenous people in Taiwan, with a focus on the Truku tribal people.

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<sup>5</sup> The Han compose the majority population in Taiwan, accounting for 95% of the total population.

## **Indigenous Health in Taiwan**

Similar to indigenous peoples across the world, Taiwanese indigenous peoples face alcohol use disorder and otherwise poor health. The mortality rate among indigenous peoples is 1.8 times higher than the national average (Council of Indigenous Peoples, 2011). The primary causes of death include cardiovascular diseases, accidental injuries, chronic liver diseases, and liver cancers. Additionally, recent official statistics indicate that the life expectancy among indigenous peoples is much shorter than that of the general population, almost 10 years less for men (66.1 vs. 76) and 7.3 years less for women (75.3 vs. 82.6) (Council of Indigenous Peoples, 2011). To address health disparities between indigenous peoples and majority Han peoples, historical determinants have been highlighted as significant factors that, in addition to classic social determinants of poor health such as deficits in education, employment, and income, contribute to present day negative health outcomes among indigenous peoples (Chen, 2010; Hsia, 2008; Tsai, 2009). In an associated qualitative study (see Paper 1), focused on Truku tribal people, I have found that historical traumatic events and their associated historical losses impact health risk behaviors (e.g., alcohol use) among contemporary Truku people.

## **Historical Trauma**

The concept of historical trauma has been developed by indigenous scholars, and it is widely utilized to understand the determinants of indigenous health. The concept refers to a history of events that disrupt and destroy traditional lifeways, culture, and identity and that is perpetuated on a group of people who have shared a group identity or affiliation; it includes destruction and degradation of their environment (Walters, Mohammed, Evans-Campbell, Beltran, Chae, & Duran, 2011). It is the legacy of numerous traumatic events a community has experienced across generations and encompasses the psychological and social responses to such

events (Brave Heart, 1995; 1999; 2000; 2003; Brave Heart & DeBruyn, 1998). Historical trauma was first introduced by Brave Heart and DeBruyn (1998), who linked American Indian and Alaska Natives' (AIANs) experiences of colonial oppression to the literature of Jewish Holocaust survivors and descendants. They have further suggested that AIAN individuals' psychological and mental health symptoms result from a complex of genocidal, ethnic cleansing, and forced assimilation initiatives directed at AIAN tribal communities. Brave Heart and her colleagues at the Takini Network have conducted influential work to investigate the impacts of historical traumatic events on the mental health of Lakota Nation members. Their findings suggest that the responses of Lakota people to historically traumatic events are similar to the symptoms of Jewish Holocaust survivors, such as anger, anxiety, intrusive trauma imagery, depression, survivor guilt, and feeling numb in response to traumatic events (Brave Heart, 1995; 1999; 2000; 2003).

**Measuring historical trauma.** Most studies of historical trauma are qualitative and conceptual in nature. A few studies have developed measurement scales to provide empirical evidence of historical trauma, such as the Historical Loss Scale (HLS) and its companion Historical Loss and Associated Symptoms Scale (HLAS) (Whitbeck, Adams, Hoyt, & Chen, 2004), and the Historical Trauma Scale (HTS) (Walters & Evans-Campbell, 2004). HLS and HLAS measure the influence of perceived losses from historical trauma events on emotional and psychological health among present-day AIAN peoples (Whitbeck et al., 2004). The HLS assesses frequency of thoughts regarding the losses of historical trauma events, such as losses of land, language, traditional practice, culture, trust, and family ties (Whitbeck et al., 2004). The HLAS measures the frequency of emotional and behavioral reactions associated with thinking about historical loss (Whitbeck et al., 2004). Given that the HLS and the HLAS measure present

day individuals' perception of and emotional reactions to cultural losses linked to historical experiences of colonization, both scales have been widely used in historical trauma studies across indigenous communities (Walls & Whitbeck, 2012). However, a significant weakness of the HLS and the HLAS is that neither include the intergenerational component, which is one of three primary dimensions of historical trauma that scholars have identified.

The HTS assesses generational exposure to historical trauma events by eliciting yes/no responses from participants about whether they themselves or members of four previous generations within their families had experienced each event (Balsam et al., 2004; Walters & Evans-Campbell, 2004). The scale comprises 13 adverse historical experiences such as: "Removed from family and placed into boarding or residential school"; "Native traditional healing or spiritual practices outlawed or prohibited, or stopped by non-Natives"; and "Forced to not speak the native language or practice other forms of cultural expression" (Walters & Evans-Campbell, 2004). The HTS thus reveals the transmission of historical traumatic experiences over generations (from self to great-great grandparents). This potentially provides researchers with a tool with which to examine the cumulative effects of previous generations' traumatic experiences on the health outcomes of current generations. Yet, to the author's knowledge, no published study has yet used the HTS to assess the link between historical trauma and health outcomes. It remains unclear how to properly utilize the HTS scale to evaluate the effects of generational exposure to historical traumatic events.

An additional issue is that in the literature on the measurement of historical trauma there is a small but growing body of work that focuses on the development of historical trauma scales, yet the design of the HLS, HTAS, and HTS scales is based on the experiences and contexts of AIANs. Given that indigenous peoples around the world have experienced diverse cultural and

social histories of trauma, there is a need for historical trauma measures that are culturally relevant and specific to other indigenous populations.

### **Development of Three Historical Trauma Scales Relevant to the Truku Tribe**

As a member of the Truku people, immersed in Truku culture and history, I have experienced firsthand the legacy of colonial oppression. For the past 12 years, first as a community organizer and more recently as a social work researcher, I have been observing the impacts of historical trauma on Truku tribal communities. I became curious about how the impacts of experiences of colonial oppression are passed from one generation to the next. In my graduate training in social work, I discovered the body of scholarship on historical trauma, which takes into account the impact of colonial oppression on the health, over generations, of American Indians and Alaska Natives (AIANs) (Brave Heart, 2003; Evans-Campbell, 2008). In my dissertation research I have used the conceptual framework of historical trauma to investigate how the experiences and impacts of colonial oppression have been transmitted over generations in Truku communities of Taiwan. I have conducted both qualitative and quantitative research. For the first paper of my dissertation, I implemented a qualitative study to explore the influence of historical trauma on Truku people's health by employing interviews with Truku tribal members. My qualitative findings from the first paper are consistent with the findings of other scholars working in AIAN communities and using the historical trauma framework. That the Truku peoples' historical traumatic events have impacted present day generations' health outcomes is clearly indicated in my qualitative findings (see Paper 1). This current study focuses on developing and evaluating the performance of historical trauma measurement scales that are based on my previous qualitative findings and are relevant to the experience of Truku tribal people. These scales are necessary tools for my quantitative study, which seeks to provide a clear

empirical link between historical traumatic events and the emotional and behavioral health outcomes among Truku tribal people (e.g., anger, anxiety, alcohol use, etc.).

According to findings of my qualitative study (Paper 1), Truku people have experienced a series of significant historical events that have caused devastating historical losses in their tribal communities. Truku people also expressed a variety of responses (e.g., emotional reactions and health risk behaviors) to the losses due to the historical events. Based on my findings shown in Paper 1 and my review of the literature, I have developed three historical trauma scales: (1) *Intergenerational Historical Trauma Adversity Scale*; (2) *Historical Loss Group Impact Scale*; and (3) *Historical Loss Group Impact Associated Symptoms Scale*.

The first scale, the Intergenerational Historical Trauma Adversity Scale (IHTAS), enumerates historical traumatic events that I identified in my qualitative research (Paper 1). Nine significant historical events that occurred during the Japanese government's and the Kuomintang (KMT) government's colonial periods emerged:

1. Truku people were forced to speak Mandarin Chinese due to Mandarin Speaking Policy;
2. Traditional Truku lands were taken away/stolen by government or large enterprise(s);
3. Truku communities were forcibly removed by governments from traditional high to low mountainous areas or out of mountainous areas;
4. Traditional Truku hunting practices were prohibited;
5. Other traditional cultural practices, such as facial tattoo and weaving, were prohibited;
6. Truku children were forced to attend special elementary schools designed for indigenous children during the era of Japan's rule;

7. Truku families were separated and forced to relocate to different geographic locations during Japan's ruling era;
8. Truku communities experienced massacres and violent suppression by Japanese armed forces; and
9. Truku individuals were forced to change their indigenous names to Chinese names during the Kuomintang era.

The concept of historical trauma posits that experiences in one generation can “pass” to another that did not directly experience them. The purpose of this first scale is to assess the cumulative prevalence and temporal proximity of the exposure to historical traumatic events across generations. In order to apprehend the effects historical trauma events from one generation have on subsequent generations, the first scale asked participants whether they themselves, their parents, their grandparents, and their great-grandparents had ever experienced each event.

The second scale, the Historical Loss Group Impact Scale (HLGIS), lists historical losses due to historical traumatic events. The scale focuses on examining individuals' perceptions regarding the intensity of the losses that have affected their tribal people. Twelve historical losses in continuity of cultural practices, identity, and social structure were identified in the qualitative findings (Paper 1):

1. Loss of the traditional Truku language;
2. Loss of control of traditional Truku lands;
3. Loss of connection with traditional lands for present and future generations;
4. Loss of traditional Truku spiritual practices;
5. Loss of indigenous identity;

6. Loss of traditional culture;
7. Loss of respect by children and grandchildren for elders;
8. Loss of children's respect for traditional ways;
9. Loss of the Truku hunting tradition;
10. Loss of traditional Truku ecological wisdom and knowledge;
11. Loss of traditional beliefs (e.g., Gaya); and
12. Loss of family ties.

The third scale, Historical Loss Group Impact Associated Symptoms Scale (HLGIASS) measures the emotional effects on individuals of awareness of the impacts of historical losses on their tribal people. The scale proposes to identify emotional responses that are triggered when they are reminded of the impact of historical losses on the Truku. Sixteen measures were identified in this scale, including feelings of sadness, anger, generalized worry, and hopelessness, as well as a loss of ability to sleep well and a desire to drink alcohol. Sixteen items emerged from my qualitative research findings (Paper 1):

1. Feelings of sadness
2. Feelings of anger
3. Feeling anxiety or nervousness
4. Feeling uncomfortable around Han people when thinking of these losses
5. Feeling shame when you think of these losses
6. Loss of ability to concentrate
7. Feeling isolated or distant from other people when you think of these losses
8. An inability to sleep
9. Feelings of rage

10. Feeling fearful or distrust the intentions of Han people
11. Feeling like it is happening again
12. Avoiding places or people that remind you of these losses
13. Feeling worried
14. Feelings of hopelessness
15. Feeling desire to use alcohol
16. Feeling desire to smoke cigarettes

In developing these three scales I synthesized information and methodology from three sources: (1) the results of my qualitative study (Paper 1); (2) the input of cultural and academic experts; and (3) the existing HLS and HLAS developed by Whitbeck et al. (2004) and the HTS developed by Walters and Evans-Campbell (2004). The items for the three scales were selected on the basis of the number of times each item emerged from my qualitative data (Paper 1). Any item included in the scale was mentioned by at least by three participants. I consulted eight community organizers from several Truku villages who have been actively engaged in revitalizing Truku culture for between 3 and 20 years. These cultural experts reviewed the cultural and content validity of the scales prior to data collection. The academic experts I consulted provided content validity among the scales. They include three American Indian scholars who have expertise on the topics of historical trauma, including developing means to measure historical trauma, and one non-indigenous psychometrics scholar. These academics have all been involved in health-focused research projects among AIAN peoples.

After integrating the feedback and suggestions from cultural experts and scholars, I modified the historical loss scales to be culturally relevant to the Truku. While I have developed and revised both the HLGIS and HLGSIASS based on the HLS and HLAS developed by

Whitbeck et al. (2004), I have also expanded the scope of their scales by addressing factors their scales do not take into account. Similar to the study conducted by Whitbeck's team, the findings from my qualitative study have also indicated an association between historical losses and the emotional responses of indigenous community members. However, due to the Truku people's unique history and distinct experiences of historical trauma, as compared to the communities studied by Whitbeck et al., the HLS and HLAS do not include some significant components particularly relevant to the Truku people of Taiwan (for example, losses resulting from the prohibition of hunting practices). The cultural experts I consulted thus advised modifying the HLS and HLAS scales. They anticipated, for example, that it would be challenging for the Truku to respond to questions about how often they perceive historical losses. To record the effects of historical loss, they suggested assessing the intensity of the impact of the awareness of historical losses on Truku tribal group members rather than examining the frequency of thoughts about those losses. This entailed modifying the existing scales.

Each of the three scales I developed was administered in sequence, with the first being the IHTAS (Intergenerational Historical Traumatic Adversity Scale), followed by the HLGIS (Historical Loss Group Impact Scale). This allowed items in the second scale to refer back to the first scale. The stem for the second scale reads: "The above historical events could cause the following losses, now, I would like to ask you about how intensely the following losses have affected your group of people?" The third scale, the HLGSIASS (Historical Loss Group Impact Associated Symptoms Scale) follows and the stems reads: "Now, I would like to ask you, when you think about the impact of the above historical losses toward to your tribal people, how often do you feel...?"

## **Intent of the Study**

Although there is an increase in research in Taiwan that has emphasized taking account of historical context to understand health risk behaviors among Taiwanese indigenous peoples, there is a paucity of empirical quantitative research examining the relationship between collective indigenous experiences of colonial oppression and negative emotional and behavioral health outcomes (e.g., alcohol use). Given these concerns, in this quantitative study I focus on the Truku tribe to understand, through an empirical lens, whether historical trauma is pertinent to Taiwanese indigenous peoples. My specific aim here is to examine, relative to my qualitative findings (Paper 1), the reliability and validity of the new historical trauma scales (IHTAS, HLGIS, and HLGIASS) and their relevance to indigenous Truku communities.

## **Methods**

### **Study Design**

I used a quantitative survey to investigate historical trauma among Truku tribal communities. As noted, prior to implementing the quantitative survey, I first developed a historical trauma instrument based on my qualitative findings (Paper 1), input from cultural and academic experts (discussed above), and instruments developed by researchers working in other indigenous communities (Whitbeck et al., 2004; Walters and Evans-Campbell, 2004). I then implemented the quantitative survey to test psychometric properties of the developed historical trauma scales.

**Population and procedures.** For this part of the study, I interviewed 245 Truku tribal members using a survey questionnaire to test the psychometric properties of the three scales. Participants currently live in 14 Truku tribal villages in both Xiulin Township (9) and Wanrong Township (5) in Hualien County. Eligible participants were (a) registered Truku tribal members,

(b) over 20 years old (the legal age in Taiwan), and (c) currently residing in one of the 14 villages (see Table 2.1).

According to the Council of Indigenous Peoples in Taiwan (2017), the total population of registered Truku tribal people is 30,877. Most (70%) of these individuals live in the 14 Truku tribal villages. The villages occupy distinct geographical locations, which may result in differences in tribal peoples' lives; therefore, I used a quota- and respondent-driven sampling technique to obtain participants across these 14 villages. To capture differences and similarities, I created 14 strata (one for each village) and then selected a number of cases to study within each stratum, based on respondent-driven sampling techniques.

**Participant recruitment.** To test the temporal stability of the three scales, participants were recruited in two stages. Participants (N=245) took part in the pretest survey between November and December 2015. Among them, 50 choose to participant in a retest survey between October and December 2016. Participants received the remuneration of \$250 Taiwan dollars (approximately \$8 USD) for each pretest and retest survey.

**Recruitment for pretest survey.** Four cultural experts referred potential participants who were key leaders or members from each of the 14 tribal villages. Participants included three generations: young adults (20-35 years old), adults (36-54 years old), and elders (age 55 and above) across the 14 villages. Participants provided oral informed consent. At the end of the survey interview, participants were asked to refer additional potential participants who might be willing to participate in the study.

**Recruitment for the retest survey.** Every pretest participant was informed about the retest in the consent process. On the participant information form, there was a section regarding the willingness to join the retest. If participants responded "yes" to the question, they were asked to

supply their phone number, which would only be used to reach them for the retest survey. Originally 65 participants expressed interest in the retest survey. Among the 65, 55 provided reachable phone numbers, and 5 of those declined the retest survey. Thus, 50 participants completed the retest survey.

**Data collection.** Participants were interviewed by study staff with responses recorded via a paper-and-pencil survey in Mandarin Chinese, with the interviews lasting 60-90 minutes. Interviewers were trained to be sensitive and to take necessary measures to reduce signs of uneasiness or discomfort during the survey interview. All participants were informed that they could pause or stop the interview at any time with no repercussions. Participants were reminded that they had the option to pass over questions or entire sections to reduce risk of unintended self-disclosure.

The interview was conducted in a private room of a community center or other location identified by participants. Interviewers read the questions to the participants and also helped them fill in the answers based on participants' responses. When faced with sensitive survey questions (e.g., about usage of alcohol), interviewers would walk away to provide private space for participants to answer those questions unobserved. In addition to myself, three interviewers were recruited for the study, all of whom were members of the Truku tribe. The study protocol was reviewed and approved by University of Washington Institutional Review Board and reviewed by Truku community members.

## **Measures**

The primary variables of this study include intergenerational historical trauma adversity, historical loss group impact, and historical loss group impact associated symptoms.

