Chapter 14

Intergenerational Trauma

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14.1 Introduction

The term intergenerational trauma describes how trauma experienced in one generation can lead to trauma in the lives of descendants. For scholars and practitioners of Developmental Origins of Health and Disease (DOHaD), intergenerational trauma is an important aspect of human experience that can shape physiological development and influence individual, family, and community health across generations. In a DOHaD model, parental and community experiences of trauma can be transmitted in utero and in early life, having a cumulative physiological effect such that historical experiences are embodied in the present. In this chapter, we provide a conceptual overview of 'intergenerational trauma' in the interdisciplinary field of DOHaD research. The concept has been variously defined in relation to other disciplines and implicitly or explicitly drawn on other concepts such as historical trauma, transgenerational trauma, and post-traumatic stress disorder (PTSD). Intergenerational trauma is of interest to many disciplines and frameworks in part because it lends itself to 'biosocial' understandings of violence and discriminatory social contexts as physiologically embodied. Yet, intergenerational trauma also presents challenges for scientific study due to the difficulties inherent in stabilising it as a scientific object. As a group of social theorists working across anthropology, gender studies, and science and technology studies (STS), we attend in this chapter to both the operationalisation of intergenerational trauma in DOHaD research (including the increasing importance of epigenetic mechanisms) and the particularities of how intergenerational trauma is enacted as a supposedly stable entity in science. Given the growing public interest in intergenerational trauma, and its increasing clinical uptake for the care of marginalised communities, this chapter also considers a range of important questions related to policy translation, biopolitics, and social justice.

14.2 What Is Intergenerational Trauma?

Broadly speaking, intergenerational trauma can be understood as 'emotional and psychological wounding that is transmitted across generations' [1]. It is entangled with the allied concepts of historical trauma and transgenerational trauma. While often used synonymously with intergenerational trauma, we distinguish historical trauma here through its connection to large-scale historical violence 'such as enslavement, colonization, and genocide' [1, 2]. While this understanding of historical trauma falls within the remit of intergenerational trauma, the latter can also encompass traumatising experiences that do not register in large-scale histories of global violence but occur on more personal and

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micro-scales, such as interpersonal violence. 'Transgenerational trauma' is another term that is often used synonymously with intergenerational trauma (e.g. [1, 3]); however, in the DOHaD field, the term 'transgenerational' has a specific meaning that pertains to epigenetic mechanisms of transmission to two or more subsequent generations (as discussed in more detail later in this chapter). As we define it here, intergenerational trauma does not imply a particular kind of violence or a particular biological mechanism of transmission.

A capacious concept, intergenerational trauma has captured the attention of theorists, clinicians, and writers across innumerable fields. These range from Indigenous studies [2, 4], psychology and psychiatry [5–7], social work [3], and public health, to literature [8], queer studies [9], and memory studies [10]. Scholars across these fields differently approach intergenerational trauma as a useful concept for thinking through human relatedness, collective identity formation, and the channels through which histories and legacies are embodied, suturing us across time and space. Theories of *how* intergenerational trauma is inherited vary widely across these different approaches – from attention to narratives and material culture shared in families [3], to artistic texts and collective remembrance practices through which new generations are enculturated [10], to somatic mechanisms of implicit or bodily memory held by individuals [3, 7].

While social environments were key to early formulations of DOHaD [11], the increasing molecularisation of the environment has narrowed the focus to biological mechanisms of transmission. This includes two important junctures. The first is the transmission to a fetus of a pregnant person's real-time experience of a traumatic event/environment or its after-effects. Developmental programming in utero and in early life in response to trauma can foster a greater propensity for stress and mental health challenges [12] and can contribute to low birth weight, preterm birth, chronic disease, and immune and metabolic dysfunction later in life [13–15]. The second juncture is the effects of patterns of parental care behaviours, including breastfeeding, nutrition, and emotional responsiveness [16]. Here, the destructive effects of trauma in caregivers' own lives, often compounded by material disadvantage and ongoing discrimination, can lead to the re-creation of traumatising contexts for children. Manifesting as developmental challenges, sustained distress, and detachment from caregivers, communities, and culture, this is often referred to as the 'cycle of trauma'. Here, trauma is both cause and effect. Past traumas suffered by parents, communities, or ancestors may be an origin of an individual's present-day health challenges and may also manifest as personal experiences or psychological symptoms of trauma.

