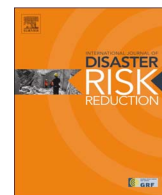
International Journal of Disaster Risk Reduction 19 (2016) 92–100

Contents lists available at ScienceDirect

International Journal of Disaster Risk Reduction

journal homepage: www.elsevier.com/locate/ijdrr



Toward a decolonial turn in resilience thinking in disasters: Example of the Mapuche from southern Chile on the frontlines and faultlines

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ARTICLE INFO

Article history:
Received 27 July 2016
Received in revised form
30 August 2016
Accepted 31 August 2016
Available online 6 September 2016

Keywords:
Disasters
Resilience
Transdisciplinary
Decolonization
Mapuche–Chilean conflict
Earthquakes

ABSTRACT

Resilience thinking has moved into the forefront of global discourses on Disaster Risk Reduction (DRR) and emergency response and recovery. Social justice frameworks have long been part of resilience thinking, conceptualizing multifaceted disasters as caused by interplays between physical, psychological, and sociopolitical dynamics that disproportionately impact marginalized communities, particularly in the Global South. Southern Chile is a poignant example, whereby marginalized indigenous communities, such as the Mapuche, are exposed to recurrent socionatural disasters, including earthquakes, tsunamis, floods, and volcanic eruptions. Resilience in Mapuche communities, however, does not only include responses to these repeated major 'rapid onset' disasters, but also to complex legacies of systematic marginalization and daily 'slow onset' sociopolitical disasters including histories of settler colonization and ongoing inequities. Pathways toward resilience in many Mapuche communities do not simply rely on capacities of individuals or collectives to reduce risks to ahistoricized and depoliticized disasters. On the contrary, the very complexities of and intersections across environmental crises and racialized post-colonial politics are manifest in daily indigenous family and community life. Thus, in an effort to improve frameworks useful for exploring complex dynamics in multifaceted disasters, the current paper provides a brief literature review outlining three general themes or 'waves' of research on human resilience that have emerged throughout the decades. Key historical and contextual elements in the Mapuche–Chilean conflict are also introduced, supporting arguments for incorporating decolonization frameworks into the increasingly transdisciplinary projects of DRR with particular sensitivity and applicability to historically colonized groups and marginalized communities across the Global South.

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1. Introduction: multifaceted disasters and mapuche communities in southern Chile

The country of Chile is marked by the recurrence of major environmental or "socionatural" disasters, including earthquakes, floods, fires, volcano eruptions, and tsunamis. Key resources for resilience can be compromised for generations in the families that are most impacted by these disasters. It is estimated that from the sixteenth century up to the present day, there have been nearly seventy earthquakes greater than 7 mw on the Richter scale in Chile. In fact, in 1960, the biggest earthquake ever recorded in human history struck the coast of southern Chile at 9.5 mw. Its rupture zone was approximately 1000 km from north to south. It is estimated that about 5700 people died and 3000 people disappeared [11]. Cities like Chillán, Temuco and Puerto Montt were

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http://dx.doi.org/10.1016/j.ijdrr.2016.08.027
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destroyed as a result of the massive tremors while coastal cities like Valdivia and Puerto Saavedra were devastated by the waves of the tsunami. Economic losses have been estimated at $550 million US dollars [68]. Again in 1985, and then in 2010, massive earthquakes struck and devastated communities across the coasts of southern and central Chile. The 2010 earthquake affected an area of more than 630 km, where a total of 525 people were killed [57]. Many of the areas that have been most profoundly impacted by these recurring socionatural disasters are also lands that are inhabited by Chile's most populous indigenous group – the Mapuche.

According to the Chilean census of 2012, over 1.4 million people (approximately 8.7 per cent of the total population of Chile) self-identify as Mapuche [25]. Most Mapuches reside either in the capital - Santiago, or in the Araucanía region in the south, which is Chile's poorest region at the national level [25]. Findings from the "Encuesta de Caracterización Socioeconómica Nacional" (CASEN) database from 2013 suggests that Chileans who identify as a member of an indigenous group are more likely to present with higher levels of poverty and extreme poverty compared to individuals who do not identify with any indigenous group [47]. In total, around 30% of all self-identified Mapuche live below the poverty line, and less than 3% of the Mapuche population receive education after high school [1]. Indigenous groups in Chile also suffer from unequal access to health due to ongoing structural discrimination and systematic subordination, leading to drastic health inequities that are visible, for example, in life expectancy rates, infant mortality, tuberculosis, women's health, and mental health [49]. Undoubtedly, the Mapuche are currently among the most marginalized groups in all of Chilean society.