**Intergenerational historical trauma adversity.** Intergenerational historical trauma adversity is measured by the IHTAS, which includes 9 items involving significant historical and colonial experiences or events of the Truku people (listed above). The 9 items include 4 sub-items. For instance, one item asks about the experience regarding being prohibited from speaking the Truku language. Under the item, 4 sub-items ask about intergenerational effects of this prohibition. The 4 sub-items are as follows: “Have you ever been forced to not speak the Truku language due to the government’s Mandarin Speaking policy?” “Have your parents ever been forced to not speak the Truku language due to government’s Mandarin Speaking policy?” “Have your grandparents ever been forced to not speak the Truku language due to government’s Mandarin Speaking policy?” and “Have your great grandparents ever been forced to not speak the Truku language due to government’s Mandarin Speaking policy?” The response categories include 0 = no, 1 = yes, and 2 = do not know. I recoded the response categories: those who responded no or do not know = 0, self-responded yes = 4, parents responded yes = 3, grandparents responded yes =2; and great-grandparent responded yes =1. Then, all response items were summed to produce total scores for each item that referred to the accumulation of historical traumatic events across generations for each experience or event. The smaller scores indicate more distant historical experiences or events.

**Historical loss group impact.** Historical loss group impact is measured by the HLGIS. The scale includes 12 items and measures the impact of historical losses on tribal culture and practices. Some examples of the items include the following: “How intense was the impact of losing your tribal language on your tribal people?” “How intense was the impact of losing the hunting tradition on your tribal people?” “How intense was the impact of losing your land on

your tribal people?” The response categories include a 3-point Likert scale: 1=less negative impact, 2=negative impact, and 3=very negative impact.

**Historical loss impact associated symptoms.** The historical loss impact associated symptoms are measured by the *Historical Loss Impact Associated Symptoms Scale*, which I have revised and expanded based on Whitbeck et al.’s (2004) HLAS to be relevant to Taiwanese indigenous communities. The scale includes 16 items and measures the emotional feelings and responses to the impacts of historical loss. Some examples of the items are as follows: “How often do you feel sadness when you think about the above losses or events?” “How often do you feel anger when you think about above losses or events?” and “How often do you feel hopeless when you think about above losses or events?” The response categories include a 5-point Likert scale between 1=never, 2=seldom, 3=sometimes, 4=often, and 5=always.

**Demographic variables.** Demographic variables include age, birth sex, education, and employment.

## **Data Analysis**

To examine the descriptive analysis and the psychometric properties of the three new scales, I assessed the internal consistency reliability, test-retest reliability, construct validity, and predictive validity. Descriptive analysis provided information regarding sample characteristics (e.g., mean and percentage) and the descriptive information of key factors (e.g., the percentage of exposure to historical traumatic events, intensity of historical losses group impact, and the frequency of historical loss group impact associated symptoms). Internal consistency reliability was measured by Cronbach's Alpha, an alpha of 0.7 has been indicated as an acceptable internal reliability coefficient (Nunnally, 1978). Test-retest reliability was assessed by the intra-class correlation coefficient (ICC). An ICC of 0.7 indicates strong agreement (Shrout & Fleiss, 1979).

Construct validity was measured using SEM analysis, which included two stages: factor analysis and structural analysis. Prior to implementing the structural analysis, the first step was to conduct both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) for each of the three scales. EFA was used to examine whether the items in each scale are well loaded together. CFA was used to assess the proposed measurement model and to determine how well the model fit the data. In the second step, structural analysis was used to test the structural correlations between intergenerational historical traumatic adversity, intensity of historical losses group impact, and historical losses group impact associated symptoms. The measures of constructs were expected to correlate to each other. The fit statistics used in assessing model fit for SEM include the following: chi-square ( $\chi^2$ ) test, root mean square error of approximation (RMSEA), comparative fit index (CFI) estimates, and Tucker Lewis Index (TLI). RMSEA estimates less than or equal to 0.1 (Browne & Cudeck, 1993) and CFI and TLI values of 0.9 or higher are considered good fit (Bentler, 1990; Bentler & Bonerr, 1980).

Predictive validity was evaluated by SEM analysis to assess the instrument's ability to predict outcomes it should theoretically be able predict. According to the historical trauma literature, historical trauma has been viewed as an etiology of indigenous health outcomes (e.g., alcohol use, PTSD symptoms, and depression). This present study also considered historical trauma as etiology, so predictive validity was measured by evaluating whether the intergenerational historical trauma adversity and the historical loss group impact can predict historical loss group impact associated symptoms among Truku people.

## Results

### Sample Characteristics

Participants' descriptive characteristics are presented in Table 2.2. The average age of participants was 48 years old, with each age group including 20% to 29% of participants.

Moreover, 54% were women; 69% were employed, and 51% had at least high school degree.

**Intergenerational historical traumatic adversity.** The IHTAS consists of 9 items listing historical traumatic events relevant to the Truku people (Table 2.3). Each historical event was reported to be experienced across different generations. Three of the items were experienced most often by participants. More than half (57%) reported being forced to speak Mandarin Chinese, and 58% also reported to have directly experienced prohibition from traditional hunting practices. Nearly half (47%) had personal experience of being forced to change their indigenous names to Mandarin Chinese names.

The results were slightly different in the parental generation than in the participants' generation. More than one third of participants reported that their parents had experienced the following events: forced to speak Mandarin Chinese (43%), traditional lands were taken away (36%), forcibly removed from high to low or out of mountainous areas (39%), prohibition from hunting practices (44%), prohibition from practicing traditional culture (32%), forced to attend special elementary school (45%), family separation (27%), and forced to change indigenous name to Mandarin Chinese name (59%).

More than one fourth also reported that their grandparents had experienced the following events: forced to speak Mandarin Chinese (27%), traditional lands were taken away (25%), forcibly removed from high to low or out of mountainous areas (47%), prohibition from practicing traditional culture (42%), forced to attend special elementary school (44%), family

separation (42%), suppressed by armed forced during the Japanese colonial times (44%), and forced to change indigenous name to Mandarin Chinese name (44%). Nearly one fourth stated that their great grandparents had experienced the following events: forcibly removed from high to low or out of mountainous areas (33%), prohibition from practicing traditional culture (25%), forced attendance at special elementary schools (23%), family separation (24%), and oppression by armed forced during Japan ruling (23%).

The average scores of the accumulation of historical traumatic events across four generations (i.e., self, parents, grandparents, and great-grandparents) showed how historical traumatic events affected participants across generations. Participant accumulative historical traumatic event scores ranged from 0 to 10 with zero referring to none of the four generations ever experiencing an event and 10 referring to all four generations directly experienced the event. The overall intergenerational historical traumatic adversity score captured multigenerational exposure to historical traumatic events. Among the 9 historical events, forced to change indigenous name, forced to speak Mandarin Chinese, and prohibitions from hunting practices ranked the highest.

**Historical loss group impact.** Across all but 1 of the 12 historical loss items, most participants (90% or more) reported the losses had a negative or very negative impact on their tribal people (Table 2.4). The exception was that 13% of the respondents reported that “loss of traditional spiritual practices” had less negative impact. The results show that a significant proportion of participants considered that these historical losses have negatively impacted their tribal communities.

**Historical loss group impact associated symptoms.** The 6 most frequent emotional responses to the 16 items concerning historical losses were sadness, anger, anxiety or

nervousness, shame, rage, and worries (Table 2.5). More than one third of the participants reported always having feelings of sadness (36%) or anger (33%) when they thought about the impact of historical loss among their tribal people. About one fourth of participants reported always feeling shame (27%), anxiety or nervousness (24%), and worries (24%) when they had thoughts of the impact of historical losses among their group of people. More than one fifth reported always or often feeling rage (37%), distrust of the intentions of Han people (30%), hopelessness (28%), it is going to happen again (27%), isolated or distant from other people (26%), being uncomfortable around Han people (25%), avoiding places or people that reminds them of the losses (24%), using alcohol (23%) and loss of concentration (22%) in regards to the impact of historical losses.

### **Reliability**

**Internal consistency.** The IHTAS scores were internally consistent for the total sample (Cronbach's alpha = .77). The HLGIS also demonstrated adequate internal consistency (alpha = .95). On the HLGSIASS, data also indicated sufficient internal consistency and three subdomains emerged: depression symptoms, PTSD symptoms, and alcohol and cigarette use (alpha were .89, .90 and .63 respectively).

**Test-retest reliability.** ICCs presented sufficient levels of reliability for the IHTAS and the HLGIS (ICC= .80 and .87 respectively). The three subscales of the HLGSIASS also showed adequate and stable reliability: depression factor (ICC= .89), PTSD factor (ICC= .83), and alcohol and cigarette use factor (ICC= .85).

## Validity

**Construct validity.** The IHTAS indicated only one factor for 51% of the variance in the component measures (eigenvalue=2.79, Table 2.6). The 9 items loaded adequately on the latent construct, ranging from .40 to .64. The results for the 12-item Historical Loss Group Impact Scale also indicated one factor for 89% of the variance in the component measures (eigenvalue=7.4, Table 2.7) with the latent construct, ranging from .66 to .88. The HLGSIASS indicated three factors that explained 65.6% of the variances in the component measures (Table 2.8). One factor is congruent with a 7-item depression-like symptoms dimension with factor ranged from .52 to .86. The items included feeling sadness, anger, anxiety or nervousness, loss of concentration, fearful or distrustful of the intentions of Han people, worried, and hopeless. The second factor captured the PTSD-like symptoms dimension, including: feelings of discomfort around Han people, feelings of shame, and feelings of isolation or distance from other people when thinking of these losses; experiencing a loss of sleep; feelings of rage; feeling like it is happening again; and the impulse to avoid places or people reminiscent of these losses. The loadings for items ranged from .61 to .84. The third factor captured alcohol and cigarette use. Two items were included: feeling a desire to use alcohol, and feeling a desire to smoke a cigarette. The loadings for items in this factor ranged from .82 to .84.

The CFA measurement model for each scale was: Intergenerational Historical Traumatic Adversity (one factor), Historical Loss Group Impact (one factor), and Historical Loss Group Impact Associated Symptoms (three factors). According to CFA results, the one-factor model of Intergenerational Historical Traumatic Adversity produced an adequate model fit ( $\chi^2 = 36.51$ ;  $p = 0.05$ ; CFI = .97; TLI = .95; RMSEA = .05, with a CI of .03–.08) (Figure 2.1). The one factor model of Historical Loss Group Impact also indicated sufficient model fit ( $\chi^2 = 110.56$ ;  $p < 0.01$ ;

CFI = .95; TLI = .93; RMSEA = .07, with a CI of .05–.011) (Figure 2.2). The three factors model of Historical Loss Group Impact Associated Symptoms also showed acceptable model fit ( $\chi^2 = 100.1$ ;  $p < 0.01$ ; CFI = .95; TLI = .96; RMSEA = .06, with a CI of .06–.09) (Figure 2.3).

**Predictive validity.** An SEM model estimated the association between the latent variables of intergenerational historical traumatic adversity, historical loss group impact and the three identified symptoms dimensions (Figure 2.4). As hypothesized, exposure to more intergenerational historical traumatic adversity was associated with the stronger sense of the negative impact of historical loss on tribal people ( $\beta = .19$ ,  $z = 2.77$ ,  $p < .01$ ). A strong sense of the negative impact of historical loss on tribal people was associated with the three emotional symptom factors: depression factor ( $\beta = .29$ ,  $z = 4.7$ ,  $p < .001$ ), PTSD factor ( $\beta = .18$ ,  $z = 3.19$ ,  $p < .01$ ), and alcohol and cigarette use factor ( $\beta = .48$ ,  $z = 9.99$ ,  $p < .001$ ). The results also indicated that intergenerational historical traumatic adversity was associated with the three emotional symptom factors: depression factor ( $\beta = .31$ ,  $z = 5.03$ ,  $p < .001$ ), PTSD factor ( $\beta = .30$ ,  $z = 4.84$ ,  $p < .001$ ), and alcohol and cigarette use factor ( $\beta = .45$ ,  $z = 7.87$ ,  $p < .001$ ). Among the three latent symptom constructs, depression was associated with PTSD ( $r = .84$ ,  $p < .001$ ), and PTSD was associated with alcohol and cigarette use ( $r = .12$ ,  $p < .05$ ).

The intergenerational historical traumatic adversity results also showed indirect effects on the three symptoms through the mechanism of perceiving strong negative impact of historical loss among tribal people ( $\beta = .05$ ,  $z = 2.24$ ,  $p < .05$ ;  $\beta = .03$ ,  $z = 2.03$ ,  $p < .05$ ;  $\beta = .09$ ,  $z = 2.63$ ,  $p < .01$ , respectively). The results indicated that the historical loss group impact partially mediated the relationship between the intergenerational historical traumatic adversity and the three sub-symptoms. Furthermore, the SEM model fit the data well. The RMSEA is .05 (with a CI of .05 –

.06), and the chi-square was significant ( $\chi^2(608, N=245) = 924.53; p < .001$ ). The CFI was 0.93 and the TLI was 0.93. The model explained 78.5% of the variance of the data.

## **Discussion**

The concept of historical trauma has been used to discuss indigenous peoples' contemporary health across international indigenous communities. However, the majority of the literature on historical trauma focuses more on conceptual and qualitative analysis. While a few studies have focused on developing historical trauma-related measurement scales, notably, HLS and its companion HLAS (Whitbeck et al., 2004), and the HTS (Walters & Evans-Campbell, 2004), both historical loss and historical trauma scales were designed to address the experiences and circumstances of the indigenous peoples of North America. Therefore, these scales are not necessarily fully relevant to indigenous communities in other parts of the world. The current study is an initial pilot to develop a historical trauma measure relevant to indigenous communities in Taiwan. The historical trauma scales were specifically designed to measure Taiwanese Truku tribal people's experiences. The study's results support the historical trauma theory that exposure to historical traumatic events appears to be associated with mental health symptoms (i.e., symptoms related to depression, PTSD, and alcohol use). The preliminary findings suggested that individuals who were more directly exposed to historical traumatic events perceived higher levels of negative impact of historical losses on their tribal people and emotional distress.

I have also developed a historical trauma measure designed to capture cumulative group trauma across generations, a significant component within the concept of historical trauma. The IHTAS was designed to measure individuals' exposure to historical traumatic events across generations. According to my qualitative findings (Paper 1), the majority of participants reported

gaining awareness of historical traumatic events through family narratives. Although they did not directly experience the events, some of them still expressed emotional reactions to the historical events and associated historical losses. The qualitative results also showed that participants had differing degrees of emotional reaction to the historical events based on how directly the events affected them. For instance, during the qualitative interviews, compared to participants who did not directly experience the historical events, those who had personal experience of them expressed stronger emotional responses while they were describing the events and the losses related to them. Therefore, the design and the scoring of the IHTAS not only aimed to capture cumulative effects of historical events across generations, it also intended to take account of the distance of the events from the individual participants. The scoring of the IHTAS is sensitive to the timing of each event item. If the event doesn't apply to particular generation(s), the average scores of each item will reflect this. For instance, among the 9 historical events, more than half of participants reported having personal experiences, such as being forced to speak Mandarin Chinese due to Mandarin Speaking Policy, but only 3% of participants directly experienced the prohibition against traditional Truku cultural practices during the era of Japan's rule (Table 2.2).

The average scores of those forced to speak Mandarin Chinese were significantly higher than the mean scores of those who experienced the cultural prohibition under the Japanese. The results suggested that higher average scores for intergenerational historical traumatic adversity among each event was due to more participants having direct experiences of the event, and lower average scores represented that more members of the older generations had direct experiences of the event. The IHTAS and its scoring system offers a way to assess historical trauma across generations. Future research on measuring historical trauma is needed to develop measures that can capture the experiences across each generation.

Furthermore, the results indicated that both intergenerational historical traumatic adversity and historical loss group impact were correlated with emotional symptoms. The findings of the study suggest that historical traumatic events and historical loss group impact are etiologies of the Truku people's emotional symptoms. However, the symptoms of the study focused on emotions and feelings (e.g., feeling of wanting to drink alcohol) as reported by the participants themselves, rather than as identified by clinical assessment. Future studies are required to further examine the relationships between intergenerational historical traumatic adversity, historical loss group impact, and clinical mental health outcomes.

In addition to presenting the linkage between contemporary individuals' emotional symptoms and exposure to historical traumatic events, the preliminary findings of the study also point the way to understanding how historical traumatic events are transformed into emotional symptoms. A sense of the negative impact of historical losses among tribal people acted as a partial mediator that can convey exposure to intergenerational historical traumatic events into individuals' emotional symptoms. The results of this study only represent one of many potential pathways between historical traumatic events and emotional symptoms. Future work is necessary to explore other potential mechanisms by which historical traumatic events (including direct and/or indirect exposure to events) result in mental health symptoms among indigenous peoples.

The present study has many strengths, though there are some limitations. First, the IHTAS design assumed that the weights of all historical traumatic events were the same, but weights of individuals' personal direct experiences of historical traumatic events were greater than their parents' direct experiences of the events. The weights of their parents' personal direct exposure to historical traumatic events were also greater than their grandparents' direct experience of the events. The weights of the grandparents' personal direct experience of

historical traumatic events were also greater than great-grandparents' direct exposure to the events. Since different historical traumatic events may result in a wide range of distinct impact levels, it is debatable whether each historical event should be given weights only based on the temporal distances of the event to individuals. Future research may need to consider types of events, intensity and duration of exposure to historical traumatic events. A second limitation is that the present study used a snowball sampling (which is a non-probability sampling method); selection bias was an error I sought to minimize. To reduce selection bias, I recruited participants from 14 Truku tribal villages. The number of participants from each village reflected the actual populations for each of the 14 villages. Additionally, the participants all lived in tribal villages. This study has not determined whether the results are applicable to Truku people who live in urban areas. Truku people who live in tribal villages and those who reside in urban areas may develop distinctly different reactions to historical trauma because experiences in urban areas and reservation areas may be different.