The scholarly genealogy of intergenerational trauma and its potential mechanisms is often traced to empirical studies of the effects of the Holocaust on children of survivors [16, 17]. These studies found that the children of Holocaust survivors experienced mental health challenges characteristic of those who experienced trauma directly [1, p. 2]. The application of the concept has since broadened considerably, including to explore the impacts of colonisation on First Nations communities [2, 4]; the effects of forced displacement and armed conflict on survivors and refugee populations [18–20]; intergenerational harms among African American communities wrought by trans-Atlantic slavery and enduring racism [21, 22]; and the embodied legacies of systemic gender-based violence [19, 23].

While 'trauma' is deployed as a stable biomedical entity in DOHaD-informed studies, defining and measuring trauma scientifically is a complex endeavour always entangled with social worlds. Far from a 'timeless unity' [24, p. 3], trauma is made measurable

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within diagnostic categories and measurement tools that stabilise it as a pathological disease entity. Chief among these are the diagnosis of PTSD, which was added to the Diagnostic and Statistical Manual (DSM) in the 1980s and has been critical to studies and therapeutic interventions for trauma; and measurement tools such as the Adverse Childhood Experiences scale [25, 26], which aims to quantify experiences of trauma through scales tabulating challenging events and living conditions.

Such tools conceptualise and enact trauma differently from one-another and in context-dependent ways [27]. For example, the association between context, symptom, and relationship is differently assembled in individual study designs. As Judy Atkinson and co-authors [28, p. 289] have written, trauma is variously conceived as an 'event, environment, or reaction'. Trauma is often implicitly conceptualised as an event itself, for example, a collective historical trauma or a set of adverse childhood experiences. Yet in other contexts, it is defined as the distress exhibited *in response to* an event or situation [1, p. 16]. These slippages have a significant impact on understanding what trauma is, who is affected, and the scales of intervention. Defining trauma with reference to a particular historical event such as colonisation, for example, risks homogenising members of a group by assuming they all experienced the event as similarly traumatising [6]. As Andrew Kim [29] writes, studies of stress and trauma can also often result in researchers assessing whether a given event is traumatic according to their own worldview rather than through deep engagement with the worldview and reference points of the participants. Furthermore, studies that focus conceptualisations of trauma on an event can make it challenging to attend to heterogenous groups for whom traumas are compounding or not easily delineated as discrete events. As Cerdeña et al. [1, p. 2] note, one of the reasons that Latinx communities are under-represented in the literature on intergenerational trauma may be due to their significant heterogeneity and the multiple overlapping sources of trauma, including diverse forms of colonisation, political oppression within Latin America, dangerous passages of international migration, and systemic racism.

14.2.1 DOHaD Research, Epigenetics, and Transgenerational Trauma

As discussed above, much of the early scholarly literature surrounding DOHaD has focused on historical cohorts that have experienced trauma from war and nutritional deprivation (particularly famine – for example, the Biafran (1967–70) or Chinese famine (1959–61)). The oft-cited Dutch Winter famine from the Second World War is perhaps the best known: a period of severe malnutrition forced on Dutch families by Nazi occupiers in the western part of the Netherlands in 1944–45. Pregnancy data, birth records (including placental weights and birth weights), and daily food ration cards were collected from women across differing trimesters in order to map any developmental 'insults' from 'hostile environments'. The perinatal and gestational data collected (including data from fathers) have been tracked across the lifecourse of the children as they progressed into adult life. Thirty thousand people died as a result of malnutrition and extreme cold, and the children conceived and born during the famine were found to have disproportionally higher rates of adult disease risk, such as diabetes, coronary heart disease, and cancer (with different outcomes dependent on respective trimesters in utero during the famine) [30, 31]. Researchers claim the Dutch Winter famine cohort as an example of intergenerational transmission of adverse exposures that is linked to epigenetic changes.

