From Invisible to Visible: Women’s Accounts of Continuous Glucose Monitoring with Type 1 Diabetes

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Abstract

Continuous glucose monitors (CGMs) were designed to provide biomedical support to individuals with Type 1 Diabetes (T1D) in managing their blood glucose levels, offering an increased sense of freedom in living with T1D on a daily basis. Yet, CGMs should not be understood in biomedical isolation, as they exist within dominant sociomaterial and sociocultural discourses of contemporary society (especially neoliberal ableism).

Using a critical feminist disability framework underpinned by constructionist relativism, this study explored women with T1D's embodied experiences managing glucose levels and daily living with a CGM. Semi-structured interviews were conducted with 12 women aged 18-30, and the data were analysed using reflexive thematic analysis. Four themes were constructed: (1) you're taking a drug that makes your body store fat; (2) we always have to think about everything that goes in our mouth; (3) always visible; and (4) marked bodies.

Across these themes, participants seemed to be taking up and resisting the subject position of the 'postfeminist diabetic.' This position is generated through biomedical norms to be the 'perfect diabetic,' and intersects with discourses of femininity that shape women's experiences of external and internalised pressure to conform. The findings suggest that by rejecting dominant binaries, we can provide opportunities for women to be 'both/and': to support and care for their glucose levels while also challenging ableist and normative ideas.

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And to T1D. While completing my thesis, I also celebrated 10 years of living with you. While I would never wish for this diagnosis, I am grateful for how it has shaped who I am, my strength, and my perspective. This work, in many ways, is for you and the other women navigating life with T1D.

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Chapter One: Introduction

6.30 am - My alarm goes off. I half open my eyes, reach over and hit stop. I open the Dexcom G7 app and check my blood glucose levels - 11.0 mmol/L, indicating hyperglycaemia. "Uh oh", I think. I already know how the rest of my day is going to look and feel. I fumble through the sheets, find my insulin pump, check that it is still attached to my body. I press the buttons to inject insulin. I lie for a moment, exhausted, going through all the reasons why my blood glucose levels may be high and what I have done to cause this. "Why am I high? What did I eat last night? Did I miscalculate something? Where did I fail?"

7.00 am - Time to get up. I am exhausted, and my glucose level is still at 11.0 mmol - ugh! I inject again. I start thinking about what I want to wear to work. Long sleeve or t-shirt? If I wear a t-shirt today, my CGM will be visible. Someone might ask about it, comment on it, or stare at it. If I wear a long-sleeved shirt, I can hide it, make diabetes disappear. I choose the long-sleeve option. I'm already feeling guilty for waking up at 11mmol/L I am drained, and I do not want to be on display today.

6.30 am - My alarm goes off. I half-open my eyes, reach over, and push the stop button. I tap the Dexcom G7 app and check my blood glucose level - 6.7 mmol/L, in range! Relief. "My glucose levels are good, I am good, it is going to be a good day", I tell myself, reaching for my coffee with a smile.

7.00 am - Time to get up for the day. Long sleeve or t-shirt? I reach for the t-shirt. My glucose levels are good; I'm feeling good and open. It's going to be a great day. I am okay being seen today.

These two mornings reveal how life with Type 1 Diabetes (T1D) is anything but biomedical and neutral. With every waking moment, the numbers visible to me remind me not only that I have an illness and need to react accordingly to manage my glucose levels, but they also shape my mood, my self-worth, my clothing choice, and how I present/perceive myself to the social environment. I have used food and insulin to manage my weight, trying to prove to those around me that I am not unwell, that I do not have an illness and am ‘normal’, ‘regular’, and ‘fit in’. I longed to maintain my pre-diabetic body — the one that was praised, worthy, feminine, and accepted.

At different times, I have participated in behaviours to prove my able-bodiedness, my normality. I pushed through hypoglycaemic (low blood glucose) events in public, not wanting to be a burden, to have to sit down, or draw attention to myself having to eat some sugar. I sometimes would purposely not inject and maintain hyperglycaemia (high blood glucose levels) to prevent hypoglycaemia or needing assistance. I hid T1D from the social gaze and myself, pretending T1D did not exist. However, diabetes refused to be silent, demanding attention with alarms, numbers and sensations.

T1D, also known as immune-mediated or insulin-dependent diabetes, is a chronic life-long health condition that presents with hyperglycaemia (above 8.0mmOl/L), and hypoglycaemia (below 4.0mmol/L) as a result of the immune system destroying the β-cells in the pancreas that produce insulin (American Diabetes Association, 2009; Thrower & Bingley, 2014). There are approximately 19,290 people in Aotearoa New Zealand (Breakthrough T1D, 2024), and approximately 9.43 million people worldwide (Breakthrough T1D, 2024) living with T1D. While T1D can be diagnosed at any age, it is commonly diagnosed in childhood, typically under the age of 14 years (Thrower & Bingley, 2014; Atkinson et al., 2013).

The invention of insulin in the 1920s transformed T1D from a fatal disease to one that could be managed (Atkinson et al., 2013; Rahman et al., 2021). The role of insulin in the pathophysiology and management of T1D was discovered by Sir Frederick Banting in 1921. After losing his childhood best friend to T1D, he was determined to find a cure (Sharma et al., 2024). Building on previous discoveries, Sir Frederick Banting and his research team isolated pancreatic extracts from dogs, resulting in the first successful human trial in January 1922 (Vasiljević et al., 2020; Sharma et al., 2024). For the first time, T1D was found to be survivable under conditions of ongoing daily self-management, vigilance, strict diet, and injections (Sharma et al., 2024; Bennett, 2019).

T1D is typically treated as a self-managed condition in which individuals check their blood glucose levels multiple times a day and act accordingly to mimic physiologic insulin secretion and maintain glucose homeostasis (Atkinson et al., 2013; Dovc & Battelino, 2020). Depending on glucose level, individuals will either inject insulin using a syringe, pen, or insulin pump if it is above 8.0mmol/L, or consume fast-acting carbohydrates such as juice, honey, or lollies if it is below 4.0mmol/L (Beck et al., 2019; Lewis & Brubaker, 2021; Dovc & Battelino, 2020).

T1D management has evolved alongside the development of medical technology, reshaping what it means to live with T1D, from historically relying on urine testing to contemporary management where many people can manage their illness through real-time data, wearable devices, and algorithm-driven care (Beck et al., 2019; Friedman et al., 2023; Lee et al., 2018). Diabetes technology [1]can enhance the quality of life and reduce the risk of complications for people living with T1D (American Diabetes Association, 2022). However, financial costs, relearning new technologies, lack of medical education, and the accessibility of technology can create barriers to uptake (Burnside et al., 2023a; 2013b; Reeve, 2012; Messer et al., 2018).

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[1] Note: Diabetes technology refers to the hardware, software and devices that individuals use to manage T1D. Throughout my thesis, this term will be used when discussing diabetes technology in general. When referring to specific devices, I will name them and specify, such as an insulin pump or continuous glucose monitor (CGM).

This thesis project primarily focuses on a blood glucose monitoring device called a continuous glucose monitor (CGM). A CGM is a small device that tests glucose levels in the interstitial fluid (Friedman et al., 2023; Lee et al., 2018). CGMs provide continuous data streams, trend analysis, and alerts about glucose levels to individuals via a receiver, smartphone, or smartwatch, to enhance management. However, medical devices do more than measure; CGMs bring T1D from an invisible illness to a visible one to the public, the self, and healthcare professionals, through the physical attachment of the device to the body, and the increased visibility of data. For women, CGMs can also become a visible site of negotiation between the body, illness, and sociocultural norms of health, beauty, and femininity (Riley et al., 2022; Wallace et al., 2023).

Age and life stage may play a significant role in the embodied experiences of using a CGM, as different life stages are characterised by varying goals, values, responsibilities, and social pressures (Tanenbaum & Commissariat, 2023; Jankowski et al., 2014; Messer et al., 2018). This research project focuses on young women aged 18-30 as they transition from paediatric to adult healthcare, as well as shift to adult responsibilities, jobs, and university studies, while navigating varying societal pressures to adhere to normative femininity and ableist body ideals.

The focus on the socially constructed knowledge and lived experience creates the basis of this thesis. Chapter Two will delve into the biomedical foundation before exploring the embodied, social, and lived dimensions of living with T1D. Chapter Three will begin to theorise T1D and CGMs, diving into the broader systems of power and discursive frameworks of femininity, surveillance, and normativity that influence management. Chapter Four details the methodological foundations, including the reflexive thematic analysis approach and theoretical stance.

Chapters Five and Six share participants' narratives about their experiences with T1D. Each of these chapter's weave in participants' stories, theory, and personal experiences to understand the broader, socially constructed, and discursive frameworks through which participants experience and understand CGM and T1D. Chapter Seven presents the findings of this research project, including personal reflections, future research directions, and considerations.

Throughout this research, there is an emphasis on Rosi Braidotti's (2011) concept of 'becoming'. I refer to the process of 'becoming' as aligning with Braidotti (2011) and Deleuze & Guattari's (1987) sense of the continuous transitions that individuals move through as they interact with multiple assemblages throughout their life with T1D and the world. This also includes my personal experiences, becomings, and engagements with T1D and the topic, which is woven throughout this project.

This thesis idea began in the tensions of my life with T1D - the one where I longed for normality, invisibility, acceptance, and worth and the one that was pulling me towards taking care of my diabetic body and self. The following chapters explore how CGMs reshape women's embodied experiences of T1D within their bodies, themselves, and the illness. However, it begins here, in these quiet moments upon waking, where data meets body,

Chapter Two: Inside the Pancreas, Inside the Person

T1D is a complex, chronic autoimmune condition that significantly impacts the lives of those diagnosed. This chapter is in two parts to encompass both clinical knowledge and the lived experience, providing an overarching individual framing of T1D. In the first part, I explore the 'inner workings' of T1D and the advancement of diabetes technology in contemporary medical care, providing a comprehensive overview of the biomedical framing of T1D. This will provide a foundational understanding, before examining the psychological and social dimensions of living with T1D in the latter parts of the chapter.

2.1 The Inner Workings of T1D

2.1.1 Pathophysiology

The pancreas plays a crucial role in regulating blood glucose levels by secreting insulin and glucagon. Insulin is a polypeptide hormone, released from the β-cells located within the islets of Langerhans in response to the detection of glucose in the bloodstream (Rahman et al., 2021; Lewis & Brubaker, 2021). The autoimmune destruction of β-cells is the primary characteristic of T1D, leading to the inhibition and eventual complete destruction of insulin production (Thrower & Bingley, 2014; Atkinson et al., 2013). Insulin is also involved in other physiological roles, including the uptake of energy as glucose in the liver, skeletal muscles, brain and adipose tissue, assisting bone development and the homeostasis of the kidneys, central nervous system, and heart (Csajbøk & Tamás, 2016; Hough et al., 2016; Vasiljevic et al., 2020).

Without insulin, the body is unable to maintain blood glucose homeostasis, resulting in a wide range of signs and symptoms, as the body attempts to remove excess glucose from the bloodstream (Rahman et al., 2021; Thrower & Bingley, 2014). One of the early indications of T1D is frequent urination and dehydration, as the kidneys filter excess glucose through urine, resulting in extreme thirst, dry mouth, and itchy skin (American Diabetes Association, 2009; Rahman et al., 2021). Prolonged hyperglycaemia (blood glucose levels consistently above 8.0 mmol/L) prevents the cells from being able to use glucose from food as a fuel source, relying on fat stores to provide the body with energy, leading to another primary symptom - extreme weight loss (Thrower & Bingley, 2014; Vasiljevic et al., 2020). It can also result in the increased levels of ketones in the bloodstream, raising the blood's acidity (ketoacidosis), a life-threatening condition. Other symptoms include drowsiness and lethargy, fruit odour on the breath, and an increase in appetite and blurred vision (American Diabetes Association, 2009)

2.1.2 Epidemiology and Aetiology

T1D is understood to have various genetic aetiologies with environmental influences on the initiation and/or acceleration of the disease (Thrower & Bingley, 2014; Chowdury et al., 1999). Although there are many arguments regarding the aetiology of the disease, a genetic predisposition, specifically related to the human leukocyte antigen (HLA) gene, has been identified (Mannering et al., 2015). Genetic and environmental factors trigger an autoimmune response in the islets of Langerhans in the pancreas (Atkinson et al., 2013; Chowdury et al., 1999), particularly when exposure occurs in childhood and puberty (Thrower & Bingley, 2014; Atkinson et al., 2013).

In Aotearoa New Zealand, the incidence of T1D has been increasing since 2000 at a rate of approximately 3.9% per year, higher than the global incidence rate of 1.9% per year (Breakthrough T1D, 2024). Increased incidence rates are seen globally, particularly in Australia, Northern Europe and North America. These increases are hypothesised to continue rising with the increase in global population and an increase in environmental and lifestyle factors, such as lack of bacterial exposure, infant and childhood diets, vitamin D deficiency, and pollutant exposure (Orgotis et al., 2023; Atkinson et al., 2013).

Within Aotearoa New Zealand, Pākehā account for 75.8% of people with T1D, followed by Māori at 10.1% in 2016 (Wheeler et al., 2019), with the prevalence of diagnosis among Māori increasing (Burnside et al., 2023a). People living in lower socioeconomic areas have an increased risk of developing chronic complications and non-optimal blood glucose levels (Wheeler et al., 2019; Burnside et al., 2023a; Stedman et al., 2024). The broader sociocultural conditions and systemic racism that sustain and produce these inequalities will be explored later in this chapter.

2.1.3 Management of T1D

Optimal glycaemic control is defined as blood glucose levels between 4.0 and 8.0 mmol/L, based on physiological levels found in non-diabetics. Staying within this range is associated with minimising the risk of hyper- and hypoglycaemic episodes, long-term risks, chronic micro- and macrovascular complications (such as retinopathy, neuropathy, and cardiovascular disease) (Dovc & Battelino, 2020; Alcántara-Aragón, 2019; Atkinson et al., 2013). This management results in improved quality of life and outcomes.

As a consequence of the pathophysiology of T1D, resulting in the inability to 'naturally' produce insulin, individuals require regular insulin injections to maintain glucose levels (exogenous insulin replacement therapy) (Thrower & Bingley, 2014; Rahman et al., 2021). Exogenous insulin therapy changed the outcome from the disease being fatal to one that can be managed. This has also contributed to a continuous reshaping of diabetes management, such as the absorption rates and types of insulin used in contemporary management – for example, the use of inhaled insulin, or rapid and long-acting insulin (Pinnaro & Tansey, 2021). Individuals typically use a syringe or a pre-filled or cartridge insulin pen to inject a calculated amount of long-acting basal insulin once a day, along with rapid-acting insulin used at mealtimes or as required to return them to glucose homeostasis (Dovc & Battelino, 2020; Vaseljevic et al., 2020; Lewis & Brubaker, 2021; Beck et al., 2019).

People with T1D must know their current glucose levels to administer the correct amount of insulin and avoid hypo- or hyperglycaemia events. Since 1978, a device called a blood glucometer has been used to provide a capillary blood glucose reading, allowing people to inject the correct dose of insulin according to their individual glucose needs (American Diabetes Association, 2009). The introduction of blood glucometer enhanced self-management and at-home care, allowing individuals to finger-prick, and check glucose levels as often as needed (Beck et al., 2019; Lee et al., 2018).

People with T1D are encouraged to test glucose levels before meal or snacks, upon waking, before sleep, pre and post exercise, prior to engaging in tasks such as driving, when hyper or hypoglycaemia is suspected and continually when in a hyper/hypoglycaemic event until normoglycaemia, blood glucose in normal range (Naranjo et al., 2016; American Diabetes Association, 2022). It is expected that individuals would finger-prick roughly six to ten times throughout the day (American Diabetes Association, 2022).

2.2 Diabetes Technology

The following section details technologies used in T1D management, including insulin therapy, insulin pumps, and CGMs.

2.2.1 Diabetes Technology

Advances in diabetes technology reshaped management with the invention of a continuous subcutaneous insulin infusion (Thrower & Bigley, 2014; Beck et al., 2019). An insulin pump is a beeper-sized programmable device that is self-inserted at an infusion site, typically on the stomach (Dovc & Bettelino, 2020; Beck et al., 2019). The device utilises rapid-acting insulin to provide a basal (base requirement) amount hourly as well as tailored programmable settings to cover meals, correct hypoglycaemia and adjust for sick days, sports participation, stress, and menstruation (Dovc & Bettelino, 2020).

In 2004, the first consumer CGM was approved for checking glucose oxidase levels in the interstitial fluid (Friedman et al., 2023; Dovc & Bettelino, 2020; Lee et al., 2018). CGMs are a relatively bulky on-person medical device that includes a subcutaneous sensor and transmitter affixed to various body parts, typically located on the upper arm or stomach (Messer et al., 2018; Søgård et al., 2019). They are affixed with adhesive tape, approximately 2 cm wide, to prevent the device from bumping and dislodging (Messer et al., 2018; Lee et al., 2018). Within the sensor is a transmitter that transmits glucose levels every 5-15 minutes (Beck et al., 2019; Thrower & Bigley, 2014). A sensor will typically last on the individual between 10 and 14 days, depending on the brand and type of CGM.

CGMs provide physical benefits through a decrease in HbA1c (three-monthly average glucose levels) and hypoglycaemic events, as well as further complications of T1D (Dovc & Battelino, 2020; Graham, 2017). Alongside physical benefits, CGMs also provide emotional support, enhancing feelings of safety through increased control over self-management (Søgård et al., 2019; Naranjo et al., 2016). They can upload glucose data directly to health professionals via mobile health (mHealth) websites and connections. Specialised medical professionals, part of an individual's diabetes multidisciplinary team (DMT), can use various software and apps to view their patients' blood glucose patterns and provide real-time advice, and adjustments to insulin administration (Moretti & Morsello, 2016; Wiedemann, 2021).

Advances in diabetes technology have enabled the integration of software systems from both insulin pumps and CGMs to create a hybrid closed-loop system (American Diabetes Association, 2022; Nigi et al., 2024). A hybrid closed-loop system is a system in which CGMs relay glucose information to an algorithm within an individual's pump to provide automated suspension and administration of insulin (Beck et al., 2019; American Diabetes Association, 2022). Within this advanced system, however, individuals are still required to administer insulin for meals, exercise, stress and persistent hyperglycaemic events (Nigi et al., 2024). Further advances and research into diabetes technology continue to develop, including the future option of a fully closed-loop automated system, also known as an artificial pancreas (Beck et al., 2019; Wilkson et al., 2025).

2.2.2 Uptake of Diabetes Technology in Aotearoa New Zealand

CGM uptake varies globally due to the accessibility and cost of the device. While there is limited demographic and uptake data on the use of CGMs in Aotearoa New Zealand, a 2016 USA registry showed that 10% of adolescents and young adults with T1D use a CGM, with 23% aged 26-40 years (Messer et al., 2018). Australia, Canada, and the UK currently offer funding for CGMs for people with T1D; however, options are variable and inconsistent (Diabetes Canada, 2022; National Health Service, 2022; National Diabetes Service Scheme, 2022). Depending on the country's eligibility criteria, CGM funding can be reassessed or discontinued if individuals no longer meet the requirements, such as being over the age of 21 in Australia or, in some parts of Canada, if individuals no longer experience severe hypoglycaemia or impaired awareness (Diabetes Canada, 2022; National Diabetes Service Scheme, 2022).

In Aotearoa New Zealand, a Dexcom G6 or G7 CGM sensor costs $4,554.00 per year, while a Freestyle Libre sensor costs $3,850.20 per year. In 2021, the CEO of Diabetes New Zealand stated that only 30% of people with T1D living in New Zealand had access to CGMs and their ongoing costs, with the Freestyle Libre being the most popular due to its relative affordability (Wardless & Starling, 2022; Burnside et al., 2023a). Therefore, many individuals and their families resorted to accessing CGMs when their finances allowed, relying on purchasing second-hand through Facebook groups, crowdfunding, fundraising, business scholarships, or receiving them as gifts (Wardless & Starling, 2022; Burnside et al., 2023a).

Across countries with a history of colonisation, consistent systemic racism within health systems has created health disparities between indigenous populations and dominant groups. This is often seen as a consequence of constrained access to health care and medications for indigenous, low-income families, and non-white people (Lipman & Hawkes, 2021). The impacts of colonisation and systemic racism are seen among individuals with T1D, with minority groups having increased HbA1C, higher rates of diabetes complications and inability to access diabetes technology (Lipman & Hawkes, 2021; Wheeler et al., 2019). In Aotearoa New Zealand, Stedman et al. (2024) found similar ethnic disparities in HbA1c levels between Pākehā and Māori one year after diagnosis.

A barrier for Māori when accessing support in a Westernised medical system is the lack of tailored needs and support to Māori and their whānau (Burnside et al., 2023b; Curtis et al., 2019). The current medical system offers only limited acknowledgement of Māori health views, such as the involvement of whānau, communication in Te Reo, and home or marae-based training or support (Wheeler et al., 2019; Burnside et al., 2023). Learning new management skills in diabetes technology can be confusing and challenging (Wiedemann, 2021), with further difficulties when training and support are provided within a Eurocentric, biomedicalized framework (Burnside et al., 2023b). The lack of training in Māori health values creates a barrier for Māori to adopt the use of medical devices (Burnside et al., 2023b).

Evidence of the impact of systemic racism can be seen through the uptake of insulin pumps following funding from Pharmac in 2016, with Māori and people in lower socioeconomic areas less likely to have access to these devices (Wheeler et al., 2019). Funding of diabetes devices is accessed through Te Whatu Ora and associated service providers. However, inequities remain, as those accessing public endocrinologists (specialised diabetes doctors) or DMT within lower socioeconomic areas may not have access to doctors with knowledge or experience in diabetes technology (Burnside et al., 2023a; Wheeler et al., 2019).

These inequities are also shaped by culturally unsafe practices, institutionalised racism, and Westernised biomedicine contributing to a risk of judgement, stigma, and stereotyping of people, preventing access to devices (Wheeler et al., 2019). This emphasises the critical importance of cultural safety within medical spaces. Cultural safety requires our biomedical system, including health care professionals, to engage in the ongoing decolonisation of power structures and biases (Curtis et al., 2019).

Within Aotearoa New Zealand, the financial burden of T1D is particularly felt by those living in lower socioeconomic areas, as well as Māori and Pacific (Burnside, 2023a; Stedman et al., 2024). Burnside et al (2023a) research found the Pākehā children with T1D were 20% more likely to utilise and access a CGM compared to Māori and Pacific children. Socioeconomic status was also associated with CGM use, showing that those living in areas with increased deprivation were 31% less likely to access and use a CGM (Burnside, 2023a). Stedman et al (2024) found similar results, with only 56.7% of Māori children utilising a CGM compared to 77.2% of Pākehā.

After four years of advocacy from Diabetes NZ, diabetes organisations, and the diabetes community, Pharmac approved CGM funding in October 2024. This funding ensures all individuals with T1D in Aotearoa New Zealand have access to CGMs (Pharmac, 2024). Since the introduction of funding in Australia, research has shown a sharp increase in CGM uptake, a decrease in HbA1c levels, a reduction in diabetes-related hospitalisations, and an overall improvement in quality of life (Burnside et al., 2023a).

Funding of CGMS is a positive step toward improving access by minimising the cost of diabetes technology. However, removing financial burden does not assess the systemic racism within the medical system that disproportionately impacts Māori and those living within lower socioeconomic areas (Stedman et al., 2024; Lipman & Hawkes, 2021; Wheeler et al., 2019). With funding now available in Aotearoa New Zealand, future research and insights are expected to become available to better understand the uptake rates, benefits, and inequalities.

2.3 T1D, CGM, and Me – The Embodied Experience

Despite the rhetoric of self-management being central to the treatment of T1D, ironically, the self-who-has-diabetes risks being displaced from in-depth discussion of the illness (Sanders, 2017; Moretti & Morsell, 2017). Westernised biomedical systems prioritise pathologisation, treatment/management, and quantification of illness, at the expense of the lived experiences of those with T1D (Lupton, 2013a; Sanders, 2017). While these biomedical elements play an important role in the understanding of a chronic illness, there is some risk that living with T1D can be framed through a reductionistic and adherence-based lens. These risks become intensified with new diabetes technologies, where individuals with the condition and health professionals supporting them can access real-time data, shifting the understanding of blood glucose levels from experiential embodiment to objective, quantifiable data that can be monitored continuously and controlled (Lupton, 2012, 2013a).

Contemporary understandings of T1D are shaped by neoliberal discourses that view health as an individual responsibility, emphasising self-monitoring, self-regulation, personal autonomy, and the perception of ill-health as a personal failure (Crawford, 2006; Lupton, 2013b). T1D is a self-managed illness, rendered the 'ideal' site of neoliberal rhetoric – self-managed and self-responsible. Data available from a CGM heightens the neoliberal framing through the responsibilisation and moralisation of glucose numbers. Women with T1D self-monitor against biomedical and sociocultural ideas of health, thinness, normality and productivity.

For women with T1D, the emotional and mental toll of blood glucose management outweighs the physical acts such as injecting insulin. Glucose management requires constant vigilance, decision-making, and ongoing negotiation with food, physical activity, and emotional factors. T1D is not just a medical condition. It is experienced through sensations, emotions, decision-making, and the sociomaterial environments that we navigate daily.

This next section will unpack the emotional landscape of managing T1D with a CGM, exploring how the condition shapes and is shaped by relationships with food, body and self. In doing so, this chapter will start to reject the dominant neoliberal framings of T1D. Instead, it will explore embodied and socially situated understanding of experiences of living with T1D daily within an ableist society.