Historically, for hundreds of years, the Mapuche resisted distinct colonial onslaughts from Incan, Spanish, and Chilean invasions [16]. A historical timeline that does justice to the complexity and diversity of the Mapuche anti-colonial struggle, however, is beyond the scope of this proposal. Instead, only a few periods will be briefly discussed to demonstrate the long-lasting and ongoing nature of the social conflict, and in argument for the importance of applying a transdisciplinary intergenerational lens when seeking to understand resilience in Mapuche families and communities. Also, it is important to remember, that although the Mapuche ancestral lands are commonly considered to be in the Araucanía region in southern Chile, the original pre-colonization Mapuche territory was much larger and spanned at least from the Maule River in the north to the southern island of Chiloe [6]. Also, Mapuches are heterogeneous, and there are various subgroups, for example: *Picunches*, *Pehuences*, *Lafkenches* and *Huilliches*. Important social and political structures in Mapuche communities have been historically, and continue to be today, organized around a *Lof*, which in Mapudungun (one of the major languages of the Mapuche) means 'community' or 'extended family' and corresponds to a territorial unit inhabited by a group with kinship relations and lead by a *Lonko*, or the chief of the *Lof* [56]. Between 1641 and 1816, a long list of *Parlamentos*, or *Coyan*, which were nation-to-nation agreements, were negotiated between the Spanish crown and various Mapuche Lonkos, then later with the Chileans. These *Parlamentos* recognized the independent sovereignty of Mapuches and even set agreements for trade [14]. However, between 1861 and 1883, the Chilean military broke these *Parlamentos* and unilaterally led a devastating invasion into the Mapuche nation in what Chileans called the '*Pacificación de la Araucanía*' (English Translation: Pacification of the Araucanía). After this disaster, the Chilean government divided and sold conquered Mapuche lands to Chilean aristocrats and later to corporations, leaving the Mapuche with around 5% of their native lands [10]. Thousands of Mapuches were killed or displaced during this violent period, which effectively served to open the lands in the Araucanía region to Chileans and other settlers, mainly from Western Europe [16].

It wasn't until the 1960s and early 1970s, during the *Reforma Agraria* or Agrarian Reform legislation, that land redistribution processes began aimed to restore some of the indigenous lands to the Mapuche [17]. However, after the military coup in September of 1973, the Pinochet military dictatorship initiated extremely violent campaigns in the Araucanía, where hundreds of people were tortured, killed, or disappeared. During the dictatorship, often just identifying as Mapuche placed individuals at risk of being labeled a 'communist' or an enemy of the state. Furthermore, Pinochet's dictatorship instituted legislations taking back the lands that were being re-distributed to Mapuche communities, which were then sold to private companies, often to venture capital investment conglomerates focusing on transforming the region into a heavy production zone for agriculture – especially for the forestry industry. As Correa and Mella [16] explain: "From the Mapuche perspective, it was the State who had recognized their right to their lands [referring to Agrarian Reform], and yet the State itself, once again, who was returning to deprive them of their lands. What they had heard about from their grandparents, they lived themselves in the flesh (Translated from the Spanish: *En la percepción mapuche, era el Estado el que les había reconocido el derecho a sus tierras y el mismo Estado, nuevamente, el que los volvió a privar de ellas. Lo que había escuchado de sus abuelos lo vivian en carne propia*)" (p. 298). In this way, the Mapuche–Chilean conflict intensified and was profoundly impacted by forestry development interests and mixed sociopolitical and environmental disasters. The lives of this generation of Mapuche remarkably mirrored experiences that their grandparents or great-grandparents have survived during the decades of, and directly after, the so-called '*Pacificación*' of Mapuche lands.

Since the end of Pinochet's dictatorship and the return of the democracy in the 1990s, Mapuche communities and political and social organizations have engaged in diverse forms of active resistance again demanding land reform, in addition to constitutional recognition, cultural continuity and self-determination over traditional ways of life and natural resources, in addition to linguistic and educational justice [17]. [69] state that there remains a "pervasiveness and unmarked nature of whiteness in the educational system" in Chile, systemically marginalizing Mapuche students and disempowering and segregating entire communities (particularly in the Araucanía) making intercultural education an important platform of resistance in recent decades. Furthermore, many Mapuche communities in the Araucanía are completely "enclosed by forestry plantations and they can not develop their family orchards and crops, fruit of frequent use of aircraft to launch pesticides and toxins to control weeds and pests - making local economies unviable (Translated from the Spanish: *encerrados por los cordones forestales y no pueden desarrollar huertas y cultivos familiares, fruto del uso frecuente de aviones para lanzar pesticidas y tóxicos - para el control de malezas y plagas - todo lo que hace inviable la economía local*)" [16, p. 301]. In this light, much of the Mapuche resistance in recent decades in the region has focused on contesting these interlocking sites of marginalization, struggling for linguistic and educational justice challenging whiteness in schools and in the public sphere, while also confronting forestry companies and government legislation related to land rights and self-determination. Resistance activities may include non-violent protests, hunger-strikes, and occupations of public buildings, in addition to the use of force, for example, by blocking roads, occupying contested private lands, and setting fires [16]. The response by the Chilean state has been harsh, and at times even deadly, where several young Mapuche protesters have been killed (for example: Alex Lemun [17 years old], Matias Catrileo [23 years old] and Jaime Mendoza Collio [24 years old]); and many more

Mapuches arrested and prosecuted under the anti-terrorism law that was established decades ago during Pinochet's dictatorship [16].