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In the DOHaD context, much attention has been given to epigenetics in relation to transgenerational trauma. Broadly defined, epigenetics is the study of how various external factors, including food, stress, and toxins, alter genetic expression. While interest in the 'science' of trauma was strongly rooted in neurology and neurobiology in the 1980s [24], epigenetics has recently emerged as a popular concept when it comes to attempts to codify trauma in a scientific or biological frame. Epigenetic studies look at how the epigenome is impacted by various factors that modify DNA and the proteins it binds to, therefore affecting how genes are expressed. The most widely studied mechanism through which this occurs is DNA methylation. DNA methylation is often described through the metaphor of a volume knob on a stereo, operating by 'turning down (or even off) certain genes in some cases and turning up other genes in other cases' [32, p. 200–1]. Epigenetics offers a biological pathway for the transmission of impacts of traumatic events from one generation to the next, and also potentially between *more than two* generations (known as '*trans*generational transmission'). Transgenerational epigenetic transmission is established in some non-human models, such as the nematode *C. Elegans* [33, 34], drosophila [35, 36], honeybees [37], and rodents [38–40]. Though well understood in animal models, transgenerational epigenetic transmission in humans is heavily debated. Despite this contestation though, the theory itself – that multiple generations of families and communities hold the epigenetic 'marks' of previous social environments and experiences – is widely discussed in relation to trauma both within and beyond the field of DOHaD.

14.3 Critiques of Trauma: Biopolitics and Pathologisation

Given the rising public and scholarly interest in epigenetic mechanisms of trauma transmission and intergenerational trauma more broadly, it is important to consider some questions related to policy translation, biopolitics, and social justice. While trauma-informed approaches have become increasingly important in DOHaD science and therapeutic interventions globally, researchers must also pay attention to cultural specificity and the limitations of cross-cultural translation. Trauma manifests in bodies in ways that are deeply localised, framed by situated histories, cultures, and modes of embodiment [29]. While instruments to measure stress and trauma are often adapted for local contexts, this is not always effective, with localised idioms of pain and distress rendered illegible [1, 41, p. 18]. Non-Western theories of intergenerational trauma and the holistic epistemologies of embodiment that they derive from, such as 'blood memory' among Native American communities [42] or 'communal wounds' [43] and 'trauma trails' [3] among Indigenous Australians, may likewise be rendered illegible by biomedical definitions and measures that place emphasis on the individualised scale of the patient. Differing cultural concepts of time, reproduction, and kinship that do not rely on colonial imperatives of linear temporalities also need to be considered. Compounding these challenges is the difficulty of measuring trauma when it is ongoing, without a clear beginning or end. For many communities that face intergenerational trauma, violent forces such as colonisation, racism, and socio-economic inequality are not only formations connected to historical events but are ongoing structures of devastation with deeply felt daily impacts.

One of the most pressing interrelated questions around invoking intergenerational trauma in DOHaD is how to effectively translate this into policy in such a way that

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avoids pathologising individuals and instead addresses ongoing structural inequalities. In the Australian context, with which the authors are most familiar and from where we write, there is considerable concern that 'trauma' and associated concepts such as intergenerational trauma and trauma-informed care are becoming 'buzzwords' that are used in policy discussions but do not lead to any concrete policy changes. Instead, invoking 'trauma' can obfuscate the need to direct attention to specific socio-environmental situations that need to be urgently addressed. The use of 'intergenerational trauma' in particular can lend to a sense that the marginalisation and discrimination that continue to impact the lives of many people are somehow inevitable and fixed [44].