### **Implications**

This study's findings not only offer a new measure of historical trauma but also provide significant evidence that connects generational historical traumatic events to present day Truku people's emotional symptoms. Moreover, although the historical trauma measure in this study was designed based on Truku tribal communities, most Taiwanese indigenous peoples have experienced a series of similar colonial oppressions, so the scales are anticipated to be relevant to the other indigenous communities in Taiwan. Additionally, the study's findings, which suggest that historical traumatic events have directly or indirectly impacted Truku tribal people's health, can assist in educating the majority Taiwanese population (including policy makers and social services practitioners) that the legacies of colonial oppression are ongoing today, even though

those colonial events might have happened several generations ago. To alleviate indigenous health disparities in Taiwan, it is important to acknowledge the influences of colonial oppression on contemporary health outcomes including health risk behaviors among indigenous peoples instead of attributing indigenous people's health risk behaviors solely to their own responsibilities.

Table 2.1  
*Sample Size Across 14 Truku Tribal Villages*

<b>Village</b>	<b>Ratio</b> (The village's total amount of Truku People/Total amount of Truku people in both Xiulin and Wanrong townships in August 2015)	<b>Sample size of stratified respondent-driven sampling for each village</b> (Ratio * 245 total survey numbers)
<b>Xiulin Township</b>		
Village 1: Tkijig	1278/16052=.08	245*.08=20
Village 2: Psngan	1612/16052=.10	245*.10=25
Village 3: Bsuring	1804/16052=.11	245*.11=27
Village 4: Pajiq	1225/16052=.076	245*.07=18
Village 5: Mqmggi	1245/16052=.077	245*.08=19
Village 6: Tmunan	1121/16052=.07	245*.07=17
Village 7: Qowgan	1719/16052=.10	245*.10=25
Village 8: Kdusan	839/16052=.05	245*.05=12
Village 9: Knibu	1095/16052=.07	245*.07=17
<b>Wanrong Township</b>		
Village 10: Chiyakan	1189/16052=.7	245*.07=18
Village 11: Mihalasi	577/16052=.04	245*.04=10
Village 12: Rubas	798/16052=.05	245*.05=12
Village 13: Maribasi	586/16052=.04	245*.04=10
Village 14: Ihowang	957/16052=.06	245*.06=15
<b>Total</b>	1	245

Reference: Hualien County Civil Affairs Department. (2015). *Hualien County demographic statistics in August*. Retrieved from: <http://ca.hl.gov.tw/files/15-1004-55418,c3856-1.php>

Table 2.2  
*Demographic Characteristics and Descriptive Information of Truku people (N=245)*

<b>Demographics</b>	<b>N (%)</b>	<b>Mean (SD)</b>
Average age (20-83)		48 (15.7)
20-34 years old	61 (25%)	
35-49 years old	65 (26%)	
50-64 years old	71 (29%)	
64-83 years old	48 (20%)	
Birth sex:		
Male	115 (47%)	
20-34 years old	33 (13.5%)	
35-49 years old	31 (13%)	
50-64 years old	33 (13.5%)	
64-83 years old	18 (7%)	
Female	130 (53%)	
20-34 years old	27 (11%)	
35-49 years old	34 (14%)	
50-64 years old	39 (16%)	
64-83 years old	30 (12%)	
Employed <sup>a</sup>	169 (69%)	
Education		
High school degree and above	125 (51%)	
Alcohol use disorder		11 (9.3)
Harmful alcohol drinker (cutoff points $\geq 8$ )	132 (54%)	
Alcohol dependence (cutoff points $\geq 11$ )	113 (46%)	

Notes: <sup>a</sup> Employed included full time and part time employment.

Table 2.3  
*Intergenerational Historical Traumatic Adversity (N=245)*

	Frequency of exposure to historical traumatic adversity N (%)				Accumulation of intergenerational historical traumatic adversity
	Self	Parents	Grand-parents	Great-grandparents	Mean (SD) (Range: 0-10)
Forced to speak Mandarin Chinese due to Mandarin Speaking Policy	141 (57%)	106 (43%)	67 (27%)	34 (14%)	4.4 (3.1)
Traditional lands were taken away/stolen by government or large enterprise(s)	66 (27%)	88 (36%)	61 (25%)	36 (15%)	3.2 (3.5)
Forcibly removed from high to low traditional mountainous areas or out of mountainous areas	14 (6%)	94 (39%)	113 (47%)	79 (33%)	2.9 (2.7)
Prohibition from traditional hunting practices	143 (58%)	108 (44%)	48 (20%)	29 (12%)	4.2 (3.2)
Prohibition from practicing traditional culture during Japanese colonial era	7 (3%)	78 (32%)	104 (42%)	62 (25%)	2.4 (2.3)
Forced to attend special elementary schools, which were designed for indigenous children during Japanese colonial era	7 (3%)	110 (45%)	109 (44%)	56 (23%)	2.7 (2.1)
Families were forced to separate and relocate to different geographic locations during Japanese colonial era	18 (7%)	66 (27%)	102 (42%)	60 (24%)	2.4 (2.6)
Experienced massacre or suppressed by armed forces by Japanese government	0	55 (22%)	109 (44%)	56 (23%)	1.6 (1.9)
Forced to change indigenous name to Mandarin Chinese name during Kuomintang era	115 (47%)	143 (59%)	108 (44%)	41 (17%)	5.3 (3.8)

Table 2.4  
*Percentage of Intensity of Historical Loss Group Impact (N=245)*

<b>Historical Losses</b>	<b>Very negative impact (%)</b>	<b>Negative impact (%)</b>	<b>Less negative impact (%)</b>
Loss of our traditional language	67%	31%	2%
Loss of our land	69%	27%	4%
Loss of connection with traditional land for present and future generation	65%	30%	5%
Loss of traditional spiritual practices	49%	38%	13%
Loss of indigenous identity	63%	33%	4%
Losing traditional culture	64%	32%	3%
Loss of respect by children and grandchildren for elders	67%	31%	2%
Loss of children's respect for traditional ways	65%	31%	4%
Losing hunting tradition	65%	30%	5%
Losing traditional ecological wisdom and knowledge	64%	29%	7%
Losing traditional belief (e.g., Gaya)	60%	30%	9%
Losing family ties	70%	24%	6%

Table 2.5  
*Percentage of Frequency of Emotional Responses to Historical Loss Group Impact (N=245)*

<b>Historical Losses</b>	Always (%)	Often (%)	Sometimes (%)	Seldom (%)	Never (%)
Feel sadness	36	20	34	8	2
Feel anger	33	22	32	9	4
Anxiety or nervousness	24	16	32	19	9
Uncomfortable around Han people when you think of these losses	15	10	29	25	20
Shame when you think of these losses	27	14	26	19	14
Loss of concentration	13	9	26	29	24
Feel isolated or distant from other people when you think of these losses	15	11	26	25	23
A loss of sleep	11	5	22	32	29
Rage	22	15	33	19	12
Fearful or distrust the intentions of Han people	17	13	31	27	13
Feel like it is happening again	14	13	33	22	18
Feel like avoiding places or people that remind you of these losses	13	11	26	29	22
Worries	24	16	38	13	8
Hopelessness	14	14	33	24	15
Feel desire to use alcohol	13	10	22	31	24
Feel desire to smoke cigarette	4	5	18	22	50

Table 2.6  
*Factor Analysis of Intergenerational Historical Traumatic Adversity (N=245)*

Item	Factor loading
Forced to speak Mandarin Chinese due to Mandarin Speaking Policy	.51
Traditional lands were taken away/stolen by government or large enterprise(s)	.52
Forcibly removed by governments from high to low traditional mountainous areas or out of mountainous areas	.59
Prohibition from traditional hunting practices	.40
Prohibition from practicing traditional culture (e.g., facial tattoo and weaving)	.51
Forced to attend special elementary schools, which were designed for indigenous children	.64
Families or tribal communities were forced to separate and relocate to different geographic locations	.61
Experienced massacre or suppressed by armed forces by Japanese government	.58
Forced to change indigenous name to Chinese name during Kuomintang era	.54
Eigenvalues	2.79
Percent of variance explained	51.14

Table 2.7  
*Factor Analysis of Historical Loss Group Impact (N=245)*

Item	Factor loading
Loss of our traditional language	.86
Loss of our land	.80
Loss of connection with traditional land for present and future generation	.82
Loss of traditional spiritual practices	.71
Loss of indigenous identity	.82
Losing traditional culture	.88
Loss of respect by children and grandchildren for elders	.81
Loss of children's respect for traditional ways	.81
Losing hunting tradition	.76
Losing traditional ecological wisdom and knowledge	.78
Losing traditional belief (e.g., Gaya)	.66
Losing family ties	.68
Eigenvalues	7.40
Percent of variance explained	89.47

Table 2.8  
*Factor Analysis of Emotional Response Associated with Historical Loss Group Impact (N=245)*

Item	Varimax rotated loading		
	1	2	3
Feel sadness	.86	.19	.08
Feel anger	.84	.17	.13
Anxiety or nervousness	.64	.35	.26
Uncomfortable around Han people when you think of these losses	.11	.84	.04
Shame when you think of these losses	.22	.82	.10
Loss of concentration	.52	.42	.03
Feel isolated or distant from other people when you think of these losses	.34	.75	.24
A loss of sleep	.34	.70	.15
Rage	.32	.75	.13
Fearful or distrust the intentions of Han people	.67	.38	.11
Feel like it is happening again	.34	.65	.09
Feel like avoiding places or people that remind you of these losses	.33	.61	.07
Worries	.74	.37	.19
Hopelessness	.52	.31	.10
Feel like to use alcohol	.12	.15	.82
Feel like to smoke cigarette	.15	.08	.84
Eigenvalues	4.45	4.37	1.66
Percent of variance explained	27.86	27.36	10.38

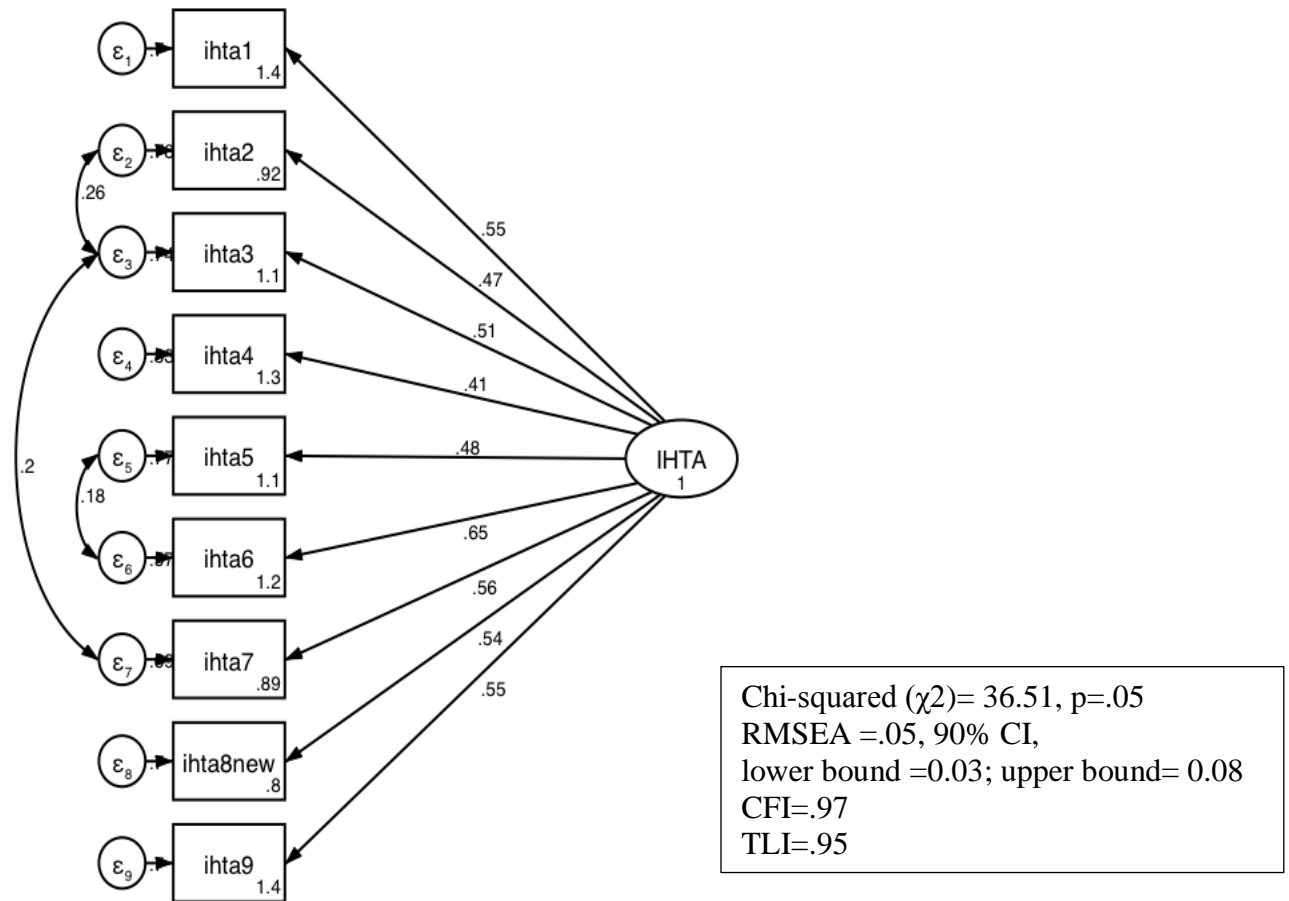
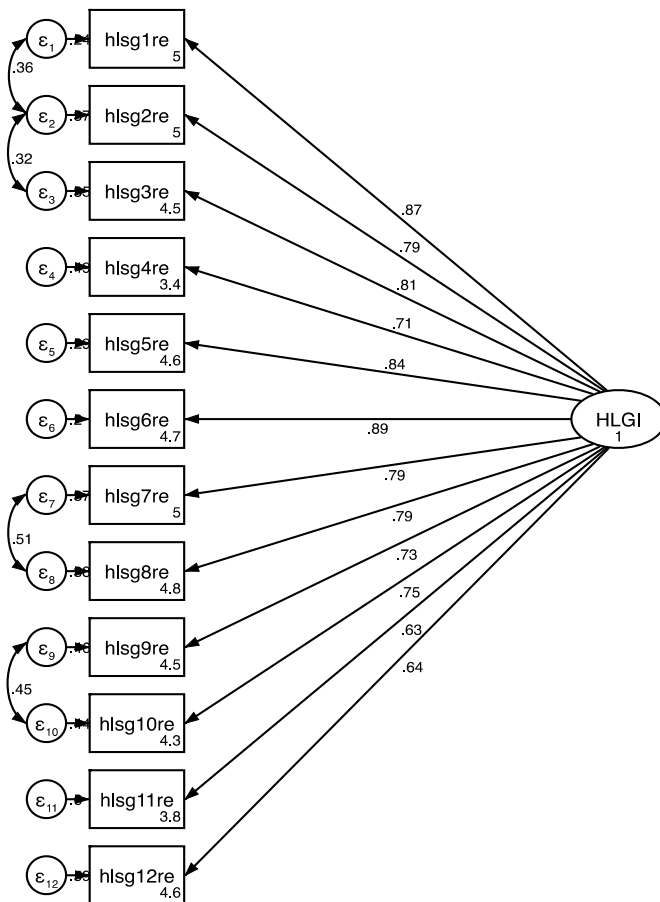


Figure 2.1. Measurement Model: Confirmatory Factor Analysis of the *Intergenerational Historical Traumatic Adversity Scale* (N=245)

Notes:

- Ihta1: Forced to speak Mandarin Chinese due to Mandarin Speaking Policy;
- Ihta2: Traditional lands were taken away/stolen by government or large enterprise(s);
- Ihta3: Forcibly removed by governments from high to low traditional mountainous areas or out of mountainous areas;
- Ihta4: Prohibition from traditional hunting practices;
- Ihta5: Prohibition from practicing traditional culture (e.g., facial tattoo and weaving);
- Ihta6: Forced to attend special elementary schools, which were designed for indigenous children during Japan ruling era;
- Ihta7: Families were forced to separate and relocate to different geographic locations during Japan ruling era;
- Ihta8new: Experienced massacre or suppressed by armed forces by Japanese government;
- Ihta9: Forced to change indigenous name to Chinese name during the Kuomintang era.