The international community has critiqued Chile's use of anti-terrorism laws with Mapuche communities [16]. In fact, the United Nations (UN) has pushed for decades that the international community addresses indigenous issues with more cultural sensitivity and use of social justice frameworks [64]. For example, nearly ten years ago, the UN reported, under the aegis of the Office of the High Commissioner for Human Rights, that indigenous issues should be mainstreamed and integrated into global and local priorities with clear respect for human rights and self determination [64]. Several years after the report, in January of 2013, Chilean President Sebastián Piñera said that he would give "top priority and urgency" to the constitutional recognition of Chile's indigenous Mapuche people, as presidents before him also promised [26]. In fact, the current president of Chile, Michelle Bachelet, has also pledged to make an amendment to the Chilean constitution to formally recognize the Mapuche as a nation, and strengthen a government initiative of buying back privately-owned land to return territories to Chile's indigenous communities. These promises, however, have yet to be realized, and in 2014, the UN World Conference on Indigenous Peoples met and again pledged to promote and protect the rights of colonized groups internationally. The report from this World Conference outlined how indigenous peoples continue to face distinct challenges and suffer from lower social and economic status than do non-indigenous populations. The report highlighted how the UN's new Sustainable Development Goals, "present a unique opportunity to remedy the historical injustices resulting from racism, discrimination and inequalities long suffered by indigenous peoples across the world" [65].

Since this UN World Conference, however, little gains have been made toward improving the rights and livelihoods of indigenous groups in Chile. For example, in a report by the Unrepresented Nations and Peoples Organization UNPO [66], several indigenous groups were highlighted as targets of injustice and living in nations with inadequate protections and policies to address their needs, such as: the Batwa of Rwanda, the Haratin of Mauritania, the Degar Montagnards of Vietnam, and the Mapuche of Chile. The report highlighted how each of these native communities reside in nation-states who have agreed to the [65] Declaration, which followed the World Conference on Indigenous Peoples referenced above, yet have done very little or nothing to implement its provisions.

In this light, it is important to conceptualize the current situation and disasters that the Mapuche people in Chile face, as woven into a stream or cascade of disasters that are deeply embedded in both physical and social landscapes as continuations of the colonial legacies of the Mapuche–Chilean conflict and racialized exclusion and transgenerational traumatic history. After reviewing current trends in research on human resilience, a "decolonial" lens will be defined and introduced in the final section of this paper with the goal of presenting an alternative theoretical framework that may be more sensitive and applicable to future research with historically colonized groups and marginalized communities across the Global South, such as the Mapuche. As Correa and Mella [16] say in their final sentence of their book: "What happens now to the Mapuche, they have already heard about from their grandparents, and these grandparents, in turn, have heard if from their own (Translated from the Spanish: *Lo que hoy les sucede a los comuneros mapuche ya lo escucharon de sus abuelos, y estos a su vez de los suyos*)" (p. 304). Truly, what does human resilience look like under such complex overlapping and multifaceted disasters when communities find themselves on the frontlines of social conflict and the faultlines of major ecological shifts? How can previous developments in the resilience literature help inform directions for applied theory, research, and practice on the frontlines and faultlines?

2. Literature review: 'Three Waves' of resilience research

> "Individual capacity is far less important than the quality of the child's social ecology…"
>
> - Ungar [67, p. 425].

> "A politically, economically, socially, and educationally 'healthy' community is a resilient community – to whatever risk comes along…"
>
> - Laska [35, p. 50].

In recent decades, psychological research on resilience has begun to move toward transdisciplinary thinking and action [44]. This emerging transdisciplinarity in seeking to address life-world challenges associated with extreme and long lasting adversities, in many ways, coincides with broader convergences between the disaster management, development, and global public health fields [35,46]. In fact, resilience thinking is currently moving into the forefront of global discourses on Disaster Risk Reduction (DRR) and emergency response and recovery (e.g. [54,60,63]).

DRR views a disaster as a hazard event manifesting in complex interaction with psychological, social, economic, and political risks that are each interconnected and accumulative over time. In the recent past, however, disasters in academic and institutional fields were primarily viewed as either being related to war or to powerful geophysical events, the so-called 'natural' disasters. This perspective on disasters lent to understandings and responses that were heavily dependent on militarized, state-directed, quantitative and technocratic knowledges and interventions. This approach began to change in the 1970s and has continued to transform, in part, due to de-legitimizations of militarized intervention and 'top-down' technocratic scientific knowledge for addressing the complex social-physical linkages that characterize catastrophes in contemporary societies [46].

Currently, entire communities may find themselves embedded within what Milliano et al. [46] call 'multi-risk environments', which include "slow and rapid onset emergencies, violent conflict, climate change, and other global challenges such as pandemics and biodiversity loss, as well as chronic political, economic, and society fragility" (p. 25). In fact, Wisner and Kelman [72] argue that it is important to consider four overlapping hazard categories: (1) natural hazards (e.g. earthquakes, tsunamis, floods, fires, and volcanic eruptions); (2) technological hazards (e.g. oil-spills, nuclear power plant disasters, and transportation-related crashes); (3) violent social crisis (e.g. wars, terrorist attacks, gun massacres and mass assassinations, detentions, torture, and disappearances by state-led repressive regimes); and (4) nonviolent social crisis (e.g. chronic poverty and the presence of slow yet continual socio-environmental changes that reduce accessibility and availability of resources). Moreover, rather than necessarily being punctuated events, these overlapping disasters can be integrated into everyday life, especially for communities facing chronic poverty, discrimination, and political violence [72].