2.3.1 Living with an Invisible Illness

An invisible disease can be defined as an illness that is not physically apparent to others; consequently, they are not easily identified in society (Masana, 2011). Many chronic illnesses are both biomedically and socially defined and understood. However, the experience of the illness and the sick person, as well as commonsense discourse about what constitutes 'real' illness, shape how these conditions are perceived (Masana, 2011; Joachim & Acorn, 2000). Chronic illnesses such as coeliac disease, myalgic encephalomyelitis/chronic fatigue syndrome, endometriosis, long COVID, and T1D are among those in which the social gaze is perceived as healthy individuals viewing the body as an observer (Ahtoy, 2024; Joachim & Acorn, 2000).

T1D is sometimes referred to as the 'thinking disease' (Wiedemann, 2021), as individuals with T1D have to make as many as 180 extra decisions daily. Diabetes management requires the constant monitoring of glucose levels, adjustments to insulin dosages, and consistently making decisions around factors such as food, physical activity, stress, and hormonal fluctuations in the past, present, and future (Mialet, 2022). With these additional daily demands, alongside the demands of life, individuals can experience high levels of diabetes distress and burnout, where they are unable to or are too fatigued to manage their T1D effectively (Wiedemann, 2021; Moretti & Morsello, 2017). These demands heighten a sense of the body for many people with T1D, which makes theoretical framing of embodiment helpful for making sense of people's lived experiences of T1D (Kingod & Cleal, 2019; Berk, 2018)

2.3.2 Embodied Experience of Living with T1D

Embodiment refers to the fluid ways in which the body becomes and is shaped by its surrounding environment (Rice et al., 2021; Alleva & Tylka, 2021). Being diagnosed with a chronic illness can alter individuals' embodied experiences as the body must learn to adapt and accommodate a new body, new experiences and a new self (Chrisler & Johnson-Robledo, 2018). Individuals must (re)learn how to be in their bodies, navigate through society, and function while also learning what a hypoglycaemic event feels like, how to finger-prick, and count carbohydrates in food (Chrisler & Johnston-Robledo, 2018; Bury, 1982). People with T1D start to (re)learn how their bodies feel within a new sense of what it means to be in a body with a chronic illness, as well as what it means to be in an ableist society that shapes their sense of self (Bury, 1982; Rice et al., 2021).

Experiential embodiment relates to these hepatic feelings and the interpretation of these internal signals for the body to notify individuals of a rising or decreasing glucose level (Kingod & Cleal, 2019). These internal signals are crucial to management, as the inability to feel and interpret these (called hypoglycaemic unawareness (Lawton et al, 2014)), can lead to the body going into ketoacidosis in the case of hyperglycaemia, or coma and death if a hypoglycaemia (Reeve, 2012; Mialet, 2022; Kingod &

Cleal, 2019). Therefore, learning to interpret and understand hepatic feelings in T1D is an essential skill in diabetes management.

People with T1D rely on being attuned to bodily sensations to gauge their glucose levels, creating a blood sugar monitoring mechanism within each individual (Reeve, 2012; Mialet, 2022). There are different signs for hypo- or hyperglycaemia levels that, if attuned to, alert individuals to the appropriate action to be taken. For example, hypoglycaemia signs include hot sweats, fatigue, confusion or unresponsiveness, tremor and blurred vision. I explain to friends and family that a hypoglycaemic event feels like you've been for a 30km fast sprint in which you didn't eat all day, and now you are dripping in sweat, shaking and unable to focus on anything in your environment. When attuned to and felt, these signs warn individuals that their blood glucose levels are dropping, to test blood glucose levels and respond with sugar to raise blood glucose to a state of homeostasis (Reeve, 2012; Mialet, 2022)

Individuals with T1D rely on both their experiential embodiment to interpret blood glucose levels and measurements, as well as data from medical devices (Kingod & Cleal, 2019). However, with the increasing use of digital technologies, there has been a shift to technological embodiment (Lupton, 2014) in which the body is understood through data and numbers (Lupton, 2012, 2014). Previously, individuals relied on hepatic sensations through experiential embodiment to understand the signs and symptoms of blood glucose levels, including hypo- and hyperglycaemic events. People would also have to wait until their three-monthly appointments with their DMT to discuss and investigate any abnormalities, concerns, or review data from HbA1C results.

2.3.3 Experience with Stigma & Discrimination

Medical discourse shapes the knowledge that contemporary society has about the body, including disability and disease (Conrad & Barker, 2010; Litterbach et al, 2024). While disease can be understood as a biophysiological condition, it is also understood within the context of medical and sociocultural discourse, in which it is described, discussed, and understood (Bury, 1982; Litterbach et al., 2024). Illness, therefore, is embedded in social and cultural meanings, producing a hierarchy of illness where some are stigmatised (obesity and mental illness), some are considered disabilities (multiple sclerosis), some are from individual fault (type 2 diabetes and lung cancer in smokers), and some are accepted (wearing glasses for vision correction). This underpinning creates what we see in society as health-related stigma; the social judgement and fear of a condition or management of an illness that can lead to exclusion, rejection, blame, discrimination and stereotyping (Browne et al., 2013; 2014; Conrad & Baker, 2010; Litterbach et al., 2024)

Diabetes is an illness that is misunderstood in society. Much of the stigma stems from societal perceptions of T2D through a neoliberal understanding of self-infliction and self-blame - often associated with being in a larger body, lack of exercise, and a lack of control around food consumption (Browne et al., 2013; 2014; Hansen et al., 2020; Schabert et al., 2013). Diabetes-related stigma can influence how individuals with T1D experience and identify with the illness, their acceptance, and disclosure of illness to public and social gaze, and how the public perceives them (Schabert et al., 2013; Ahtoy, 2024; Masana, 2011).

The term “diabetes” is used in biomedical settings as an umbrella term encompassing various illnesses associated with blood glucose management, including T1D, T2D, gestational diabetes, and Type 3c (American Diabetes Association, 2023). The media often refer to the universal ‘diabetes’ rather than specifying the type being discussed (Browne et al., 2014; Hunt et al., 2022; Speights et al., 2021). This linguistical choice used in media and public health campaigns has shaped public with vague or general terminology and understanding, continuing to reinforce neoliberal framings of T2D (and the blaming of people’s choices and behaviours) while also placing the same stigma and misunderstanding on all types of diabetes (Cash, 2011l; Browne et al., 2014; Crawford, 2006; Hunt et al., 2022).

The neoliberal underpinning and conflation of T1D and T2D results in people with T1D experiencing discrimination and marginalisation (Browne et al., 2014; 2013). The public makes assumptions about T1D management based on conflation, which can lead to the further policing of the diabetic body, weight shaming and unsolicited comments on food consumption and management behaviours (Hunt et al., 2022; Browne et al., 2014; Mullan et al., 2020). This also includes being excluded from sleepovers or school events, complications when flying or applying for a driver's license, and the threat of not getting a job (Hansen et al., 2020; Browne et al., 2014; Pals et al., 2021).

Diabetes-related stigma is also associated with physical complications. Hansen et al (2020) showed that individuals experiencing increased diabetes-related stigma also experienced one or more diabetes-related complications. Various other research has shown similar results, especially with diabetes-related stigma being associated with higher HbA1c levels (Hansen et al., 2020; Wang, 2021). Similar research in other stigmatised and discriminated marginalised experiences, such as fatness and race, has shown similar health outcomes. Misunderstanding of fatness and medicalisation of 'obesity' has contributed to individuals being dehumanised and receiving sub-par care in medical spaces, resulting in the avoidance of preventative care and health professionals (Gailey, 2022; Owen, 2012).

Stigma becomes a distressing experience for many individuals with T1D, affecting their sociomaterial environments, medical spaces, and sense of self (Hunt et al., 2022; Ingersgaard et al., 2021). It aligns with research arguing that stigma is experienced through blame, fear, and disgust as a disciplinary tool to (re)inforce social norms and the concealment of illness and difference (Hunt et al., 2022).

2.3.4 Experience with a CGM

CGMs do not just track numbers; they reshape and reconfigure the experience of embodiment, bringing T1D, glucose levels, and insulin dosages into constant awareness and visibility. Therefore, CGMs become tied to women's perceptions of their bodies, how they feel in social spaces, and how they interpret themselves in relation to feminine health and ableist norms.

Much of the rhetoric supporting CGMs and diabetes technology emphasises managing glucose levels and improving long-term health outcomes (Messer et al., 2018; Moretti & Morsello, 2017). CGMs enable users to monitor glucose levels, offering greater autonomy and control, allowing diabetes to adapt to individual lifestyle rather than having to adapt to diabetes (Moretti & Morsello, 2017). This increased visibility often results in decreased HbA1C, decreased diabetes-related hospitalisations, and improved quality of life (Burnside et al., 2023a; Søgård et al., 2019). A key advantage is their ability to "run in the background" (Moretti & Morsello, 2017, p. 67), reducing daily burdens of T1D. Unlike manual methods, CGMs provide real-time data, enabling convenient monitoring.

However, despite the physical benefits, devices impact mental, emotional, and social aspects of T1D. A key concern is the lack of attention to experiential embodiment, where people lose or never develop attunement to hepatic symptoms. Experiential embodiment allows individuals to feel internal alarms and use CGM data to respond accurately, ensuring proper insulin or sugar dosages (Kingod & Cleal, 2019; Berk, 2018; Dove & Bettelino, 2020). This is a critical combination as CGMs measure the glucose levels in interstitial fluid rather than blood, creating a minor lag between hepatic sensation and visible data on a receiver or smartphone.

The physical profile and on-person experience of a CGM can result in heightened internalised body awareness, altered perception of T1D, increased attention towards T1D, and increased awareness of their differences in society (Søgård et al., 2019; Messer et al., 2018; Tanenbaum & Commissariat, 2023). Previous research has shown that CGM users feel self-conscious about their appearance stating that they "did not like how diabetes devices look on my body" (Tanenbaum & Commissariat, 2023, p. 2), "a constant reminder of their diabetes" (Søgård et al, 2019, p. 3326), and a machine-like or "robotic" extensions of their body (Messer et al, 2018, p. 414). This plays an important role in individuals' experience of themselves, their self-identity, and their bodies.

This is particularly intensified during the period from adolescence to young adulthood as individuals are trying to establish a sense of self (Tanenbaum & Commissariat, 2023). This aligns with the notion of appearance potency, where appearance becomes especially important in an environment, or age range, where external evaluation and body ideals are emphasised (Jankowski et al., 2014). These emotionally embodied responses to wearing a CGM can disrupt how individuals move, feel, and behave throughout their daily activities, potentially leading to a shrinking of the self (Tanenbaum & Commissariat, 2023).

2.4 Body Image

Feminist scholars have argued that body norms are not neutral but instead a function of patriarchal control over how women's bodies move, look and behave. From an early age, women view their bodies as objects to be assessed, regulated, and improved (Bartky, 1998; Alleva & Tylka, 2021; Chrisler & Johnston-Robledo, 2019). These normative ideas of women's bodies place discipline on women to ensure they are working towards achieving the ever-elusive 'feminine' body (Bartky, 1999; Riley et al., 2022). Women's perception of their bodies is frequently used for comparison with others' bodies and society's ideas of the normal body size, shape, weight, features, movement, and performance (Gleeson & Firth, 2006). Such comparisons create pressure for women to engage in appearance-altering behaviours to align with body ideals (Rice et al., 2021; Riley et al., 2022; Gleeson & Firth, 2006). Women are reduced to how closely their bodies align with social norms, creating pressure to self-monitor and attempt to fit into contemporary society's dominant ideas of femininity, worth and acceptance (Riley et al., 2022; Chrisler & Johnston-Robledo, 2018).

2.4.1 Body Image and Type 1

As women's worth and acceptance are often based on their physical appearance, having a chronic illness or disability that alters this can impact how they are perceived within society and how they view their own body (Chrisler & Johnston-Robledo, 2018; Bartky, 1998). The body becomes different and deficient to dominant norms (Balfe, 2007; Carins & Johnson, 2015). With diet culture's pressure to be in a 'idealised body' already heightened for women, those with T1D strive to conform to normative ideals for a physical body to be thin, healthy and to continue to move through public avoiding being perceived as unhealth, ill, disabled or othered (Lupton, 2013a; Rice et al., 2021; Balfe, 2007). This increased pressure for women with T1D often heightens weight and appearance-related concerns (Tanenbaum & Commissariat, 2023; Wallace et al., 2023; Falcão & Francisco, 2017).

Due to prolonged high glucose levels and the potential of ketoacidosis, a key symptom of T1D is rapid weight loss without intentional effort (Dovc & Battelino, 2020). Following diagnosis and initiation of insulin, individuals typically regain most of the weight previously lost (Falcão & Francisco, 2017). With society's idealisation of thin bodies and weight loss, weight restoration can feel like a loss of bodily control, increasing body image dissatisfaction within themselves and encouraging compensatory weight-loss and ‘health’ behaviours (Aria et al, 2017; Falcão & Francisco, 2017; Clarke et al, 2008).

T1D management requires consistent monitoring of food consumption, primarily counting carbohydrates, but also being mindful of other macronutrients, such as fat and protein, that can support or hinder insulin and glucose absorption (Wallace et al., 2023). Research shows that people with T1D perceive food regarding their glucose levels, moralising and categorising foods as 'good' or 'bad' for their blood glucose levels (Wallace et al., 2023; Tanenbaum & Commissariat, 2023; Balfe, 2007).

While many women with T1D try to maintain and control their weight through food and exercise (Falcão & Francisco, 2017; Balfe, 2007), others may engage in intensive eating behaviour challenges, such as insulin omission – associated with a T1D specific eating disorder called Diabulimia (Araia et al, 2017; Wallace et al, 2023; Falcão & Francisco, 2017). Despite the long-term complications that can occur with insulin omission, Falcão & Francisco (2017) found that weight loss was more important to participants, reinforcing the strength of societal discourse on women’s weight and body image.

2.4.2 Positioning of the CGM

T1D management relies heavily on individuals being hyper-aware of food consumption, which is shaped by a sense of the cruciality of disease management (Ruiz-Aranda et al., 2025; Policola et al., 2023). Initially, when diagnosed, I would tell others that it was like having an allergy; you would not eat food that you are allergic to, therefore, I do not eat carbohydrates. This crucial focus on diet, body and health may create urgency and perfectionism in women with T1D.

With rhetoric from sociocultural environments and medical professionals, there is an increased pressure to achieve biomedical, potentially unattainable glucose numbers and avoid certain foods, leading to the development of rigid and perfectionistic standards (Ruiz-Aranda et al., 2025; Falcão & Francisco, 2017; Brady, 2024). CGMs provide real time visibility of glucose data and the potential for hypo- or hyperglycaemic events, which can lead to heightened awareness and increased vigilance around food and obtaining the 'ideal' glucose number (Mialet, 2022; Wallace et al., 2023; Moretti & Morsello, 2017).

Diabetes technology constantly reflects to individuals in real-time on how their bodies, behaviours, and diets compare to these feminine normative standards, supporting self-monitoring judgement, and discipline (Charmaz & Rosenfeld, 2016; Messer et al., 2018; Bartky, 1998). Living within a neoliberal, patriarchal society which places worth and value on normative body ideals, certain foods consumed combined with the ability to have 24/7 view on glucose numbers and insulin dosages, can result in an increase of perfectionism and eating behaviour challenges in an already vulnerable group (Wallace et al., 2023; Riley et al., 2022; Ruiz-Aranda et al., 2025)

2.5 Chapter Summary

This chapter provided an overview of T1D from both biomedical and embodied experience perspectives. The first section establishes a foundational understanding of the pathophysiology, epidemiology, and aetiology of the illness, before introducing contemporary management through diabetes technology. The second part shifts to focus on the embodied lived experience of individuals with T1D, exploring how the illness is experienced in daily life and how it shapes, and is shaped by, the body, self, and sociomaterial environment. Together, this chapter is the foundational understanding of T1D, laying the groundwork for the exploration of theoretical aspects in the following chapter.

Chapter Three: Theorising the CGM

While CGMs were initially developed as a biomedical device to aid diabetes management, they are also understood within the sociocultural, material, and spatial contexts that influence how the device is experienced, understood, and used. Throughout this chapter, I will draw on feminist disability theories and various theoretical perspectives to examine the broader systems of power, discipline, and normativity, thereby helping to understand the relationships between humans, health, and medical devices. This chapter will extend beyond individual lived experiences and biomedical framing to examine how CGMs are positioned and interpreted within the broader discursive framework of the body, health, and self. It will explore how clinical understandings, normative notions of femininity, power and discipline, health, cyborg-human relations, and assemblages influence the management of T1D.

3.1 Healthism

Healthism positions physical attractiveness and appearance as primary contributors to women's worth, status, and acceptance in society, with 'health' tied to these characteristics, rather than being independent of one another (Riley et al., 2022; Bartky, 1998). This discourse extends self-surveillance through a myriad of other constructs, including now engaging in behaviours to ensure they meet aesthetic and biological 'health' ideals (Chrisler & Johnston-Robledo, 2018; Riley et al., 2022). Women are expected to be lean, fit, have a clear complexion, shining hair and eyes, no health issues, chronic illness or disabilities, as well as eating 'clean', exercising regularly, managing stress, and regulating their physical and emotional states (Bartky, 1998; Chrisler & Johnston-Robledo, 2018; Riley et al., 2022). The intertwining of patriarchal ideals and healthism has adapted the modern criteria and dieting to meet the normative ideas of 'good health' (Riley et al., 2022), continuing to maintain women's surveillance of their bodies-as-objects (Bartky, 1998)

Healthism reproduces colonised and neoliberal biomedical framing of health where the normative body ideal is constructed around white, middle-class, able-bodied, and male (Braidotti, 2013;

Crawford, 2006). It excludes and marginalises bodies that do not fit, including, but not limited to, bodies that are disabled, chronically ill, racialised, sexualised, and fat bodies—creating further stigmatisation, discrimination and racism based on participation in health behaviours and one's physical appearance (Crawford, 2006).

Healthism embeds health with a sense of identity, value, and construction of one's personality and characteristics (Crawford, 2006). People make sense of themselves and others based on how well they succeed or fail in adopting and participating in health behaviours (Crawford, 2006; Riley et al, 2022). Health and wellbeing have become moralised (Chrisler & Johnston-Robledo, 2018), which contemporary society ascribes to themselves and others (Riley et al, 2022). Crawford explains, "I am who I am because I am healthy/I am healthy because of who I am; you are who you are because you are unhealthy/You are unhealthy because of who you are" (as cited in Riley et al., 2022, p. 414). This framing within healthism reconstructs neoliberal ideas of individualisation and moralisation in health.

3.1.1 Healthism and Neoliberalism

Healthism is deeply entangled with neoliberalism, positioning women as autonomous, self-regulating, and self-determining, enabling them to optimise their health through self-surveillance, discipline, and consumption (Lupton, 2013a; Crawford, 2006; Riley et al., 2022; Cairns & Johnston, 2015). Chronic illness and disability are pathologised as moral and personal failures unable to meet the health ideal, reinforcing normal/impaired binaries where non-normative bodies are perceived as deficient, unhealthy and needing to be fixed (Rice et al., 2021; Lupton, 2013a). These binaries not only prescribe disciplinary actions within society but can also result in people believing they have more control over their bodies than they actually do, leading to self-blame and embarrassment about their bodies, illnesses, and themselves (Chrisley & Johnston-Robledo, 2018; Bailey et al., 2016; Carins & Johnston, 2015).

The increase of digital technologies has intensified the effects of neoliberalism in everyday health and wellbeing practices (Moretti & Morsello, 2015; Lupton, 2013a). Women have increased access to their health data, enabling them to monitor and evaluate their bodies, such as through menstruation tracking apps marketed as tools for managing fertility, ovulation, and menstrual cycles through education (Riley & Paskova, 2022; Crawford, 2006; Sanders et al., 2017). The data from apps can also be shared with health professionals, nutritionists, and personal trainers to be measured, compared, and evaluated. Instead of the 'empowerment' promised by the technologies, a self-tracking culture has emerged that reinforces self-surveillance and self-discipline as moral obligation and choice (Lupton, 2014; Sanders, 2017; Danesi et al., 2018; Riley & Paskova, 2022)

This technological shift in chronic care is evident in T1D management, where diabetes technology has provided individuals with increased autonomy (Mol, 2000; Brady, 2024; Danesi et al., 2018). While this increased autonomy supports individuals' daily management, it also blurs the boundary between patient and health professional, where people with T1D are seen to have been given increased self-management responsibilities and less reliance on health professionals (Mol, 2000; Moretti & Moresello, 2016).

Postfeminist healthism emerges at the intersection of gender, healthism, and neoliberalism, positioning women as autonomous and empowered subjects, reframing gendered norms and self-surveillance as choice (Riley & Paskova, 2022; Cairns & Johnson, 2015; Gill, 2007). Postfeminist rhetoric about digital technology, such as menstrual tracking apps, diets, exercises, and supplements, promotes women's 'empowerment' by framing it as choice health and wellbeing behaviours (Riley et al., 2022; Cairns & Johnston, 2015; Sanders, 2017). Aligning with neoliberalism, responsibility is shifted to individual choice of women to participate in said behaviour or not; it is the individual's fault for not meeting feminine ideals. Hence, women continue to be monitored and disciplined against societal feminine norms but through empowered rhetoric (Riley et al., 2022; Sanders, 2017; Malson et al., 2023).

3.1.2 Healthism, Perfectionism and T1D

Postfeminist healthism and neoliberal discourse have a profound impact on the wellbeing of women with health conditions. Women are expected to perform health not simply as a behaviour, but as an identity that requires constant effort, discipline, and self-denial (Bordo, 2003; Riley et al., 2022). For women with T1D, there is an increased pressure to participate in the normative performance of health, aligning their moral character with the expectations of the social gaze (Brady, 2024; Wallace et al., 2023).

T1D management is centred around maintaining glucose within certain biomedical norms through insulin injections, dietary regulation, and consistent surveillance (Ingersaard et al., 2021; Moretti & Morsello, 2017). This creates limited subject positions for women with T1D to take up. Those that exist are often infused with moral judgement, where women are located within binaries of good/bad diabetic based on their glucose numbers, management styles, and adherence to society's health norms (Masana, 2011; Mullan et al., 2020; Joachim & Acorn, 2000).

Through real-time data, colour-coding, trending arrows, and data alerts, CGMs encourage individuals to take responsibility and self-evaluate their glucose levels, behaviours, and management (Kubiak et al., 2016; Berk, 2017; Wallace et al., 2023). 'Good' numbers are associated with health, control, and perfection, whereas 'bad' numbers imply failure, guilt, and a lack of control (Mialet, 2022; Balfe, 2007). This creates a feedback loop where individuals interpret not only how much insulin is required but also their moral value and worth at that moment (Pals et al., 2021; Wallace et al., 2023; Balfe, 2007). This self-surveillance amplifies the likelihood of taking on the subject position of the 'bad' diabetic (Mialet, 2022; McKinley, 2011; Falcão & Francisco, 2017).

My efforts to align with these ideals often led to behaviours and T1D management that reflected distress. Each glucose reading carried emotional and moral significance - whether I was perceived as good or bad, and what that implied for my future actions. My behaviours, mood, and self-identity depended on whether my numbers were in range, indicated by green on the app. In Western culture, red is often associated with danger, error, failure, and negativity, whereas green signifies safety, approval, and permission (Kawai et al., 2023; Pravossoudovitch et al., 2014). These colours are culturally loaded: a red or orange signal on a CGM warns of being out of range, danger, or needing intervention. Consequently, individuals monitor not just glucose levels but also the colour associated.

Within healthism frameworks, a CGM is portrayed as a medical device in which gendered norms of healthism are reproduced and made visible to women with T1D (Crawford, 2006; Pals et al, 2021; Balfe, 2007). Therefore, introducing new forms of self-surveillance, moral judgement, and internalised discipline (Lupton, 2013a; Danesi et al., 2018).

3.2 Ableism and the Paradox of (In)Visibility

Ableism is a system of beliefs, processes, and practices that assign value to individuals' bodies and minds based on the socially constructed ideas of normalcy, productivity, and femininity (Rice et al., 2021; Goodley, 2014; Nishida & Ostrove, 2023). Central to ableism is the assumption of able-bodiedness – that the body should be physically and mentally capable, and in good health (Bailey et al., 2023; Goodley, 2014; Crawford, 2006). This cultural valuing of particular bodies stigmatises individuals with visible signs of disability and illness, positioning them as less than, not accepted, and as 'misfits' (Masana, 2011; Bailey et al, 2016; Garland-Thompson, 2011; Rice et al., 2021).

Certain body types and functionalities are accepted as norms and create binaries of normal/abnormal, disabled/able-bodied, which reinforces the ableist nature of contemporary society (Conrad & Barker, 2010; Chrisler & Johnston, 2018; Joachim & Acorn, 2000). These norms and binaries provide society with the means to discipline individuals to behave, look, and function in ways that maintain this acceptance (Lupton, 2012; Cairns & Johnston, 2015; Bailey et al., 2016). Aligning with Foucault's (1977) panopticon idea, contemporary power constructs have created a 'gaze' through these normative ideas, not only for social surveillance but also through the internalisation of normative expectations (Bartky, 1998; Lupton, 2012). Internalised discipline plays a critical role in shaping subjective experience and identity within illness (Conrad & Baker, 2012)

3.2.1 'Fitting into' an Ableist Society

Garland-Thomson's (2011) misfit theory offers a framework for understanding how disability and chronic illness are understood and constructed through the relationships and interactions between the body and its environment. 'Misfits' are described as those whose bodies do not fit into the idealised prototypical human and whose bodies are incompatible with their environment's social and material structure (Garland-Thomson, 2011). A 'misfit' can include any individual, from the physical 'misfit' (e.g., lack of ramp access for a wheelchair user) to the behavioural and temporal misfit, as seen with T1D.