Chi-squared ( $\chi^2$ )= 110.56,  $p < .001$   
 RMSEA =.07, 90% CI,  
 lower bound =0.05;  
 upper bound= 0.11  
 CFI=.95  
 TLI=.93

Figure 2.2. Measurement Model: Confirmatory Factor Analysis of *Historical Loss Group Impact Scale* (N=245)

Notes:

- Hlsg1re: Loss of our traditional language;
- Hlsg2re: Loss of our land;
- Hlsg3re: Loss of connection with traditional land for present and future generation;
- Hlsg4re: Loss of traditional spiritual practices;
- Hlsg5re: Loss of indigenous identity;
- Hlsg6re: Losing traditional culture;
- Hlsg7re: Loss of respect by children and grandchildren for elders;
- Hlsg8re: Loss of children's respect for traditional ways;
- Hlsg9re: Losing hunting tradition;
- Hlsg10re: Losing traditional ecological wisdom and knowledge;
- Hlsg11re: Losing traditional belief (e.g., Gaya);
- Hlsg12re: Losing family ties

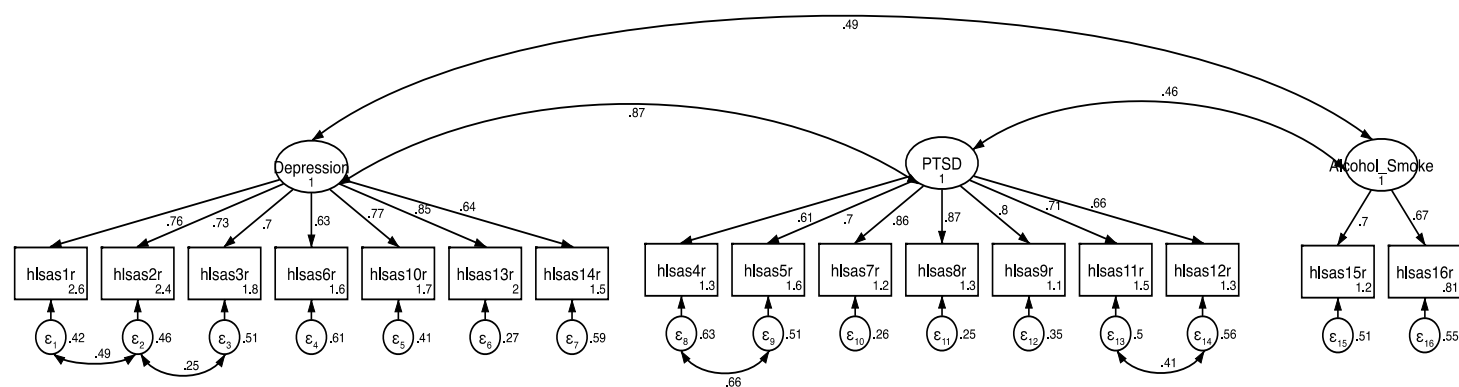


Figure 2.3. Measurement Model: Confirmatory Factor Analysis of *Historical Loss Group Impact Associated Symptoms Scale* (N=245)

Notes:

Hlsas1r: Feel sadness;

Hlsas2r: Feel anger;

Hlsas3r: Anxiety or nervousness;

Hlsas4r: Uncomfortable around Han people when you think of these losses;

Hlsas5r: Shame when you think of these losses;

Hlsas6r: Loss of concentration;

Hlsas7r: Feel isolated or distant from other people when you think of these losses;

Hlsas8r: A loss of sleep;

Hlsas9r: Rage;

Hlsas10r: Fearful or distrust the intentions of Han people;

Hlsas11r: Feel like it is happening again;

Hlsas12r: Feel like avoiding places or people that remind you of these losses;

Hlsas13r: Worries;

Hlsas14r: Hopelessness;

Hlsas15r: Feel like to use alcohol;

Hlsas16r: Feel like to smoke cigarette.

Chi-squared ( $\chi^2$ )= 100.1,  $p < .001$   
 Satorra-Bentler RMSEA=.06  
 90% CI, lower bound =0.06; upper bound= 0.09  
 CFI=.95  
 TLI=.96

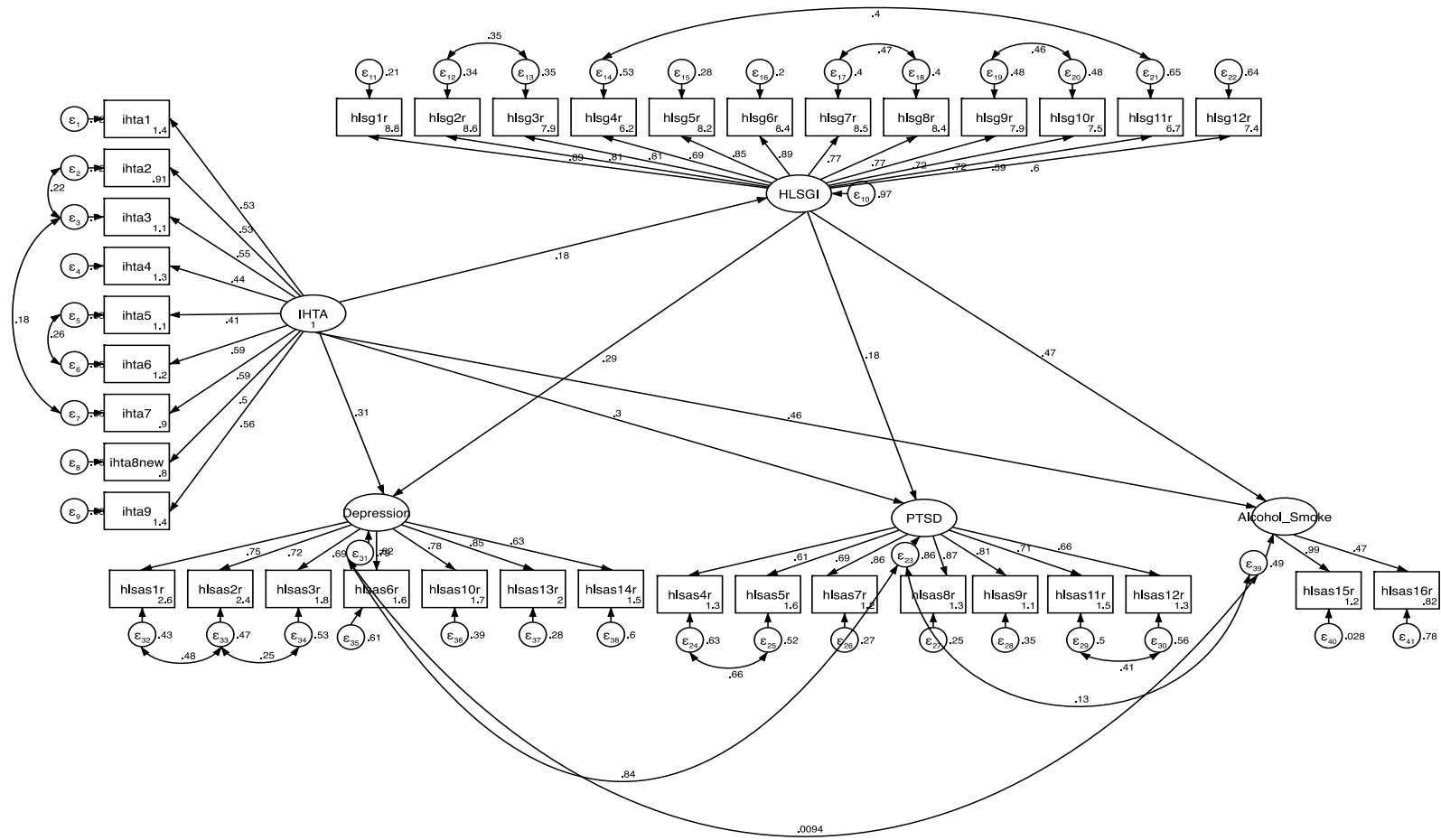


Figure 2.4. Structural Equation Modeling: The Structural Relationships among Key Factors  
Notes:

- IHTA: Intergenerational historical traumatic adversity;
- HLSGI: Historical loss group impact;
- Depression: Depression-like symptoms associated with historical loss group impact;
- PTSD: PTSD-like symptoms associated with historical loss group impact;
- Alcohol\_Smoke: Alcohol use and smoking associated with historical loss group impact

Chi-squared ( $\chi^2$ )= 924.53,  $p < .001$   
 Satorra-Bentler RMSEA=.046  
 90% CI, lower bound =0.05;  
 upper bound= 0.06  
 CFI=.93  
 TLI=.93

## References

- Balsam, K., Huang, B., Fieland, K., Simoni, J., Walters, K., Wyatt, Gail Elizabeth, . . . Harper, Gary W. (2004). Culture, trauma, and wellness: A comparison of heterosexual and lesbian, gay, bisexual, and Two-Spirit Native Americans. *Cultural Diversity and Ethnic Minority Psychology, 10*(3), 287-301.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*(3), 588-606. doi:10.1037/0033-2909.88.3.588
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238–246.
- Brave Heart-Jordan, M. Y. H. (1995). The return to the sacred path: Healing from historical trauma and historical unresolved grief among the Lakota. (Doctoral dissertation, Smith College School for Social Work, 1995). (Copyright by Author: reprints available through the Takini Network, P.O. Box 4138, Rapid City, SD 57709-4138.)
- Brave Heart, M. Y. H. (1999). Oyate Ptayela: Rebuilding the Lakota Nation through addressing historical trauma among Lakota parents. *Journal of Human Behavior in the Social Environment, 2*(1-2), 109-126.
- Brave Heart, M. Y. H. (2000). Wakiksuyapi: Carrying the historical trauma of the Lakota. *Tulane Studies in Social Welfare, 21-22*, 245-266.
- Brave Heart, M. Y. H. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs, 35*(1), 7-13.
- Brave Heart, M., & DeBruyn, L. M. (1998). The American Indian Holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research, 8*(2), 56-78.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Beverly Hills, CA: Sage.
- Chen, T. L. (2010). The political economy of the Indigenous people's drinking-related health problems in Taiwan. *Taiwan: A Radical Quarterly in Social Studies, 97*, 247-282.
- Council of Indigenous Peoples. (2011). *Indigenous health report of 2011*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C268F4A83AF39C97D5>

- Council of Indigenous Peoples. (2017). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C2484AF6CD1D5468A9>
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence, 23*(3), 316–338. doi:10.1177/0886260507312290
- Gone, J. P. (2013). Redressing First Nations historical trauma: Theorizing mechanisms for indigenous culture as mental health treatment. *Transcultural Psychiatry, 50*(5), 683-706.
- Hsia, H. C. (2010). The de-spirited drink: Exploring the capitalization process of Indigenous societies in Taiwan. *Taiwan: A Radical Quarterly in Social Studies, 77*, 5-58.
- Hualien County Civil Affairs Department. (2015). *Hualien County demographic statistics in August*. Retrieved from: <http://ca.hl.gov.tw/files/15-1004-55418,c3856-1.php>
- Kao, W. P. (2010). The making of the tuberculosis problem among aborigines in Taiwan: a historical analysis. Master's thesis, National Cheng Kung University, Taiwan.
- Ministry of Health and Welfare. (2014). *Distance to quality: Eight strategies to upgrade health care in Taiwan's remote areas*. Taipei: Ministry of Health and Welfare.
- Nunnally, J. C. (1978) *Psychometric theory*. New York, NY: McGraw-Hill.
- Shrout, P. E., & Fleiss, J.L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin, 86*, 420–428.
- Tsai, Y. Y. (2009). *Mental disorders of the Tao aboriginal minority in Taiwan: Modernity, social change, and the origin of social suffering*. Taipei, Taiwan: Linking Publishing Co.
- Walls, M. L., & Whitbeck, L. B. (2012). Advantages of stress process approaches for measuring historical trauma. *The American journal of drug and alcohol abuse, 38*(5), 416-420.
- Walters, K. L., & Evans-Campbell, T. (2004, February). *Measuring historical trauma among urban American Indians*. Paper presented at the University of New Mexico, School of Medicine, Albuquerque, NM.
- Walters, K. L., Simoni, J. M., & Evans-Campbell, T. (2002). Substance use among American Indians and Alaska Natives: Incorporating culture in an “Indigenist” stress-coping paradigm. *Public Health Reports, 117*(1), 104-117.
- Walters, K. L., Mohammed, S. A., Evans-Campbell, T., Beltrán, R. E., Chae, D. H., & Duran, B. (2011). Bodies don't just tell stories, they tell histories. *Du Bois Review: Social Science Research on Race, 8*(01), 179-189.
- Wen, C. P., Tsai, S. P., Shih, Y.T., & Chung, W.-S. I. (2004). Bridging the gap in life expectancy of the aborigines in Taiwan. *International Journal of Epidemiology, 33*(2), 320-327.

Whitbeck, L., Adams, G., Hoyt, D., & Chen, X. (2004). Conceptualizing and measuring Historical Trauma among American Indian people. *American Journal of Community Psychology*, 33(3-4), 119-130.

## PAPER 3 (AIM 3) – CULTURE MATTERS: THE PROTECTIVE ROLES OF TRADITIONAL PRACTICES IN THE RELATIONSHIP BETWEEN HISTORICAL TRAUMA AND ALCOHOL USE

### **Introduction**

Health inequalities between indigenous populations and the majority Han populations have existed in Taiwan for decades (Cheng, Wen, Tsai, Chung, & Hsu, 2005). Indigenous peoples have a higher mortality rate than Han populations with a life expectancy that is 8.7 years lower than the national average (Council of Indigenous Peoples, 2011). Additionally, in 2011 alcohol-related chronic liver disease/cirrhosis and accidental injuries were 2 of the top 10 leading causes of death among indigenous communities. Alcohol related health concerns are significant challenges among Taiwanese indigenous communities.

A growing amount of research has explored determinants of alcohol use among Taiwanese indigenous communities. The majority of studies have focused on socioeconomic status (Lai, Lung, Lee, Lu, & Shih, 2013; Hung, Chang, Chen, Hsiu, & Chen, 2011), family dynamics (Chen, Chang, Hsieh, Chen, Huang, & Kuo, 2015; Lai, 2008), and biological factors (Lai et al., 2013; Chen, Chen, Bair, Yao, Peng, Yang, & Yang, 2011) as primary determinants of indigenous alcohol use. Very few studies have explored the influence of historical context on alcohol use (Tsai, 2009; Chen, 2010; Hsia, 2010). In contrast to Taiwan, American Indian and Alaska Native (AIAN) scholars have investigated indigenous health outcomes by utilizing an Historical Trauma framework, which emphasizes that contemporary AIANs' health outcomes (e.g., substance use, suicide, depression) are the far-reaching effects of historical traumatic events due to colonial oppression (Brave Heart, 2000, 2003; Evans-Campbell, 2008). Expanding the historical trauma framework, Walters and Simoni (2002) have further offered the Indigenist

Stress Coping Model, which underscores indigenous cultures as protective mechanisms to buffer the negative influence of historical and lifetime traumas on indigenous health outcomes. Driven by the Indigenist Stress Coping Model, in this study I investigated whether indigenous traditional practices can moderate the effects of historical trauma and alcohol use disorder among indigenous communities in Taiwan, with a focus on Truku tribal people.

### **Alcohol Use among Indigenous Peoples in Taiwan**

Similar to indigenous communities across the world, Taiwanese indigenous peoples have lower life expectancy, higher death rates and higher substance use than their non-indigenous counterparts (UNPFII, 2015). Alcohol related accidental injuries and alcohol related chronic liver diseases are two of several significant causes of death among indigenous peoples. The mortality rates of these two causes of death among indigenous peoples are two times higher than the majority Han populations in Taiwan. The mortality rates of alcohol addiction among indigenous peoples are 12.6 times higher than their non-indigenous counterparts. Alcohol use has become one of the highest priority concerns for Taiwanese indigenous communities.

### **Indigenist Stress Coping Model**

The Indigenist Stress Coping Model (ISCM), a stress coping model relevant to indigenous populations, provides a wide lens to understand factors contributing to contemporary indigenous health outcomes (Walters, Simoni, & Evans-Campbell, 2002; Figure 3.1). ISCM underscores indigenous cultures as significant buffers that potentially interrupt the negative effects of historical and lifetime trauma on indigenous health outcomes (Walters & Simoni, 2002). These strengths include traditional practices such as involvement in traditional

ceremonies and activities (Buchwald, Beals, & Manson, 2000; Goodkind, Hess, Gorman, & Parker, 2012).

**Historical trauma.** The concept of historical trauma highlights the importance of the collective and cumulative emotional wounding across generations among indigenous populations that results from colonial oppression, such as forced attendance at Indian boarding schools, forced relocation, and prohibition of traditional and spiritual practices (Brave Heart, 1995, 2000; Evans-Campbell, 2008). The concept underscores that contemporary indigenous health disparities (e.g., substance use) are at least in part the consequences of historical traumatic events that are associated with colonization. The historical trauma literature indicates that cultural disruption and destruction due to colonial oppression have been similar experiences across international indigenous communities, and those experiences can be considered as a cumulative stress, which results in negative health outcomes among indigenous peoples over generations (Brave Heart, Chase, Elkins, & Altschul, 2011). Empirical evidence has shown that historical trauma is associated with diverse health outcomes among indigenous peoples (e.g., substance abuse, depression, suicide, etc.) (Whitbeck, Walls, Johnson, Morrisseau, & McDougall, 2009; Ehlers, Gizer, Gilder, Ellingson, & Yehuda, 2013; Brockie, 2012).

**Traditional practices.** *Traditional ceremonies participation* provides powerful cultural resources that can assist in coping with trauma, sustain health, and promote well-being among indigenous peoples (Walters & Simoni, 2002). Among indigenous Truku peoples' cultures, engagement in traditional ceremonies can restore balance and find harmony (Liao, 1998; Cihung, 2013). For instance, Boda Gaya is a significant ceremony for the Truku tribe. Through practicing Boda Gaya, Truku people are able to connect themselves with spirits of ancestors to seek their blessing and advice to overcome life adversity (Cihung, 2013). *Traditional hunting practices*

have been believed by Truku people to restore the balance of physical, mental, and spiritual well-being (Simon, 2010). Hunting practices are not only a means to access proteins from prey, but also an important way to reconnect the relationship between Truku people and the spirits of their ancestors; prior to every hunting journey, Truku people must conduct a ceremony to ask the ancestral spirits' blessing (Simon, 2010). Additionally, indigenous communities have believed that hunting practices link to promoting their physical health because hunting practices normally involve hiking in traditional mountainous lands, given that most of the Taiwanese indigenous peoples' traditional hunting areas are located in mountainous places, including the Truku people. *Hiking in traditional mountainous land* shows the connection between indigenous individuals and their traditional lands. In many indigenous groups' worldviews, including that of the Truku people, human beings and nature cannot be separated, so the relationships between indigenous peoples and their traditional lands are intimate (Cajete, 1999; Simon, 2010; Cihung, 2013). Research has suggested that connecting to traditional land is vital to improving indigenous health outcomes. Contact with traditional land not only can alleviate stress, but also can improve indigenous emotional health, self-esteem, self-identity, and cultural connection (Parkes & National Collaborating Centre for Aboriginal Health, 2011; Y`otti', Townsend, Phillips, & Aldous, 2009).