For example, prominent Aboriginal scholar Chelsea Watego recently contended that the strikingly high rate of incarceration of Indigenous people in Australia, which is often described as an 'intergenerational trauma issue', is in fact an 'institutional racism issue' [45]. As seen in this example, there is a risk that trauma is being used as a vague umbrella term that does not name or make explicit the proximate sources of trauma. 'Trauma' can be a euphemism for the experience of forces like racism, poverty, and domestic violence, erasing the perpetrators (individual and/or state) and placing attention on the 'recipient' of the trauma and their capacity to 'manage', rather than on structural injustice and policy failures that need correcting. In the case of DOHaD, where the concept of intergenerational trauma is often invoked in relation to parenting, we are concerned that discourses of trauma can perpetuate increased surveillance of the ability of parents to cope with 'their trauma', rather than keeping the lens squarely focused on the structural conditions that lead to circumstances of difficulty in which families live.

Further, this focus on individual risk factors and parenting is often directed towards women and mothering. In their review of literature on intergenerational trauma in Latinx communities, Cerdeña et al. [1] found that, of the many mechanisms of intergenerational trauma transmission, the 'vast majority center around disrupted maternal behaviour (e.g. maternal distress, maternal substance abuse, harsh parenting) and impaired attachment'. They describe this focus on maternal behaviour as a 'weakness' in DOHaD literature on intergenerational trauma as it fails to account for structural barriers [1, p. 17]. This slippage or trick is a common problem in studies of trauma, and in the DOHaD field more generally. Here, theories attuned to the biosocial are engaged to bring to light structural inequalities and marginalisation at socio-ecological levels (e.g. intergenerational trauma). Yet through the research process the undue focus on individual (and most often, maternal) behaviour as the scale of inquiry routinely propagates reductive frames of individual responsibility.

14.4 Conclusion

Intergenerational trauma is a powerful concept within the scientific fields that contribute to DOHaD research, and within a range of academic disciplines in the humanities and social sciences. The reach and utility of intergenerational trauma is a strength, allowing concepts from DOHaD research to travel far beyond the field and, in turn, to be influenced by many other disciplines concerned with biopolitics and social justice. However, with these strengths come inevitable weaknesses. Intergenerational trauma can be used to denote a cause, a mechanism, an effect, or all three at once. This capaciousness of the concept increases its usefulness to a range of scholars but decreases

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its precision. When there are attempts to operationalise intergenerational trauma through more precise definitions (e.g. PTSD diagnosis) and measurements (e.g. ACE scales), these can erase certain experiences of trauma, for example, those derived from a range of chronic experiences of racism and marginalisation rather than a discrete historical event. Further, focusing on the effects of intergenerational trauma on individuals often leads to a focus on interventions that seek to improve individual coping mechanisms rather than interventions that address the structural causes of trauma for marginalised groups. This can cause pathologising treatment of these groups as 'inherently' traumatised, paradoxically compounding the effects of intergenerational trauma. Similarly, a focus on pregnancy and maternal care as a mechanism of the transmission of intergenerational trauma can lead to the pathologisation of mothers as inherently risky to their children and as a site of surveillance and interventions.

For intergenerational trauma to be an empowering concept that leads to structural, collective change rather than punitive measures towards individuals, the tendency of DOHaD research and media reporting of this research to focus on mothers' individual behaviours needs to be challenged (see [46–48]). Similarly, the keen interest in intergenerational trauma in DOHaD research should be balanced by stories of survivance and strength from communities that face intergenerational marginalisation. The growing interest in intergenerational trauma among a wide range of scholarly and clinical practitioners provides an opportunity for DOHaD researchers to exert a wide influence. The onus is on DOHaD researchers to ensure this influence leads to outcomes that promote social and reproductive justice.

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