Temporal misfitting refers to an individual's inability to conform to society's ideas of productivity, routine, and femininity for women (Garland-Thomson, 2011; Bartky, 1998). For women with T1D, it can occur due to the unpredictable and urgent demands of managing T1D, creating a diabetes-specific timeframe that differs from clock-based, mainstream schedules (Wiedemann, 2021; Kafer, 2013). For example, women may need to pause meetings, work shifts, or classes to treat a hypoglycaemic event or administer insulin, thereby disrupting productivity norms (Mialet, 2022; Messer et al., 2018).

Behavioural misfitting refers to the embodied acts of chronic illness and disability that are visible to the social gaze (Garland-Thomson, 2011). Within T1D, behavioural misfitting may be experienced through public performance of management, such as injecting insulin in public, CGM alarms mid-conversation, or eating lollies to treat a hypoglycaemic event. These management actions, however, fail to align with the dominant pedagogy that women’s bodily functions should be private, silent, contained, and invisible (Bartky, 1998; Ussher, 2006). Women with T1D must negotiate the visible realities of T1D with the expectation of femininity, contributing to feelings of embarrassment, non-femininity, and pressure to conceal (Riley et al., 2022; Wallace et al., 2023; Ussher, 2006)

The internalisation of ‘misfitting’ shapes how women perceive themselves and their societal worth (Gleeson & Firth, 2006; Garland-Thomson, 2011; Crawford, 2006). Within these binaries of us/them, impaired/non-impaired, fit/misfit, illness and disability are positioned as something to be ashamed of, to be controlled, to be hidden, and corrected (Rice et al., 2021; Crawford, 2006; Masana, 2011). Lupton (2013a) argues that digital technologies are being used as tools to 'correct deficits' and remove disability and chronic illness from the public gaze. The discrete design of the CGM sensor, alongside new insulin pump features to deliver insulin through an app, reflects this idea of erasing deficiencies and signs of illness. Therefore, diabetes technology can be seen as a tool to conceal T1D rather than creating an accommodating environment (Masana et al., 2011).

Those who do not meet the ideal and normalised standards in contemporary society are expected to participate in able-passing behaviours that prove they are working towards being accepted and deemed worthy (Bartky, 1998; Chrisler & Johnston-Robledo, 2018). Worth and acceptance for women depend on how closely women adhere to patriarchal discourse, producing normative femininity alongside societal emphasis on discourses informing ideologies such as healthism and ableism (Braidotti, 2019), in which disability and chronic illness, like T1D, do not 'fit'. As visibility of treatment moves further from the ideal body, the likelihood of being discriminated against, stigmatised, and treated as a misfit increases (Garland-Thomson, 2011; Bailey et al., 2016; Crawford, 2006).

3.2.2 Participating in Able-passing Behaviours

Due to CGMs being an externally worn sensor, it brings what was previously a generally invisible illness to a visible physical sign (Tanenbaum & Commissariat, 2023; Søgård et al., 2019). This visibility to the social gaze opened the diabetic body to stigmatisation and oppression (Messer et al, 2020; Søgård et al., 2019). To avoid health risks and stigma, individuals may engage in able-passing behaviours – behaviours that continue aligning themselves with an able-bodied sociomaterial environment (Goodley, 2014; Joachim & Acorn, 2000; Jeong et al., 2018). These behaviours can include people concealing or hiding the CGM with clothing or nude coloured tape (Messer et al, 2018; Pals et al, 2021), only checking glucose levels and injecting insulin when in private such as the nearest bathroom (Jeong et al., 2018), creating narratives around technology by referring to themselves as a robot/cyborg (Pals et al, 2021), and removal of hyper/hypoglycaemic alarms (Tanenbaum & Commissariat, 2023).

Concealing or displaying a CGM depends on the sociomaterial environment, as certain environments, public settings, or individuals' wellbeing may feel more or less safe for visible differences (Søgård et al., 2019; Pals et al., 2021; Reeve, 2012). Bordo (1993) argues that participation in able-passing behaviours may also offer social and emotional rewards, providing a sense of bodily control, affirmation of normative femininity, and a temporal relief from the emotional burden of being perceived as ill and othered. This can create a sense of comfort in passing as 'normal'. As Robertson (2020) found, 20.2% of sexually active participants with a CGM were concerned about the unattractiveness of the device in intimate relationships. Able-passing behaviours such as concealment in an intimate relationship may be rewarded with an increased sense of attractiveness.

While dominant discourse often encourages discretion and concealment, alternative discourses also exist that promote openness, pride, and political visibility. Pals et al (2021) found that some participants actively 'blinged' their diabetes technology and expressed enthusiasm about displaying it. This represents an alternative subject position where diabetes technology is embraced. Visibility may also become a form of political negotiation, a deliberate act to raise awareness and normalise CGMs. In this way, visibility is not always resisted. Some women reclaim space for illness in the public gaze by keeping CGMs visible (Pals et al., 2021; Riley et al., 2022).

The fear of being discriminated against in public pressures individuals to participate in able-passing behaviours (Jeong et al., 2018; Tanenbaum & Commissariat, 2023; Søgård et al., 2019). However, despite the temporary relief and rewards, this can also include participating in behaviours that also include maintaining ableist ideas of femininity, body, and wellbeing.

3.3 Biopower and Surveillance

As health technology has evolved, it has become a tool to discipline and reinforce neoliberal societal norms (Lupton, 2013b; Sanders, 2017). Foucault (1990) described this as biopower, a form of disciplinary power that enables the surveillance of health, visibility, and productivity in the name of society's 'best interest'. Biopower has further widened the socioeconomic gap by individualising health responsibilities, thereby regulating those who cannot access affordable food, safe environments, or quality healthcare (Reeve, 2012; Rice et al., 2021).

People are assessed against medical norms to determine their health status, diagnose illnesses, and provide care (Lupton, 2013a; Reeve, 2012). With the rise of mHealth and technology, the medical field is increasingly adopting technology to enhance diagnosis and expand our understanding of disease from a biomedical perspective (Lupton, 2014; Crawford, 2006). Devices now enable us to interpret bodies beyond mere physical appearance and internal physiological functions, moving into the realm of health and wellbeing technologies and creating new ways of 'viewing' the body (Sanders, 2017; Lupton, 2013b; 2014).

Biopower is exercised through technologically supported self-surveillance (Sanders et al., 2017; Foucault, 1990). This self-surveillance encourages individuals to adhere to ideals of autonomy, self-regulation, and self-determination (Riley et al., 2022; Balfe, 2007). These norms uphold social binaries: looking healthy signifies worthiness, while visible illness —whether apparent or reflected in data —is stigmatised and marginalised (Riley et al., 2022; Crawford, 2006; Cairns & Johnston, 2015).

CGM devices exemplify these dynamics by bringing previously invisible data into visibility, offering more detailed blood glucose information than before (Messer et al., 2018). Through this increased visibility, individuals can compare themselves not only to clinical norms but also to peers, influencers, and digital communities. Contemporary society has generated an ever-increasing surveillance of self and others through biopower, where individuals must internalise disciplinary norms, surveillance, and self-surveillance to be perceived as 'good' health citizens (Sanders, 2017; Foucault, 1990). Functioning as a socio-material tool, CGMs demonstrate how biopower reshapes the experience people have with illness, particularly within normative glucose levels, self-surveillance, and quantification of data (Lupton, 2014; Sanders, 2017).

3.4 The Techno-utopian Transition

The introduction of diabetes technology has shifted T1D management into a new dynamic, one that is characterised by a techno-utopian cyborg framing (Bennett, 2019; Lupton, 2013b; Davies, 2012). Within techno-utopia, the cyborg self is shaped by the use of mHealth devices, which bring bodily function to the forefront, allowing individuals to self-monitor, reflect, and change (Lupton, 2012; 2013b)

People are encouraged to rely on algorithms and quantifiable data to manage T1D, resulting in a more active and digitally engaged diabetic (Bennett, 2019; Danesi et al., 2021; Lupton, 2013b). The ability to be a more digitally engaged diabetic through the use of a CGM has created a sense of freedom in understanding the variety in their day-to-day routines (Reeve, 2012; Ingersgaard et al., 2021). Individuals can now be less controlled by the food they consume, the timing of foods, and the time they have to finger-prick and inject insulin (Mol, 2000).

Technological habitus emphasises the increased freedom offered to individuals with chronic illnesses or disabilities (Mol, 2000; Bennett, 2019). In the context of sociocultural liberty, technology has enabled individuals in an ableist society to be included by conforming to societal norms (Mol, 2000; Goodley, 2014; Crawford, 2006). This 'inclusion' is conditional on the ability to perform and adhere to normative ideas of health, which can include concealing diabetes technology, thereby reinforcing the invisibility and erasure of disability in society, as discussed above (Lupton, 2012; Goodley, 2014).

In this techno-utopian management framework, people with T1D have developed a technological habitus - where they manage not only their bodies but also the devices that assist in disease management (Wiedemann, 2021; Berk, 2018; Freund, 2004). However, a techno-utopian framing is problematic as it relies on people being willing and able to adopt new technology, as well as having the knowledge and education to use them. Wiedemann (2021) explained that diabetes-related decisions now encompass tasks such as managing alarms, calibrating devices, charging batteries, inserting sites, and troubleshooting Bluetooth disconnections. Berk's (2018) ethnographic study highlights a similar idea, showing that her inability to handle her CGM technology led to discontinuing its use.

Despite technological aids, people still must self-manage, including administering carbohydrates, responding to bolus requests, alarms, and calibrations. Increased awareness and management of diabetes technology may contribute to stress and fatigue, further exacerbating diabetes burnout (Wiesemann, 2021; Bennett, 2019; Messer et al., 2018; Danesi et al., 2018). As a result, a techno-utopian management redistributes labour and shapes decision-making, embedding care in ableist and neoliberal regimes of technological self-responsibility.

3.4.1 Body Dysappearance

Living with a chronic illness leads people to view their body differently, with an increase in internal awareness, attention, and focus on their bodily functions throughout the day (Chrisler-Johnston-Robledo, 2018). Leder (1990) describes this shift as bodily dysappearance, where an unwanted consciousness of the body through internal signals serves as an alarm to the individual. In T1D, these internal signals, such as dizziness, sweating, rapid speech, and shaking, indicate dysfunction and act as an embodied alarm (Kingod & Cleal, 2019).

Body dysappearance and hepatic body sensations are key dynamic changes in a techno-utopia cyborg framework (Danesi et al., 2018; Hofmann & Svenaeus, 2018; Kingod & Cleal, 2019). As Mol (2000) suggests, CGMs are designed to monitor glucose levels as we all actively shape how individuals come to understand their bodies, potentially reconfiguring hepatic sensations and bodily dysappearance. With the increase in technological embodiment has come a decrease in bodily dysappearance experiences, and auto-auscultation – the ability to tune into hepatic sensations (Rice et al., 2021).

As discussed in the previous chapter, individuals rely on hepatic sensations for information regarding blood glucose levels to make informed decisions regarding T1D management. In this techno-utopic shift, hepatic signals have become technologized – extended and moved from being limited to the body to being heard and viewed on CGMs, connected smartphones and insulin pumps (Kingod & Cleal, 2019; Wiedemann, 2021). Here, the body is understood through visual, auditory, and numerical data provided by CGMs, where management relies heavily on quantifiable data from a cyborg hybrid (Mol, 2000; Kingdon & Cleal, 2019; Bennett, 2019; Berk, 2018).

This increased emphasis on measurable data may translate to the individual's experience where hepatic sensations are ignored and diminished (Kingod & Cleal, 2019; Mialet, 2022; Danesi et al., 2018). This heavy reliance on the machine part of a cyborg can be risky, particularly as CGMs can malfunction, be unreliable, and have a lag in displaying glucose numbers, leaving individuals at risk if they are unable to tune into their bodily alarms (Forlano et al., 2017; Søgård et al., 2019; Pals et al., 2021

The embodied experience of hepatic sensations associated with fluctuating glucose levels has become positioned as secondary data, framed as subjective and less reliable than the objective data from a CGM (Kingod & Cleal, 2019; Mol, 2000). As a result, T1D management becomes data-driven, waiting for an alarm or CGM to alert individuals to a dysfunction, potentially erasing self-awareness, self-trust and the hepatic aspects of health.

3.5 Assemblages and Cyborgs

Deleuze & Guattari's (1987) concept of assemblages articulates this interconnection of multiple actors within T1D management. Individuals with T1D are part of a complex assemblage comprising continuous and fluid interactions among bodily sensations but also non-human actors, such as a number displayed on a CGM, the gaze of a parent, or the paw of a diabetic dog, to ensure they act accordingly and stay alive (Mialet, 2022; Reeve, 2012). Through these assemblages, the boundaries between human/non-human, body and technology blur, creating a cyborg transition of human-animal-machine (Haraway, 1991).

The CGM becomes part of a new cyborg-hybrid assemblage – one where body, CGM, and insulin pump work together to monitor and regulate life with T1D (Lupton, 2012; Haraway, 1991). Individuals with T1D have more capability to become "their own doctor" with real-time surveillance, offering a means to assess and react actively. These were found to enhance quality of life in T1D, prevent life-threatening complications, and alleviate some of the cognitive labour of T1D management (Burnside et al., 2023a; Søgård et al., 2017; Messer et al., 2018).

These assemblages are not fixed but constantly evolving, moving and changing the dynamic between human and non-human actors (Gibson et al., 2021; Wiedemann, 2021). With new updates, technology, and software come the requirement to constantly learn and relearn technology, recreating and reinventing a relationship with devices (Moretti & Moresello, 2017; Mol, 2000). Therefore, an individual must relearn how to function with new technology, be present in their body, and mitigate the social gaze (Chrisler & Johnston-Robledo, 2018). This consistent relearning of oneself with new assemblages can create a barrier to the adoption of new technology or new versions of oneself (Tanenbaum & Commissariat, 2023; Pals et al., 2021).

This temporal shifting is theorised by Alison Kafer (2013) as crip time, the reorientation of time required to live with disability and chronic illness. Crip time disrupts society's ideas of productivity-based time to normalise the temporal demands of T1D (Kafer, 2013). For example, within one assemblage that my body participates in, diabetes technology has allowed for a sense of ease of daily management, such as checking a CGM reading instead of getting a glucose kit out of my bag, receiving my glucometer, pricking my finger, waiting 10 seconds for the reading to show, making insulin calculations and acting accordingly. However, other aspects remain temporally disruptive, for example, the temporal prolonging of attending a scheduled meeting to treat hypoglycaemia or the pressure to inject and eat within inflexible break times (Wiedemann, 2021).

The various glucose actors form part of a larger assemblage of care for T1D management that is dynamic and ever-changing throughout life stages, hormonal fluctuations, new technologies, and socio-material environments (Gibson et al., 2021; Reeve, 2021; Danesi et al., 2018). Therefore, there is a continual sense of becoming (Braidotti, 2011, 2013) – always in motion, always in reconfiguration with oneself, one's body, diabetes technology, and other glucose-related actors (Gibson et al., 2021; Forlano, 2017).

3.6 Chapter Summary

This chapter has theorised the CGM beyond its biomedical and clinical role, positioning it within a diabetic-cyborg assemblage within a technoutopia framework that reconfigures subjectivity, embodiment, and the lived realities of T1D. Through the dominant discourse of healthism and ableism, CGMs reinforce biopower self-surveillance, reproducing disciplinary norms, moral judgements, and 'fitting' into an ableist society. This chapter demonstrates how CGMs are not neutral; they are a complex actor amongst the T1Diabetic assemblage that reshape individuals' experience of their bodies, T1D management, and sense of self in contemporary society.

Chapter Four: Methodology

In this chapter, I will outline the methodological design used to critically question how women with T1D make sense of body image, food, and self through the use of a CGM. I will employ a theoretically informed and reflexive toolkit to unpack dominant ideas of surveillance, visibility, ableism and healthism, and how these are mediated through technology and the body. I draw on feminist disability and critical disability theories to shape the methodological processes throughout the research process.

In this project, I used semi-structured interviews as my primary data source to generate in-depth narratives of young women accounting for the ways a CGM intersected with their identities and health conditions. I used reflexive thematic analysis (reflexive TA) to interpret the data, as this approach is well-suited for research grounded in constructionist-relativist work and supports the construction of themes that attend to meaning-making (Braun & Clarke, 2012; Terry et al., 2017). The remainder of this chapter outlines the research design, transcription process, analytic approach and ethical considerations.

4.1 Theoretical Positioning

4.1.1 Critical Qualitative Research

This study adopts a critical qualitative approach to explore women with T1D's experiences regarding CGM use. Unlike approaches that focus on subjective, experiential, and detailed descriptions of individuals' sense-making, a critical approach situates these experiences within broader sociocultural power structures, seeking how lived realities are shaped by intersectional systems such as ableism, neoliberalism, healthism and gender (Braun & Clarke, 2006; Burr, 2015; Terry et al., 2017). Employing a critical approach in this study enables an exploration of how dominant discourses and sociocultural power structures shape women's daily experiences and their sense-making of T1D. Due to its dual focus – honouring participants' voices and realities while exploring sociocultural power – critical qualitative research can engage with the experiences of marginalised communities and how they navigate, resist, or internalise the broader power constructs (Braun & Clarke, 2006, 2012).

Historically, psychological research has been grounded in positivist assumptions, where reality is viewed as singular, objective, and discoverable, with researchers being objective and detached from the knowledge production process (Riley & Chamberlain, 2021; Willig & Stainton, 2017). These assumptions continue to shape much of contemporary psychological research (Braun & Clarke, 2013). However, in the late 20th century, critical scholars working within poststructuralist, feminist and black spaces started challenging positivist assumptions, arguing that they fail to account for the sociocultural, historical and political forces that shape lived experiences (Riley & LaMarre, 2023; Willig & Stainton, 2017).

This critical perspective, as outlined in my thesis, emphasises that knowledge is situated and partial, questioning whose voices are heard and silenced within research, particularly in relation to race, gender, sexuality, sociocultural economics, and able-bodiedness (Riley et al., 2022; Willig & Stainton, 2017). Therefore, critical research provides a theoretical foundation that positions subjects who are marginalised and silenced. This involves accessing the perspectives and meaning-making of those who are otherwise marginalised people, recognising their lived experiences and ensuring their perspectives are heard on their terms. Because my thesis honours the voices of women with T1D, it was important to engage in research informed by constructionist-relativist epistemologies and feminist disability studies.

This qualitative design, combined with data analysed through reflexive TA, enabled interpretations to be rooted in context and theory. Unlike (post)positivist approaches that focus on description and surface-level experiences, this method allowed for a deeper exploration of participants' narratives regarding how women with T1D make sense of themselves, their bodies, and their condition within broader sociocultural discourses (Braun & Clarke, 2006; 2013; Willig & Stainton, 2017; Terry et al., 2105). This approach facilitated researcher reflexivity and theoretical engagement, providing a framework and tools to unpack broader gendered, ableist, and biomedical power structures that influence personal sense-making with a chronic illness (Braun & Clarke, 2006; 2012; Riley & Chamberlain, 2021).

4.1.2 Constructionist Relativism

My thesis explores the sense-making that women with T1D undergo concerning their bodies and their illnesses, and how these are shaped by wearing a CGM. As I am seeking to understand how women with T1D might make sense of wearing a CGM, I also wanted to explore the various social, cultural and historical knowledge that informs women's understanding and sense-making regarding their bodies and the relationship to T1D.

Through ontology, we seek to understand our access to reality and how it is experienced, interpreted, and constructed (Banister, 2011). Relativism posits that there is no singular reality or truth; rather, reality is understood and perceived through our cultural, historical, and social interactions (Braun & Clarke, 2022). Through relativism, reality is seen as partial to the individual, shaped and constructed by their environment (Crotty, 2020; Braun & Clarke, 2022). Participants' stories are seen as partial knowledge produced through language, drawing from existing social resources to co-create their reality and experience (Crotty, 2022). Therefore, language is central to how humans share and create reality (Crotty, 2020). We adopt these existing ideas as our own and use them to narrate our own story and experience, thereby creating our own version of the world (Crotty, 2022; Braun & Clarke, 2022).

Constructionism aligns with a relativist ontology (Crotty, 2020; Banister, 2011). Within a constructionist epistemology, knowledge is understood to be continuously produced through engagement with the social, historical, and cultural environment around us (Braun & Clarke, 2022; Crotty, 2020). In other words, knowledge is historically and culturally bound (Burr, 2015). Unlike positivism, constructionist research is built upon an assumption that there is not one singular truth or reality to be discovered (Braun & Clarke, 2022), but rather that people continually construct different meanings as they engage with their environment (Crotty, 2020).

We are born into a society embedded in social processes, sense-making, and understanding (Crotty, 2020). As humans, we learn and make sense of objects in our world through the social and cultural constructions that are pre-made for us, especially through language (Burr, 2015; Crotty, 2020).

This cultural, historical and social location from which we learn and make sense of our world provides resources from which to construct our own meanings. These will differ from others who have learnt about an object through a differing social, historical, and cultural viewpoint (Crotty, 2020; Burr, 2015).

Constructionists focus on understanding how people make sense of things and interpret their experiences, rather than simply identifying what an object or event 'means' (Crotty, 2020; Braun & Clark, 2022; Burr, 2015). Unlike other approaches, constructionists recognise that meaning is not fixed but created through social interaction and language. As Gergen (1999) states, humans use language to describe and create their reality, showcasing and sharing this reality with others. This shared reality is then understood and absorbed by others through which they understand phenomena and objects (Crotty, 2020; Burr, 2015; Gergen, 1999). From a constructionist, relativist approach, my research project approaches body image, self-identity, T1D, and CGM medical devices not as a universal experience but rather as the experiences are constructed and produced within each woman's historical, cultural and social environment.

4.1.3 Theoretical perspectives: Feminist Disability Theory, Misfits, and Assemblages

A challenging aspect of aligning this project with a theoretical perspective was the relationship between disability and T1D. As a researcher, I can understand theoretically and academically how T1D might be understood as a disability – especially within a biomedical lens (Conrad & Baker, 2010). However, as someone living with T1D, I struggled to fully align my view of my chronic illness through a disability lens, and certainly treating disability as an identity I could take up. However, through my engagement with the cultural, political, and social frameworks within Feminist Disability Theory (FDT), I began to conceptualise T1D as a form of crip embodiment (McRuer, 2008), where the T1D body is understood as a disabled body whose functionality is constructed and impaired in medical and societal discourses.

Before the emergence of disability studies, feminist studies played a central role in social justice research on disability, particularly through analyses of gender and the body (Garland-Thomson, 2011).

In recent years, feminist and disability studies have converged through the development of FDT. This theory combines social justice aspects of Critical Disability Theory (Goodley, 2017) and how these ableist and gendered assumptions in society are directed at bodies and shape lived experiences (Garland-Thomas, 2022; Goodley, 2014). FDT understands disability as a cultural interpretation of human variation (Garland-Thomas, 2022), within a system designed to subordinate bodies through their impairments (McRuer, 2008).

Prior to starting this research project, I would have only considered myself disabled in certain circumstances. First, applying for the disability allowance for a CGM, prior to funding. Second, when planning to visit Disneyland, I would consider using a special T1D disability pass. In all other circumstances, I did not feel 'disabled enough'. This feeling of not being 'disabled enough' reflects cultural narratives of what disability looks and feels like, creating a hierarchy of disability that shapes resources and recognition (Goodley, 2014). Internalisation of these discourses and hierarchies: I have a manageable chronic illness and worry that calling myself 'disabled' might take up space or resources from those more severely affected.

FDT emphasises the interaction and relationship between bodies and the sociomaterial environment (Garland-Thomas, 2022). Feminist materialism theory acknowledges the body as an object in which human and non-human actors interact with space, place and other bodies (Maslen & Lupton, 2020). This emphasis on non-human actors also includes the engagement between humans and digital technologies such as CGMs in diabetes management. Haraway's (2006) discussion of cyborgs addresses the complexity with which digital technology is made sense of within human actors, where technology and machines are an integral part of daily life and become intertwined with human experience.

Expanding on Cyborg Theory (Haraway, 2006), Garland-Thomson's (2011) Misfit Theory also situates disability within feminist materialism, framing the experience of disability as being 'fit' or 'unfit' within societal and material structures. Through this understanding, our social and material environment is designed to reinforce an ableist society where those who do not 'fit' the idealised human

(Braidotti, 2008) are discriminated against, stigmatised, and labelled as ‘misfits’ (Garland-Thomas, 2011). It is through the rejection of heteronormative, neoliberal, and ableist ideas that I am able to explore the intersectionality (Goodley, 2014) of how T1D is defined, understood, and stigmatised in self and various societal environments through the material non-actor digital device of a CGM.

I found reading both Garland-Thomas’ (2011) and Goodley’s (2014) theoretical discussions to be a lightbulb moment in my own experiences with T1D, as it allowed me to find words for my own experiences and engage in sense-making. I never felt like I ‘fit’ into society's health categories – not well, but not disabled either. With T1D being largely self-managed, there is a rhetoric that as long as we can use insulin, and now technology, it cannot be ‘that bad.’ This helped me understand my able-passing and approval-seeking behaviours from societal framings of normality and performing ‘not sick.’ This meant I did not fully identify with being unwell, and especially disabled.

Assemblage theory (Deleuze & Guattari, 1987) further supports this framework by seeking to understand the intersections and relationships between human and non-human actors. An assemblage is a constantly shifting network of relations comprising bodies, technologies, institutions, discourses, and the sociomaterial environment that produces particular effects and experiences (Deleuze & Guattari, 1987; Riley et al., 2022; Malsen & Lupton, 2020). Each component may interact unpredictably and overlap with or exist in other assemblages; for example, a CGM assemblage may include the device, the body, healthcare policies, and social expectations. The concept of assemblages provides a theoretical foundation for understanding the relationship between T1D and CGMs, including the broader medical and social systems that shape their use and meaning.