Drawing on the ISCM, this present study posited that traditional practices, such as involvement in traditional ceremonies, hunting practices, and hiking in traditional mountainous lands, may moderate the influence of historical trauma and alcohol use disorder among Truku tribal people. The study hypotheses were as follows: (1) exposure to historical trauma can positively predict alcohol use disorder (2) the three traditional practices factors (engagement in

traditional ceremonies, hunting practices, and hiking in traditional mountainous lands) can moderate the influence of historical trauma on alcohol use disorder.

## **Methods**

### **Procedure**

The study used a quantitative analysis from a cross-sectional quantitative survey of a Kmbiyax Project, which was conducted between November 2015 and November 2016. The overall purpose of the larger study was to develop historical trauma scales relevant to Truku people in Taiwan as well as to understand risk and protective factors related to their health.

The survey interviews were approximately 60-90 minutes in duration and were conducted in locations identified by participants. Participants were interviewed by study staff with responses recorded via a paper-and-pencil survey in Mandarin Chinese. Participants provided oral informed consent prior to survey interviews and received \$250 Taiwan dollars (approximately \$8 USD) compensation. The survey study of the Kmbiyax Project was approved by the University of Washington Institutional Review Board as well as reviewed by Truku community members. In this current study, I particularly focused on data pertaining to historical trauma, traditional cultural practices, and alcohol use disorder.

### **Participants and Setting**

The study's participants were 245 Truku tribal members (ages 20 to 83 years). All participants lived in Truku tribal villages of Xiulin Township and Wanrong Township in Hualien County, located in eastern Taiwan. According to the Council of Indigenous Peoples in Taiwan (2016), the total population of registered Truku tribal people is around 30,813, and nearly 53% of them were living in Xiulin or Wanrong Townships of Hualien County in November 2016.

Participants were required to enroll as Truku tribal members and to live in Truku tribal villages of either Xiulin or Wanrong Township. Eligible participants were recruited through a respondent-driven sampling strategy involving referrals by the study's participants.

## Measures

**Alcohol use disorder.** Alcohol use disorder was measured by the Mandarin version of the Alcohol Use Disorder Identification Test (AUDIT), which has been verified as a reliable and valid instrument for use with Taiwanese populations (Tsai, Tsai, Chen, & Liu, 2005; Wu et al., 2008). The Mandarin version of AUDIT has been found to have adequate internal consistency ( $\alpha = 0.86$ ) for Mandarin Chinese and Taiwanese speaking Taiwanese populations (Tsai et al., 2005). The AUDIT includes 10 items. Some examples of the scale are: "How often do you have a drink containing alcohol?" "How often do you have six or more drinks on one occasion?" and "How often during the last year have you found that you were not able to stop drinking once you had started?" Response items of the scale are 0= never, 1= less than monthly, 2= monthly, 3= weekly, and 4= daily or almost daily. Each item is scored 0-4, giving a total score of 40.

**Exposure to intergenerational historical traumatic adversity.** Experience of historical traumatic events was measured by the Intergenerational Historical Trauma Adversity Scale (IHTAS), which I developed based on Truku people's context during the Kmbiyax Project (Paper 2). The scale has been found to have sufficient internal consistency ( $\alpha = 0.86$ ). The scale includes 9 items, and each item includes 4 sub-items. For instance, one item focuses on the experience regarding being forced to not speak the traditional language due to the government's Mandarin Speaking Policy, and its 4 sub-items are: "Have you ever been prohibited from traditional hunting practices?" "Have your parents ever been prohibited from traditional hunting practices?" "Have your grandparents ever been prohibited from traditional hunting practices?"

and “Have your great grandparents ever been prohibited from traditional hunting practices?” The response categories include 0 = no, 1 = yes, and 2 = do not know. I recoded the response categories: those who responded no or do not know = 0, self responded yes = 4, parents responded yes = 3, grandparents responded yes =2; and great-grandparent responded yes =1. Then all response items were summed to produce total scores, which referred to the accumulation of historical traumatic events across generations. Each item is scored 0-10, giving a total score of 90.

**Engagement in traditional practices.** The engagement of traditional practices was measured by the frequencies of practicing traditions and cultures. Three items used were how often participants: “practice hunting culture,” “participate in traditional ceremonies,” and “hike in traditional mountainous land.” The response items are on a 5-point Likert scale: 1=never, 2=seldom, 3=sometimes, 4=often, 5=always.

### **Data Analysis**

I conducted linear regression models to examine the main effects of historical trauma on alcohol use disorder, first determining an estimate of the magnitude of historical trauma and then controlling for sociodemographic covariates. Engagement in traditional practices (e.g., hunting practices, traditional ceremonies, hiking in traditional mountainous lands) were added to the model to assess their main effects on alcohol use disorder. I then investigated whether the three traditional practices moderated the impact of historical trauma on alcohol use disorder by adding corresponding interaction terms to the model. The data was analyzed utilizing Stata version 14.

## Results

### Sample Characteristics

Descriptive characteristics of participants are presented in Table 3.1. Important results were that more than half of participants were female (54%), employed (69%), and have a high school degree or above degree (51%). A significant number of participants (46%) engaged in alcohol use (to a level of dependence). Most of participants (96%) reported that they and/or their older generations have experienced at least one historical traumatic event. Approximately, one-third of participants always or often participated in traditional ceremonies (37%) and hiked in traditional mountainous land (31%). Nearly one-fifth of participants (18%) also reported that they always or often participated in hunting traditions.

### Associations among Key Factors

The correlation table (Table 3.2) indicates the relationships among the key factors of the study. The results show that participants who had been exposed to more intergenerational historical traumatic adversity were more likely to have higher alcohol use disorder scores ( $r = .52$ ,  $p < .001$ ). Additionally, participants who engaged more in traditional cultural practices, including hunting practice, traditional ceremony, and hiking in traditional mountainous land, had lower alcohol use disorder scores ( $r = -.24$ ,  $p < .001$ ;  $r = -.47$ ,  $p < .001$ ;  $r = -.46$ ,  $p < .001$ , respectively). Compared to male participants, female participants had lower alcohol use disorder scores ( $r = -.14$ ,  $p < .05$ ) and were less likely to engage in hunting practices ( $r = -.71$ ,  $p < .001$ ). Furthermore, participants who had high school and/or above degree had lower alcohol use disorder scores ( $r = -.07$ ,  $p < .05$ ).

### **Cultural Practices Buffer the Influence of Historical Trauma on Alcohol Use Disorder**

Linear regressions predicting alcohol use disorder are presented in Table 3.3. In bivariate analysis, I found evidence that exposure to intergenerational historical traumatic adversity was significantly associated with alcohol use disorder ( $\beta = .52$ ,  $t = 9.47$ ,  $p < .001$ ) (model 1). After controlling sociodemographic covariates, the association was also statistically significant ( $\beta = .62$ ,  $t = 10.93$ ,  $p < .001$ ) (model 2). When I separately added each of the three cultural practices to the model, I found evidence for statistically significant protective effects (model 3 – model 5). For every unit increase in engagement in hunting practice, the predicted value of alcohol use disorder decrease by .60 ( $\beta = -.60$ ,  $t = -9.30$ ,  $p < .001$ ) (model 3). For each unit increase in involvement in traditional ceremony, the predicted value of alcohol use disorder decrease by .48 ( $\beta = -.48$ ,  $t = -10.81$ ,  $p < .001$ ) (model 4). For every unit increase in hiking in traditional mountainous lands, the predicted value of alcohol use disorder decrease by .50 ( $\beta = -.50$ ,  $t = -11.34$ ,  $p < .001$ ) (model 5). In these models, I also found that older age, being female, and having high school or above degree were negatively associated with alcohol use disorder.

I examined whether associations between exposure to intergenerational historical traumatic adversity and alcohol use disorder varied by participation in cultural practices by adding the interactions between cultural practices and exposure to intergenerational historical traumatic adversity. I found evidence that cultural practices especially hunting practices and hiking in traditional mountainous lands significantly moderated the influence of exposure to intergenerational historical traumatic adversity and alcohol use disorder ( $\beta = -.16$ ,  $t = -1.98$ ,  $p < .05$ ;  $\beta = -.25$ ,  $t = -1.99$ ,  $p < .05$ , respectively) (model 6). The results indicated that the association between exposure to intergenerational historical traumatic adversity and alcohol use disorder was lower among participants who participated more frequently in hunting practices and

hiking in traditional mountainous lands than among those who engaged less frequently in these cultural practices.

### **Discussion**

The results of the study underscore that alcohol use is a significant health challenge among Truku tribal members, given that nearly half of the study's participants reported that they suffered from alcohol dependence based on AUDIT screening criteria. Although the results of the study indicate that alcohol use disorder is a health concern, the study does not intend to reinforce the stereotype of the drunken indigenous peoples. On the contrary, the empirical evidence of this study suggests that alcohol use disorder is linked to exposure to intergenerational historical traumatic adversity among Truku people. The study's findings connect alcohol use to historical traumatic events relevant to colonial oppression, contrary to some dominant discourses of alcohol use, which consider that indigenous peoples' alcohol usage is their individual and/or family's responsibilities. Moreover, the findings also support indigenous communities' beliefs that the legacies of historical traumatic events still result in diverse impacts on contemporary generations, such as health risk behaviors (e.g., alcohol use disorder). Indigenous health researchers should take account of the influence of historical factors since they offer contextual lens to understand indigenous health outcomes.

Additionally, the empirical findings of the study show that traditional practices are important strengths that moderate the influence of exposure to intergenerational historical traumatic events on alcohol use disorders. The results are not only consistent with the ISCM, which suggests that indigenous cultures can interrupt the negative impacts of historical trauma or adversity on indigenous health, but they also align with communities' experiences and traditions. For instance, participating in hunting practices and connecting with traditional lands are stress

coping strategies in Truku people's traditions. When Truku people under stress, they practice hunting traditions and hike to traditional mountainous lands including hunting paths to find harmony and peace. Additionally, both cultural practices provide health benefits through more physical activity, more access to fresh water and air, and more exposure to sunlight. Being active outdoors can also potentially replace the time spent indoors and drinking. Since hunting practices play key roles in creating healthy Truku communities, some Truku people still engage in hunting culture even if they may experience arrest by police at any time due to ongoing hunting prohibition. Thus, the ongoing hunting ban not only increases Truku people's stress and destroys Truku people's passage of the knowledge regarding traditional stress coping strategies, but it also limits Truku people's physical activity for health.

The study extends the literature of alcohol use among Taiwanese indigenous peoples by underscoring the importance of traditional practices in alleviating the effects of historical trauma on alcohol use disorders. However, there are some limitations. First, the results are from a specific tribal reservation, which may not be generalizable across Taiwanese indigenous peoples who are from diverse cultures. However, the study provides detailed information regarding the specific traditional practices that can alleviate the impact of generational historical traumatic events on alcohol use disorders. Second, the data are cross-sectional data, which limited my ability to predict causal direction. For example, it is possible that participants who reported higher scores in alcohol use disorders were more likely to report exposure to intergenerational historical traumatic adversity. Longitudinal data are needed to understand the casual mechanisms between intergenerational historical traumatic adversity and alcohol use.

## Implications

The study's findings indicate that efforts to improve the frequencies of engagement in traditional practices may be effective in reducing the impact of historical trauma on alcohol use disorders among Truku tribal communities. In terms of practice, to alleviate alcohol use among indigenous peoples in Taiwan, those working with Truku tribal communities should consider incorporating traditional practices, especially hunting practice, traditional ceremonies and connecting with traditional lands, into alcohol use prevention and intervention programs in culturally meaningful ways. For example, those programs could be designed based on reinforcing indigenous peoples' relationship and connectedness with their traditional lands. Additionally, in terms of policy, since the findings of this study show that the legacies of colonization still continue into the present, government officials may want to consider initiating decolonizing policies which aim to heal the negative impacts of colonial oppression. For example, the evidence of the study has found that hunting practices as key cultural strengths can alleviate health risk behaviors (e.g., alcohol use disorder). To promote well-being and wellness among indigenous communities including Truku people, supporting the legalization of hunting rights at a policy level has become significant. In terms of research, there is a need to have more studies to identify other cultural strengths or health protective factors that can promote healthy indigenous communities and heal historical trauma that has resulted from the impacts of colonial oppression.

Table 3.1

*Demographic Characteristics and Descriptive Information of Truku people (N=245)*

Demographics	Mean (SD)	N (%)				
Average age (range 20-83)	48 (15.7)					
Birth sex: Female						130 (53%)
Employed						170 (69%)
Education: High school degree and above						125 (51%)
<b>Alcohol use disorder</b> (range 0-38)	11 (9.3)					
Harmful alcohol drinker (cutoff points $\geq 8$ ) <sup>b</sup>						132 (54%)
Alcohol dependence (cutoff points $\geq 11$ ) <sup>b</sup>						113 (46%)
<b>Intergenerational historical traumatic adversity</b> (range 0-73)	29 (15.2)					
None any generations ever experienced historical traumatic event						9 (4%)
Self or/and older generations ever experienced at least one historical traumatic event						236 (96%)
<b>Traditional practices</b>		<b>Always</b>	<b>Often</b>	<b>Sometimes</b>	<b>Seldom</b>	<b>Never</b>
Traditional ceremony		49 (20%)	60 (24%)	83 (34%)	50 (21%)	3 (1%)
Hike in traditional mountainous land		50 (20%)	34 (14%)	75 (31%)	71 (29%)	15 (6%)
Hunting practice		32 (13%)	23 (9%)	43 (18%)	43 (18%)	104 (43%)

Notes: <sup>a</sup> Employed included full time and part time employment; <sup>b</sup> Reference: Tsai, Tsai, Chen, & Liu, (2005)

Table 3.2

*Correlations between exposure to intergenerational historical traumatic adversity, alcohol use disorder, cultural practices and sociodemographic variables among Truku people (N=245)*

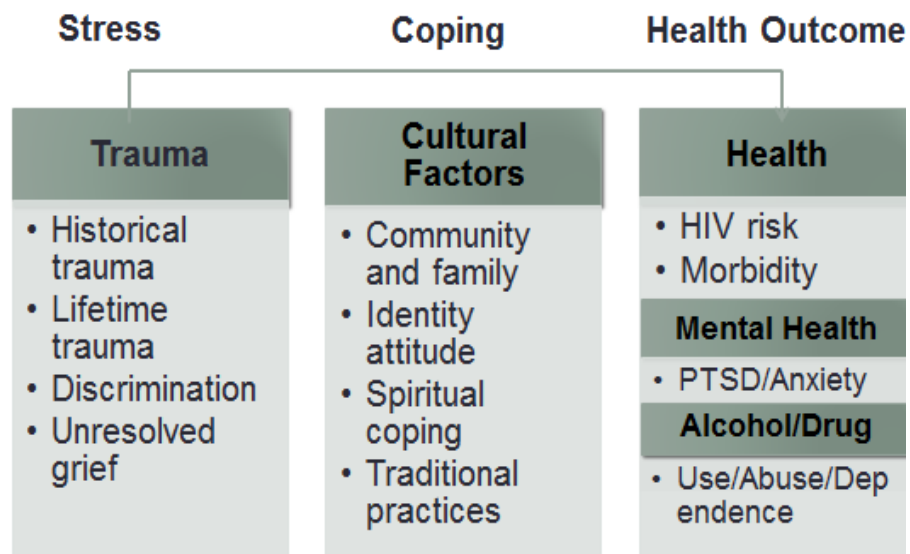
Variables	A	B	C	D	E	F	G	H	I
A. Alcohol use disorder	-								
B. Exposure to intergenerational historical traumatic adversity	.52***	-							
C. Participation in hunting practice	-.24***	-.07	-						
D. Participation in traditional ceremony	-.47***	.12*	.13***	-					
E. Hiking in traditional mountainous land	-.46***	.13*	.25***	.58***	-				
F. Age	-.02	.38***	-.04	.21**	.29***	-			
G. Birth sex (Female=1)	-.14*	.01	-.71***	.17**	-.08	.11	-		
H. Employed	-.02	-.17**	-.08	-.06	-.07	-.49***	-.20**	-	
I. High school or above educational attainment	-.07*	-.15**	.16*	-.09	-.13*	-.61***	-.19**	.34***	-

Note: \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 3.3  
*Results of linear regressions predicting alcohol use disorder among Truku people (N=245).*

	Standardized Regression Coefficient					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Exposure to intergenerational historical traumatic adversity	.52***	.62***	.56***	.61***	.61***	.56***
Participation in hunting practice			-.60***	-.48***	-.50***	-.11
Participation in traditional ceremony						-.12
Hiking in traditional mountainous land						-.09
Age		-.36***	-.30***	-.23***	-.17**	-.14**
Birth sex (Female=1)		-.16**	-.59***	-.08	-.12**	-.32***
Employed (Yes=1)		-.05	-.09	-.01	.002	-.02
High school or above educational attainment (Yes=1)		-.21**	-.14*	-.17**	-.16**	-.11*
<b>Interaction terms:</b>						
Exposure to intergenerational historical traumatic adversity * Participation in hunting practice						-.16*
Exposure to intergenerational historical traumatic adversity * Participation in traditional ceremony						-.18
Exposure to intergenerational historical traumatic adversity * Hiking in traditional mountainous land						-.25*

Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Model 1 represented the unadjusted association between exposure to intergenerational historical traumatic adversity and alcohol use disorder. Model 2 adjusted for sociodemographic characteristics. Three cultural practices were added separately to model 3 and model 5. Model 6 included all key variables and moderation terms of cultural practices.