For example, in a unique study by Hundt et al. [23], the authors argue for the importance of applying multi-disciplinary thinking when seeking to understand coping processes of Palestinian children. Hundt et al. [23] interviewed 20 households in Gaza using structured focus groups and administered the *A cope questionnaire* to 154 children from these 20 households. The results suggest that applying psychological instruments in settings of social conflict

without multi-dimensional thinking and contextually-informed analysis risks the misinterpretation of resilience. In particular, the authors criticized this psychological questionnaire, which is frequently used in disaster resilience research, because of the way it fails to take into account how the disasters that Palestinian refugee children face in Gaza are integrated into multiple aspects of daily life and the environment [23]. Similarly, in a more recent qualitative study on resilience completed with Palestinian refugees, the results demonstrate first-hand community-based knowledge of the impact of accumulating adversities and risks that 'stack' over time and overlap into daily disasters [3]. The participating families from this study in the occupied West Bank had all been displaced from their aboriginal lands in 1948 during what Palestinians call al *Nakba* – Arabic for 'the Disaster' (which is what the state of Israel calls 'the War of Independence'), and had subsequently been living over several generations in a United Nations refugee camp. Findings demonstrated that these displaced indigenous families frequently referred to their current situation of continual systematic discrimination and settler colonialism as an everyday *Nakba* – 'everyday disaster', integrating awareness of the interconnectedness of their historical losses of lands, culture, lives and livelihoods with their current struggles against ongoing structural violence [3]. Incredibly, despite the historical and ongoing adversities and atrocities that many marginalized groups face, particularly those from the 'Global South' as peoples of historically colonized racial and ethnic groups (including the Mapuche in Chile), they continue to demonstrate resilience in their persistence to overcome the daily disasters and overlapping socio-environmental challenges that wall their lives in unique ways.

A full review of global risk resilience research, however, is beyond the scope of this paper because of the large amount of literature that exists. In fact, Alexander [2] argues that unlike commonly believed, the term 'resilience', from *resilio* or 'bounce' in Latin, does not simply originate from recent academic writings in ecology, psychology, physics, or engineering. Instead, the author traces its history much further back suggesting that it was commonly used in diverse Western writings for over millennia [2]. In any case, when engaging in resilience research with indigenous communities, it is important to acknowledge the Western origins of the construct and that "there is a culture specific ethos supporting this concept in the social sciences literature which should not be uncritically transplanted to Aboriginal peoples" [62, p. 46].

Historically, resilience has been conceptualized as a person's or system's capacity to 'bounce back' after an adverse experience, impacted by multidimensional vulnerability and protective factors (e.g. [8,38]). This individual-focused perspective of resilience is often referred to as the 'First Wave', and was spearheaded by developmental psychologists, psychiatrists, and human ecologists (see Table 1 below for a general overview of the three waves of research on human resilience). Over the years, a second wave emerged, in part, based on paradigm shift of viewing resilience as a process rather than a capacity (e.g. [71]). Ungar [67] has published prolifically on the topic arguing for more relational and cultural interpretations of resilience articulating two linked collective intergenerational family processes: (1) navigating to resources that are available and accessible; and (2) negotiating for culturally and contextually relevant resources. Ungar's critical strength-based conceptualization of resilience differed from the first wave of resilience thinking in important ways: (a) by challenging the focus on psychopathology and individual emotional regulation; and (b) by instead emphasizing the importance of ameliorating the circumstances in children's social ecologies. Similarly, in an article exploring family resilience in response to the traumatic loss of a loved one, Shapiro [59] highlights the importance of family members' linked individual and collective agency when identifying and accessing key 'leverage points'

Table 1
Three waves of research on human resilience.

Waves	Approaches	Lens	Focus
First wave - prevention	**Disciplinary-specific** Psychology, Psychiatry, Child Development Ecology	**Bouncing back** Resilience as individual capacity to bounce back after exposure to adversity or trauma	**Vulnerability and protection** • To understand mediating factors effecting individual vulnerability • To identify and create interventions that promote protective factors associated with positive individual outcomes • To **prevent** psychopathology for improved individual functioning
Second wave - amelioration	**Interdisciplinary** Psychology, Psychiatry, Child Development, Ecology, Social Work, Disaster Studies, Anthropology, Cultural and Gender Studies	**Bouncing forward** Resilience as a collective process of harnessing, navigating, and negotiating resources to strengthen family systems and even 'bounce forward'	**Strength-based, relational, cultural, and temporal dimensions** • To explore temporal dimensions, 'polyvictimization', and the 'stacking' or accumulation of risk • To understand 'trickle-down effects', intergenerational or transgenerational transmissions or the 'mental health cascade' across generations • To understand intersections of cultural contexts and resilience • To **ameliorate** or enhance the quality of interpersonal relations and social environments
Third wave - transformation	**Transdisciplinary** Psychology, Psychiatry, Child Development, Ecology, Social Work, Disaster Studies, Anthropology, Cultural & Gender Studies, Public Health, Political Science, Sociology, Development, Geography, Postcolonial Studies, Grassroots & Community-based Knowledges	**Just a metaphor** Resilience as a metaphor for the outcome of intersecting ecosocial processes that are shaped by power relations and are always multileveled and evolving through time	**Ecosocial processes and pathways** • To critically interrogate how power shapes human outcomes, addressing vectors of oppression and privilege: e.g. Gender, Race, Class, Ethnicity, Sexual Orientation, etc… • To better understand the pathways leading from 'upstream' politics and key environmental and social determinants, all the way to 'downstream' individual and family health and livelihoods • To include bottom-up participatory approaches, empowerment of local communities, and the inclusion of multiple stakeholders • To **transform** systems

capable of supporting positive development and giving priority to the bereaved's own goals for grief and growth.