Critical Disability Theory and FDT reinforce constructionist relativism by challenging the dominant assumptions within various societies about disability (Goodley, 2017; Garland-Thomas, 2022). They do so by centring lived experience, prioritising subjectivity, and viewing disability as context-dependent through interactions with sociomaterial environments, ableist norms, and language. Underpinning my theoretical perspectives through these lenses situates T1D as a medicalised chronic illness that is also a part of the broader disability discourse that challenges able-bodied norms (McRuer, 2009; Garland-Thomson, 2011). This intersectional approach enables a deeper exploration into how T1D is experienced, framed, and embodied in various sociocultural contexts (Goodley, 2014)

4.2 Reflexivity

Reflexivity is the practice of observing, noticing, and bringing awareness to one's thoughts, emotions, and experiences that can occur during the research process (Trainor & Bundon, 2020). This practice of reflexivity and being an active reflexive researcher throughout the research process is one of the key factors that define Reflexive TA (Braun & Clarke, 2019; Trainor & Bunson, 2020). As Braun & Clarke (2019) argue, becoming a reflexive researcher is not about adding a reflexivity section to the piece of work. The practice involves an iterative process embedded throughout the research process – from early project design through to the final processes of writing. Being reflexive requires self-awareness of my subjective experiences, perspectives, assumptions, and understandings, as well as how these impact my listening to and analysis of both research and participants' stories (Braun & Clarke, 2013, 2019; Trainor & Bundon, 2020).

4.2.1 Personal Situatedness

I am a woman with T1D, a student researcher, and an advocate in the diabetes community. I have had previous eating distress and body image experiences that began with wanting to meet the normative feminine body ideals. What I now understand to be healthism reshaped these into food and health ideals to gain not only the ideal body but also what was sold as full participation in health and wellbeing. These experiences were heightened upon a diagnosis of T1D at the age of 24.

From a constructionist relativist standpoint, knowledge is partial, situated and shaped by the researcher (Haraway, 1988); therefore, my situatedness is a resource to be used in co-construction with participants' narratives and sense-making (Braun & Clarke, 2019; Trainor & Bunson, 2002; Burr, 2015). However, reflexive practices and maintaining self-awareness are vital to ensure that my experiences do not detract from participants' experiences, especially if they differ from mine.

4.2.2 Assumptions and Preunderstanding about embodied experiences with CGM

As a T1Diabetic myself, I had a preconception about CGMs, how they worked, and the different types, especially since I have used both the Freestyle Libre and Dexcom intermittently. This assisted the literature review process when researching pathophysiology, as I already had a basic understanding. However, this did mean that, during the writing process, I had to ensure I was explaining terminology and devices in a way that would not use 'diabetes slang' that those without T1D would not understand.

Prior to initiating the research process, I also held certain assumptions about the use of a CGM, based on my personal experiences and involvement in the diabetes community. I anticipated similar bodily awareness experiences to mine, in which participants would also hide the CGM with clothing and have a heightened awareness of their body when in public and on display. While I had these assumptions before participant interviews, I sought to remain open to participants' divergences from these and listen to their stories.

4.3 Participants

4.3.1 Recruitment

I employed a criterion-based purposive sampling recruitment approach (Palinkas et al., 2015) that aimed to encompass a diverse and representative sample of the T1D population in Aotearoa New Zealand. This strategy was employed to provide a comprehensive understanding of the lived experiences of women with T1D from diverse ethnic, socioeconomic, and geographic backgrounds. Given my active involvement in the diabetes community through advocacy work on social media and within my local region, I felt a responsibility to expand my recruitment efforts beyond my immediate location and community. While acknowledging my positionality and privileges as a Pākehā, middle-class, female with a chronic illness, I made a conscious effort to prioritise inclusivity and open space for all voices and experiences to be discussed.

Recruitment was conducted using two primary methods, each aimed at reaching different parts of the diabetes community. First, an advertisement poster (See Appendix A) was posted in an online diabetes Facebook support group called Type 1 Diabetes Aotearoa New Zealand. Permission was obtained from the moderators of the groups, and the message was posted three times over a two-month recruitment period. Second, I contacted Diabetes New Zealand, a non-profit organisation dedicated to diabetes support and advocacy, to ask if they could share the advertisement poster on their social media platforms and databases. Diabetes New Zealand shared both a story and a post on their social media platforms and also placed the advertisement on their website under 'Research Opportunities' for one month.

Individuals who were interested in participating emailed my Massey University email address. Aligning with a criterion-based sampling approach, upon receiving an expression of interest, a dialogic exchange occurred to provide further details about the study, including potential risks and benefits of participation, outline the eligibility criteria, and share the consent form. This exchange meant inclusion was not automatic; rather, it was guided by the inclusion criteria associated with the study's aims (Palinkas et al., 2015). Additionally, the email exchange provided a platform for participants to ask questions directly to me regarding the study, ensuring that participants felt they had an open and direct line to establish rapport and trust. Once participants replied wishing to proceed, they then signed a consent form (See Appendix B). I would then ask for times that would work for them to schedule an in-person or Zoom interview.

A total of 12 participants were interviewed between November 2024 and January 2025, who were the first to reply with a signed consent form (See Table 1). However, a total of 22 women were contacted via email. I also received multiple comments within the Facebook group, expressing interest in this topic and inquiring about the inclusion of women over 30 in the study. The extensive interest in this topic suggests that the relationship with food and bodies is a key concern in T1D, in which women are open and willing to discuss and educate further on.

Table 1

Participants' Demographic Information

Name	Age	Ethnicity	Diagnosis Date & Age	Brand of CGM Used
Cassie	29	NZ European	2016 – 20 years old	Freestyle Libre & Dexcom
Katie	24	NZ European	2006 – 5 years old	Freestyle Libre, Aidex & Dexcom
Mikayla	28	NZ European	2021 – 24 years old	Freestyle Libre & Dexcom
Halle	23	NZ European	2019 – 16 years old	Freestyle Libre & Dexcom
Sage	24	Māori	2009 – 9 years old	Freestyle Libre & Dexcom
Kasey	23	NZ European	2006 – 4 years old	Freestyle Libre & Dexcom
Holley	29	NZ European	2023 – 27 years old	Freestyle Libre & Dexcom
Claudia	30	NZ European	2022 – 27 years old	Freestyle Libre & Dexcom
Melinda	30	Indian	1999 – 4 years old	Freestyle Libre, Aidex & Dexcom
Amanda	23	NZ European/ Māori	2004 – 15 months	Freestyle Libre
Jessica	22	NZ European/ Māori	2022 – 19 years old	Aidex & Dexcom
Mary	24	NZ European	2021 – 20 years old	Freestyle Libre & Dexcom

4.3.2 Eligibility Criteria

This study was specifically aimed at young adult women, aged between 18 and 30 years, as the transition from adolescence to adulthood can be particularly challenging for those managing a chronic illness, such as T1D (Wallace et al., 2023; Tanenbaum & Commissariat, 2023). The increased visibility of glucose levels with a CGM, managing a chronic illness, and transitioning to a new phase of life can lead to increased self-awareness of how one's body is perceived by others in society (Balfe, 2007; Wallace et al., 2023). Research also indicates that women in this specific age period have an increased prevalence of thoughts and feelings towards their bodies, reflecting appearance potency, that can contribute to eating distress (Kruger et al, 2023; Jankowski et al., 2013).

To ensure that the study captured the relevant lived experiences from diverse backgrounds, specific inclusion criteria were established. (See Table 2).

Table 2

Eligibility Criteria

Eligibility Criteria for Participants
Identify as a female
Aged between 18 – 30 years old
Has been diagnosed with T1D for at least one year
Has used a CGM for blood glucose management for at least one year
Reside in Aotearoa New Zealand
Speak English

4.4 Procedure

4.4.1 Interview Process

The interview began with an introduction of myself, my personal diagnosis story, and a brief overview of the research. Disclosing one's positionality to participants can be an important aspect of qualitative research, regardless of whether the researcher is an insider or an outsider (Hayfield & Haile, 2015; Jansky, 2024). As an insider, the researcher has shared positions and knowledge with the participants, which can provide in-depth narratives and the ability to represent participants' voices, crucial for marginalised groups (Hayfield & Haile, 2015). However, disclosure can also be problematic, as it may create a false sense of intimacy, such as participants treating the relationship differently, e.g., as a friend or counsellor, or participants over-disclosing to connect with the researchers' experiences (Braun & Clarke, 2012). Braun & Clarke (2012) also caution that research aims, ethical considerations and the shaping of an interview dynamic should be thought out before deciding to disclose. I believed it was important to share my diagnosis story and be upfront about having T1D, to be honest with participants about my motivations and interests.

Further, it was essential for participants to know that I have lived experience with the chronic illness and am part of the community, not simply an outsider conducting research on it. With the widespread misunderstanding of diabetes in society, the importance of my disclosure as an insider was heightened, particularly given the discrimination and stigmatisation that many women with T1D may experience. As Hayfield and Huxley (2015) discuss, shared experiences, particularly in marginalisation, can assist with drawing out shared feelings, experiences and relief. Participants and I have shared experiences that are rooted in misunderstandings, which can create a space for participants to feel at ease and validated.

Braun & Clarke (2012) discuss the importance of researchers choosing to disclose, and if they do, they must be mindful of allowing the participant to speak. For me, this meant refraining from using the opportunity to discuss and chat about diabetes with a fellow diabetic. I was surprised how many participants did not realise until I shared my diagnosis story that I too had T1D. They naturally assumed, from many outsiders doing research on diabetics, that I did not share their illness. This showed me that sharing my diagnosis story was an important factor in the interview process, particularly as it meant participants did not have to explain things like what a CGM is and could instead focus on experiences and storytelling (Hayfield & Huxley, 2015).

At this point, I offered participants a moment to collect their thoughts, ask any questions needed or grab a glass of water before heading into the question part of the interview process. After each interview, I reflected in my research journal on any thoughts or feelings that had arisen during the interview, including areas that could have been improved or topics that had not been discussed enough. The first interview transcript was discussed with my supervisor to provide feedback.

4.4.2 Interview Guide

A semi-structured interview guide was used, as it enabled the consideration and use of prepared questions throughout the interview (Braun & Clarke, 2013). The interview began with asking participants to share their diagnosis story. This opening question allowed participants to discuss the details of their diagnosis and provided space to explore their experience pre-diagnosis, while getting diagnosed, and post-diagnosis. This broad, open-ended question allowed the interview to start shaping itself around the participant's personal story, providing me with space to probe for further details of specific experiences they mentioned throughout their narrative.

The interview employed a dialogue-style approach, allowing participants to speak freely while using the interview schedule questions to guide their responses when necessary, and also prompting them for further details about specific experiences. Before closing the discussion, I asked each participant, *"Is there anything else you would like to say or ask me?"* In which all participants took this opportunity to discuss with me an experience that was meaningful to them, either one they had not discussed enough earlier or one that was not brought up throughout the interview. Refer to Appendix C for the complete interview schedule.

4.5 Ethical Considerations

4.5.1 Informed Consent

Participants received a detailed explanation of the study via email after initially expressing their interest. The document provided potential participants with information regarding the nature, purpose, potential risks, and benefits of the study. Potential participants had the opportunity to ask any questions they had via email. Once they felt comfortable and wanted to proceed with the study, participants were offered the opportunity to either receive an e-signature informed consent document or one to be mailed to their address for signing and return. All participants opted for the e-signature document, which was signed and returned before proceeding to discuss a suitable time for the interview.

4.5.2 Participant Confidentiality & Autonomy

Participants' personal information was removed from transcripts and research reports, and pseudonyms were used in place of participants' names, locations, job titles, descriptions, and any other information that could identify them. To ensure confidentiality, participant-pseudonymised data were shared only between my supervisor and me, and only short extracts of these data were used in the thesis and any potential publications.

Participants were fully informed regarding the nature and purpose of the study, including the risks and benefits. They were aware of and reminded throughout the interview that they were encouraged to ask questions, pause the interview, and exit the study until December 9, 2024, when the analysis would be complete.

4.5.3 Data Management

All digital records, raw data and transcripts from the interviews were stored in password-protected files on Massey University's Microsoft OneDrive. Physical documents were stored safely in a locked cabinet within my office space. Upon completion of the research study, the data will be securely disposed of in accordance with Massey University regulations.

4.5.4 Participant and Researcher Wellbeing

This study presented minimal risk of distress. However, participants were provided with contact information for support services, if needed, within their information pack. They were informed and reminded in the interview process that they had the right to decline questions, pause, or withdraw from the interview if they felt uncomfortable.

Given that participants have lived with T1D for an extended period, the interview content was unlikely to cause significant distress (Rapley, 2012). However, when discussing their relationships with their bodies and eating distress, many participants needed a break and to slow down throughout this section of the interview process. Discussing a dislike for your body is difficult, let alone in an interview situation.

Many research participants in health projects such as this report benefit from talking to an interested interviewer about their experiences (Balfe et al., 2013). At the end of each interview, participants expressed immense gratitude for having the opportunity to discuss the complexities of T1D with someone who understood. Many described not having this opportunity often, let alone to talk freely and openly with someone who also understands, without having to put on a brave face. These comments meant a lot to me, showing me that I was doing this for the community, and getting me through the more challenging moments of this process.

While this study posed minimal physical or emotional risk towards me, self-care strategies were continued to be maintained throughout the process. This was particularly important to ensure that I was not only taking care of myself but also managing my T1D. Stress is one of the primary factors in yo-yo blood glucose levels; therefore, it was vital for me to stay on top of and manage stress levels, as well as other factors within my control. However, there were many moments when consistent hyperglycaemic events, yo-yo glucose levels, and pump malfunctions impacted my health and ability to write throughout the project.

4.6 Data Analysis

4.6.1 Reflexive Thematic Analysis

Reflexive TA aligns with a ‘Big Q’ qualitative approach. Big Q approaches allow for theoretical flexibility, posing broad questions that focus on process and meaning, rather than cause and effect (Braun & Clarke, 2022), aligning with the critical qualitative orientation of the project. ‘Big Q’ approach allows for theoretical openness, providing an approach where researchers can ask broad, sense-making questions and explore lived experiences within broader constructs of power, discourse, and context (Braun & Clarke, 2006; 2013; Terry et al., 2017). In contrast, ‘small q’ approaches are concerned with data as discovering reality, attempting to meet criteria that include quantitative concerns such as generalisability, reliability, and objectivity (Braun & Clarke, 2013). In comparison, ‘Big Q’ and reflexive TA (especially within constructionist-relativism) focus on transparency, reflexivity, theme development, and meaning-making (Braun & Clarke, 2013; Terry et al., 2017).

The key component of this form of thematic analysis is the use of reflexivity from the researcher (Braun & Clarke, 2019; 2022). Reflexive TA emphasises the researcher’s subjectivity as a resource, embedded in the research project with their own situated knowledge and lived experience (Braun & Clarke, 2022). It is essential for researchers to critically reflect on their role as researchers and their influence on the research and interpretation of participants’ experiences (Braun & Clarke, 2022).

I engaged in introspection and intersubjective reflection throughout the research process. I excitedly purchased a lilac Moleskine pocket journal, which I used throughout the process to jot down notes, my own experiences, feelings, thoughts, and extra questions that popped into my head during various processes and day-to-day activities. I also used the Notes app on my iPhone to record voice notes of ideas that popped up while I was walking my dog, Luna, or while thinking, reflecting on an interview, or listening to a podcast that triggered a thought.

4.6.2 Using Reflexive Thematic Analysis

Reflexive TA provides a method in qualitative analysis that involves interpreting and analysing across data sets (Braun & Clarke, 2022). Data is actively shaped into themes through a six-phase analysis process (Braun & Clarke, 2022). These phases, not moving linearly, start with familiarisation of the data, creating codes from the data, constructing and developing themes, reviewing and analysing and naming themes, to writing the analytical report. I will discuss these phases in more detail below.

Orthographic verbatim transcription includes every word, slang, sound and pauses as they are spoken by participants (Braun & Clarke, 2022). While intelligent verbatim edits out filler words and corrects grammar, full verbatim keeps all verbal and non-verbal elements of speech (Braun & Clarke, 2022). Full verbatim allowed me to look deeper into the non-verbal language used, including long pauses, fillers (e.g., um, ah, mmm), and laughter. For each participant's transcript, I listened to the audio on Express Scribe while editing the Zoom transcript into a separate Word document file. Although Zoom provided an automatic transcript, I edited each interview into a Word document, ensuring accuracy and providing the opportunity for me to start the familiarisation phase of analysis. During transcript editing, I took notes in my reflexive journal about interesting points within the interview, as well as my feelings about the interview.

After transcripts were completed, I immersed myself further into the familiarisation process and the first phase of reflexive TA. As my supervisor explained, this phase is the 'have a glass of wine and enjoy' phase. This phase of familiarisation involves immersing oneself into the data; re-reading and listening to participants' stories with curiosity, making notes or highlighting moments of interest (Terry et al., 2017; Braun & Clarke, 2022). Braun et al. (2018) discuss the importance of this first phase for the researcher's reflexivity, to check in with assumptions and personal responses to stories and the data. Using the Word documents and printed transcripts, I made use of any spare moment to read, listen, and take notes from the participants' stories. Personal thoughts and feelings were recorded in my reflexive journal, and handwritten notes and highlighted text were included in the paper transcripts. A separate Word document was used for each transcript to combine notes and ideas.

Once I felt familiar with the transcripts and participants' stories, I moved to phase two: generating codes. This second phase of reflexive TA shifts to a more systematic orientation, aiming to make sense of the data, transcriptions, and notes (Terry et al., 2017). My supervisor explained this phase as the 'coffee and focus' phase. Codes are labels composed of a few words used to explain and describe a chunk of text clearly, and are also used to collate or organise data in future phases (Braun & Clarke, 2022). Inductive coding works from the 'bottom-up', where analysis is data-driven; the themes and codes are developed as an outcome. Contrastingly, theory-driven (deductive orientation) codes and themes are pre-planned or anticipated (Braun et al., 2018).

In this phase, I re-read the transcripts and notes, writing potential codes in the margins of the related Word document for key texts. For instance, a participant describing hiding their health status was tagged with the code 'Embarrassed of their T1D'. The research question directed the focus of the notes to ensure that the codes were focused. There are two forms of coding: semantic, which captures explicit content from participants, and latent, which explores deeper conceptual meanings, such as assumptions, ideas, and discourses, guided by theoretical frameworks (Braun & Clarke, 2013; Braun et al., 2018). My analysis was sensitised by theory, leading to the development of theory-informed latent codes.

I started by working with one transcript at a time. Given that this was the first time I had used this process, I initially felt uneasy about doing it correctly and sent a copy of the first transcript with codes attached to discuss with my supervisor. Feeling more comfortable after the discussion and having fully immersed myself during the transcription and familiarisation process, I decided to work with both semantic and latent coding simultaneously. This often meant that chunks of text were coded multiple times – one semantic that focused on the explicit meaning and another latent, looking deeper at how the participant was expressing their experience. It also allowed the codes to flow and develop through the data, especially with some text only requiring semantic understanding (Terry et al., 2017; Braun et al., 2018).

After all the transcripts were complete, codes in the comment section of each participant's associated Word document were transferred into an Excel spreadsheet, which included all participants' identifier numbers, codes, and associated text. The Excel spreadsheet provided an opportunity for me to re-read participants' texts and refine codes, particularly those that were more than a few words long. At the end of phase two, I had coded across 12 transcripts.

Phase three involved the active construction of themes. Within reflexive TA, themes do not emerge from the data; they are developed as part of the researcher's deep engagement with the data in prior phases and become visible throughout this phase as codes are clustered across participants' stories (Terry et al., 2017). Themes are a broader concept used to capture a shared meaning from the data (Braun et al., 2018). This can be understood as the title or brief introduction that tells a particular story, grounded in participants' narratives and the researcher's theoretical and reflexive lens (Braun & Clarke, 2019).

This was my favourite phase. Codes from the Excel spreadsheet were inserted into Miro, a software used to create visual boards. Each code was presented on the board in a colour associated to the participant, with the ability to move around the vision board and create clusters of shared meanings or concepts from other participants (Braun et al., 2018). I used a 'building blocks' approach to collate codes and associated text and data together to form clusters that developed into a general theme (Braun et al., 2018). It was during this phase that I would sit down and 'play' – moving colour-coded Post-it notes around the board to create a story and understanding with other coded notes. I would watch TV, talk to my parents on the deck, lie in bed with a coffee, all while 'playing' with different scenarios to find the best meaning-based association (Braun et al., 2018).

Once I had constructed several prototype themes, my supervisor advised me to proceed to phase four: reviewing the themes (Terry et al., 2017). Phase four, reviewing themes, involved consistently reviewing, analysing, and further developing themes from phase three (Terry et al., 2017). It also involved ensuring clear narratives throughout each theme. Following this, phase five, defining and naming themes, involved creating a concise name that captured the essence of the sense-making and participants' stories (Terry et al., 2017). Within the Miro board, I had clear clusters of codes with similar sense-making around common narratives from participants. These clusters were organised into a 'prototype' theme, which was then moved into separate Microsoft Word documents. These included: visible to health professionals, visible to public, visible to self, and other potential themes. It was important for me to continue to review and develop the grouping of potential other themes, as these clusters were important and relevant to the research question and potential sense-making.

Each of the Word documents included a theme definition, a summary paragraph describing the core narrative of the theme, associated codes, and participant extracts from the Excel spreadsheet. This was an essential part of the analytic process as it allowed me to clarify what each theme was about, how it reflected participants' narratives, and how this related to the broader story. This stage helped set me up to write the report, ensuring that each theme told a distinct story that was still interconnected with the overall narrative of my thesis project and the theory I could bring to bear on the topic.

As Braun & Clarke (2013) discuss, reflexive TA is not a linear process; there is no step-by-step method through these phases. Instead, the process is designed to move fluidly through overlapping phases (recursive) and cycles of reflection and refinement (iterative) (Braun & Clarke, 2013, 2019). This free-flow process was experienced throughout the process as I revisited codes, theme definitions, and boundaries.

The final phase, producing the report, connects the data, extracts, and interpretation to the research question, and the rest of the overall story being told throughout the report (Terry et al., 2017). This was an active and creative process that involved reviewing and analysing data, extracts, codes, themes, and weaving these into a meaningful final narrative that shared participants' stories (Braun et al., 2018).

During this phase, the themed Word document text began to expand. Themes began to come to 'life' as I actively shaped the story of each theme through connecting participants' extracts with theories and research. This process required interpretive and reflexive decision-making, as I had to navigate the complicated task of letting go of potential themes that, while evident in the data, did not align with the overall story of the dataset. I struggled to let specific potential themes go; I wanted to include everything that each participant expressed and show every story. Ultimately, I recognised that it was essential to maintain narratives and extracts that best suited this story; other themes could be explored in future research.

The reflexive TA process allowed me to navigate each phase with curiosity, playfulness, and critical reflection. It enabled me to co-construct themes and an overall narrative that was attentive to the complexity and nuance involved in living daily with a chronic illness—listening to and sharing participants' stories alongside broader sociocultural influences that impacted these. The narrative that unfolded was bigger than I could have imagined, one that was both emotional and representative of women with T1D.

4.7 Chapter Summary

This chapter outlined the methodological framework of this study, underpinned by a constructionist relativist epistemology, informed by critical feminist disability theory. Semi-structured interviews supported rich, detailed narratives that were analysed with reflexive TA. Ethical considerations and reflexive practices were central to this project, as they enabled me to understand my positionality as a researcher and ensured that the research amplified the lived experiences of women with T1D while exploring broader social narratives.

Chapter Five: Embodied Entanglements

A recurring theme across participants' narratives was located around the complex negotiation between managing a chronic illness and navigating gendered beauty and health norms. In this first analytical chapter, I will explore how CGMs reshape women's embodied experiences and negotiate their relationships between their bodies, self, gendered sociocultural norms, and T1D. This chapter will begin my discussion of gendered and ableist norms surrounding young women's relationships with food and their bodies within the complexity of T1D. In the second part of the chapter, I will then discuss participants' narratives about the embodied sense-making of life with a CGM.

As discussed throughout, contemporary society is based on gendered body norms that prescribe the disciplinary power of patriarchal and Westernised ideals to dictate who is deemed a worthy and acceptable member of society (Riley et al., 2022; Chrisler & Johnston-Robledo, 2018). As Bartky (1998) argues, sociocultural practices construct an 'idealised feminine body', shaping women into feminine body-subjects. Women are often made to feel deficient and ashamed, carrying a sense of failure for not meeting the ever-changing normative expectations (Bartky, 1998; Chrisler & Robledo, 2018; Cairns & Johnston, 2015). Femininity is thus sustained through internalised practices of body discipline, shaped by cultural ideas and self-surveillance (Bordo, 1993).

For women with T1D, these pressures are intensified. They are already positioned within daily routines built on self-discipline and surveillance, requiring hypervigilance around health, body, and food consumption, to prevent immediate, long-term complications, and fatality (Mol & Law, 2004; Mol, 2000; Mialet, 2022; Brady, 2024). Adding to this dynamic are normative expectations of ableism, healthism, and femininity, which construct additional pressure not only to meet clinical targets but also to conform to sociocultural ideas of health and beauty (Bordo, 1993; Malson et al., 2023).