*Figure 3.1:* Indigenist Stress Coping Model (Walters, Simoni & Evans-Campbell, 2002).

## References

- Brave Heart-Jordan, M. Y. H. (1995). The return to the sacred path: Healing from historical trauma and historical unresolved grief among the Lakota. (Doctoral dissertation, Smith College School for Social Work, 1995). (Copyright by Author: reprints available through the Takini Network, P.O. Box 4138, Rapid City, SD 57709-4138.)
- Brave Heart, M. Y. H. (2000). Wakiksuyapi: Carrying the historical trauma of the Lakota. *Tulane Studies in Social Welfare*, 21-22, 245-266.
- Brave Heart, M. Y. H. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs*, 35(1), 7-13.
- Brave Heart, M. Y. H., Chase, J., Elkins, J., & Altschul, D. B. (2011). Historical trauma among indigenous peoples of the Americas: Concepts, research, and clinical considerations. *Journal of Psychoactive Drugs*, 43(4), 282-290.
- Brockie, T. (2012). Historical and contemporary factors influencing non-lethal suicidal behavior among reservation-based Native American youth. Doctoral Dissertation, The Johns Hopkins University.
- Buchwald, D., Beals, J., & Manson, S. M. (2000). Use of traditional health practices among Native Americans in a primary care setting. *Medical Care*, 38(12), 1191-1199.
- Cajete, G. (1999). Chapter 6 A Sense of Place. *Native science: Natural laws of interdependence*. Santa Fe, NM: Clear Light Books.
- Chen, T. L. (2010). The political economy of the Indigenous peoples. Drinking-related health problems in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 97, 247-282.
- Chen, C. H., Chang, Y. C., Hsieh, Y. H., Chen, Y. C., Huang, Y. C., & Kuo, H. W. (2015). The association between drinking habits and family relationships in 3 villages of indigenous Taiwanese. *Asia Pacific Journal of Public Health*, 27(2), NP2721-NP2731.
- Cheng, T. Y., Wen, C. P., Tsai, S. P., Chung, W. S. I., & Hsu, C. C. (2005). Reducing health disparity in Taiwan: quantifying the role of smoking. *Tobacco control*, 14(suppl 1), i23-i27.
- Cihung, K. (2013). *Nian ji, hua li yu wu yi dang dai shu xie: Tai lu ge zu chuan tong yi bing yi shi ji qi min zu zhi wu shi jie*. Hualien, Taiwan.
- Council of Indigenous Peoples. (2011). *Indigenous health report of 2011*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C268F4A83AF39C97D5>

- Council of Indigenous Peoples. (2016). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C2252EE85FE85ECB85>
- Ehlers, C. L., Gizer, I. R., Gilder, D. A., Ellingson, J. M., & Yehuda, R. (2013). Measuring historical trauma in an American Indian community sample: Contributions of substance dependence, affective disorder, conduct disorder and PTSD. *Drug and Alcohol Dependence, 133*(1), 180–187.
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence, 23*(3), 316–338. doi:10.1177/0886260507312290
- Goodkind, J. R., Hess, J. M., Gorman, B., & Parker, D. P. (2012). “We’re still in a struggle”: Diné resilience, survival, historical trauma, and healing. *Qualitative Health Research, 22*(8), 1019–1036. doi:10.1177/1049732312450324
- Hsia, H. C. (2010). The de-spirited drink: Exploring the capitalization process of Indigenous societies in Taiwan. *Taiwan: A Radical Quarterly in Social Studies, 77*, 5-58.
- Hung, Chang, Chen, Hsiu, & Chen, (2011). Exploration on health-risk behavior and its related factors in aborigines. *Journal of Chang Gung Institute of Technology, 14*, 67-78.
- Lai, L. H. (2008). Factors associated to alcoholism in Aboriginal community- A study on some villages in central Taiwan. Master’s thesis, China Medical University, Taiwan.
- Lai, L. H., Lung, C. H., Lee, I. Y., Lu, Y.Y., & Shih, S. F. (2013). Merrily drunk and friendly interchange: Factors associated with alcoholism in an Aboriginal community. *Chinese Journal of Guidance and Counseling, 36*, 155-182.
- Liao, S. C. (1998). *Tai ya zu de she hui zu zhi*. Taiwan, Hualien.
- Parkes, M. W., & National Collaborating Centre for Aboriginal Health. (2011). *Ecohealth and Aboriginal health: A review of common ground*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Simon, S. (2010). Animals, Ghosts, and Ancestors: Traditional Knowledge of Truku Hunters on Formosa. In D. Kapoor & E. Shizha (Eds.), *Indigenous Knowledge and Learning in Asia/Pacific and Africa* (pp. 81-95). New York, NY: Palgrave Macmillan US.
- Tsai, Y. Y. (2009). *Mental disorders of the Tao Aboriginal minority in Taiwan: Modernity, social change, and the origin of social suffering*. Taipei, Taiwan: Linking Publishing Co.
- Tsai, M. C., Tsai, Y. F., Chen, C. Y., & Liu, C. Y. (2005). Alcohol Use Disorders Identification Test (AUDIT): Establishment of cut-off scores in a hospitalized Chinese population. *Alcoholism: Clinical and Experimental Research, 29*, 53-57.

- UN Permanent Forum on Indigenous Issues (UNPFII). (2015). *State of the world's indigenous peoples, 2nd Volume*. Retrieved from: <http://www.refworld.org/docid/55c89dac4.html>
- Walters, K. L., & Simoni, J. M. (2002). Reconceptualizing native women's health: An "Indigenist" stress-coping model. *American Journal of Public Health, 92*(4), 520-524.
- Walters, K. L., Simoni, J. M., & Evans-Campbell, T. (2002). Substance use among American Indians and Alaska Natives: Incorporating culture in an "Indigenist" stress-coping paradigm. *Public Health Reports, 117*(1), 104-117.
- Whitbeck, L., Walls, M., Johnson, K., Morrisseau, A., & McDougall, C. (2009). Depressed affect and historical losses among North American Indigenous adolescents. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center, 16*(3), 16-41.
- Wu, S.I., Huang, H.C., Liu, S.I., Huang, C.R., Sun, F.J., Chang, T.Y. ...Jeng, K.S. (2008). Validation and comparison of alcohol-screening instruments for identifying hazardous drinking in hospitalized patients in Taiwan. *Alcohol and Alcoholism, 43*(5), 577-582. doi: 10.1093/alcalc/agn036.
- Y`otti', K. J., Townsend, M., Phillips, R., & Aldous, D. (2009). "If the land is healthy...it makes the people healthy": The relationship between caring for country and health for the Yorta Yorta Nation, Boonwurrung and Bangerang Tribes. *Health and Place, 15*(1), 291-299.

## CONCLUSION

In this dissertation, I utilized an exploratory sequential mixed methods approach to investigate the influence of historical trauma on alcohol use among Truku tribal people in Taiwan. The findings of the three papers suggest that historical trauma is one of the determinants of alcohol use among Truku tribal communities. Given that existing historical trauma literature primarily focuses on indigenous peoples in the North America, New Zealand, and Australia, the dissertation findings extend the current literature, providing evidence of historical trauma among indigenous peoples in the Asia-Pacific region, in particular those who were not colonized by European foreigners. The dissertation also contributes to the historical trauma literature through developing historical trauma measurement that is culturally relevant to Truku tribal communities.

The qualitative results of the first paper indicate that alcohol use is a response to the accumulation of historical traumatic events, especially those that happened during the Japanese and KMT governments eras. The qualitative findings also identified three major components of historical trauma relevant to the Truku people: historical traumatic events, historical losses, and emotional responses. The findings show that when participants describe their experiences and perspectives of historical traumatic events, they normally further express their emotional responses (e.g., symptoms of depression and PTSD and a tendency toward alcohol use). The lists of the three historical trauma components were further used to develop historical trauma related scales. For instance, nine significant historical traumatic events were revealed in the results of the first paper, and these nine events were used to develop the Intergenerational Historical Traumatic Adversity Scale in the second paper.

Building upon the qualitative findings of the first paper, in the second paper I developed three historical trauma related scales (i.e., the Intergenerational Historical Traumatic Adversity

Scale, the Historical Loss Group Impact Scale, and the Historical Loss Group Impact Scale Associated Symptoms Scale). Findings confirm satisfactory psychometric properties across the developed scales, and they also suggest that three factors (i.e., depression-like symptoms, PTSD-like symptoms, and alcohol and cigarette use) were captured in the Historical Loss Group Impact Scale Associated Symptoms Scale. The results further suggest that exposure to more intergenerational historical traumatic adversity is associated with a stronger sense of negative impact of historical group loss. Both exposure to intergenerational historical traumatic adversity and the sense of negative impact of historical group loss are also positively associated with the three emotional symptoms (depression, PTSD, and alcohol and cigarette use). Using the developed historical trauma scales, the findings of the second paper offer a linkage between historical trauma and emotional symptoms.

In the third paper, I examined the relationships between historical trauma, cultural practices, and alcohol use disorder among the Truku people. I used the Intergenerational Historical Traumatic Adversity Scale, developed in the second paper to measure historical trauma. The findings indicate that exposure to intergenerational historical traumatic adversity positively predicts alcohol use disorder. The effect of intergenerational historical traumatic adversity on alcohol use disorder is also moderated by indigenous cultural practices such as involvement in hunting practice and hiking in traditional mountainous land. The findings not only provide empirical evidence regarding the impact of historical trauma on alcohol use disorder but also suggest that indigenous cultural practices as protective factors can alleviate the influence of historical trauma on alcohol use disorders.

Drinking alcohol and being drunk have been portrayed as one of several main characteristics of indigenous peoples within social media. Some epidemiological studies have

also reinforced the stereotype of drunken indigenous peoples by indicating that indigenous peoples are more likely to engage in alcohol use than majority peoples in Taiwan, without providing a comprehensive context to understand indigenous peoples' relationship with alcohol. The dissertation's findings serve to demonstrate to the majority population in Taiwan, including policy makers, researchers, and social services practitioners, that historical colonial oppression has directly or indirectly impacted alcohol use disorder among Truku people, even if those events happened several generations ago. To address health risk behaviors such as alcohol use disorder among Truku tribal people and other indigenous groups, it is important to acknowledge the influences of colonial oppression as well as to explore ways to interrupt the negative impacts of legacies of colonial oppression on contemporary indigenous peoples' health.

Indigenous culture plays as a significant protective factor that can alleviate the negative impacts of historical trauma on indigenous health outcomes. For instance, the findings of this dissertation suggest that participation in traditional ceremonies, involvement in hunting practice, and hiking in traditional mountainous areas are three crucial cultural factors that can alleviate alcohol use disorder among Truku tribal communities despite exposure to historical trauma. Future alcohol use intervention or prevention programs among Truku tribal communities should consider incorporating these three cultural practices. Future research should also seek to identify other potential protective and/or resilient factors that can promote Truku people's and other indigenous peoples' health in Taiwan.

## BIBLIOGRAPHY

- Bartlett, J. G., Madariaga-Vignudo, L., O'Neil, J. D., & Kuhnlein, H. V. (2007). Identifying indigenous peoples for health research in a global context: a review of perspectives and challenges. *International journal of circumpolar health*, 66(4), 287-370.
- Balsam, K., Huang, B., Fieland, K., Simoni, J., Walters, K., Wyatt, Gail Elizabeth, . . . Harper, Gary W. (2004). Culture, trauma, and wellness: A comparison of heterosexual and lesbian, gay, bisexual, and Two-Spirit Native Americans. *Cultural Diversity and Ethnic Minority Psychology*, 10(3), 287-301.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88(3), 588-606. doi:10.1037/0033-2909.88.3.588
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Blust, R. (1999). Subgrouping, circularity, and extinction: Some issues in Austronesian comparative linguistics. In: Zeitoun E, Li PJ-K, editors. *Selected Papers from the 8th International Conference on Austronesian Linguistics*, 31-94. Taipei, Academica Sinica.
- Brave Heart-Jordan, M. Y. H. (1995). The return to the sacred path: Healing from historical trauma and historical unresolved grief among the Lakota. (Doctoral dissertation, Smith College School for Social Work, 1995). (Copyright by Author: reprints available through the Takini Network, P.O. Box 4138, Rapid City, SD 57709-4138.)
- Brave Heart, M. Y. H. (1999). Oyate Ptayela: Rebuilding the Lakota Nation through addressing historical trauma among Lakota parents. *Journal of Human Behavior in the Social Environment*, 2(1-2), 109-126.
- Brave Heart, M. Y. H. (2000). Wakiksuyapi: Carrying the historical trauma of the Lakota. *Tulane Studies in Social Welfare*, 21-22, 245-266.
- Brave Heart, M. Y. H. (2003). The historical trauma response among natives and its relationship with substance abuse: A Lakota illustration. *Journal of Psychoactive Drugs*, 35(1), 7-13.
- Brave Heart, M., Chase, J., Elkins, J., & Altschul, D. B. (2011). Historical trauma among indigenous peoples of the Americas: Concepts, research, and clinical considerations. *Journal of Psychoactive Drug*, 43(4), 282-290. doi:10.1080/02791072.2011.628913
- Brave Heart, M., & DeBruyn, L. M. (1998). The American Indian Holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research*, 8(2), 56-78.

- Brockie, T. (2012). Historical and contemporary factors influencing non-lethal suicidal behavior among reservation-based Native American youth. Doctoral Dissertation, The Johns Hopkins University.
- Brown, D. (1970). *Bury my heart at wounded knee*. New York, NY: Holt, Rinehart & Winston.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Beverly Hills, CA: Sage.
- Buchwald, D., Beals, J., & Manson, S. M. (2000). Use of traditional health practices among Native Americans in a primary care setting. *Medical Care*, 38(12), 1191–1199.
- Cajete, G. (1999). Chapter 6 A Sense of Place. *Native science: Natural laws of interdependence*. Santa Fe, NM: Clear Light Books.
- Chansonneuve, D. (2007). *Addictive behaviours among Aboriginal people in Canada*. Ottawa, ON: Aboriginal Healing Foundation.
- Chen, T. L. (2010). The political economy of the Indigenous peoples. Drinking-related health problems in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 97, 247-282.
- Cheng, A. T., & Chen, W. J. (1995). Alcoholism among four aboriginal groups in Taiwan: High prevalences and their implications. *Alcoholism: Clinical and Experimental Research*, 19(1), 81-91.
- Chen, W. J., Chen, C. H., Huang, J., Yun-pung, P. H., Seow, S. V., Chen, C. C., & Cheng, A. T. (2001). Genetic polymorphisms of the promoter region of dopamine D2 receptor and dopamine transporter genes and alcoholism among four aboriginal groups and Han Chinese in Taiwan. *Psychiatric Genetics*, 11(4), 187-195.
- Chen, Y. L., Chen, L. J., Bair, M. J., Yao, M. L., Peng, H. C., Yang, S. S., & Yang, S. C. (2011). Antioxidative status of patients with alcoholic liver disease in southeastern Taiwan. *World Journal of Gastroenterology: WJG*, 17(8), 1063-1070.
- Chen, C. H., Chang, Y. C., Hsieh, Y. H., Chen, Y. C., Huang, Y. C., & Kuo, H. W. (2015). The association between drinking habits and family relationships in 3 villages of indigenous Taiwanese. *Asia Pacific Journal of Public Health*, 27(2), NP2721-NP2731.
- Cheng, T. A., & Hsu, M. (1992). A community study of mental disorders among four aboriginal groups in Taiwan. *Psychological Medicine*, 22(01), 255-263.
- Chen, H. M., & Wang, M. H. (1993). Alcohol consumption and drinking problems of the Formosan Aborigines in the reservation areas. *Journal of Geographical Research*, 20, 57-100.

- Cheng, T. Y., Wen, C. P., Tsai, S. P., Chung, W. S. I., & Hsu, C. C. (2005). Reducing health disparity in Taiwan: quantifying the role of smoking. *Tobacco control*, 14(suppl 1), i23-i27.
- Cihung, K. (2013). *Nian ji, hua li yu wu yi dang dai shu xie: Tai lu ge zu chuan tong yi bing yi shi ji qi min zu zhi wu shi jie*. Hualien, Taiwan.
- Council of Indigenous Peoples. (2010). *Indigenous health report of 2010*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C2A87C75321B627225>
- Council of Indigenous Peoples. (2011). *Indigenous health report of 2011*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C268F4A83AF39C97D5>
- Council of Indigenous Peoples. (2013). *Indigenous health report of 2013*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C29BCFEDF220570369>
- Council of Indigenous Peoples. (2014). *Employment status survey of indigenous peoples 2014*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=19F6DD25969C101D&DID=0C3331F0EBD318C220B560FFD65CEA03>
- Council of Indigenous Peoples. (2016). *Health statistics of Taiwanese indigenous peoples 2013*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=217054CAE51A3B1A&DID=0C3331F0EBD318C29BCFEDF220570369>
- Council of Indigenous Peoples. (2016). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C214A0DCEC42E53941F0EBD318C2252EE85FE85ECB85>
- Council of Indigenous Peoples. (2016). *Employment status survey of indigenous peoples 2015*. Taipei, Taiwan: Council of Indigenous Peoples. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=19F6DD25969C101D&DID=0C3331F0EBD318C214A0DCEC42E53941F0EBD318C2252EE85FE85ECB85>
- Council of Indigenous Peoples. (2017). *Indigenous population statistics*. Retrieved from: <http://www.apc.gov.tw/portal/docDetail.html?CID=940F9579765AC6A0&DID=0C3331F0EBD318C2484AF6CD1D5468A9>
- Connor, J., Broad, J., Rehm, J., Vander Hoorn, S., & Jackson, R. (2005). The burden of death, disease, and disability due to alcohol in New Zealand. *The New Zealand Medical Journal (Online)*, 118(1213).