Manyena [45] suggested resilience was better understood within a 'posttraumatic growth' framework, such as the 'bouncing forward' metaphor that focuses on building positive changes in the face of adversity, rather than simply 'bouncing back' to the status quo. This 'bouncing forward' understanding of resilience especially resonated with critical perspectives and discourses because of the awareness of intolerable violences and enduring inequities embedded within social systems, whereby a return to the status quo for many marginalized and persecuted communities would be a return to conditions of adversity that produced the challenges in the first place [46].

Furthermore, a significant body of literature had emerged on transgenerational processes after exposure to war atrocities, particularly related to the Jewish Holocaust (e.g. [74]). In Kellerman [27] comprehensive literature review of research on the transmission of Holocaust trauma across generations, the author suggests the need for increasing understandings of the contents and the processes of intergenerational messages and practices passed down in surviving families. Similarly, in Kupelian, Kalayjian, and Kassabian's [34] research with Armenian American families, the authors placed an emphasis on better understanding cross-generational coping processes. The authors found that grandchildren of survivors of the Armenian Genocide reported protective processes including participating in family rituals where genocide victims were mourned, in addition to being given opportunities to learn about the history of trauma from family narratives [34]. In Chile, the nation-state where the majority of the Mapuche live, there is a considerable amount of research completed on intergenerational coping, however, primarily related to the coup of 1973 and the subsequent nearly two decades of repressive military dictatorship that characterized Pinochet's regime. Elizabeth Lira, and other authors, such as Bacigalupe [4], have completed, for decades now, extensive research and clinical practice related to the topic. In a recent article by Lira [37], she explores the continual impact of past human rights violations associated with Pinochet's dictatorship on contemporary Chilean efforts for reparation and reconciliation. Moreover, in a recent qualitative study of four generations in Chile, Cornejo et al. [15] showed how distinct generations were marked by their unique sociopolitical contexts, where not necessarily having directly experienced human rights abuses shaped their experiences of political repression. Instead, the participants' particular political ideological beliefs also played a part in the process of negotiating the intergenerational trauma passed down from family and community members [15].

Marshall et al. [43] completed a study with Cambodian refugee households in California and highlighted that challenges families faced were not only associated with past war trauma and political persecution in Cambodia, but also continual violence in their communities after resettlement in the USA. In this light, Marshall et al. [43] demonstrated how new stressors post-conflict may interact with traumas of previous generations in complex ways creating experiences of polyvictimization while shaping possible resilience pathways. This research points toward the importance of considering whether traumatized families are able to develop and grow under stable conditions post-disaster, or if on the contrary – they are obligated to endure within continually threatening environments. Likewise, in Panter-Brick, Grimon, and Eggerman's [50] study with families facing long-lasting conflict in Afghanistan, the authors examined the 'mental health cascade' across generations demonstrating that continual violence and caregiver mental health were significantly associated with various dimensions of child mental health including the child's level of post-traumatic stress, depression, and strengths [50].

The third and current wave of resilience research builds on insights on the importance of understanding social and political dimensions of adversities impacting family and community life, yet moves from an emphasis on exploring pathways for improving conditions, to gaining understandings for transforming systems (see Table 1 above). In this line of thinking, resilience is not viewed to be something that describes the nature of a system, a process, a person, a place, or a thing. Rather, from the 'Third Wave' perspective, resilience is understood as just a metaphor or a name, given to outcomes of many ecosocial dynamics. This awareness of resilience as being just a metaphor, opens up the importance of building more intersubjective insights into the multitude of meanings of 'resilient' outcomes. In this light, researchers remain 'at-risk' for falling into the same old traps that vulnerability and protection frameworks did decades ago in the first wave, such as - by masking social inequities leading to interpretations of oppressed groups being responsible for their own vulnerabilities while privileged groups are deserving of their more 'resilient' outcomes [29,44]. Furthermore, it is important to consider that a given factor may be protective in one situation, and yet can cause vulnerability in another, impacted by differences in power requiring nuanced investigation of complex ecosocial pathways [32]. For example, disaster management agencies and development interests may align their goals and argue for the importance of promoting community 'resilience' in a rural indigenous population by bringing in industry to increase community members' incomes and access to employment. In the long run, the presence the outside industry (such as the forestry companies in Mapuche communities in southern Chile), may in fact create more economic development, however, they could also simultaneously enhance risk in other domains by jeopardizing local indigenous institutions and cultural resources that have fostered family and community resilience for centuries.

Additional areas of difficulty, with regards to engaging in 'Third Wave' resilience research, relates to being able to avoid overly reductionistic and technocratic mapping of constructs across frameworks and disciplines [72]. Confusions and questions arise, such as: *Can knowledge about human resilience serve as a good metaphor for understanding how broader material and ecological systems interact and adapt to adversity*? And on the flipside - *Can knowledge about how physical systems adapt to adversity serve as a good metaphor for understanding human resilience*? Or - when you are dealing with very different scales (for example, a household compared to a city), *How do you map resilience constructs across levels*? [72]. Overall, failing to addressing these questions, and without nuanced ecosocial analysis of the real-life dynamics and the interconnectedness of physical and social factors in creating opportunities for resilience, the field might be taking a *bounce* backwards [46].