Medical technological and digital devices, such as CGMs, are not neutral technologies, but are embedded within normative ideas of health (Bennett, 2019; Sanders, 2017). As Lupton (2013a) argues, digital health technologies often reinforce discourses of healthism and ableism, further constructing and reshaping societal expectations of what a body should be, do, and look like. Participants' narratives described positioning the CGM as both a support tool and a tool for self-judgement. The continuous visibility of real-time glucose data shaped how they perceived their bodies, food choices, and health behaviours—aligning with the idea that CGMs function as a tool for self-surveillance and discipline (Danesi et al., 2018; Lupton, 2012).

Throughout this analytical chapter, I examine how CGMs are embedded in sociocultural discourses of health, femininity, and responsibility, understanding the embodied experiences that are positioned outside of normativity. Focusing on women’s perceptions of their bodies, particularly concerning body image and insulin-associated weight gain, as they negotiate their new diabetic body against cultural ideas of thinness. This theme of feminine normativity encompasses not only women’s bodies but also their diet, behaviours, and movement, examining how participants make sense of living with a food and body-focused chronic illness against normative ideals.

My first theme, “You’re taking a drug that makes your body store fat: T1D, CGM, and relationships to their bodies”, illustrates the complexity of living in a body with a chronic illness while navigating dominant discourses of health and wellbeing. Throughout this theme, participants described how the increased visibility of glucose data both hindered and supported their self-surveillance and self-regulation of food intake, their perception of their bodies, and navigating a new experience with a physical object attached to their body.

The second theme, “We always have to think about everything that goes in our mouth.", focuses on participants' relationship with food prior to and with a CGM. Throughout this theme, participants discuss navigating the increased visibility of food-related glucose data and the impact of minimising food to a number. This theme continues to focus on CGM as a tool for moralisation and self-surveillance as it further delves into the dominant subject position of the 'perfect diabetic'.

5.1 Theme 1: “You’re taking a drug that makes your body store fat”: T1D, CGM, and women’s relationships with their bodies

Across narratives, participants described a complicated, complex, and dynamic relationship with their bodies, where body dissatisfaction was common. For many participants, this dissatisfaction was downplayed, almost as though viewing the body negatively was expected and normal:

> "Um a little bit I think I think I don't know not in any massive ways not in ah like chronic ways I think just in the ways most young people probably do" – Mikayla, 28. Freestyle Libre and Dexcom
>
> "It's [body] has always been in the back of my mind like obviously being a girl like wearing certain clothes and wanting to feel good in the small shirts and like crop tops and all the year it's always kinda been a thing in back of my head" – Holley, 29, Freestyle Libre and Dexcom

Mikayla and Holley both framed their body dissatisfaction as ordinary and something all women, particularly young women, experience. Their narratives suggested an acceptance of negative body image as a part of everyday life for women, shaped by societal understanding about appearance, femininity, and body size (Cairns & Johnston, 2015; Gleeson & Firth, 2006; Malson et al., 2023).

When I asked participants to describe their relationships with their bodies, most appeared deflated. Their sense of self became smaller, and their language choices changed to self-critical, pessimistic, and judgemental:

> "I do not have the greatest relationship with my body at all so I think for most of my life I've always been bigger and I went through a lot of bullying in high school and primary [...] so my relationship with it has not ever been great" – Jessica, 22, Aidex and Dexcom
>
> "Ah yeah it's yeah it's fucking terrible like absolutely terrible [...] I don't I don't have a great relationship with my body at all really and I almost feel like it's gotten worse over the couple of years as I've started caring" Melinda, 30, Freestyle Libre, Aidex and Dexcom.

A strongly affective tone marks Jessica and Melinda's extracts as they described their experience thus far relating to their bodies. Both participants described painful relationships based on bullying, shame, and judgement.

Their experiences reflected how dominant body ideals construct narrow norms of femininity, positioning the body as 'docile', shaped and controlled by external norms (Foucault, 1977; Bordo, 1993). Participants' accounts of their embodied experiences illustrated the ways that women's bodies are monitored, evaluated, and governed by patriarchal and healthism discourse (Malson et al., 2023; Bartky, 1998). In this way, participants' accounts reflect an internalisation of these ideas in their practices and expectations.

As Melinda's extract illustrates, the pursuit of health has become entangled with dominant feminine discourse, reinforcing the notion that women must not only appear healthy but also actively work on their health and wellbeing (Carins & Johnston, 2015; Bordo, 1993). Melinda's relationship with her body appeared to worsen as she began to show interest in her health and diabetes management, suggesting that caring for her health may intensify negativity towards body image and become a site for self-surveillance rather than self-acceptance (Bordo, 1993). This reflects broader sociocultural messaging that women's bodies are something to work on rather than live in (Rice et al., 2021; Riley et al., 2022).

T1D seemed to introduce an additional layer of vulnerability towards body image norms, adding to the already complex position women have regarding body and health. The intersection between T1D and the body is heightened with pre-diagnosis weight loss:

> "It was like quite a dramatic weight loss and although I knew I hadn't done anything to lose the weight it felt good like my confidence just skyrocketed and I was like at the shops buying new clothes and just like always taking photos of my body in the mirror because I loved it and I thought I looked so good and I was so happy and so confident" – Claudia, 30, Freestyle Libre and Dexcom
>
> "Because I was loving it like being skinny like [laughing] oh I was like I've never been like a thin person even as a kid so I'd always kind of been like a little bit obsessed with exercise and like just body image just was not not healthy I don't think to me like losing weight without

> trying I was like yaaaay [laughs] proud of myself I was like yay" – Holley, 29, Freestyle Libre and Dexcom

Claudia and Holley described the experience of weight loss before diagnosis as exciting and desired, expressing feelings of pride and joy rather than concern. While symptoms of T1D are not well known, their experiences of weight loss without trying to lose weight were welcomed rather than being understood as a sign of ill health. Many participants described similar feelings – that if it were not for other symptoms, they would not have sought medical attention:

> "I didn't really think much of it like um when I was losing weight for like the first couple of weeks cause I was only losing like I think I lost like three kilos or something in a couple of weeks but I was being more active and things [...] when I started getting really really skinny everyone started getting really concerned thinking that I was you know doing it to myself [pause] um yeah [pause] it was weird like you always sort of like want to be nice and thin and stuff like that so I wasn't too worried about it but as soon as I pretty much had like the 10 kilo gone thing I was like oh shit [laughs]" – Cassie, 29, Freestyle Libre and Dexcom

Cassie's narrative captured the tension between weight loss and health; her initial weight loss was viewed as positive, desired, and welcomed until it reached a threshold where others and herself started to worry. As part of these conversations, I often shared my own experience with participants of being hyper-concerned and focused on weight, despite being unwell. In many ways, I could only see the skinny ideal body as a source of happiness rather than an indicator of T1D. It was not the weight loss that alarmed me, but the irregular menstrual cycle and increasing thirst. I could only view weight loss in terms of satisfaction.

Diet culture and healthism have constructed a sociocultural celebration of thinness, equating it with worth and success, regardless of the cause or behaviours to achieve (Carins & Johnson, 2015; Bartky, 1998; Bordo, 1993). This celebration then makes it difficult to question why weight loss may be happening, especially when it has been desired and praised for some time. Participants supported this idea with their language choice, describing weight loss with words such as "felt good", "gained confidence", and "loving it". This demonstrated further how the sociocultural celebration of thinness, combined with patriarchal ideals, reinforces a narrow set of ideal body norms through everyday discourse, despite the health risk (Rice et al., 2021; Araia et al., 2017).

The introduction of insulin upon diagnosis, alongside the stabilisation of blood glucose, typically leads to weight regain over the next twelve months and longer – commonly referred to as insulin-associated weight gain. Some participants situated this within pro-health discourse, recognising that weight gain was a positive physiological outcome, required as weight loss was from being unwell:

> "I just had to remind myself that the body I had and had been in was a very unhealthy body ah and was a very unwell body and actually this is fine" – Mikayla, 28, Freestyle Libre and Dexcom

Mikayla reflected on the physiological and emotional shift that occurred with post-diagnosis weight gain. Her narrative highlights the tensions created by strongly internalised body norms. Despite knowing she was unwell, a thinner body remained somewhat idealised, desired, and needed to be accounted for (“actually this is fine”). For many participants, this dilemma brought about an internal conflict and one that was framed as a more formidable challenge than the disease itself:

> "Then I started on insulin, and it's actually been quite I feel like my biggest challenge sounds really like, I guess, shallow, but my biggest challenge has been watching my body gain the weight again like I even now like I just that's the only problem I really have with my diabetes" – Holley, 29, Freestyle Libre and Dexcom

> "I was correctly diagnosed in [diagnosis date] and then over the next 12 months I gained heaps of weight from I don't know I guess being on insulin um just my body kind of balancing back to what was normal so I gained back all of that weight that I had lost and then I gained back more [...] um but gaining the weight for me has been kind of actually the hardest thing about being a diabetic because I kind um like like I said I'm still learning about being a diabetic but I did kind

> of come to terms with it quite quickly [...] um but yeah the weight gain has definitely been like the hardest thing for me" – Claudia, 30, Freestyle Libre and Dexcom

Holley and Claudia described an emotional journey that occurred alongside the physical changes in their weight. Despite understanding the necessity of weight gain, participants presented feeling uncomfortable in their new diabetic body. Participants' narratives highlight the complex intersection of femininity, health, and appearance, as well as the moralisation of weight - where certain bodies are deemed worthy, accepted, and good (Malson et al., 2023; Bailey et al., 2016). These tensions impact chronic illness management, where post-diagnosis weight gain may feel like a loss and something to be resisted (Pinquart, 2013; Balfe, 2007).

The affective tone of the interview shifted considerably when talking about weight loss compared to weight gain. While the former was often associated with positive framings and body language, the latter was aligned with a sense of 'loss', grieving, and anger towards T1D for taking away their 'ideal bodies'. Many participants framed insulin as a drug that disrupted their ability to have their idealised body:

> "You're taking a drug that makes your body store fat of course you’re gonna put on weight and yeah it's just out of your control pretty much so I do think it is that mainly that's yeah that done that to me done it to me bloody bastard" – Holley, 20, Freestyle Libre and Dexcom.

Holley's narratives revealed the emotional complications that occur within T1D management. She calls insulin a 'bloody bastard' for taking away the skinny body that she had desired and idealised her entire life. Insulin became constructed as something more than a life-saving medication; it became associated with the sociocultural feminine body ideal, including how the body is surveyed internally and by others. As such, a tension is created between the need for life-saving treatment while also positioning the diabetic body outside of sociocultural normativity.

Some participants positioned insulin as the force acting against their desired body weight; they therefore managed insulin based on weight management rather than glucose requirements. The following narratives reflected an attempt to balance the desire to be a 'good diabetic' and to maintain or return to their idealised body:

> "Probably the biggest and hardest thing with my diabetes and my body is is just trying to get these lows under control so that I can stay at a you know same weight constantly not not fluctuate between yeah" – Kasey, 23, Freestyle Libre and Dexcom

> "I'm like if my like insulin sensitivity is like worse I'm going to get fatter and it's all just like a downward spiral and then I'll try and lower my sen um my insulin sensitivity to see if I like lose weight anymore or any faster" – Melinda, 30, Freestyle Libre, Aidex and Dexcom

Kasey and Melinda described their insulin requirements and T1D management through a weight-focused lens. Rather than seeing insulin purely as a tool for blood glucose management, it also became a tool for weight management and bodily control. Re-embodiment, which involves learning to inhabit a new diabetic body, creates a tension between focusing on the functionality and biomedical experience of insulin, visceral embodiment, and the aesthetic, external, visible aspect to the social gaze and normative embodiment (Chrisler & Johnston, 2018; Moore & Kahn, 2021). As expressed by Kasey and Melinda, this tension is felt in the desire to survive while also maintaining a thin, feminine, and attractive appearance.

Other participants expressed a similar sense of frustration regarding insulin-associated weight gain and its implications for weight and body size.

> "That means I'm not gonna lose weight, but if my levels are high, that's when you lose weight, so I was kind of like I wanted to have my levels in the middle of the line, like perfect, like 80% in the range all that, but at the same time I was just like well if I just a little little little high" – Holley, 29, Freestyle Libre and Dexcom

Holley's succinct extract described the entanglement between blood glucose management and the desire for the idealised body. Holley indicated that she wanted 'perfect' glucose levels – stable readings and decreased risk for long-term diabetic health complications. On the other hand, she longed for her thinner, pre-diagnosed body and the social and personal rewards she received. Many participants alluded to a similar trade-off between metabolic management and weight control. Holley's narrative shaped how many women with T1D may be getting caught between being the 'perfect diabetic' and the 'postfeminist woman.'

As Bordo (1993) argues, the female body has become a site of cultural understanding, one that is shaped through practices of self-surveillance. Participants described the duality of being disciplined in their glucose management while also adhering to feminine body ideals, with the risk that the latter became more important than the former at times. These embodied tensions shaped how participants navigated the visibility of diabetes, especially when the presence of a CGM can disrupt or amplify the idea of feminine body norms.

The age of participants also adds a key dimension to the embodied tensions they face. During adolescence and early adulthood, young women are constructing their sense of identity and femininity. Their sociomaterial environments become ‘appearance potent’ (Jankowski et al., 2014) and are saturated with normative ideas and discourse embedded in healthism that prioritise thinness, self-monitoring, and aesthetic virtue (Bartky, 1998; Araia et al., 2017; Riley et al., 2022). For young women with T1D, there is the added complexity of navigating a diabetic body that is medicalised and visible through diabetes technology (Clausi & Schneider, 2017; Araia et al., 2017).

A few participants were diagnosed within a weight-inclusive sociomaterial environment, where they rejected common weight rhetoric to focus on body neutrality and functionality. This underscores the importance of the sociomaterial environment and discursive exposure, as well as how we adapt to and internalise the appearance norms in our environment:

> “Oh I love showing it off um I’ve never been embarrassed but I think that’s cause I came from a family with a diabetic sister [...] and it’s just ah they’ve acknowledged my family they’ve acknowledged my friends they’ve acknowledged my workplace [...] then that makes me feel comfortable so it’s it’s it’s sort of nice to have that reciprocation from me that go oh I’m allowed

> to be in this world as this as this you know with the cyber parts [laughs]" – Mary, 24, Freestyle Libre and Dexcom

As Mary illustrates, her sociomaterial environment of growing up with a diabetic sister, alongside a supportive network, allowed her to feel comfortable as she showed up in all aspects, including her cyborg-diabetic self.

For many participants, diabetes management heightened a sense of bodily visibility. Moments of management required exposing parts of the body to inject insulin, reaching for an insulin pump, or adjusting clothing around a CGM, which prompted concerns about being noticed and being noticeable. While participants described these moments through a clinical framing as necessary to survival, they also became moments of embodied discomfort, where participants described being aware of how their body looked, feeling exposed and vulnerable:

> "Same with like injecting that people would think it would be gross or like you know if I lift up my like my T-shirt and show my stomach like you know like ooooo like and also just that whole body conscious like I I wasn't like the thinnest person in the world you know like I had a bit of body fat on my stomach and um didn't want to like be showing people that as such as well um and it was always like that whole conscious aware of like okay what am I showing like what am I showing too much" – Katie, 24, Freestyle Libre, Aidex and Dexcom

Katie identified the perceived increase of public attention towards her body, notably after she showed her stomach while manually injecting insulin. Participating in management shifted the private body to the public (see also, Mullan et al., 2020), where moments of exposing a stomach, leg, or upper arm, for example, shaped the body visible and a site of illness. Her narrative highlighted her self-awareness of showing "too much", particularly in a larger body. This concern highlights the intersection of concealing illness and non-ideal feminine bodies, where the diabetic body with needs, marks, and potential non-ideal stomach should be hidden, despite diabetes management requirements.

Katie's narrative highlighted a dynamic between social expectations of femininity and modesty, in tension with necessary diabetes management. This aligns with Bartky's (1998) arguments regarding disciplinary practices for women that are rooted in cultural ideas of modesty. Similar to the experience of breastfeeding in public following the sexualisation of breasts, women's bodies are expected to remain private and contained despite needing to feed a baby, or (it seems) inject life-saving medication.

The use of CGMs and their physical appearance extended this self-surveillance onto the body, one that was not restricted to just episodic moments of insulin injection. The constant presence on the skin serves as a consistent, visible reminder to oneself and others of illness and non-normativity. Participants reflected on the new form of visibility of T1D and the sense-making of their bodies:

> "Sometimes I'm like yeah I'll put it on my arm for people to see it but other times I'm like oh I think I will just like cover it up cause I don't want to deal with people like asking me questions about it particularly like if I'm out at work um and where like I don't have a particularly like close relationship with my work colleagues and so I don't care enough to explain it to them or tell them what it is" – Melinda, 30, Freestyle Libre, Aidex and Dexcom

Melinda's narrative described how she strategically managed the visibility of their CGM based on social interaction. She found it easier to hide her CGM from people she was not close with to avoid unwanted attention and comments. In sociomaterial environments in which Melinda did not feel safe, concealing her CGM provided bodily comfort and protection. For other participants, the physical viewing of a CGM was not considered:

> "CGM no I don't think that's got anything to do with my body to be honest I mean I barely notice it's even on my skin so I couldn't care less that I have got it on me" – Kasey, 23, Freestyle Libre and Dexcom

> "No cause like I mean like I usually I have on the back of my arm anyway I've never thought about it to be honest so like [laughing] I think I'm just so used to it it's just kind of there like I

> don't really forget that I have it on but it's just like I forget that it's something that someone will notice sometimes" – Claudia, 30. Freestyle Libre and Dexcom

Kasey and Claudia demonstrated a pragmatic understanding of CGMs as a medical device, describing how they did not notice or connect the physical device to their bodies. Their narratives offered a different perspective on a CGM, countering the notion of concealment and disrupting the dominant discourse of diabetes technology. For some participants, access to different discourses or choosing to reject dominant ideals allowed them to take up an alternative subject position in which the CGM became a site of pride:

> "No I don't really care if it's [CGM] seen I'm really lazy and I have two on and cause I'll take one off like two days before I need to put a new one in or like so like I'll usually have two on and it's just like I mean like there a part of me so it's like I I also like love it when people ask me oh what is that and I'm like oh I'm a type 1 diabetic like [...] like I don't know I'm kind of proud about wearing them [CGM] cause like this is me and I'm happy to just display it [CGM] now "
>
> – Amanda, 23, Freestyle Libre

Amanda positioned herself within reframing the dominant discourse around showing and felt "proud" and empowered to be a T1 diabetic with "cool" technology. She resisted the expectation to be discreet and instead wanted to bask in the social gaze and public attention. Many participants also spoke about seeing a CGM in public, and this resistance to dominant norms provided them with the confidence to show their CGMs and disrupt the isolating pressure to hide and conceal.

Participants' narratives locate CGMs within complex relationships between health, visibility, and normativity. CGMs were understood both clinically and culturally, signalling non-normativity in an ableist society (Brady, 2024; Nishida & Ostrove, 2023). Most participants described a visceral awareness in which the CGM disrupted the boundary between private and public, resulting in participants feeling exposed and judged – both by self and the public. The act of concealment of a CGM was used as a protective strategy to manage diabetes stigma and stereotyping, behaviours shaped by discourse that frames visible illness as socially disruptive (Bailey et al., 2016; Joachim & Acorn, 2000). Concealment also allowed participants to continue to position themselves as feminine and attractive according to heteronormative ideas (Chrisler & Johnston, 2018). These able-passing behaviours were often dependent on the sociomaterial environment around them, as they negotiated visibility based on bodily comfort and protection.

Participants illustrated how dominant discourses position the CGM and visible illness as something to conceal and hide. However, as seen in Kasey and Claudia's extracts, differing sets of discourses can reshape subject positions to one of empowerment, presenting agency and pride. Participants' strategies of show/hide revealed their ongoing attempts to reclaim control over how their bodies are seen, interpreted, and understood.

The next theme will discuss the implications of management practices that involve a heightened awareness of food consumption. It will extend embodied experiences into those that are impacted by eating distress, where the increased visibility of the effect of food on glucose levels through CGM data shapes the internal dialogue of 'perfect diabetic.'

5.2 Theme 2: "We always have to think about everything that goes in our mouth.": Eating under surveillance.

For people with T1D, eating is rarely a neutral experience; instead, food is entangled with calculation, potential fatality or health risks, internalised discipline, medical management, and moral judgement (Mialet, 2022; Brady, 2024). Claudia spoke to this experience:

> "I just thinking like with diabetes um it's one of those things you know like we always have to think about something like everything that goes in our mouth we have to think about oh how many carbs does that have what's that going to do to my blood sugars and then you know if our blood sugars are really high like how that makes us feel which is usually quite yucky and then if we're having a hypo how that makes us feel and having to treat that it's just like a constant thing" – Claudia, 30, Freestyle Libre and Dexcom.

As Claudia argued, the management of T1D is primarily focused on glucose numbers, food consumption, and the use of insulin or food to maintain glucose homeostasis. Her narrative captured the continuous daily focus on food associated with managing T1D. Food is rarely viewed as 'just food' but rather as a calculation, associated with risk (Falcão & Francisco, 2017). As a result, participants illustrated complex relationships with food and T1D:

> "I had like also sometimes found that I would try eat more because I didn't want to go low if I was like around or like at a birthday party or at like an event or at school or like I didn't want to go low around certain people then I would eat more but then obviously that's damaging because then my bloods are like [laughs] skyrocketing and I'm staying up in this really high level um bit of a situation so it was a real yeah I think I went down the [pause] I don't know a mixture of like trying not to eat things but also eating too much because of the fear of going low" – Sage,24, Freestyle Libre and Dexcom

Sage highlighted the tension between T1D management and food decisions, particularly in the public eye and under the social gaze. Her experience reflected the desire to eat more out of fear of hypoglycaemia events in public, only to feel guilt over her high glucose levels. Both Sage and Claudia illustrated how food decisions are shaped by many dimensions – glucose levels, social context, fear, the social gaze, and societal norms. Food becomes a tool for glucose management but also a source of protection and control in an ableist society, alongside being a source of distress.

Across narratives, participants described skipping meals and restricting food or carbohydrates to avoid unmanageable glucose fluctuations or weight gain and weight loss. These behaviours reflect eating patterns usually associated with distress, which is shown to have a high prevalence in women with T1D (Falcão & Francisco, 2017; Wallace et al., 2023). For instance, Mikayla and Jessica both spoke of food as a source of anxiety and its impact on glucose levels rather than hunger:

> "Also if my numbers sometimes when my numbers are bad or if I have you know a high or my numbers have been really good and I don't want to break a streak sometimes I'll just either skip a

> meal or I'll have a less full meal because it's just like a well my numbers have been great" – Mikayla, 30, Freestyle Libre and Dexcom.
>
> "I wasn't eating I was eating very very minimal amounts like my average glucose would've been 4.7 at the time because I was so terrified of going high again but also scared of going low [...] Because I was so strict on what I ate I very I rarely went above nine [laughs] cause I was so like so anxious about it [hyperglycaemia] I just didn't want to eat" – Jessica, 22, Aidex and Dexcom

Both participants suggested using troubling eating behaviours – such as restriction or omission – to maintain 'good' blood glucose levels. Jessica's narrative constructed decision-making around food from a place of fear, while Mikayla's narrative shaped decisions around not 'breaking a streak' and being 'perfect' – almost a gamification of her T1D. Both participants' narratives aligned with the complex dynamic between food and T1D, which Amanda also exemplified:

> "Year Ten was when I started not eating and it's like my levels were like super good and I was like yeah I am losing weight and my levels are like really good I'm on top of everything my hba1c's in range [...] yeah the CGM did really made me more aware that eating less equals good blood sugar levels [laughing] and I think that yeah that definitely made it worse but at the same time it also did help me keep on top of it when I was eating" – Amanda, 23, Freestyle Libre

Amanda framed omitting food as a tool to manage her diabetes and her body. She illustrated how omitting food became linked to the dual outcomes of 'good' glucose levels and achieving her idealised weight. During this time, Amanda used a CGM, allowing her to watch her glucose levels in real-time and the impact that food had on her glucose levels. The constant visibility provided by CGMs reinforced that eating less equated to better glucose control through the datafication of food consumption. For some participants, CGMs also enabled a sense of safety and food freedom:

> “Like happier to go out of my way to eat stuff that's definitely less healthy umm because I can you know check my blood sugars and stuff like that so much quicker and then be able to deal with what amount of insulin I need and stuff like on the spot yeah" – Cassie,
>
> "A lot of the technology was just like it didn't even exist um and like carb counting like no like carb counting wasn't even a thing back then you just guessed how much insulin to take and it was very much um like I wasn't allowed to eat sugar as a kid like I wasn't allowed to eat sugar as a kid um that was the the easiest way for my parents to kind of control it was just to stop me from eating sugar" – Melinda, 30, Freestyle Libre, Aidex and Dexcom.

Cassie and Melinda's narrative illustrated how real-time data reassured them when they consumed food, even food they previously avoided. Melinda articulated how technological advancements, such as CGM, have enabled new educational and management approaches for T1D. When initially diagnosed, Melinda's parents were educated by health professionals to omit sugar to control glucose levels. Diabetes technology has shifted management, with CGMs providing a perceived sense of freedom and support (Bennett, 2019), allowing participants to have less restriction around dietary choices.

While some participants, such as Cassie and Melinda, felt calmer with increased control over their glucose levels using a CGM, others expressed a sense that their bodies and eating habits were being 'gamified’:

> "Ah this ah I had a really weird thing with ah the Libre where I just didn't like the colours they use you know the green was you're in the good place the red is you're in the bad place the orange is you’re in the high place" – Mary, 24, Freestyle Libre and Dexcom.