- Department of Statistics. (2016). *Indigenous demographics*. Department of Statistics, Ministry of Interior, Taiwan. Retrieved from: [http://www.moi.gov.tw/stat/news\\_content.aspx?sn=11295](http://www.moi.gov.tw/stat/news_content.aspx?sn=11295)
- Denham, A. R. (2008). Rethinking historical trauma: Narratives of resilience. *Transcultural Psychiatry*, 45(3), 391-414.
- Dinges, N. G., & Joos S. K. (1988). Stress, coping, and health: models of interaction for Indian and Native populations. *Behavioral Health Issues among American Indians and Alaska Natives: Explorations on the Frontiers of the Biobehavioral Sciences*, 1, 8-64.
- Duran, E., & Duran, B. (1995). *Native American postcolonial psychology*. New York, NY: SUNY Press.
- Evans-Campbell, T. (2008). Historical trauma in American Indian/Native Alaska communities: A multilevel framework for exploring impacts on individuals, families, and communities. *Journal of Interpersonal Violence*, 23(3), 316-338. doi:10.1177/0886260507312290
- Ehlers, C. L., Gizer, I. R., Gilder, D. A., Ellingson, J. M., & Yehuda, R. (2013). Measuring historical trauma in an American Indian community sample: Contributions of substance dependence, affective disorder, conduct disorder and PTSD. *Drug and Alcohol Dependence*, 133(1), 180-187.
- Ehlers, C. L. (2007). Variations in ADH and ALDH in Southwest California Indians. *Alcohol Research & Health*, 30(1), 14-17.
- Gone, J. P. (2013). Redressing First Nations historical trauma: Theorizing mechanisms for indigenous culture as mental health treatment. *Transcultural Psychiatry*, 50(5), 683-706.
- Goodkind, J. R., Hess, J. M., Gorman, B., & Parker, D. P. (2012). "We're still in a struggle": Diné resilience, survival, historical trauma, and healing. *Qualitative Health Research*, 22(8), 1019-1036. doi:10.1177/1049732312450324
- Hsia, H. C. (2010). The de-spirited drink: Exploring the capitalization process of Indigenous societies in Taiwan. *Taiwan: A Radical Quarterly in Social Studies*, 77, 5-58.
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Hung, Chang, Chen, Hsiu, & Chen, (2011). Exploration on health-risk behavior and its related factors in aborigines. *Journal of Chang Gung Institute of Technology*, 14, 67-78.
- Hualien County Civil Affairs Department. (2015). *Hualien County demographic statistics in August*. Retrieved from: <http://ca.hl.gov.tw/files/15-1004-55418,c3856-1.php>
- Hwu, H. G., Yeh, Y. L., Wang, J. D., & Yeh, E. K. (1990). Alcoholism among Taiwan aborigines defined by the Chinese Diagnostic Interview Schedule: A comparison with alcoholism among Chinese. *Acta Psychiatrica Scandinavica*, 82(5), 374-380.

- Jian, G. W. (2014). Ri zhi shi qi tai lu ge zu de ji tuan yi zhu. *Newsletter of Taiwan Studies*, 82, 26-27.
- Kao, W. P. (2010). The making of the tuberculosis problem among aborigines in Taiwan: a historical analysis. Master's thesis, National Cheng Kung University, Taiwan.
- Kirmayer, L. J., Brass, G. M., Holton, T., Paul, K., Simpson, C., & Tait, C. (2007). Suicide among Aboriginal people in Canada. Ottawa, ON: *Aboriginal Healing Foundation*.
- Ko, Y. C., Liu, B. H., & Hsieh, S. F. (1994). Issue on aboriginal health in Taiwan. *Kaohsiung Journal of Medical Sciences*, 10(7), 337-351.
- Lai, L. H. (2008). Factors associated to alcoholism in Aboriginal community- A study on some villages in central Taiwan. Master's thesis, China Medical University, Taiwan.
- Lai, L. H., Lung, C. H., Lee, I. Y., Lu, Y. Y., & Shih, S. F. (2013). Merrily drunk and friendly interchange: Factors associated with alcoholism in an Aboriginal community. *Chinese Journal of Guidance and Counseling*, 36, 155-182.
- Lange, R. (1999). *May the people live: a history of Maori health development 1900-1920*. Auckland, AU: Auckland University Press.
- Legters, L. (1988). The American genocide. *Policy Studies* 16(4), 768-77.
- Li, G. S. (2003). *Zou guo cai hong: Muda hakaw utux*. Hualien, Taiwan.
- Liao, S. C. (1998). *Tai ya zu de she hui zu zhi*. Taiwan, Hualien.
- Liu, C., & Chang, Y. (2014). Ethnic status inheritance in Aboriginal-Han marriages and families. *Taiwan She Hui Xue Kan*, 54, 131-180. Retrieved from <https://search.proquest.com/docview/1565691885?accountid=14784>
- Lin, Y. R., Icyeh L., & Kuan, D. W. (2008). Indigenous language-informed participatory policy in Taiwan: A socio-political perspective. In D. V. Rau & M. Florey (Eds.), *Documenting and revitalizing Austronesian languages* (pp.134-161). Honolulu, HI: University of Hawaii Press.
- May, P. A. (1994). The epidemiology of alcohol abuse among American Indians: The mythical and real properties. *American Indian Culture and Research Journal*, 18(2), 121-143.
- Ministry of Education & Council of Indigenous Peoples. (2014). *White papers on Indigenous educational policy in Taiwan*. Retrieved from: <http://ws.moe.edu.tw/001/Upload/3/refile/6315/6922/48189f8c-7f30-4aef-90bf-cb49bb9c8900.pdf>
- Ministry of Health and Welfare. (2014). *Distance to quality: Eight strategies to upgrade health care in Taiwan's remote areas*. Taipei: Ministry of Health and Welfare.

- Mohatt, N. V., Thompson, A. B., Thai, N. D., & Tebes, J. K. (2014). Historical trauma as public narrative: A conceptual review of how history impacts present-day health. *Social Science & Medicine*, *106*, 128–136. <http://doi.org/10.1016/j.socscimed.2014.01.043>
- Myhra, L. L. (2011). “It runs in the family”: Intergenerational transmission of historical trauma among urban American Indians and Alaska Natives in culturally specific sobriety maintenance programs. *American Indian and Alaska Native Mental Health Research (Online)*, *18*(2), 17.
- Nunnally, J. C. (1978) *Psychometric theory*. New York, NY: McGraw-Hill.
- Palacios, J. F., & Portillo, C. J. (2009). Understanding native women’s health: Historical legacies. *Journal of Transcultural Nursing*, *20*(1), 15–27.
- Pan, J. D. (2012). Tai lu ge shi jian. *Newsletter of Taiwan Studies*, *72*, 14-15.
- Parkes, M. W., & National Collaborating Centre for Aboriginal Health. (2011). *Ecohealth and Aboriginal health: A review of common ground*. Prince George, BC: National Collaborating Centre for Aboriginal Health.
- Pu, C. C. (2005). As regards the educational reform of indigenous people and influence. *Contemporary Educational Research Quarterly*, *13*(4), 1-32.
- Pulver, L. J., Haswell, M. R., Ring, I., Waldon, J., Clark, W., Whetung, V., ... & Sadana, R. (2010). *Indigenous health—Australia, Canada, Aotearoa, New Zealand and the United States—Laying claim to a future that embraces health for us all. World health report*. Geneva, Switzerland: World Health Organization.
- Rehm, J., Baliunas, D., Borges, G. L., Graham, K., Irving, H., Kehoe, T., ... & Roerecke, M. (2010). The relation between different dimensions of alcohol consumption and burden of disease: An overview. *Addiction*, *105*(5), 817-843.
- Rin, L., & Lin, T. (1962). Mental illness among Formosan aborigines as compared with the Chinese in Taiwan. *Journal of Mental Science*, *108*, 134-146.
- Schubert, G. (Ed.). (2016). *Routledge handbook of contemporary Taiwan*. New York, NY: Routledge.
- Shrout, P. E., & Fleiss, J.L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin*, *86*, 420–428.
- Simms, S. T. (2010). “*Exploring the Trail of Health: Enculturation, Sense of Coherence, and Well-being in American Indians.*” Master’s Thesis, Arcata, CA: Humboldt State University.
- Simon, S. (2010). Animals, Ghosts, and Ancestors: Traditional Knowledge of Truku Hunters on Formosa. In D. Kapoor & E. Shizha (Eds.), *Indigenous Knowledge and Learning in Asia/Pacific and Africa* (pp. 81-95). New York, NY: Palgrave Macmillan US.

- Simon, S. (2013). Of boars and men: Indigenous knowledge and co-management in Taiwan. *Human Organization*, 72(3), 220-229.
- Simon, S., & Mona, A. (2013). Human rights and Indigenous self-government: The Taiwanese experience. In S. S. Bagchi, & A. Das (Eds.), *Human rights and the Third World. Issues and discourses* (pp. 99-122). Lanham, MD: Lexington Books.
- Sioulin Township Office of Hualien County. (2009). *Tai lu ge zu kang ri zhan yi : Li shi yu kou chuan*. Hualien, Taiwan: Author.
- Thornton, R. (1987). *American Indian holocaust and survival: A population history since 1492*. Norman, OK: University of Oklahoma Press.
- Thomasson, H. R., Crabb, D. W., Edenberg, H. J., Li, T. K., Hwu, H. G., Chen, C. C., ... & Yin, S. J. (1994). Low frequency of the ADH2\* 2 allele among Atayal natives of Taiwan with alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, 18(3), 640-643.
- Tsai, Y. Y. (2009). *Mental disorders of the Tao Aboriginal minority in Taiwan: Modernity, social change, and the origin of social suffering*. Taipei, Taiwan: Linking Publishing Co.
- Tsai, M. C., Tsai, Y. F., Chen, C. Y., & Liu, C. Y. (2005). Alcohol Use Disorders Identification Test (AUDIT): Establishment of cut-off scores in a hospitalized Chinese population. *Alcoholism: Clinical and Experimental Research*, 29, 53-57.
- UN Permanent Forum on Indigenous Issues (UNPFII). (2010). *State of the world's indigenous peoples*. Retrieved from: <http://www.refworld.org/docid/4b6700ed2.html>
- UN Permanent Forum on Indigenous Issues (UNPFII). (2015). *State of the world's indigenous peoples, 2nd Volume*. Retrieved from: <http://www.refworld.org/docid/55c89dac4.html>
- Walls, M. L., & Whitbeck, L. B. (2012). Advantages of stress process approaches for measuring historical trauma. *The American journal of drug and alcohol abuse*, 38(5), 416-420.
- Walters, K. L., & Evans-Campbell, T. (2004, February). *Measuring historical trauma among urban American Indians*. Paper presented at the University of New Mexico, School of Medicine, Albuquerque, NM.
- Walters, K. L., & Simoni, J. M. (2002). Reconceptualizing native women's health: An "Indigenist" stress-coping model. *American Journal of Public Health*, 92(4), 520-524.
- Walters, K. L., Simoni, J. M., & Evans-Campbell, T. (2002). Substance use among American Indians and Alaska Natives: Incorporating culture in an "Indigenist" stress-coping paradigm. *Public Health Reports*, 117(1), 104-117.
- Walters, K. L., Beltran, R., Huh, D., & Evans-Campbell, T. (2011). Dis-placement and dis-ease: land, place, and health among American Indians and Alaska Natives. In L. M. Burton, S. A. Matthews, M-C Leung, S. P. Kemp, & D. T. Takeuchi (Eds.), *Communities, neighborhoods, and health* (pp. 163-199). New York, NY: Springer.

- Walters, K. L., Mohammed, S. A., Evans-Campbell, T., Beltrán, R. E., Chae, D. H., & Duran, B. (2011). Bodies don't just tell stories, they tell histories. *Du Bois Review: Social Science Research on Race*, 8(01), 179-189.
- Wen, C. P., Tsai, S. P., Shih, Y.T., & Chung, W.-S. I. (2004). Bridging the gap in life expectancy of the aborigines in Taiwan. *International Journal of Epidemiology*, 33(2), 320-327.
- Whitbeck, L., Adams, G., Hoyt, D., & Chen, X. (2004). Conceptualizing and measuring Historical Trauma among American Indian people. *American Journal of Community Psychology*, 33(3-4), 119-130.
- Whitbeck, L., Walls, M., Johnson, K., Morrisseau, A., & McDougall, C. (2009). Depressed affect and historical losses among North American Indigenous adolescents. *American Indian and Alaska Native Mental Health Research: The Journal of the National Center*, 16(3), 16-41.
- Wilson, M., Stearne, A., Gray, D., & Saggars, S. (2010). The harmful use of alcohol amongst Indigenous Australians. Retrieved from: [http://www.healthinfonet.ecu.edu.au/alcoholuse\\_review](http://www.healthinfonet.ecu.edu.au/alcoholuse_review)
- World Health Organization, & World Health Organization. Management of Substance Abuse Unit. (2014). *Global status report on alcohol and health, 2014*. World Health Organization.
- Wu, S.I., Huang, H.C., Liu, S.I., Huang, C.R., Sun, F.J., Chang, T.Y. ...Jeng, K.S. (2008). Validation and comparison of alcohol-screening instruments for identifying hazardous drinking in hospitalized patients in Taiwan. *Alcohol and Alcoholism*, 43(5), 577-582. doi: 10.1093/alcalc/agn036.
- Yeh, M. Y. (2003). Drinking behavior: a study of drinking behavior from the perspectives of aboriginal adolescents. *Indigenous Education Quarterly*, 32, 30-48.
- Yeh, M. Y. (2004). Exploring the effects of psychosocial and acculturation factors on drinking behavior among aboriginal adolescents in Taiwan. *Psychiatry and Clinical Neurosciences*, 58(5), 453-459.
- Yeh, M. Y., & Chiang, I. C. (2005). Comparison of the predictors of alcohol use and misuse among Han and aboriginal students in Taiwan. *Addictive Behaviors*, 30(5), 989-910
- Yen, C. F., Hsu, C. C., Liu, S. C., Huang, C. F., Ko, C. H., Yen, J. Y., & Cheng, C. P. (2006). Relationships among mental health status, social context, and demographic characteristics in Taiwanese aboriginal adolescents: A structural equation model. *Psychiatry and clinical neurosciences*, 60(5), 575-583.
- Y'otti', K. J., Townsend, M., Phillips, R., & Aldous, D. (2009). "If the land is healthy...it makes the people healthy": The relationship between caring for country and health for the Yorta Yorta Nation, Boonwurrung and Bangerang Tribes. *Health and Place*, 15(1), 291-299.

Yudaw, T. (2015). Cong tai lu ge zu dui ri zhan yi kan chuan tong jia zhi mian dui zhi min tong zhi. *Yuan Zhu Min Zu Wen Xian*, 21, 18-21.

## APPENDIX

**Qualitative Interview Guide- Tminun Project****Questions and Probes****Historical significance:**

1. I am trying to understand more about your thoughts/insights when your tribe encounters the outsiders/foreign governments. Can you talk about what are the past events that happened in your tribe or in your tribal community regarding encounters with outsiders, foreign governments or the dominant society?

*Probes:*

- (1) *What are the historical events in your tribe or community that you know or you have heard from others/elders?*
- (2) *What are the historical events in your tribe or community during Japanese Governed-period that you know or you have heard from elders/others?*
- (3) *What are past events in your tribe or community that you know or have heard from elders/others in your community since KMT has governed Taiwan?*
- (4) *What are recently significant events in your community that you know or have heard from elders/others in your community?*

2. What do you think how these events impact your tribal community?

*Probe:*

- (1) *Do these events have harmed your tribal community?*

**Major health concerns and challenges:**

3. I would now like to talk about your ideas of some of the major health concerns in your Truku tribe. This can be anything that you think impacts healthy and happy daily living. Thinking about your community, can you talk about what you think are the most pressing health concerns in your tribal community?

*[As group participants share their thoughts, Facilitator will write down a list of major health concerns based on group conversation in a board.]*

4. What do you think are the causes for these health concerns?

*Probes:*

- (1) *What are some of the challenges related to these health concerns in the community?*

- (2) *Some studies show that poverty, unemployment and education are major causes of these health concerns. Is this true in your community? What are other potential causes of these health concerns?*
5. How do you think historical events' impacts that you mentioned earlier may be connected to your community's health concerns?
- Probe:*
- (1) *I have had a chance to work with some projects regarding American Indian and Alaska Native (AIAN) populations in the United States, and their studies indicated that AIAN's contemporary health outcomes (e.g., substance abuse, suicide, and depression) are impacted by their historical events (e.g., boarding school and forced relocation). Do you think that are their experiences also similar to your community?*
- (2) *How do you think past experiences of historical events are related to health or mental health among your community people?*
6. What are the challenges for keeping healthy for your tribal community or your tribe?