In this light, community-based transdisciplinary approaches (e.g. [36]) are necessary to enhance sensitivity to historical legacies and generations, societal levels, place and power. Krieger [32] has specifically underscored the importance of rigorously mapping biopolitical pathways linking race, place, class, gender, and health to systematically take into account ecosocial dimensions including 'embodiment' - or the ways in which bodies tell stories about the conditions in which they exist. In fact, embodiment theory [21] explains how history is not housed outside the human body. Instead, the body reveals itself as produced through and in history, as people literally embody biologically the contexts in which they live [32]. The 'Place Matters' public health movement worldwide builds off of ecosocial theory seeking to explain (and change) why peoples' home addresses and racial identities have become such strong predictors of unequal health outcomes (e.g. [9]).

These complexities of overlapping geophysical, social, psychological, biological, economic, and political processes that influence

pathways at local, national, and global levels not only shape people's differential vulnerabilities in disasters but they also impact how they respond [40]. In fact, diverse accumulating adversities or multifaceted disasters intersect and can even cause hazards or catastrophes in the first place. For example, a 'wake-up call' about the profound social-physical linkages in disasters reshaping understandings of opportunities for resilience, lies in the example of Hurricane Katrina from New Orleans, USA. In the end of August in 2005, after the hurricane stuck the city, thousands of people wasted away for six long days in the Super Dome with little opportunities for active participatory self- and community- protective action. Instead, they were stuck waiting for rescue from the US government. Hurricane Katrina revealed a caged community with massive vulnerability due to long-lasting structural inequities, historical tensions, and persisting patterns of oppression (e.g. institutionalized racism and classism). As Laska [35] describes, "social and economic vulnerability was the cause of the catastrophe, not the wind, rain, storm surge or even the faulty hurricane protection" (p. 49). The author goes on to argue that although "an ecosystem does not think or prepare, people can/do" ([35, p. 49]). Resilience is manifest in individual, household, community, city, country and global transformations of thinking and action.

In this light, resilience thinking that validates the importance of impacting social change so that people have increased access to options, rights, and resources, needs to be more fully integrated into disaster risk reduction research [72]. Unfortunately, disaster management bodies usually focus on structural resilience alone (for example, FEMA's focus dams and levees after Katrina), which does not take into account linkages between social and physical processes in disasters. An example of a response that brings a slightly more multifaceted understanding of resilience and the ways in which disasters overlap, is in the New Orleans' local city government's response to try to 'scale up' the public schools. After Katrina, policies and actions were put in place to try to improve the quality of the city's education system. Simultaneously, various school buildings were also 'scaled up' off the ground and improved so that their infrastructure could better manage high-levels of flooding and wind. This dual-dimensioned attempt at promoting both 'storm resilience' and 'social resilience' is an example of more interdisciplinary resilience thinking, yet it remained a "top-down" effort. In fact, without building on the wide-spread community-based anti-racist initiatives that gained momentum in the aftermath of Katrina [39], city-level attempts in New Orleans to scale up schools were actually "at-risk" of contributing to the recurrent marginalization of African American students and other communities of color in the city – who so often end up further disenfranchised as a result of the privatization of schools. In this light, it is important to keep in mind that contemporary 'Third Wave' resilience perspectives also argue for application of critical race and community perspectives through "a bottom-up approach, empowerment of local communities, and the inclusion of multiple stakeholders" ([46, p. 28]), which goes beyond top-down decision-making and neoliberal economic development.

As critical psychologists Lykes and Scheib [40] argue, there continues to be a major limitation in disaster resilience research because of the lack of rigorous interrogations of social injustice with anti-racist feminist research perspectives and methods to map out causes of unequal outcomes. In fact, Fassin [20] warns that humanitarian psychiatrists and psychologists often enter complex political geographies in various disaster zones worldwide to intervene and study trauma and resilience without informed power analyses. In fact, Fassin [20] argues that embedded within humanitarian reason is a discourse of 'compassionate politics', which suggests equivalence across victims of disasters and effectively displaces an ethic of justice. Therefore, when aiming to engage in research with indigenous groups and in historically colonized communities across the Global South, the current paper argues for avoiding the displacement of ethics of justice and instead, to take a 'decolonial turn'. A decolonial turn aims to explicitly highlight the role of power in resilience to disasters while re-locating settler colonialism to the center of analysis (e.g. [19,24]). As Tousignant and Sioui [62] caution:

> "The question of resilience cannot be asked in the usual academic way for Aboriginal communities. History has been different. The basic question is that of healing, and healing here is not a vague metaphor but refers to the pain of multiple traumas experienced by a large number of adults and these traumas are being reproduced from one generation to the next" (p. 57).

3. Taking a 'Decolonial Turn' in resilience thinking

The influential decolonial theorist Edward Said completed extensive work mapping out how colonizing forces use a mix of violence and narrative to dominate both people and territory. Said [55] argues that after indigenous groups have been displaced from their historical location on the land, their history is rewritten whereby narrative is used "to dispel contradictory memories…" (p. 132). The decolonial transnational feminist Shalhoub-Kevorkian [58] builds off of Saidian thought and highlights how it is not only peoples' lands that are occupied, but their narratives and truths as well. In this light, decolonization scholarship takes an explicit stance toward witnessing and listening not only to what is actually heard and seen in research applicable to knowledge production with colonized groups, "but also by implication what is not seen, what we have not been allowed to see…" ([58, p. 39]).