Mary's narrative reflected a sense of diabetes management as a game with goals, targets, colours, and streaks. She illustrated how constant visibility from a CGM invited, in comparison, increased pressure and guilt. Real-time feedback turned T1D management into performance metrics where deviation feels like failure and being positioned as a 'bad diabetic':

> "Aside from like them in terms of like the CGM I feel like yeah big part of the whole mental thing would definitely be like the the guilt that you feel from like not being in range [...] like kind of a mind game for me just like the guilt I would just feel so guilty like oh I didn't have a good day today I didn't have a good day today like I would say that to myself [...] I'd be like I had a good day today but really like I probably didn't eat that much cause it's easier not to eat because your levels don't go up and you don't have to take insulin" – Holley, 29, Freestyle Libre and Dexcom

Holley's narrative highlighted how the shaping of her self-worth was tied to her time 'in range' – a percentage average of glucose levels between 4- 10 mmol/L. How she felt about her day, herself, and her body depended on whether she was 'in range' or not. Her glucose data became moralised: a way for her to self-monitor her behaviours and self. The moralisation of glucose numbers became a tool to adapt management to remove guilt and stay 'in range' according to clinical norms, reflecting broader neoliberal discourse (Mol, 2000; Mullan et al., 2020; Kubiak et al., 2016). In Holley's description, data available from the CGM reinforced this discourse by encouraging her to take further responsibility for her diabetes management, making 'good choices', and self-regulating with real-time data (Lupton, 2012; Moretti & Morsello, 2017).

In doing so, individual self-monitoring is situated within the construct of biopower (Foucault, 1990; Lupton, 2012). The visibility of glucose numbers transforms the data into a marker of self-worth and moralisation, producing good T1D citizenship. The CGM begins to function as a tool of control and adherence, producing docile diabetic subjects (Bordo, 1993). However, in contrast to this docility, some participants with long-term diagnoses described a sense of peace in their relationships with food:

> "So now I'm more like I'll just eat what makes me happy and if I have to inject myself then that's fine I don't care I'd rather eat and be happy and stab myself and yeah" – Amanda, 23, Freestyle Libre

> "I am primarily low carb just because it makes it easier for me [...] but I just find it easier I want the easiest way out I don't want to be like concerned about what carbs impact me more or less" – Melinda, 30, Freestyle Libre, Aidex and Dexcom.

These participants shared the changes in their relationship with food over time. Amanda and Melinda were diagnosed in their teens, and while they initially experienced eating distress, they described having a more pragmatic relationship at the time of the interviews. As Amanda specified, after struggling with the omission of food to strive for ‘good levels’, she now desires to be happy over 'perfect'. Some participants who had been diagnosed for a few years noticed a similar pattern; they hyper-fixated on glucose numbers, carb measuring, and insulin dosages while learning how to manage, before increasingly adopting a pragmatic view of T1D. As with learning any complex task, such as driving, early hyper-vigilance in the short-term shapes routine, intuition, and flexibility in the longer term.

For some participants, there was some potential of letting go of control as management becomes a regular part of their new diabetic lifestyle. However, this is not always inevitable. T1D management is shaped by personal dispositions, the sociomaterial discourse in their environment, and gamified aspects that can reinforce existing tendencies and self-monitoring.

Many participants' language choices concerning glucose numbers reflected moral and disciplined binaries; words such as "good/bad", "in/not controlled", and "lazy" appeared frequently. CGMs were positioned as offering tighter control, better numbers, and the inability to be ‘lazy’, whereas manual pricking to check levels was perceived as undisciplined and imprecise. These language choices and discourse aligned with the biomedical and dichotomous framing of the subject position of the 'perfect diabetic' and the need for discipline when glucose levels are not managed.

This discourse reflected the construction of health, value, and femininity being explicitly tied to a ‘perfect' body (Rice et al., 2021; Lupton, 2012, 2013a). As Brady (2024) described, a certain level of perfectionism is required in T1D management to maintain homeostasis. Participants spoke about the various ways this subject position impacted them:

> "I'm like no wonder I was so unmotivated like like very like early on when I started managing it myself I was like no wonder I was so unmotivated like I have to do everything manually" – Amanda, 23, Freestyle Libre.
>
> "Yup exactly like you're already beating yourself up about it [hypoglycaemia] and feeling shit about it cause you have high sugar levels" – Melinda,30, Freestyle Libre, Aidex and Dexcom
>
> "I would love to lose a bit of weight not for the fact that I think I'm fat but more the fact that I want to be more fit, you know, I wanna be as fit as I can get, you know, I wanna look after my body fuel it with the right food you know right right management plan that sort of stuff" – Kasey, 23, Freestyle Libre and Dexcom.

Whether participants could take up the subject position of the 'perfect diabetic' or not, it was clear all were answerable to it. Discipline and guilt were internalised and accepted as a part of management, a sign of not aligning with the 'perfect diabetic' ideals. For instance, Kasey described her desire to lose weight in relation to having the 'right' management. Her narrative reflected how the diabetic body and weight become entangled with moral imperatives.

The presence of constant data transforms eating into a performance of self-discipline with an unhelpful dichotomy between 'being perfect' or not. Claudia spoke of a similar experience; the visibility of insulin data on her pump reinforced feelings of shame:

> "I would look at the pump and see my daily insulin dose and it was so high and I was just like what the heck like that so much insulin [...] just like what the heck like that so much insulin I'm obviously eating so much food like no wonder I'm this size and makes me feel shit" – Claudia, 30, Freestyle Libre and Dexcom.

Claudia’s account also highlights how medical metrics can become moral judgements. Claudia blamed her body on the 'non-ideal' insulin amount that she was taking daily, comparing her insulin requirements to the idealised medical norms.

Participants' narratives reflected Bordo's (2003) concept of the docile body, highlighting that women's bodies have become sites for sociocultural norms of health, thinness, and control. Intersecting with the idea of a 'perfect diabetic', management becomes shaped by neoliberal and ableist ideals. Thus, creating a 'postfeminist diabetic' – a woman who is well-controlled, self-managed, thin with low insulin dosages, low carbohydrate, and in-range glucose numbers and does so because she *wants* to be. The key element of a postfeminist sensibility (Gill, 2007) is that practices once considered sexist and objectifying were represented as choiceful and empowered acts (Riley et al., 2017).

Some participants expressed how the desire to be a 'perfect diabetic' was not only about the numbers but also how health professionals and other diabetics perceived them. Many participants described the comparison felt in diabetic communities:

> "Like I do yeah I do think I worry that if I got more diabetic friends there would be a competitive aspect and not even intentionally but like even when you know I'm on the the juice box page for that podcast and there's a lot of people posting their Hba1c and it is just like that immediate in my head like oh that's so much better than mine or oh mine's better than yours even just in the the moment you don't even like want to compare you just can't help it" – Mikayla, 28, Freestyle Libre and Dexcom.

In this extract, Mikayla accounted for the subtle and not so subtle comparison of glucose numbers that can occur within the diabetic community. There is a sense of the need to perform health for the social gaze and acceptance within an ableist society – even for those with a chronic health condition. As Mikayla illustrates, social media and community spaces can further amplify the requirement to perform health. Participants, including myself, viewed CGM data as a mirror to their virtue – whether they were being 'good/bad' diabetics and even people. The glucose numbers a CGM provides have become a source of identity work, where they are viewed and judged.

5.3 Chapter Summary

This first analytical chapter focused on women's embodied experiences with T1D and how CGMs reshaped these experiences regarding food, body, and management. The chapter examined how CGMs enhance real-time visibility of glucose data, which supports management and also affects weight and self-perception.

Theme 1 explored how women with T1D viewed their bodies and sense of self through data provided by a CGM. Participants articulated how CGMs increased their self-surveillance and influenced their emotional and bodily experiences of management and perception of self. Many women expressed discomfort with the visible presence of the CGM on their bodies, as it increased the visibility of their illness to the public and disrupted the dominant discourse of femininity and able-bodiedness. Therefore, many participants chose to conceal their devices as a form of control, body comfort, and to maintain a sense of bodily autonomy.

Theme 2 continued to illustrate participants' embodied experiences through their relationship with food. Participants' narratives described how the consistent visibility of glucose numbers heightened an orientation to perfectionism, with many restricting or omitting food to maintain in-range glucose numbers. Food was viewed as more than nourishment; it was moralised, bringing feelings of shame and guilt. Participants' narratives constructed a powerful dynamic between the desire to be the perfect and well-controlled diabetic and the perfect postfeminist woman living in the idealised, perfect body. In doing so, this chapter contributes to my broader thesis question by illustrating how CGMs are embedded in ableist and feminine norms that shaped participants' lived experiences within T1D, body and self.

Chapter Six: Embodied Visibility

My second analytical chapter centres on how the experience of surveillance renders the body visible to many actors embedded in the social environment. For women living with T1D, daily management is not only a personal responsibility but also one that is made observable and interpretable by others, including diabetes technology, DMT, friends, family members, coworkers, and the wider public. There was a recurring narrative from participants of feeling "watched" – sometimes welcomed but often experienced as a form of exposure and judgement.

I begin by outlining the concept of surveillance, as defined by Foucault (1977), and how it is experienced within a neoliberal, ableist society (Goodley, 2014). This framing aligns with critical feminist disability studies and situates surveillance within neoliberal and ableist norms that privilege women's bodily control. I will then introduce the chapter’s overarching narrative: how surveillance and stigmatisation shape women's experiences within the diabetic body.

While surveillance is not a new concept, it has been transformed through mHealth and the focus on data-driven care, utilising diabetes technologies such as CGMs (Sanders, 2017; Reeve, 2012; Lupton, 2012). As Foucault (1977) argued, surveillance operates as a tool of disciplinary power to maintain norms, control, and adherence through a panoptic system that encourages internalisation and self-regulation (as discussed in Chapter Three) (Moretti & Moresllo, 2017). In this context, CGMs become a panoptic tool through which individuals evaluate and judge their behaviours in anticipation of, or in response to, health professional or social scrutiny (Lupton, 2012; Foucault, 1977).

Women with T1D are living with a long-term condition that requires daily self-surveillance and management (Mialet, 2022; Mol, 2000). CGMs expand this capacity to monitor by shifting from episodic finger pricking to real-time trend management. Framed in the biomedical discourse of increased balance, freedom and agency in management (Danesi et al., 2018; Moretti & Morsello, 2017), previous research has often described how individuals’ sense of agency was constrained by how closely they aligned with societal and medical expectations of good/bad diabetes management (Brady, 2024; Danesi et al., 2018; Ramanathan & Makoni, 2021).

Goodley (2014) also argues that biopower (as discussed in Chapter Three) is intensified within our neoliberal, ableist society. People with disabilities are held against societal norms of productivity and autonomy reinforced through surveillance technologies. Surveillance becomes institutional and internalised, with individuals expected to perform able-passing behaviours to become self-managed and responsible health citizens (Goodley, 2014; Lupton, 2013a). Through technological surveillance, the diabetic body becomes quantified, understood, and experienced through data (Lupton, 2013a; 2012).

In this analytical framework, I examine the various pressures that shape our sense-making of T1D as a condition that is socially constructed through both biomedical and lay discourses. CGMs not only change how women manage T1D but also shape how they experience surveillance, control, and visibility. The discursive field supporting surveillance encompasses not only being seen but also being evaluated against society's normative and ableist expectations and dominant cultural ideas of health and femininity (Riley et al., 2022; Cairns & Johnston, 2015). This chapter examines how participants made sense of fitting and misfitting within these normative expectations (Garland-Thompson, 2011; Goodley, 2014).

The third theme, "Always visible: CGM and the surveillance of the diabetic body", illustrates the use of diabetes technology to expand surveillance reach beyond a temporal clinical setting. This perspective shapes the dynamic between the multiple actors (human and non-human) that are involved in diabetes management. Central to this theme is the tension between increased surveillance providing support for an invisible and misunderstood illness, while also reinforcing disciplinary power in everyday life.

The fourth theme, "Marked Bodies: Stigma and the Diabetic Body", shifts the focus to the implications of surveillance through the social gaze. This theme explores how participants navigate the judgment and stigma associated with the social gaze, particularly in relation to the conflation of T1D and

T2D. This chapter demonstrates how CGMs have reshaped the ways the diabetic body is monitored, managed, and understood within both clinical and social environments.

6.1 Theme 3: Always visible: CGM and the surveillance of the diabetic body

The introduction of CGMs has changed the way women with T1D perceive both their bodies and the gaze of health professionals (Wiedemann, 2021; Berk, 2018). Individuals' glucose data acquired from a CGM is uploaded into brand-specific online portals, such as Dexcom Clarity, for health professionals to view. Participants noted that glucose data, which were once associated with private and intermittent interactions, have become an ongoing stream of information to attend to – not only for themselves but also for health professionals. As Cassie expressed:

> "It was it was really really good to have um because you can have your doctors and stuff hooked up to your app they were just able to look every Monday at what had happened during the week [...] so they would be looking at that chart every single week making sure that I was having enough insulin and that you know I wasn't too high all the time or too low because it's obviously dangerous for your baby um that so yeah it was really good I think I would have struggled through pregnancy if I didn't have one and have the help from the hospital being able to look at that straight away" - Cassie, 29, Freestyle Libre & Dexcom.

For some, this increased visibility for health professionals provided reassurance and support, especially when navigating unpredictable changes like illness or pregnancy, as seen with Cassie. Some participants framed the uploading of glucose data as an easy option for health professionals to review and make changes. For myself, as my endocrinologist (diabetes specialist doctor) is based in Christchurch, the ability to upload data provides increased care options, rather than being restricted to temporal and geographical locations (Dawes et al., 2024).

While there are benefits to accessing data outside of temporal and spatial restrictions, many participants discussed real-time accessibility to data as producing a sense of being monitored, judged and surveyed. Participants described the shift of visibility to having their daily habits and behaviours – eating, movement, stress, etc. - exposed to health professionals:

> "But I hate when I go to my endo that I upload my numbers and I can see all my habits and they can I think that's what I struggle with the most [...] with it it's [HbA1C] the lowest it's ever been but she still was able to say do things like oh I see you don't really have breakfast most days um or do you have breakfast that you don't need to give insulin for and I really I really dislike someone seeing my habits and maybe thinking that they're making a judgment in their head" - Mikayla, 28, Freestyle Libre, Aidex & Dexcom
>
> "Because like my nurse has been reviewing my things a lot she's been picking up on these habits whereas, like, on a six-monthly review, she's not really noticing the patterns, but she's been picking up on it a lot" – Kasey, 23, Freestyle Libre & Dexcom

Both extracts illustrate this CGM transition, framed by Mikayla and Kasey as creating an increased sense of being watched and judged. They described appointments with CGM data as moments of exposure, where health professionals interpreted individuals' daily management through a clinical gaze, removing individual context from data. Participants expressed a form of self-conscious passivity as they could no longer shape how their management was understood. While this was often positioned as helpful by some participants, for others, the emotional weight tied to visibility felt invasive.

Many participants reflected on CGM data sometimes being used as a tool for control and discipline, particularly when their glucose readings did not adhere to medical expectations. In the following extract, Amanda reflected on a disciplining experience with her GP where her body required more insulin, which she ascribed to hormonal fluctuations. However, despite a physiological reason for needing more, she was positioned as non-adherent to medical glucose targets. Amanda was met with reprimand rather than support:

> "I had a doctor’s appointment recently not with like my specialist like my GP and I got told off really bad [laughs] and I was like cause I feel like sometimes during the month I feel like my

> hormones affect how my body intakes insulin and it was that time of the month when it was really just like my insulin I was having to inject heaps and I was like he told me off and I was like yeah it's just like I'm doing my best like it's just adjusting my insulin to my body hormone levels and it's like yeah I don't like that doctor" – Amanda, 23, Freestyle Libre

Amanda positioned herself within the narrative of being "told off." This narrative and language were commonly used among participants when reflecting on their relationships and exchanges with healthcare professionals. Despite drawing on her expert knowledge of her own body, which provided reasoning for an increase in insulin needs, Amanda's deviation from glycaemic targets was interpreted through a moralising lens. She argued that her GP (general practitioner) seemed to be framing her diabetes management, and even her body, as a personal failure.

In these extracts, participants illustrate how using a CGM has contributed to increasing what Foucault (1977) described as disciplinary power. This involves the subtle governance of people's behaviour through routines of self-monitoring, correction, and internalised judgement that often arise out of initial surveillance by others. This is not only negative or punitive, but also emerges from positive reinforcement. Participants described the feeling of not only criticism but also praise from healthcare professionals. Amanda continued to describe this praise/punishment dynamic:

> "It's also cause like you know getting told off for all is like you just wanna be like yeah I'm actually like looking after myself properly even though I'm not cause there like oh your diabetes is actually looking really good and I'm like yay I'm not getting told off yeah […] yeah definitely made me want to like chase after more praise and stuff like that cause like you know it's very few and far between" – Amanda, 23, Freestyle Libre.

As Amanda explained, on rare occasions, she would be congratulated and praised for having 'good' data. She illustrated how praise became an emotional reward, which she chased through changed behaviours and based her management practices on receiving praise from health professionals. Within these narratives, participants constructed their blood glucose level management against how they would be judged. CGM data visibility introduced a new emotional cost, one where blood glucose numbers become moralised, reflecting a shift from collaborative care to what several participants described in terms strongly aligned with disciplinary surveillance.

This emotional attachment to being praised or punished reflects broader neoliberal and biomedical structures that reward self-surveillance, compliance and personal responsibility (Crawford, 2006; Joachim & Acorn, 2000). The moralization of glucose numbers, constructed through this lens of compliance (or at best, adherence), started to shape how individuals with T1D understood themselves and their management within the illness. While CGMs were designed to support people with T1D, participants' extracts have illustrated how this might be understood as a perverse outcome, in which the device reinforces both external and internal disciplinary surveillance.

The healthcare professional gaze becomes internalised, where individuals with T1D start to self-monitor against idealised diabetic behaviour. The increased visibility of glucose data offered by the CGM helped produce the subject position of the 'perfect diabetic', one whose blood glucose levels are always in range, who does not have highs or lows, and who eats the 'right kind of food' (see also, Wallace et al., 2023; Chrisler & Johnston-Robledo, 2018). Biometric data provided by a CGM becomes an indicator of T1D health and discipline, compliance, control, and personal virtue:

> "I'd set timers like I'd take insulin and I'd set a timer for like an hour cause you know how there's like after an hour it starts working after 30 minutes to an hour it starts working and then three hours that's when the insulin finishes like I would set timers to like see if insulin started working and then I'd sit there and I'd hadn't come down or I hadn't I hadn't gone up after a juice box and it was looking at them and going why haven't I come down why haven't I gone up why am I not perfect why have I woken up and immediately gone high things like that and it was it was continuously checking my blood sugars" – Mary, 24, Freestyle Libre and Dexcom.

Mary described how the increased visibility of glucose data enabled her to consistently monitor her glucose levels within biomedical binaries of in range/out of range. The increased visibility of glucose data from a CGM has altered the temporality of glucose management (Wiedemann, 2021) from episodic on a glucometer to now continuously accessible on phones, home screens, lock screens, and smartwatches. Mary illustrates how monitoring of glucose numbers has become embedded into daily life, potentially fostering a state of hyper-fixation, where individuals can often become obsessed with monitoring and interpreting glucose numbers.

Mary's extract illustrated the emotional burden of self-monitoring and comparing her glucose numbers and trends to the image and understanding of a 'perfect diabetic'. The consistent viewing of glucose data impacted many participants' constructions of their management and self. Participants described two possible framings of their CGM output: 1) viewing 'good' numbers, trends, and arrows with personal virtue, and 2) viewing 'bad' data with failure, irresponsibility, guilt, and negativity.

Participants' experiences align with Foucault's theory of biopower (Foucault, 1990), which describes how power operates through the internalisation of norms and self-regulation, with the gaze of technology used in the medical system (Bennett, 2019; Sanders, 2017; Lupton, 2012). Medical professionals' moralisation of glucose numbers and reliance on the construction of the 'perfect diabetic' in their interactions with patients seemed to become internalised easily. As most participants indicated, they were expected to uphold this norm and the emotional weight it carried in their practices and relationships to their bodies.

In the following extract, Katie described feelings of shame and a sense that she had 'failed' to adhere to T1D expectations. She argued her doctor was personally blaming her for 'unmanaged glucose levels' and ending up in the hospital. Her account illustrates how interactions in clinical settings between patients and health professionals can be experienced as disciplinary:

> "He basically told me I was shit at doing my diabetes shit at managing it um my level my control was terrible my hba1c was terrible and I need to pull my head in and fix it um and to be told that when you're already like at that point honestly I was actually suffering a mental health crisis which no one knew about because I didn't realise what it was I didn't understand it no one

> could see it and so I just was hiding under the cloud of diabetes that was a brute cause um and so to be told that when you're already suffering that was pretty horrific" – Katie, 24, Freestyle Libre, Aidex and Dexcom.

Katie positioned her doctor's engagement with Katie's CGM data as punitive, using strongly affective language to emphasise the loss of control over her health narrative. Katie's account framed her doctor as berating her for not managing her diabetes 'correctly', while the influence of her mental health on her glucose levels was overlooked. These kinds of adversarial accounts were common in the data, with the CGM data often being deployed as a weapon in the 'adherence arsenal' of medical professionals. Amanda's account was similarly shaped (see earlier extracts), where she reported that the anxiety about being "told off" resulted in eating behaviour challenges.

Both of these narratives demonstrate how the increased visibility of data from a CGM reduced participants to a numerical output, limiting the subject positions available to patients. Participants' stories have shown how orienting to newly available biometrics provided by CGMs risks limiting their experiences to 'objective' data rather than listening to patients' subjective reports. Participants argued they have become limited to the subject position of 'T1Diabetic', rather than being viewed as a whole person. Jessica articulated this:

> "I didn't see anyone frequently enough cause my HbA1c was in the 30s like 37 38 for the longest time so there [diabetes team] like oh yeah she's fine like she's not even in a prediabetic range so they kind of just left me and then when it was getting bad I had no one and I just had to deal with it cause what else are you supposed to do like I just I would go hours on end with high blood sugars I would wake up in the morning and not want to go to work cause I've been high all night and I'm exhausted and I feel like crap but I didn't have any sick leave so I had to go to work and then when they finally put me on it [long-lasting insulin, Lantus] because I had a CGM we were able to see that for the last week before starting it [Lantus] I was in range 50% of

> the time the other 50 I was high no one really helped me until we had the data to show that I wasn't okay" – Jessica, 22, Dexcom and Aidex

Jessica's narrative was strongly evocative of frustration and disillusionment as she shared the lack of support she received when objective data did not 'match' her subjective experience. Her narrative described a honeymoon period, a brief phase after diagnosis when her body still produced insulin and she needed less synthetic insulin. However, as her insulin reserves declined and she started to rely on synthetic insulin injections, she described not receiving the levels of treatment she needed. Her account located this with her irregular HbA1c data being in 'good' range and therefore not 'needing' long-lasting insulin. It was not until Jessica started wearing a CGM and providing real-time data on her blood glucose fluctuations that her needs were fully acknowledged. Until then, she argued her hepatic sensations were ignored.

CGM data can enable appropriate and tailored care for individuals, providing quantifiable data for health professionals to rely on. However, it can also silence hepatic sensations and lived experiences. As discussed in Jessca's story, she felt erased as a person outside of glucose data, reinforcing her subject position as a diabetic first and human second. These sorts of stories were common across the interviews, where the body and self become heard and seen only through data.

This experience of feeling reduced to biometric data, compounding the existing disciplinary surveillance of biomedicine, has tangible impacts. It was framed as one of the primary reasons that participants did not attend medical appointments or seek further support from health professionals:

> "Because of the way some of the experiences in the hospital had been and I was just like so out of it you know from a young age that I was just like nah I don't want anything to do with anyone [laughing] um used to give myself anxiety attacks when I would go for my three month appointment like because I'd always like it was going in to be told off like you know oh why is your hba1c so high or da da da da da rather than like what can we do and how can we help you" - Sage, 24, Freestyle Libre and Dexcom

> "I don't love how I feel after I go to those appointments even if it's a positive outcome even if they say oh this is really good" – Mikayla, 28, Freestyle Libre and Dexcom.

Sage and Mikayla's extracts illustrate how the use of newly available biometric data from CGMs has implications for patient-centred care. Both participants articulated how anxiety and apprehension towards health professionals not only stemmed from poor outcomes but also from the anticipation and experience of being judged. Claudia described another facet of these experiences:

> "I didn't hear from her [diabetes nurse] for anything else like she would never contact me for blood tests she would never contact me for like the eye test that we have to have just nothing um she would never be you know like wanting to review my levels or anything there was just absolutely nothing [...] but it made me realise I was just like what I am getting from [diabetes nurse] is so crap I'm actually getting nothing from her" – Claudia, 30, Freestyle Libre and Dexcom

Claudia expressed frustration and disappointment about her DMT's general lack of support. Like many other participants, her narrative constructed a broader absence of care and education within the Aotearoa New Zealand healthcare system, specifically concerning T1D. Many participants described their decision not to interact with the healthcare system as a natural consequence of being fed up with being compared to the 'perfect diabetic' and quantifiable data.

Others, like Claudia, described the absence of proactive care, such as regular check-ins and health reviews, with a sense of being left alone to manage a complex illness. This rejection of support from DMT further emphasises the self-responsibility aspect of managing a complex chronic health condition and the outcomes. With the absence of support, participants felt fully responsible for their health, assuming roles typically reserved for health professionals:

> "This is one of the only ones where you have to become your own doctor like 24/7 you can't just pop a pill like a doctor can't just like tell you how much to take you literally are your own doctor" – Melinda, 30, Freestyle Libre, Aidex and Dexcom

Melinda positioned T1D as one of the few chronic illnesses in which individuals take on the tasks of treatment and even diagnosis, normally associated with doctors. Participants described using their CGMs to navigate the daily decisions required for T1D management, showcasing how CGM data has enabled greater autonomy. In this regard, the CGM becomes part of a new cyborg-hybrid assemblage – one where body and CGM work together to monitor and regulate life with T1D (Lupton, 2012; Haraway, 1991)—enhancing participants' ability to become their "own doctor" with real-time surveillance, offering a means to assess and react actively.