**Major health strengths:**

7. Although Truku tribe experienced some events that impact Truku people's health, there are still some of Truku people staying healthy in your community. I am interested in hearing what you see as some of the strengths for staying healthy and happy in your tribal community. Can you talk about what you see as some of your tribe's strengths?
- Probe:*
- (1) *What are the things in your community that help community members to have a safe lifestyle and healthy behaviors?*
8. What are specific cultural factors/supports/practices that help your community stay well?
- Probes:*
- (1) *What are some specific practices that your tribe uses to promote health?*
- (2) *How do people in your community transcend the impacts of historical events?*
- (3) *How resiliency handed down through generation?*
9. Closing questions or stories respondent might have
- Probe:*
- (1) *What other stories or experiences would you like to share before closing?*

**Closing**

I'd like to tell you again how much I appreciate your willingness to talk with me.

During this time you've shared very important information. Thank you so much for sharing your stories with me. This information will be used to help me to understand the influence of historical events on Truku health concerns. In addition, the information can contribute to design a culturally relevant program for promote Truku people's health. Do you have any questions for me or about the interview?

I will be interviewing people between July and December. If you think of anything else that you would like to add, or if you have any concerns about something we have discussed today, please contact me (Ciwang Teyra), and my number is on your consent form. Is there any unfinished concerns or comments at this time that you want to share or wish to follow-up on in the future?

Please make sure you pick up your reimbursement before you leave. Thanks again for taking time and sharing your stories and experiences with me.

**Ciwang Teyra (Mei-Yi Lee)*****Curriculum Vitae***

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University of Washington School of Social Work  
 4101 15th Avenue NE  
 Seattle, Washington 98105

ciwang@uw.edu  
 (314) 359-6688

**EDUCATION**

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- PhD University of Washington, Social Welfare August 2017  
*Certificate in in Statistics Track in Social Science (Received May 2017)*  
*Dissertation: Culture and History Matter: Historical Trauma and Cultural Protective Factors on Alcohol Use among Truku Tribal People*  
*Chair: Dr. Tessa Evans-Campbell*
- MSW Washington University, George Warren Brown School of Social Work June 2011  
*Concentration: Social and Economic Development*  
*Specialization: Research*
- BA National Taiwan University, Bachelor of Social Work June 2006

**AWARDS, FELLOWSHIPS & HONORS**

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- Graduate School Fund for Excellence and Innovation** 2015–2016  
**International Student Tuition Waiver (\$27,000)**  
 University of Washington
- Chester Fritz and Boeing International Research and Study Fellowships** September 2015  
 University of Washington
- Indigenous Substance Abuse, Medicines, and Addictions Research Training Program (ISMART) Fellowship** 2014–2016  
 University of Washington
- The Warren G. Magnuson Scholarship (\$30,000)** 2014–2015  
 University of Washington , Warren G. Magnuson Institute for Biomedical Research Health Professions Training
- Great Future Influential Person Award** 2015  
 The News Lens, Taiwan

<b>United Nation Permanent Forum on Indigenous Issues</b> New York, New York	May 2015
<b>Graduate School Fund for Excellence and Innovation – Travel Award</b> University of Washington	January 2014 January 2015 July 2016
<b>Government Scholarship for Studying Abroad</b> (\$40,000 per year) Ministry of Education, Taiwan	2011–2013
<b>Global Opportunities Health (GO Health) Fellowship</b> Global Health, University of Washington	Summer 2013
<b>General Scholarship, George Warren Brown School of Social Work</b> Washington University (\$20,000)	2008–2009

## **RESEARCH INTERESTS & EXPERIENCE**

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### **Interests**

Social, historical and cultural determinants of indigenous wellness, health disparities and inequality; historical trauma, healing, and resistance; global indigenous social work, health and health policy; culturally relevant psychometric measurement; quantitative, qualitative, and mixed-methods research; community-based participatory research; social work multicultural and cross-cultural practice.

### **Experience**

<b>Principal Investigator</b> University of Washington School of Social Work <i>Study: Kmbiyax Project, Taiwan</i> Developed historical trauma (HT) scales; designed and implemented a quantitative survey to validate the HT scales and assess HT among Taiwanese indigenous communities.	October 2015– present
<b>Co-Principal Investigator</b> University of Washington School of Social Work <i>Study: Mentoring in Social Work Doctoral Programs</i> Designed and conducted a qualitative study to explore mentoring relationships among doctoral students and faculty.	October 2013– present
<b>Principal Investigator</b> University of Washington School of Social Work <i>Study: Tminun Project, Taiwan</i> Developed and implemented a qualitative study of the influence of historical	June 2013–present

trauma and cultural strengths on indigenous alcohol use in Taiwan.

**Research Analyst**

University of Washington Indigenous Wellness Research Institute  
*Study: Caring for Our Generation* (PI: Dr. Tessa Evans-Campbell)  
 Conducted qualitative thematic analysis to understand the risk factors and protective factors for substance use during and after pregnancy among Native women.

November 2012–  
 October 2014

**Research Analyst**

University of Washington Indigenous Wellness Research Institute  
*Study: Sacred Journey: Native Women's Wellness* (PI: Dr. Cynthia Pearson)  
 Used structural equation modeling to examine pathways of historical trauma, cultural factors, and mental health outcomes among Native women.

July 2012–  
 June 2013

**Research Assistant**

Washington University Center for Social Development  
*Study: Diffusion of Asset-Based Policy*  
 Collected and Analyzed information on asset-based social policy and individual development accounts in Taiwan.

September 2009–  
 December 2009

## **PUBLICATIONS and PRESENTATIONS**

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### **Publications**

Walls, M., Pearson, C., Kading, M., & Teyra, C. (2016). Psychological well-being in the face of adversity among American Indians: Preliminary Evidence of a New Health Paradox? *Ann Public Health Res* 3(1): 1034.

Teyra, C. (2015, October). Li shi chuang shang dui dang dai tai lu ge zu ren jian kang zhi ying xiang [The influences of historical trauma on Truku People's health]. *Taiwan-Japan Forum on Aboriginal Studies*. Retrieved from: <http://nccuir.lib.nccu.edu.tw/handle/140.119/80208>.

Zou, L., Cheng, L. C., Lee, E., Teyra, C., Chen, C. Y., & Song, S. S. (2013). A comparative study on asset-building policy diffusion in Korea and Taiwan. *China Journal of Social Work*, 6(2): 149–162.

### **In progress**

Teyra, C., Pearson, C., Evans-Campbell, T., Whitefoot, P., Briggs, L. & Walters, K. L. (in progress). Promoting psychological well-being despite historical trauma: The role of communal mastery. *American Journal of Community Psychology*.

**Teyra, C.** (in progress). Historical trauma and alcohol use among indigenous communities in Taiwan: The protective role of traditional practices. *Journal of Studies on Alcohol and Drugs*.

**Teyra, C., Hsieh, W. H., & Borja, S.** (in progress). Promoting healthy indigenous communities: The resilience roles of indigenous cultures and traditional practice. *Health & Social Work*.

Shultz, K., **Teyra, C.**, Brelrier, G., Evans-Campbell, T., & Pearson, C. (under review). "They gave me life": Motherhood and recovery in a tribal community. *Substance Use and Misuse*.

Rodriguez-Jenkins, J., Storer, H., Borja, S., **Teyra, C.**, Fernandez, A., & Wiley-Sthapit, C. (in progress). Meeting halfway: Doctoral student and faculty mentoring relationships. *Journal: TBD*.

### **Conference Presentations**

Willey, C., **Teyra, C.**, Borja, C., & Valdovinos, M. (2017, April). *Critical Issues in Transnational Social Work Research* (Oral presentation). European Conference for Social Work Research, Aalborg, Denmark.

**Teyra, C.** (2017, January). *Development and validation of a historical trauma scale: The influence of historical trauma experiences on alcohol use among indigenous communities* (Oral presentation). Society of Social Work Research Annual Conference, New Orleans, LA.

Billiot, S., Beltran, R., **Teyra, C.**, Fernandez, A., Black, J., Brown, D., Lama, G., Mitchell, F., & Walters, K. (2017, January). *Strengthening social responses to global environmental changes grand challenge: An Indigenous approach* (Oral presentation). Society of Social Work Research Annual Conference, New Orleans, LA.

**Teyra, C.** (2016, January). *Promoting healthy indigenous communities: The resilience roles of indigenous cultures and traditional practice* (Oral presentation). Society of Social Work Research Annual Conference, Washington, D.C.

**Teyra, C.** (2015, September). *Healing role of traditional hunting practice: Land-based trauma and alcohol use among indigenous peoples in Taiwan* (Oral presentation). 3rd International Indigenous Social Work (3IISW) Conference, Darwin, Australia.

Walls, M., Pearson, C., Kading, M., & **Teyra, C.** (2015). *Psychological well-being in the face of adversity among American Indians: Preliminary evidence of a new health paradox?* (Poster presentation). American Public Health Association Annual Meetings, Chicago, Illinois.

**Teyra, C., Walters, K., Huh, D., & Pearson, C.** (2015, May). *Impact of historical loss on mental health among two-spirit American Indians/Alaska Natives: Protective roles of cultural strengths and social support* (Oral presentation). Society for Prevention Research Annual Conference, Washington, D.C.

**Teyra, C. & Hsieh, W. J.** (2015, May). *Historical trauma and alcohol use among Taiwanese indigenous peoples: The resilience roles of indigenous cultures and traditional practice* (Poster presentation). Society for Prevention Research Annual Conference, Washington, D.C.

**Teyra, C. & Hsieh, W. J.** (2015, January). *Historical trauma among indigenous peoples in Taiwan: Impact on alcohol use and the protective role of traditional practices* (Poster presentation). Society for Social Work and Research Annual Conference, New Orleans, LA.

Schultz, K., **Teyra, C.**, Breiler, G., Evans-Campbell, T., Pearson, C., & Ross, C. (2015, January). *"They gave me life": Motherhood and recovery in a tribal community* (Oral presentation) Society for Social Work and Research Annual Conference, New Orleans, LA.

Rodriguez-JenKins, J., Storer, H., Borja, B., & **Teyra, C.** (2015, January). *Meeting halfway: Making mentoring successful in social work doctoral programs* (Poster presentation). Society for Social Work and Research Annual Conference, New Orleans, LA.

**Teyra, C. & Hsieh, W. J.** (2014, October). *Carrying the historical trauma of Truku tribal people in Taiwan: Alcohol use and healing* (Oral presentation). The International Network in Indigenous Health Knowledge and Development, Winnipeg, Canada.

Schultz, K., Breiler, G., Evans-Campbell, T., **Teyra, C.**, & Ross, C. (2014, October). *Maternal health and substance use: Caring for our generations* (Oral presentation). The International Network in Indigenous Health Knowledge and Development, Winnipeg, Canada.

**Teyra, C.**, Pearson, C., Evans-Campbell, T., & Whitefoot, P. (2014, January). *Promoting psychological well-being among American Indian and Alaska Native women: The role of communal mastery and AIAN identity* (Oral presentation). Society for Social Work and Research Annual Conference, San Antonio, Texas.

Pearson, C., Briggs, L., Schultz, K., **Teyra, C.**, Cassels, S., & Whitefoot, P. (2012) *Sacred journeys: HIV risk and protective factors among young rural American Indian women* (Poster presentation). Centers for AIDS Research Annual Meeting. San Francisco, California.

### **Invited Professional Presentations**

**Teyra, C.** (2016, September). *Building resiliency among indigenous youth*. Speaker Series of Student Affairs and Counseling of Friendly Campus Program, Department of Education, Hualien County Government, Hualien, Taiwan.

- Teyra, C.** (2016, May). *Microaggression, historical trauma, resistance, and cultural revitalization among indigenous peoples in Taiwan*. Speaker Series, University of Washington I-Taiwan Graduate Student and Professional Association, Seattle, Washington.
- Teyra, C.** (2016, January). Film discussion: "The Journey of the Soul" (Keynote speaker). Overseas Taiwanese for Democracy, Gainesville Local Chapter Film Series. Gainesville, Florida.
- Teyra, C.** (2015, April). *Weaving Taiwan communities from intergroup dialogue: An indigenous perspective* (Panel presentation). Overseas Taiwanese for Democracy Annual Conference, Seattle, Washington.
- Teyra, C.** (2014, December). *Indigenous cultural revitalization and healing*. Academic Seminar Speaker Series, College of Continuing Education, Chang Jung Christian University, Tainan, Taiwan.
- Teyra, C.** (2014, April). *Impact of colonization and indigenous social movements in Taiwan*. 11th Annual Western Regional International Health Conference, Seattle, Washington.

## **TEACHING INTERESTS & EXPERIENCE**

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### **Teaching Interests**

Research and evaluation, including mixed-methods and community-based participatory research; community organization and practice; historical trauma, healing, and resistance; cultural diversity and human rights.

### **Teaching Experience, University of Washington School of Social Work**

**Advanced Social Welfare Research and Evaluation (MSW),**  
Sole Instructor Spring 2017

**Foundations of Social Welfare Research (MSW)**  
Sole Instructor Fall 2016 & Winter 2016

**Evidence-Based Practice in Social Welfare (BASW)**  
Sole Instructor Winter 2017  
Teaching Assistant Winter 2015  
Sole lecturer for one third of the course; taught critical appraisal of quantitative and qualitative research.

**Introduction to Social Welfare Research (BASW)** Fall 2014  
Teaching Assistant  
Sole lecturer in qualitative and mixed-methods research; facilitated course discussion.

**Historical Trauma and Healing (MSW)** Spring 2012  
Teaching Practicum  
Conducted a lecture on historical trauma among international indigenous communities and facilitated course discussion.

### Invited Lecture Experience

**Global and Local Inequalities: Critical Analyses of the Processes and Policies of Globalization (MSW)** Fall 2016  
Invited Speaker, University of Washington School of Social Work  
“Globalization and indigenous community: Challenges and alternative approaches to thrive.”

**Advanced Social Welfare Research and Evaluation (MSW)** Spring 2015  
Invited Speaker, University of Washington School of Social Work  
“Working with indigenous communities: Community-based participatory research.”

**Thesis and Dissertation Seminar (Graduate and Doctoral Class)** Fall 2015  
Invited Speaker, National ChengChi University Department of Ethnology, Taiwan  
“Historical trauma, traditional hunting practices and alcohol use among Truku tribal communities.”

**Introduction to Social Work Practice (Undergraduate Class)** Fall 2012  
Invited Speaker, National Dong Hwa University College of Indigenous Studies, Taiwan  
“International indigenous social work development.”

## COMMUNITY AND POLICY PRACTICE EXPERIENCE

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**Advocate – Consultant** 2015–2016  
Indigenous Hunting Rights Advocacy Committee, Taiwan

**Supervisor** January 2008–  
December 2015  
Truku Young Adult Association, Taiwan

**Director** October 2006–  
May 2008  
Taiwan Association for Human Rights, Taipei, Taiwan  
Investigated individual and collective human rights cases.  
Researched and monitored the government’s policymaking and development. Promoted human rights consciousness and education.  
Edited and published articles for Human Rights Report.

## SERVICE UNIVERSITY OF WASHINGTON

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Admission Committee, Member	December 2016 – February 2017
Doctoral Mentoring Committee, <i>Member</i>	October 2013–present
University of Washington (UW) I-Taiwan Graduate Student and Professional Association, <i>President and Co-Founder</i>	September 2014– June 2016
Doctoral Student Speaker Series Planning Committee, <i>Member</i>	2012–2013
Social Justice Committee, <i>Member</i>	2011–2012

## SERVICE TO THE COMMUNITY

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Overseas Taiwanese for Democracy, <i>Board Member</i>	August 2014–present
Movie Screening & Talk in Seattle: Wawa No Cidal, <i>Primary Organizer &amp; Moderator</i> An award-winning movie of a true story of indigenous peoples in Taiwan	April 2016
International Workshop on Indigenous Research Ethics, Translator National Dong Hwa University College of Indigenous Studies, Taiwan	November 20, 2015
Indigenous Development and Social Welfare Conference, Primary Translator National Dong Hwa University College of Indigenous Studies, Taiwan	November 19, 2015
Indigenous Family Social Work Workshop, Primary Translator National Dong Hwa University College of Indigenous Studies, Taiwan	November 18, 2015
Truku Young Adult Association, <i>Supervisor</i>	2009–2015
Association for Taiwan Indigenous Peoples' Policies, <i>Board Member</i>	May 2006– March 2008
Committee for Promoting Truku Nation Autonomy, <i>Committee Member</i>	January 2007– January 2008
Taiwan Indigenous People's Alliance, <i>Executive Committeeman</i>	January 2007– December 2007
International Federation of Indigenous People's Association, <i>Executive Committeeman</i>	2006–2007
Truku Young Adult Association, <i>Chair</i>	2005–2006, 2002–2003

## PROFESSIONAL AFFILIATIONS

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Society for Social Work and Research (SSWR)	January 2013–present
Society for Prevention Research (SPR)	April 2014–present
Taiwan Association of Indigenous Social Work	May 2015–present

## LANGUAGES

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English	Fluent
Mandarin Chinese	Native speaker
Taiwanese	Fluent
Truku	Basic

## REFERENCES

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Tessa Evans-Campbell, PhD, Associate Professor  
 UW School of Social Work  
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 Seattle, Washington 98105-6299  
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 4101 15th Avenue NE  
 Seattle, Washington 98105-6299  
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