Critical race theories postulate that race is embedded in Western social systems and remains a central component of post-colonial politics, whether visible or colorblind, where racialization (i.e. the assignment of racial meanings linking historical and current social contexts) reproduces hierarchies of power and privilege within and among socially classified groups (e.g. [53,61]). Moreover, critical race theories that integrate feminist perspectives within psychology emphasize the 'politics of location', and the ways in which social interactions within systems of inequality impact opportunities for resilience in colonized families and communities across the frontline of social conflict [5].

Decolonial theorist Maldonado-Torres [41] broadly defines colonialism as, "a political and economic relation in which the sovereignty of a nation or a people rests on the power of another" (p. 243). There are many types of colonialism, and Cavanagh and Veracini [12] define 'settler colonialism' as a phenomenon whereby migrants who carry a distinct sovereign capacity create policies aimed at disappearing indigenous peoples as they themselves (the settlers) become the founders of new political orders. Wolfe [73] describes settler colonialism as centralized around a 'logic of elimination' that seeks to replace the native. Although settler colonialism may have waned over the recent centuries and decades, as many societies have abolished racist policies that specifically sanction the conquest of native lands and the genocide, ethnocide, and slavery of Black and Brown peoples internationally, it is still important to understand, as Quijano [52] argues, that "*la Colonialidad del Poder*" (English Translation: Coloniality of Power) continues to be very much alive – and in fact is one of the most pressing social issues in Latin America today and especially relevant to a country like Chile. Maldonado-Torres [41] defines 'coloniality' as: "the long-standing patterns of power that emerged as a result of colonialism, but that define culture, labor, intersubjective relations, and knowledge production well beyond the strict limits of colonial administrations" (p. 243). In this light, evoking writings by Franz Fanon [19], Maldonado-Torres [41] takes

a critical stance toward science, academia, and overall knowledge production processes within Western civilization as being negligent as evidenced in widespread systemic efforts to suppress the understanding of colonization and other patterns of power that shape 'coloniality' today. In particular, the author problematizes "the lack of recognition" within Western academic disciplines and discourses, "of the efforts by the colonized to overcome the imposed limits by colonizers" (p. 253).

Similarly, indigenous psychologists, such as Enriquez [18], claim that researchers should purposely focus more on increasing knowledge of the efforts of colonized groups to cope with historical trauma caused by centuries of colonialism. A significant body of work has explored the concept of indigenous Historical Trauma (HT) (see [31] for a thorough literature review of HT), and the resilience and social healing processes of groups facing loss of culture and land as a result of histories of genocide and forced displacement (see [30]). In an attempt to approach increased clarity in the concept of indigenous HT, Hartmann and Gone [22] described four core components, or the Four C's of HT including: 1) Colonial injury; 2) Collective experience; 3) Cumulative effects; and 4) Crossgenerational impacts.

Kirmayer et al. [29] published a extensive review of literature on community resilience in indigenous communities facing HT and ongoing oppression arguing for three key domains of community resilience in aboriginal communities in North America including: 1) Social capital (such as effective bonding, bridging, and linking processes); 2) Ecological capital (such as the quality of natural, built, social and human resources); and 3) Cultural capital (such as an emphasis on family and community interconnectedness, oral traditions and storytelling, connection to the land, healing traditions, spirituality and ceremony, collective knowledge and identity, political activism, and cultural continuity).

Similarly, yet worlds apart, in the study referenced above by [3], the author built a collaborative research partnership with a Palestinian community in a United Nations refugee camp in the occupied West Bank and completed semi-structured qualitative interviews with thirty participants from three different generations. Using Clarke's [13] Situational Analysis (SA) methodology, a metaphor of intergenerational family adaptation in response to historical and continuous structural violence emerged, entitled: Palestinian Refugee Family Trees of Resilience (PRFTR). These findings organized through SA methods and expressed in the PRFTR model found that resilience for indigenous Palestinian families emphasized their engagement in political resistance, their harnessing of cultural and spiritual resources for perseverance, their re-gaining of ecological capital through direct engagement in native lands, and the re-gathering of memories of their aboriginal villages, oral histories, and rich native ecosystems. In their work with in indigenous communities in Canada, Pilgrim, Samson, and Pretty [51] have theorized seven pathways for promoting resilience and cultural continuity in indigenous communities, including: 1) Diet – increasing consumption of traditional foods; 2) Healthcare – reviving specific elements of traditional medicines; 3) Ecotourism – generating income, encouraging responsible tourist activities, and enhancing land-based practices; 4) Education – transferring traditional knowledges and practices to younger generations through culturally-sensitive curricula; 5) Language – enhancing proficiency of speakers of endangered languages and increasing connections between youth and elders; 6) Culture – strengthening ceremonial traditions and reviving key threatened cultural ways of life; and 7) Rights – recognizing human rights and renewing certain traditional rights (such as land rights). In this light, global research and practice from diverse indigenous psychologies from Asia to the Americas and beyond, suggests several important dimensions of resilience including issues related to facing HT and ongoing oppression by promoting cultural continuity, harnessing social and ecological capital, and engaging in political struggles for human rights and self-determination.

Interestingly, Mohatt et al. [48] conceptualize HT as a "public narrative" and do not require colonial injury as a factor, observing, for example, that a community's response to a hugely destructive 'natural' disaster could become HT in future generations. However, there are few examples of research that explores trauma and resilience processes associated with responses to environmental hazards in families and communities that have also been exposed to historical and ongoing social crises, such as the Mapuche in Chile who face historical and continual threats of socio-natural disasters on top of indigenous HT and current racialized oppressions.