However, it has further positioned women with T1D as self-responsible, creating a dependency on quantifiable data (Lupton, 2012; Goodley, 2014). In this way, another subject position is made available for participants – responsible self-managers. Within this position, CGMs grant a sense of autonomy but also intensify the burden of responsibility and self-reliance on participants:

> "I've had to adjust it myself and I have no idea what I'm doing I just look and I go yup eight units seem enough and just hope for the best [laughs] I have no idea what I am doing I'm just winging it and hope it's going to work" – Jessica, 22, Dexcom and Aidex
>
> "I just do it myself you know I just I work at myself I find what's gonna work I do my own adjustments I you know um because at the end of the day I I don't get help" – Katie, 24, Freestyle Libre, Aidex and Dexcom

Across the dataset, participants discussed a different dynamic of self-management with a CGM that took them away from the medical gaze. These approximations of medical practice ranged from 'winging it with guesswork' to taking full ownership through experimentation and pattern recognition. Their accounts reflect the pragmatic thinking required for T1D management that demands constant decision-making. Many participants spoke of 'just getting on with it', normalising self-experimentation as a response to T1D, which requires self-responsibility and individualised care.

Participant accounts described a contradiction in diabetes care, where individuals are expected to self-manage with personal authority, yet are also judged against medical norms. CGM use provides autonomy by offering real-time data and greater insight into glucose levels for women with T1D to be able to act accordingly. However, as many participants have illustrated, CGMs can also become a site where there may be increased risk of health professionals moralising glucose numbers and management decisions, creating a tension between self-management and the disciplinary gaze of the medical system.

The next theme will discuss the implications of surveillance on the diabetic body. It will extend surveillance from health professionals and into the social gaze, where the diabetic body becomes shaped by stigma, body politics and social norms.

6.2 Theme 4: Marked Bodies: Stigma and the Diabetic Body

Diabetes is an umbrella term encompassing several types of diabetes, including the most recognised T2D, as well as T1D, gestational diabetes and other rarer forms. T2D is the most prevalent type of diabetes, with an estimated 228,000 individuals in Aotearoa, New Zealand (Holder-Pearson & Chase, 2022). Given its predominance in our community, T2D has become the primary focus of medical discourse, policy initiatives, public health campaigns and the media. These discussions are focused on the lifestyle and medical interventions to delay, manage progression or potentially reverse the condition (Browne et al., 2014).

Health professionals, public health campaigns and the media will typically use the universal term 'diabetes' when referring specifically to T2D. This linguistic choice has led to a broad social assumption that all diabetes is T2D. All participants in their interviews identified this conflation of T1D with T2D:

> "Now to be clear I'm also not one of those people who think type two is completely self-inflicted because I really hate that discourse because actually type two is very complicated I think they're very different diseases I think perhaps they shouldn't have been named type one and type two" – Mikayla, 28, Freestyle Libre and Dexcom.
>
> "Obviously there's more people that understand type two to type one and to me personally like of course I can see the similarities between the two but nobody everyone else thinks that type

> one's the exact same so [laughs] that's what's very hard" – Kasey, 23, Freestyle Libre and Dexcom

Mikayla and Amanda's accounts highlight the dominance of T2D discussion in public discourse. Most participants spoke of this misunderstanding with a frustrated tone, not just with the public but also to the media and health professionals, universalising the term 'diabetes' across all types. This conflation contributes to the lack of recognition and understanding of the unique experiences of T1D, as well as the widespread misunderstandings associated with diabetes (Browne et al., 2014; Gounder & Ameer, 2018).

These assumptions, shaped by misunderstanding, manifest in participants' everyday experiences through unsolicited commentary, judgment, and nonverbal cues. Participants indicated how these assumptions shaped interaction with the public, often linking their diabetes and management to lifestyle choices or personal failure:

> "They see it is the same as type two um and you know they sort of talk about what's worked for their they talk about you know their auntie had died and said what worked for her or their grandpa […] Then also oh should you have that you're diabetic too oh this is what's working for me I find really frustrating" – Mikayla, 28, Freestyle Libra and Dexcom

In this extract, Mikayla expressed her frustration towards the commentary she received from friends, family members, peers, and colleagues, which was based on a misunderstanding of diabetes types. She described how individuals would offer her advice on managing her glucose levels, particularly around diet. These tips and commentary from the public were grounded in assumptions, relying on conflation, that diabetes is a result of personal failure and can be corrected through discipline, weight loss, and self-control (see also, Broom & Whittaker, 2004; Hunt et al., 2022).

Mikayla's extract identified how social situations were shaped by the social gaze, in the sense that her body and behaviours were being monitored and morally evaluated against diabetes assumptions and societal norms. Other participants also spoke about this insight:

> "The little little comments that would always get me like are you allowed to eat that oh you shouldn't do that oh you shouldn't do this or like you're not fat or you're fat dah dah dah [...] like I hated being questioned are you allowed to eat that like im like that's actually the worse thing that you wanna hear" – Sage, 24, Freestyle Libre and Dexcom
>
> "I know I have had like people say the classic you know like oh you shouldn't be eating that if it's something sweet or yeah like oh can you eat that and I'm like yes I'm type one not type two but people don't get it they don't know the difference" – Claudia, 30, Freestyle Libre and Dexcom

Sage and Claudia reflected further on a sense of judgement experienced through unsolicited comments made by the public about their food consumption. Participants' narratives conveyed this as being treated like public property – bodies open to commentary, judgement and control. Their extracts described how the everyday act of making food choices shifted to moments of visibility, portraying the perception of being watched and judged against a socially constructed understanding of diabetes and dietary discipline (Broom & Whittaker, 2004). Claudia specifically noted how these comments were based on stigmatising assumptions, which may not have occurred if the public had more information (or cared) about different types of diabetes. I have experienced similar frustrations and judgements when my regular, local barista asked if I was 'allowed' to have a pastry with my coffee.

This constant feeling of being monitored by the public was evident in various environments of daily life. Halle recounted a story where a stranger made decisions for her based on conflation and preconceived assumptions about T1D:

> "She was going around and she was passing out cake and she just went straight past me and she's like oh I know that you won't want this I know that you won't need it thankfully I was full and didn't want it but like you know what if I had actually pre bolused [administered insulin] for it like what if I had already had the intention of having the cake and she just straight past me and

> I was like you know I don't have the energy to argue with it" – Halle, 23, Freestyle Libre and Dexcom

While grounded in misunderstanding, the sense of surveillance experienced by Halle was framed as primarily enacted paternalistically, making decisions for others based on what the person perceived was in the best interest of the person with T1D. Most participants described similar paternalistic experiences from family, friends, colleagues, and strangers in public settings, where these other people dismissed their subjective, expert knowledge of their own body. Acknowledging that most of the public are well-meaning, participants' extracts evidenced the frustration of being told what is 'right' for the diabetic body through reference to affect:

> "I mean I do feel ashamed occasionally in public because again I am bigger and I do have people immediately think that this is type two which you know that also isn't a problem but it is hard when people like you shouldn't be doing that you shouldn't be eating that I'm just going it's it's my body my health I think I know what to do [laughs] " – Claudia, 30, Freestyle Libre and Dexcom

Claudia positioned this surveillance as paternalistic, but does so by being self-depreciative ("I am bigger"). However, when stating 'it's my body', she did so with emphasis and a sternness towards public questioning of her body and behaviours. While these comments from others can often be framed as people trying to be helpful, they also serve as a form of disciplinary power over the diabetic body, encouraging adherence to societal and clinical norms.

This experience of the paternalistic social gaze aligns with Foucault's panopticon theory, where individuals internalise surveillance and self-regulate under the assumption that they are constantly being observed (Foucault, 1977). These dynamics have moved with contemporary society, where surveillance has become normalised and is constructed through public perception, narrowing the availability of alternative expressions of embodiment (Malson et al., 2023). Mirroring this theory, many participants described their food choices, use of diabetes technology, and management as entangled, almost inseparably from the social gaze.

What has taken shape is a form of internalised diabetes stigma where prevailing attitudes about diabetes have become integrated into their inner thoughts and self-monitoring. This reinforces the disciplinary actions of the social gaze and societal norms through their own internalised subjectivity. This is prominent through participants' use of specific language to describe themselves, drawing on common sociocultural tropes that reflect social and clinical assumptions about the diabetic body. One of these central assumptions is the association between fatness and any form of diabetes:

> "Even just the whole I guess the concept of of diabetes and that you having to be fat playing a part in that and like when I look at myself I was always a bigger kid then my friends anyway and like my I mean my dad is like a typical Māori male like huge broad shoulders and all that so I was always knew that I had that in me anyway so I had the fear not that fear but I had that sort of like okay I don't wanna I don't wanna be fat growing up as a kid anyway but then also the diabetes side of things being like if I'm fat then that's why they think diabetes is [...] I guess the back of my mind there's always going to be something like all of those one-liners things like oh you've got diabetes oh you're fat dah dah dah" – Sage, 24, Freestyle Libre and Dexcom

Sage's narrative illustrated the complicated dynamic of existing in a society that disapproves of being fat, alongside the stereotypes associated with weight and diabetes (Gailey, 2022; Riley et al., 2022). She described her early thoughts and internalisation of fatphobia alongside the stigma that being 'fat' is associated with causing diabetes. This internalisation of the social gaze shaped how she navigated not only identity and self in adulthood with T1D but also as a woman in a body that deviated from the feminine ideal. Melinda similarly constructed the experience of being in a bigger body and the relationship between women's body expectations and diabetes stigma:

> "I did hate through high school was people asking me what I was doing cause I didn't want to have to go through the whole like explaining to them what it was and then like explaining the

> difference between type one and type two um particularly because I was I've always been like bigger bodied so they like the automatic thought is because your fat or because your large" – Melinda, 30, Freestyle Libre, Aidex and Dexcom.

Melinda argued that the public viewing her body would associate her larger body and diabetes with stereotypes and a misunderstanding of diabetes. This represents a wider participant concern about their social positioning being shaped by the intersection and internalisation of fatphobia, diabetes stigma and idealised femininity.

Consequently, participants' internalisation of diabetes stigma seemed to position many of them in a continual state of explanation and pre-empting judgment (Broom & Whittaker, 2004; Browne et al., 2014). It was common to hear accounts of participants becoming embarrassed due to having diabetes and fearful of being noticed in public (see also, Søgård et al., 2017). This embarrassment surfaced with T1D practices and signifiers, such as noticeable CGM, finger pricking, or participation in diabetes management in public, which may be perceived as exposing and subject to judgement:

> "Um (pause) in cafes and stuff like that if we'd go out and I'd be like shit like I'm actually going to try and look after myself this week so you'd like go out for lunch or whatever as like a treat and then you'd like prick your finger under the table and everyone's like eyeballing ya like what's this person doing (pause) yeah make everyone uncomfortable and then your brain goes back to the oh fuck I won't even bother doing it like it's so embarrassing (laughing)" – Cassie, 29, Freestyle Libre and Dexcom

> "Um like you sort of you touched on it earlier the eating it becomes like well if I eat that then my bloods are going to go high if I do this then I'll go low and like I don't want anyone around me to sort of know what's happening and you start becoming like ashamed of it almost" – Sage, 24, Freestyle Libre and Dexcom.

Cassie and Sage's affectively laden comments described their sense of shame about T1D. Both participants spoke to the management of diabetes through the internalisation of stigma and the social gaze that seemed related simply to the idea of being seen. The social gaze was often anticipated, rather than consistently experienced, showing how the disciplinary constructs of the social gaze are internalised and influence how people position themselves in different public settings (Ahtoy, 2024; Malson et al., 2023; Masana, 2011). Many participants described the fear of being judged and mispositioned with T2D – emphasising the impact that stigma can have on individuals:

> "There is just just the stigma of it it's just so much that I'm just like I kind of can't be bothered like I probably feel like the first two years of dia having diabetes I didn't even say the word I was just I just like actually couldn't say diabetes I was just embarrassed of it or it's just like I would rather just oh yeah I've got an autoimmune disorder I'd just rather say that or something that like I feel like the stigma of it it just so strong all this time later it's still so strong" – Halle, 23, Freestyle Libre and Dexcom

Halle further emphasised the powerful affective charge that stigma can have on individuals. She articulated her previous inability even to say the word 'diabetes' out loud, illustrating the moral failure associated with the word. Halle chose to mitigate the stereotyping and moral judgement by using a more morally neutral and generic word – autoimmune disorder.

Participants discussed how the surveillance of diabetic bodies does not stop with the public; it becomes internalised and a part of the daily management of their bodies and illness within their socio-material environment (Brady, 2024; Broom & Whittaker, 2005; Mol, 2000). Many participants described feeling morally and socially accountable for the visibility of diabetes, resulting in concealment, adjustment of management or inability to use diabetes language. This accountability was heightened further with the intersection of body size, gender and chronic illness, even impacting decisions around social support:

> "I thought about it a few times but I have such severe anxiety that I never been able to actually do it like I've never been able to reach out people cause I'm so scared that everyone's just going to judge me I mean like we are all literally in the same boat but being bigger it's always been a

> biggest fear that's everyone's going to go oh you can't be and stuff like it's just been yup I want to but I can't [laughs]" – Claudia, 30, Freestyle Libre and Dexcom

Claudia's narrative illustrated how she viewed her body in public, which was determined by societal assumptions of diabetes, bringing surveillance to her body through the social gaze. She described being hyper-aware of her body size and how this might confirm the narrative that diabetes (of all kinds) is reduced to fatness. The impact of this internalisation created a fear of judgement from others and a sense of not fitting in due to her body size. This even inhibited her from reaching out to other diabetics and support groups. These descriptions of isolation and concealment were shared among participants, with the majority using non-disclosure of their condition (and its management) as a preventative measure. When discussing CGMs, participants spoke of the devices as adding complexity to the concealment of their condition:

> "Yeah I'm definitely a hider [laughs] still um like thankfully as the years have gone by they've shrunk in size which is nice um but yeah for the most part I pretty much and I I like your Libre's were only approved to be worn on the back of your arms so I was always bit of a strict with the rules so I always wore on the back of my arm so It's pretty much T-shirts all year round or long sleeves in the winter obviously but yeah generally keep it covered even still it's just easier that way just like no questions or no not even not even that I'm worried people ask questions people knowing or people not knowing or people looking or just just anything so yeah my my CGM will see daylight at home [laughs]" – Halle, 23, Freestyle Libre and Dexcom

Halle positioned herself as a "hider", consciously avoiding public visibility of her diabetes by concealing her devices and management. She indicated that she chose to hide her CGM with clothing to ensure the new physical visibility would not expose her to moralised, unsolicited comments from the public. Halle chose concealment to avoid discomfort and protect herself, and expressed excitement that CGM devices have become smaller and easier to hide. Halle was not alone in concealing with clothing:

> “So it’s definitely changed the clothes that I wear um I think in like there’s with having it like visible to people cause like the insulin pump is generally on my stomach so you can’t normally see it where the CGM might be like visible depending on where I have it” – Jessica, 22, Dexcom and Aidex

Jessica indicated the extra visibility that the CGM brings to the diabetic body. Unlike an insulin pump, the CGM brought a new spatial dynamic, reshaping how participants behaved, what they wore, and how they perceived being seen. The CGM was viewed not just as a medical device but also as a physical object that draws the social gaze.

Participant accounts framed this heightened visibility as bringing an increased sense of being watched, judged, and commented on by the public. Cassie illustrated:

> “About two years ago went to [rural city in New Zealand] for some um Speedway racing with my partner and we were sitting in the stands um watching and I was wearing a t shirt because it was so bloody hot but it was quite short so it was sort of like (showing length) just below the shoulder so you can see half of the CGM sticking out down the bottom and <u>the person behind me just started poking it</u> (laughing) like what the hell turned around he's like what's that thing and I was like oh that's for my diabetes management he's like oh does it like stay there all the time I'm like no it comes off you just peel them off after like two weeks he's like oh I thought it was like an implant in your arm (laughs) [...] I always try to wear longer T-shirts to sort of like cover it if I'm going out to like a place where there's a lot of people that would be sort of looking at it for (pause) yeah weird” – Cassie, 29, Freestyle Libre and Dexcom

Cassie’s narrative about a complete stranger’s physical interaction with her CGM illustrated that her body was available for public view, commentary and even unwanted touch. Garland-Thomson (2009) argues that the ‘marked body’ becomes a site of cultural meaning and social regulation. As in Cassie’s narrative, the CGM becomes a visible ‘marked’ site on the diabetic body and of her illness, and potentially amplifies some of the existing ways women's bodies continue to be subject to unwanted touch (Gavey, 2018).

Cassie and other participants discussed the dependency on their sociomaterial environment when choosing whether or not to show their CGM - disclosing chronic illness and inviting in public surveillance. Disclosure became a strategy choice to avoid unsolicited surveillance. For instance, Cassie's decision to wear longer T-shirts when around large groups of people was to avoid the potential of another unwanted interaction with the public, thus managing the visibility of her 'marked body' (Garland-Thompson, 2009). Other participants commented similarly:

> "Cause I don't want to deal with people like asking me questions about it particularly like if I'm out at work um and where like I don't have a particularly like close relationship with my work colleagues and so I don't care enough to explain it to them or tell them what it is" – Melinda, 30, Freestyle Libre, Aidex and Dexcom
>
> "If it's definitely is it's that whole just being like okay my diabetes is there today it is what it is or the actual like yeah come on hit me with what you've got and I wanna educate you [laughing] um type of thing but it definitely does yeah I think more that mood" – Halle, 23, Freestyle Libre and Aidex

Melinda and Halle both illustrate different situations in which additional decisions regarding disclosure would arise. For Melinda, her disclosure and showing of the CGM depend on the people around her and the type of relationship they have. Halle suggested that her viewing of the CGM becomes dependent on her mental and emotional self – whether she has the energy to deal with the unsolicited commentary, touch, and judgement or not. Participants emphasised how they navigated the risks of being 'marked' in public; the risk of misunderstanding and judgement that comes with visibility.

As participants have indicated, the conflation of T1D with T2D in society alongside paternalism has become internalised and always 'on the back of my mind' as Sage stated (see earlier extract). Through the social gaze, the diabetic 'marked' body becomes open to the public for surveillance, policing, stigma, and even unwanted touch. Social situations become shaped by the diabetic body through the anticipation and fear of what could happen. Evident in these narratives was the sense of shame and embarrassment of identifying with diabetes and the associated social positioning.

The increased visibility associated with an exposed CGM moves the previously private illness into one that is framed by social interactions and a disciplinary social gaze. In response, participants choose to engage in ableist-passing behaviours to conceal medical devices and management, thereby protecting and removing themselves from the potential harm of stigma and discrimination.

6.3 Chapter Summary

This analytical chapter focused on how surveillance and stigma shaped women's embodied experiences with T1D in the context of using a CGM. The chapter drew from participants' narratives of the increased visibility that a CGM brought to the diabetic body – not only to health professionals but also to the public, friends, family, and self. Theme 3 explored how a CGM extended visibility beyond the boundaries of medical appointments. While for some, this brought a sense of safety when managing the disease, for others, it led to self-monitoring and performance of the 'perfect diabetic'.

Theme 4 continued to explore surveillance through the social gaze, which was underpinned by the confusion between T2D and T1D. Participants discussed their experiences with encountering unsolicited comments, touch, judgments, and paternalism. The diabetic body was framed as open to the public, especially regarding food and diet, which was emphasised with a visible CGM.

These themes illustrated a core contradiction in diabetes management where individuals are expected to self-manage while also being held to clinical and sociocultural norms and ideals. Participants' narratives demonstrated how CGM is embedded in wider systems of power that reinforce self-regulation and discipline in ableist, fatphobic and gendered norms.

This chapter constructs the idea that surveillance operates within clinical, social, material, and digital environments, extending beyond spatial and temporal boundaries more than ever before. Assemblages that include surveillance (external and internalised), paternalism and the social gaze work to shape how women with T1D understand and inhabit their bodies. Consequently, CGMs are not only a tool for glucose monitoring but also devices that significantly influence lived experience, self-regulation, and moralisation associated with living with a chronic illness.

Chapter 7: Beyond the Gaze: Discussion and Conclusion

With the introduction of diabetes technology, boundaries between human and machine have begun to blur, creating a cyborg hybrid – one where women's embodied experiences are shaped alongside their diabetes devices (Haraway, 1991; Bennett, 2019; Lupton, 2012). Diabetes technology creates an ongoing flow of affecting and being affected, each glucose number representing a decision, a task to be done or an emotional response (Danesi et al., 2018; Mol & Law, 2004). The possibilities for agency this produces are defined by a range of subject positions available for women with T1D. These are shaped by discourses that inform and are informed by normative femininities, biomedical discourse, and lay discourses, which collectively shape the experience of health and wellbeing for people in contemporary society.

A CGM has become central to enhancing the checking and management of glucose levels. The device has shaped glucose monitoring to expand to real-time visibility, trend management, and closed-loop systems with insulin pumps (Beck et al., 2019; Friedman et al., 2023). These technological advancements have supported the decrease of health complications of T1D (Messer et al., 2018), the ability to individualise treatment for different requirements (Tanenbaum & Commissariat, 2023), supporting self-management demands (Søgård et al., 2019), and enhancing overall quality of life for women with T1D (Burnside et al., 2023a).

As participants' narratives illustrated, CGM is also entangled with broader sociocultural norms within the dominant discourse of health and moral judgement. Situating CGMs within and contributing to the Westernised, neoliberal, and ableist systems in contemporary society (Bennett, 2019; Foucault, 1990; Sanders, 2017). This chapter explores the positionality of the CGM beyond its contemporary clinical framing. Drawing on participant narratives, and critical disability and feminist theory, I will explore how the CGM shapes and is shaped by sociocultural and material environments, and broader normative discursive fabric. Within this framing, a CGM not only operates as a tool of care and management for women with T1D but also as a disciplinary, moralising and shaping force, impacting the everyday embodied experiences of their daily lives.

7.1 Surveillance

Diabetes management operates within a surveillance and monitoring culture, where women continually track their glucose levels, diet, exercise, stress, hormones, and more, every minute of every day, in the name of health (Broom & Whittaker, 2004; Søgård et al., 2017). CGMs have expanded the temporal and spatial monitoring of glucose levels beyond private and intermittent to an ongoing, real-time stream of data for themselves and the multiple actors involved in diabetes management. This expansion altered the experience of surveillance among participants, shifting it from the clinical space to daily and internalised monitoring, as well as the social gaze. For participants, this increased surveillance shifted the previously often invisible diabetic self into a body that was visible and open for judgment and commentary.

Throughout the participants' narratives, a duality emerged in how CGMs were experienced. On the one hand, CGMs were described as "really good" (Chapter 4, Theme 1) and life-saving technology that provided critical support for participants when diabetes management became difficult or deviated from their daily glucose routines, such as during pregnancy, additional university stress, hormonal changes, or sickness. These framings positioned the CGM as a source of increased autonomy and self-management, allowing individuals, with or without the assistance of healthcare professionals, to observe, interpret, and act on glucose levels in real-time.

The CGM is also positioned as a tool of disciplinary power: a constant, internalised gaze that subjects women with T1D to being both the observer and the observed (Foucault, 1977). In panopticon theory (see Chapter Three), the CGM becomes a part of the mechanism in which the 'gaze' operates (Foucault, 1977; Lupton, 2012). Participants felt monitored and watched by various 'gazes', including biomedical surveillance and the social gaze. Attached to and embedded within the diabetic body, the CGM forms part of a cyborg assemblage that constantly collects data regarding glucose levels and management behaviours for monitoring, review and regulation (Bennett, 2019; Lupton, 2012; Berk, 2018).

Within a biomedical environment, the CGM provides data that the clinical gaze can monitor women with T1D against biomedical norms. Glucose numbers were discussed and experienced through discourses supporting praise and punishment, which women perceived and internalised through the moralised binaries of 'good/bad' management. These moral binaries and clinical norms became internalised, as individuals engaged in self-surveillance and regulation, disciplining the self with similar negative and positive reinforcement, shifting the gaze from beyond the clinical space into daily routine.

Women with T1D experience chronic illness within a patriarchal sociomaterial environment, where health is made sense of not only through clinical norms but also through sociocultural expectations of femininity (Cairns & Johnston, 2015; Gill, 2007; Riley et al., 2022). Thus, self-surveillance and regulation extend beyond glucose control, encompassing the regulation of their diabetic and 'unwell' bodies in accordance with these dominant ideals of health, beauty, and femininity.

With the increased visibility of data from the CGM, participants described participating more frequently in self-surveillance. This assemblage of discourses entangles surveillance with gendered and broader social norms. Participants became not only concerned with regulating their glucose levels but also with their appearance and size, navigating the expectations of being a 'good diabetic'. Evident here is the emotional and moral weight glucose numbers can carry, shaping how women see themselves as diabetic subjects. As evidenced in the data, these expectations can take a toll, impacting mental and even physical health outcomes.

7.2 Misfitting

Participants illustrated an embodied tension, not with the device itself but with what it signifies in public and their sociomaterial environment. Narratives from participants align with Lupton's (2012) conceptualisation of mHealth technologies, inclusive of CGMs, which extend contemporary surveillance beyond the clinical and into everyday life. Within this understanding, the public has become a disciplinary force in which the CGM becomes a visible tool used to categorise individuals into the binary norms of ‘fit’ versus ‘misfit’ (Garland-Thompson, 2011; Lupton, 2012).