In recent study from the Chilean National Research Center for Integrated Natural Disaster Management (CIGIDEN), a team of researchers explored the meaning-making processes of rural Mapuche communities in southern Chile related to their experiences surviving the largest earthquake ever recorded in human history which struck in 1960 [3,33]. The authors developed collaborative partnerships with Mapuche community members and completed eighteen semi-structured qualitative interviews through the support of a cultural advisor. The findings suggests that Mapuche cultural and spatial elements afforded systems of meaning to process the terrifying environmental events related to the devastating 1960 earthquake. More specifically, the study results provide insight into resilience as Mapuche families processed the traumatic event of the massive earthquake by recollecting sacred oral histories, tapping into reserves of traditional ecological knowledges, and adapting to constantly shifting landscapes, which together surfaced as interrelated dimensions of responses to living on the faultlines with continual environmental hazards and their aftermaths.

These results overlap with some of the domains of resilience introduced above on how families and communities face indigenous HT and suggest that opportunities for Mapuche groups to continue their connections to their environments translates to impacting their access to their history and to cultural continuity. Thus, previous research by CIGIDEN on disasters in Mapuche communities sheds light onto how systematic separations, violent displacement and ethnocide of racialized communities by Chilean government forces in diverse ways over the past centuries, could have consequences and implications not only for transgenerational transmissions of indigenous HT, but also for the ways in which targeted groups respond to trauma from environmental hazards such as earthquakes. Little research, however, has yet to explore intersections across resilience processes associated with responses to environmental hazards that may actively overlap with resilient responses to historical and ongoing sociopolitical crises. Therefore, the current paper argues for future research to build off the 'Third Wave' of resilience research honoring the complexity of the resilience metaphor, which thereby requires application of transdisciplinary theoretical and methodological approaches, including decolonization studies.

4. Conclusions

Disasters are multifaceted and require transdisciplinary approaches for understanding human impacts and successful risk reduction that take into account the complexity between human victimization and agency. Likewise, resilience may best be understood as a metaphor that is helpful in explaining aspects of the constantly shifting outcomes of ecosocial processes.

Furthermore, by exploring historical and current conditions within Mapuche communities in southern Chile, examples of why it is important to increase research and knowledge production

related to the interplay between physical and sociopolitical disasters, both rapid onset and slow onset, both environmental hazards and social crisis, are illuminated. Due to dramatic ecological events, key resources for resilience have been compromised for generations in many Mapuche communities impacted by hazards such as the earthquakes, tsunamis, flooding and volcanic eruptions. Mapuche communities, however, are not only marked by these repeated major 'rapid onset' physical disasters, but also by complex legacies of systematic marginalization and daily 'slow onset' sociopolitical disasters such as: histories of settler colonization; political repression during the Pinochet dictatorship; ongoing land disputes and environmental challenges; economic, health, and educational inequalities; and criminalization through Chile's anti-terrorism laws – all together embedded within structural racisms endemic to contemporary Chilean social ecologies. Therefore, pathways toward resilience, in many Mapuche communities in Chile, do not simply rely on the capacities of individuals or collectives to overcome ahistoricized and depoliticized 'natural' disasters and psychosocial challenges. On the contrary, the very complexities of and intersections across, environmental crises and the racialized postcolonial politics currently impacted by the ongoing Mapuche–Chilean conflict, are manifest in daily indigenous family and community life.

In addressing these complexities within Mapuche communities, and across lived experiences of other colonized groups in the Global South, future research and Disaster Risk Reduction (DRR) plans should consider including decolonization frameworks that seek to identify and promote collective resilience processes, across multiple generations, in response to indigenous historical trauma and ongoing conditions of overlapping sociopolitical and socionatural crises while mapping out key complicating factors and facilitating resources that impact these resilience processes. Furthermore, future research is recommended that will contribute to understandings regarding how resilience processes on the frontlines and faultlines intersect, or how human adaptation associated with community responses to sociopolitical crises overlap with responses to socionatural hazards.

A decolonization lens places settler colonization at the center of analysis while explicitly aiming to "…assist historically colonized groups with preserving and reclaiming their distinctive cultural legacies, strengths, and institutions" [70, p. 164]. Indigenous psychologists Kim and Park [28] advocate for exploring the ways in which indigenous groups view their own cultural processes toward collaboratively analyzing "the knowledge, skills, and beliefs people have about themselves and how people work together with others in their cultural context" (p. 43). In this light, taking a 'decolonial turn' in disaster resilience research, may include pushing the field toward a 'Fourth Wave'; one that explicitly attempts at not only transdisciplinary strength-based scholarship and action. Instead, as [42] declared during his recent keynote speech in South Africa, perhaps it is time for 'undisciplinary' breaching of dominant logics in global humanitarianisms to relocate social justice values into resilience metaphors and our constantly evolving social imaginaries of human adaptation. Truly, as the philosopher Maurice Blanchot [7] argues: "disaster ruins everything, all the while leaving everything intact" (p. 1). In this paper, I have argued that taking a 'decolonial turn' in disaster research involves the systematic investigation of key patterns of power which have emerged as a result of settler colonialism and yet that continue to challenge opportunities for human resilience today – whether within states of daily disaster or in times of sudden crisis - and thereby involves the identification and transformation of not necessarily what has been destroyed, but what is left intact.

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