With modern technology comes passive surveillance and monitoring of these norms. In the social gaze, this surveillance can be viewed through a paternalistic lens. Many participants described friends, family, coworkers, and strangers in public acting, asking, and providing commentary based on their internal understanding of diabetes, which was often influenced by the conflation of T1D and T2D. Conflation subjects individuals to cultural tropes that frame diabetes as 'self-inflicted,’ a moral failure attributed to one's lifestyle (Browne et al., 2014; Hunt et al., 2022). While curious or feeling as though they are helping, the public unknowingly emphasises feelings of ‘otherness’ and difference for women with T1D. CGMs reflect Goodley’s (2014) argument that ableist sociomaterial environments produce conditions in which individuals with a chronic illness must manage their visibility to minimise marginalisation.

As a visible signifier, the CGM exposes the diabetic body to social surveillance, ableist judgment, and magnifies misfitting, bringing what was once private, public. Participants’ narratives illustrated participating in able-passing behaviours, in which they were able to conceal the CGM to pass as able-bodied – the most common behaviour being to hide the CGM with clothing. The desire to conceal became a protective strategy, particularly from strangers’ unsolicited comments, touch, and judgment.

As with panopticon theory, the dynamic of misfitting can also be internalised and used to monitor and discipline both themselves and others. There is a sense of ‘misfitting’ within the diabetic community, where there is an idea of ‘fit/do not fit’. Internalised surveillance and external discourse have constructed a normative diabetes pedagogy for women with T1D, resulting in peer comparison amongst themselves, further amplifying the pressure to perform health even amongst others within the same community.

However, the CGM also becomes a subject of recognition, advocacy, and resistance —a rejection of ableist ideas. Several participants reflected on a shift that has occurred since the introduction of CGMS in Aotearoa New Zealand. Advocacy and the discussion of T1D within the media have increased visibility of T1D and seem to have reduced the experiences of unsolicited comments directed at participants, acknowledging the public's curiosity about a novel technology rather than judgment, which potentially indicates a destigmatising set of possibilities.

7.3 Becoming a Cyborg Assemblage

The CGM enabled a new way of becoming within the experience of T1D, where the body enters a relationship with self and medical devices – a diabetic cyborg (Haraway, 1991). The diabetic cyborg is not a fixed identity, but rather a constant interaction between body, machine, and self, shaping how women with T1D perceive, experience, and perform in their bodies (Bennett, 2019).

This assemblage can foster a form of assisted self-care that would otherwise be unattainable without a CGM, potentially allowing women to develop greater body awareness and hepatic trust. This is particularly important in the self-management of T1D, as some people can lose hepatic sensations and turn to CGMs for glucose numbers, relating these to hepatic body sensations. Here, the CGM is positioned as a technological extension of the physical body and its hepatic sensations. This offers potential for a cyborg assemblage that integrates body functionality, machine, and self, bringing together technology, self-care, and diabetes management.

For women with T1D, the cyborg assemblage has also reshaped feminine subjectivity. While Haraway (1991) argues that cyborg blurs binary boundaries such as male/female, participants' experiences suggest that CGMs may embody gendered expectations. As described in Chapter Three, the prototypical human, historically, was "a he" (Braidotti, 2013, p. 24), centring on gendered binaries on how bodies are viewed and understood in contemporary society. A visible CGM may be viewed as undermining constructs of femininity (Bordo, 2003), drawing on sociocultural tropes that may associate medical devices with masculinity. For instance, participants described not wanting to show the CGM when performing femininity – going to a ball, a wedding, wearing a pretty dress – framing a sense of masculinity that is framed with medical devices, and preserving a sense of normative femininity.

While cyborgs blur the boundaries between human, body, and machine, they may also increase the importance placed on quantifiable data from machines regarding the body. Many participants felt their lived experiences – stress, illness, menstruation, mental health – were overlooked or dismissed as these experiences were not seen within the quantifiable data. This may occur as part of a broader reductionism, in which expert, subjective knowledge is overlooked in favour of objective data, resulting from the biomedical framing of the body as a machine (Gibson et al., 2021; Mol & Law, 2004). As Lupton (2012) and Gibson et al. (2021) suggest, the rise of health technologies has led to a shift towards data-driven care, where quantifiable data becomes central to health, potentially erasing lived experiences.

The concept of becoming a diabetic cyborg assemblage continues to blur the boundaries between human/machine, as well as between gender, care, and self-management, as technology and medical devices are continually manufactured, invented, and evolve in response to contemporary societal norms. Situated within biomedical, and technosocial discourses, CGMs simultaneously support self-management and subject individuals to judgment.

7.4 Commercial and Structural Positioning

CGMs are a critical tool in T1D management, providing additional security, benefits, and support in self-management. Without public funding, CGMs are prohibitively expensive (as seen in Chapter Two), making them inaccessible to many, and often positioned as a ‘luxury technology’ (Brady, 2024), as they are not considered necessary for diabetes management. Participants described sacrificing their finances where possible to continue affording a CGM, and in some instances, had to forgo CGMs and return to manual finger pricking. This consumerist positioning was also felt by participants in clinical settings and discussions where health professionals were perceived as advising individuals to “do what they can” (Chapter 5, Theme 1) to afford a CGM.

Public funding was introduced in Aotearoa New Zealand, in October 2024. Before funding, CGM uptake mirrored existing disparities among Māori, Pacific, and lower socioeconomic populations, who had lower rates of diabetes technology use (Burnside et al., 2023b). Similar statistics are observed worldwide, indicating that government policies, insurance-based funding structures, socioeconomic status, and ethnicity influence access to CGMs and diabetes technology. This suggests that the uptake and distribution rate of CGMs reflected and reinforced structural inequalities (Burnside et al., 2023a; Wardless & Starling, 2022).

Burnside et al. (2023a) state that since funding became available in Australia, there has been a decrease in HbA1c levels in the T1D population, a reduction in diabetes-related hospitalisations, and an improvement in overall quality of life (Burnside et al., 2023a). There is some evidence that CGMs play a crucial role in a strategy to enhance health outcomes for patients.

There has been an increasing uptake of CGM use in non-diabetics, with healthism promoting CGMs as the new 'wellness luxury technology' to monitor health (Brady, 2024). CGMs become another mHealth device for comparison and judgment within healthism rhetoric of optimising weight and health. The growing demand from non-diabetics reflects a strong sense of capitalist ideology that underlies the emphasis on data-driven care in biomedical settings. The marketing of luxury wellness technology begins to question ableist ideals of who is deserving of access to care and who can afford it.

7.5 Perfect postfeminist diabetic

Neoliberal health discourse shapes an individual as self-responsible, tasked with optimising their bodies, behaviours, and glucose outcomes (Danesi et al., 2018; Balfe, 2007). Within a T1D assemblage, the CGM functions as an actor that increases temporal visibility of blood glucose data (Bennett, 2019), transforming T1D management into visible, data-driven, and moralised self-surveillance. Those who fail to meet normative expectations, whether by glucose levels going out of range, gaining weight or being unable to lose weight, are subject to blame. Control becomes a term of moral judgement, embedded in the structural language of diabetes management (Broom & Whittaker, 2004). CGMs amplify these by turning every number into a moment of self-assessment and self-discipline.

7.5.1 Perfectionism

Our ableist society is hyper-focused on the idea of the ‘perfect’ human subject. In contemporary society, individuals must participate in behaviours or conceal differences to achieve the elusive ‘perfect’ body (Riley et al., 2022; Moore & Kahn, 2021; Lupton, 2012, 2013a). Through health discourse, sociocultural interactions, and ableist internalised surveillance, a pedagogy of perfection has developed, teaching women normative and ableist concepts of bodies.

This pedagogy intersects with the biomedical framing of maintaining blood glucose homeostasis, where ‘good’ glucose levels are the epitome of ‘good’ management. In T1D management, there is increased pressure from health professionals, family, and support systems to achieve unattainable blood glucose levels, adhere to a diabetic-friendly diet, and maintain a ‘healthy’ weight (Ruiz-Aranda et al., 2025). The real-time data from CGMs amplifies these pressures, as it allows for continuous self-surveillance, monitoring, interpretation, and judgement.

Throughout participants' narratives, the subject position of a 'perfect diabetic' was (re)produced – a person who spends 80% or more of the time in range, has a stable glucose level throughout the day, stays in the green zone, and uses only small amounts of insulin. This subject position was expressed across all themes, and both taken up and resisted by participants.

Participants used notions of 'perfection' and 'control' to describe their glucose levels, habits, and behaviours. These discourses were not confined to the clinical gaze; they were discussed throughout eating practices, body shape, behaviour, and overall management style. The discussion of 'perfect diabetic' is not constrained to clinical achievements; the desire for perfection is a part of the broader sociocultural ideals that reinforce control and performance.

This perfectionist discourse can create a significant psychological burden, particularly for adolescent and young women who are balancing both diabetes and the societal dominant norms

(Wallace et al., 2023; Ruiz-Aranda et al., 2025; Mullan et al, 2020). I specifically chose this age range as it captured a life stage, early adulthood, where identity and body image are important and heavily shaped by feminine normative discourse (Araia et al., 2017; Mullan et al., 2020; Ruiz-Aranda et al., 2025). This life stage is also often described as appearance potent, where self-evaluation and concerns about appearance are particularly heightened in their sociomaterial environments (Jankowski et al., 2014). The intersection of appearance potent and the rhetoric of normative femininity, finding one's identity, intersects with the demands of diabetes management, visible signs of illness, and the perception of individuals as 'different', making this life stage challenging.

One of the most emotionally challenging aspects from participants' narratives was this conflict between insulin use and weight management. Insulin was perceived not just as a medication – it is also described as a "fat-storing hormone", which many felt contributed to their struggles with losing weight or sustaining a culturally acceptable body shape. This framing highlights a powerful discursive dynamic, insulin, which is crucial for survival, becomes associated with failure, weight gain, and a loss of bodily and diabetic control. With this comes a complex paradox where 1) striving to be a 'perfect diabetic' potentially requires an increase of insulin alongside 2) striving to align with the normative ideals of femininity and thinness.

Another challenging aspect for participants was the concept of diet and food consumption, especially within a chronic illness where management requires a hyper-focus on carbohydrates (Ruiz-Aranda et al., 2025; Mullan et al., 2020; Wallace et al., 2023). As Theme 2 illustrates, management of glucose numbers requires "always thinking about everything that goes in our mouth". Food becomes more than fuel and is instead understood as an insulin injection, calculations, the threat of hyperglycaemia and potential fatality in hypoglycaemia. This vigilance with food is heightened by the increased visibility of CGM data, reinforcing broader perfectionist and self-surveillance tendencies, which draw on the moralization of 'good/bad' food.

7.5.2 Postfeminist Diabetic

The assemblage of women’s bodies, sociocultural discourse, and CGMs illustrates the concept of a 'postfeminist diabetic' – a subject position at the intersection of gender, chronic illness, disability, neoliberal responsibility, and postfeminist ideas. The postfeminist diabetic represents an aspirational, yet exclusionary, ideal that reinforces neoliberal and patriarchal ideas of health, personal responsibility and femininity.

The postfeminist diabetic is someone who not only adheres to the perfect diabetic rhetoric but also is in a postfeminist normative body with a polished aesthetic, performs able-bodied behaviours and movement, and owns her diabetes technology, irrespective of whether she can meet these ableist ideals or not. She takes control of her diabetes, is not a burden and looks good while doing so - while also claiming to be free of social pressures and a successful ‘product’ of feminist ideals of equality for women.

This figure of a postfeminist diabetic aligns with Gill’s (2007) postfeminist sensibilities, where women self-monitor and discipline their behaviours, framed as empowerment and choice (Gill, 2007). Through empowerment discourse, managing T1D becomes an entrepreneurial project of the self (Foucault, 2008; Gill, 2007), in which body and health become continuous work, pursued through digital self-surveillance via CGM data (Riley & Paskova, 2022; Cairns & Johnston, 2015). In postfeminist discourse, participation is framed as a choice: women with T1D choose to hyperfocus on their glucose levels, diet, exercise, hormones, and stress to feel and look their best. This creates a conundrum as ‘in range’ glucose numbers may be an outcome of increased insulin levels, which, as a fat-storing hormone, can result in the loss of (or inability to have) the ideal body. Failure to meet these ideals is often framed as a personal failure and may result in being perceived as a ‘misfit’ in contemporary society.

The idea of a ‘postfeminist diabetic’ highlights the subject position women with T1D experience in their daily lives, within an intersection of gender, ableism, chronic illness, and postfeminist healthism. While a CGM supports self-management, it also reshapes postfeminist ideas of self-surveillance with the increased temporal visibility of glucose numbers, to be monitored and judged against sociocultural ideas of femininity, body norms, and biomedical glucose targets. Highlighting how disciplinary power is internalised for women to self-monitor, and become self-regulating, post-feminist diabetics, (re)inforcing normative femininity and ableist ideas.

7.6 Personal Reflections

I was never ashamed to finger prick or inject in public; however, I noticed a sense of embarrassment, shame and concealment when I started to wear a CGM. This lived experience became the basis for my thesis topic idea. Most research looks at adolescence or young adulthood (university students) with T1D, exploring self-identity, eating distress and the transition from youth to adult care (McClure et al., 2024; Mullan et al., 2020), with a few studies looking at CGM use specifically (Friederike et al., 2016; Kubiak et al., 2024; Naranjo et al., 2016). My research builds on this research by broadening the age range to include women aged 18-30 years old and focusing on a life stage in which studying, careers, environment, femininity, and self-identity undergo significant changes, all while managing the demands of T1D and the embodied visibility associated with CGM use.

It also felt timely to examine the role of CGMs within broader constructs, as advocacy for funding was occurring (and accepted) in Aotearoa New Zealand, during the time of writing. Funding advocacy was publicly driven by Diabetes NZ and members of the T1D community, addressing inequalities in access to diabetes technology in Aotearoa, New Zealand. Alongside the funding of CGM announcements, there was the withdrawal of support for other diabetes technology brands, such as the Medtronic insulin pump, and it appeared to follow other countries ‘policy trends. A future research consideration is the commercial influence on funding decisions.

I anticipated learning about women’s experiences of eating distress and general body image, whilst this occurred, I was unprepared for the many discussions around surveillance, disability, disclosure, and concealment with participants. Throughout this process, I have begun to understand my experience and practices of concealment more deeply, particularly in specific sociocultural environments that I previously lacked the words or understanding to describe.

The duality experienced by participants, where a CGM is beneficial for management but also represents normative feminine body ideas in society, is something I have struggled to come to terms with throughout the writing process. I love my CGM. I advocated for the funding of CGMs and have spoken out about the importance of CGMs in diabetes management. With access to this technology, I could have prevented many hospital admissions and life-threatening DKA experiences. However, CGMs help (re)inforce perfectionism and societal ideas of femininity, body, and health that I believe would have heightened my experiences of food and management distress early in my diagnosis. As participants who were diagnosed in their 20s illustrated, weight regain upon diagnosis is difficult to accept. The weight gain while learning about food, viewing the body in a new way with a CGM and normative discourse of weight gain being a personal failure (Cairns & Johnston, 2015) can make learning in a new body difficult and risk participating in eating distress behaviours (Chrisler & Johnston-Robledo, 2018; Wallace et al., 2023; Ruiz-Aranda et al., 2025).

As Bennett (2019) states, T1D management and daily life are becoming intertwined with technology as individuals continue to rely on and wear CGMs and insulin pumps 24/7. The boundary between the body and machine in T1D management continues to blur, making it increasingly difficult to distinguish between the two (Bennett, 2019; Berk, 2018). The connection becomes nurtured as diabetes technology becomes part of the self, as many participants described feeling ‘their nurse’ constantly taking care of them in the background. This entanglement of CGM-human can heighten perfectionist tendencies and a reliance on quantifiable data, relying on and viewing CGM data over the human aspect of the assemblage (Lupton, 2012; Wallace et al., Ruiz-Aranda, 2025). I have come to understand that the becoming is in the messiness (Haraway, 2016). It is within the complexity of trusting technology to assist in my health while also listening to my body and trusting my instincts. Allowing both sides of the

CGM-human entanglement to control and be controlled (Berk, 2018), we can become a cyborg assemblage that works together for the benefit and support of women with T1D.

7.7 Methodological Reflections

I considered several methods to listen to participants' stories before ultimately deciding on semi-structured interviews. I have always been drawn to personal narratives and felt my listening skills would be best suited to this approach. I was intentional in designing my interview questions to ensure they were open and broad, allowing participants to define what mattered most in their narratives and speak on each topic in ways that felt most meaningful to them. The single interviews provided rich and meaningful insights into the embodied experience; however, future research might consider conducting follow-up interviews to further unpack these evolving experiences or focus groups to help capture meaning-making between participants.

A key strength was my insider position within the T1D community, which allowed me to build rapport, be empathetic, and engage in conversations in a way that may not have been accessible to an outsider (Hayfield & Huxley, 2015). I am passionate about supporting my community, and it was essential for me to utilise this research as a platform to share the experiences of other women with T1D and the kinds of opportunities and risks provided by available discourses.

An essential aspect of both being an insider and working within Reflexive TA is ongoing reflexivity (Hayfield & Huxley, 2015; Braun & Clarke, 2018). I was aware that my own experiences, assumptions, and frustrations could unintentionally shape how I listened to, interpreted, and framed participants' accounts, particularly in discussions about clinical care and diet culture. While research positionality is encouraged in Reflexive TA (Braun & Clarke, 2018), I worked to remain critically reflexive and ensure my perspective did not dominate the diversity of participants' voices. This became apparent when starting the analytical and writing process. My supervisor reminded me not to position health professionals or weight loss as the 'bad guys' and instead encouraged me to think about the role of structural systems. This reflexive engagement helped to ensure that my voice supported rather than overshadowed the nuance and complexity in participants' narratives.

Learning about FDT has expanded my understanding beyond commonplace ideas of disability to consider the variety of bodies, abilities, and illnesses. These learnings have allowed me to consider how I perceive my body in certain spaces and at different times based on the sociocultural ideas of bodies, illness, and disability – wanting to hide, to be 'able-passing', ignoring hepatic sensations not to disturb those around me for example; waiting until I can get back to the car to eat lollies during a walk with a friend to avoid interrupting their walk or making them stop for me.

One area that was brought up by a few participants that I wished I delved into further was specifically around the physicality of the CGM device itself – the physical attachment to the body, its visual features, colours, alerts, and size. Including prompts might have supported a deeper understanding of the material and aesthetic impact of bodily awareness, identity, and everyday management behaviours. This could be an area for future research, particularly among individuals who may also experience varying degrees of neurodivergence, where factors such as texture, touch, or sensory sensitivity may influence their engagement with the device.

7.8 Implications for Research and the Community

This research broadens the understanding of embodied experiences with T1D among women in Aotearoa New Zealand, specifically concerning CGM technology. It offers insights into the psychological, emotional, mental, and social burdens of living with T1D, often absent from biomedical narratives. This study illustrates how CGMs become tools within surveillance, perfectionism, visibility, and moralisation, functioning within the clinical, internal, and social gaze to monitor and reinforce neoliberal, ableist, and healthism norms imposed on women's bodies.

Within the context of women living with T1D, these findings have implications for the perfectionist tendencies associated with the illness, alongside the prevailing discourse of monitoring and conforming to feminine norms. This perfectionism aligns with neoliberal and optimisation-driven ideals, where women internalise the need to continually 'work on' maintaining good management, bodies, and health. Community resources and discourse should recognise the complexity of CGM use among women with T1D, creating space for imperfection, self-compassion, and messiness.

This research also contributes to broader discussions around visibility and awareness of difference in ableist societies. Many participants described internalising these discourses, acting in ways that concealed devices, or engaging in management behaviours that enable able-passing bodies and selves, driven by stigma and conflation of T1D with T2D. While increased visibility of CGMs can improve community awareness and reduce embarrassment, it can also foster judgment, stigma, and unsolicited comments. Public education and media can support advocacy to enhance understanding of T1D without reinforcing stereotypes or conflating conditions.

There are implications for health professionals involved in the DMT, particularly emphasising the importance of language. Participants' narratives often referenced binaries such as control/absence of control and good/bad, as well as blame for non-compliance. These binaries and language choices may unintentionally reinforce disciplinary approaches to care and moralisation around data and management behaviours (Hunt et al., 2022; Broom & Whittaker, 2004). Person-centred care also relies on trust, collaboration and listening to individuals to tailor management (Terry & Kayes, 2009). This is an essential factor in a biomedical system reliant on mHealth, as many participants felt their lived experiences were being minimised. Shifting to a care model that supports lived experience and quantifiable data would help women with T1D be heard for the lived realities of a chronic illness and be more inclined to attend appointments and trust health professionals (Terry & Kayes, 2009).

Although this study focuses on women's experiences, it also engages with themes of intersectionality, marginalisation, and health equity. While not explored deeply, one participant highlighted the impact of racialised stigma on access to insulin pumps and overall diabetes management during adolescence. This aligns with Burnside et al.'s (2023a; 2023b) research findings on inequalities in access to diabetes technology among Māori and Pacific populations. Additionally, it is important to gain a deeper understanding of cultural perspectives on T1D, including diverse cultural views on blood testing, insulin injections into specific body parts, and the potential impact of Western biomedical frameworks surrounding T1D. Including Kaupapa Māori frameworks may enrich future research and deepen cultural understanding of T1D management for whānau and iwi.

The research further underscores ongoing inequities in technology access among lower socioeconomic groups (Burnside et al., 2023b). While funding for CGMs is available for all individuals with T1D in Aotearoa, New Zealand, removing one financial barrier, future research could explore broader socioeconomic barriers to equitable access.

7.9 Future Research

Throughout my research journey, I identified several ideas for future studies that could be valuable to health professionals, the diabetes community, and individuals living with T1D. The age demographic for my master's thesis was practical; however, I received numerous messages and emails from women outside the specified age range who expressed interest in participating in either this project or future work. Including a broader age range would enable a more nuanced understanding of how women with T1D experience chronic illness across different life stages and how management, societal norms, and diabetes discourse evolve.

Many participants discussed the ongoing exclusion of menstruation and female hormones from both clinical and diabetes community conversations about T1D management. This represents an important area for research, specifically how the life cycle of menstruation intersects with self-surveillance and dominant discourses around femininity, health, and control. Research in this area could deepen our understanding of how gendered embodiment manifests across the life course for women with T1D, and the role technology plays in this process.

Future research could also expand on the construction of the postfeminist diabetic. This research could explore how stigma and stereotypes are experienced differently by those using CGMs in larger bodies or by those who reject societal body norms while still publicly identifying as diabetic. It could also include an analysis of how non-diabetics versus diabetics perceive the normalisation discourse of CGM use. Further research could investigate how individuals navigate this visibility, the politics of being able to pass, and the identification with chronically ill and disabled identities within an ableist society.

7.10 Conclusion

This research project provided a unique perspective and understanding of the use of a CGM for women with T1D. It moved beyond the biomedical and commercial framings of CGMs to explore the sociocultural, material, feminist, and ableist dominant discourses that comprise normativity in contemporary society and directly shape the experience of daily living with T1D.

Through participants' narratives, the CGM was positioned as a tool where multiple gazes interconnect in a web of surveillance: the social gaze, the biomedical gaze, and the internalised gaze. Participants' experiences described these intersecting gazes as not only rendering the diabetic body visible but (re)inscribing paternalism as health professionals, data, and the public often dismissed the participants' embodied knowledge for their own in the name of 'care'.

This thesis has demonstrated how CGMs can serve as a tool for autonomy, support, and confidence in managing T1D, while also being used for surveillance, self-discipline, and exposure to stigma. Situating the device within a both/and subjectivity, rejecting reductive either/or binaries to enable a position in which women with T1D are both active and acted upon. By framing the CGM within an assemblage of women's bodies, technologies, and gazes, this thesis recognises the lived complexity of being a postfeminist diabetic cyborg, and its implications for care, outcomes and wellbeing.

It is in these negotiations - between body, self and society - that women with T1D live, resist, and reimagine what it means to care for a diabetic body.

10 pm.. - Finally, bedtime. The day was filled with ups and downs, rollercoaster glucose levels. I have eaten, injected, moved, and shown up for my body. Now to crawl into bed with Luna, ready to do it all again tomorrow.

References

Agarwal, S., Schechter, C., Gonzalez, J., & Long, J. A. (2021). Racial-Ethnic Disparities in Diabetes Technology Use Among Young Adults with Type 1 Diabetes. *Diabetes technology & therapeutics*, *23*(4), 306–313. https://doi.org/10.1089/dia.2020.0338

Ahtoy, P. (2024). Behind the hidden struggles linked to invisible disabilities. Understanding their impact to increase mental health awareness for enhanced professional care. *Ethics, Medicine and Public Health*, *32*, 101016. https://doi.org/10.1016/j.jemep.2024.101016

Alcántara-Aragón, V. (2019). Improving patient self-care using diabetes technologies. *Therapeutic Advances in Endocrinology and Metabolism*, *10*. https://doi.org/10.1177/2042018818824215

Alleva, J. M., & Tylka, T. L. (2021). Body functionality: A review of the literature. *Body Image*, *36*, 149–171. https://doi.org/10.1016/j.bodyim.2020.11.006

Alleva, J. M., Holmqvist Gattario, K., Martijn, C., & Lunde, C. (2019). What can my body do vs. how does it look?: A qualitative analysis of young women and men's descriptions of their body functionality or physical appearance. *Body Image*, *31*, 71–80. https://doi.org/10.1016/j.bodyim.2019.08.008

American Diabetes Association. (2009). Diagnosis and Classification of Diabetes Mellitus. *Diabetes Care*, *32*(Suppl. 1), S62–S67. https://doi.org/10.2337/dc09-S062

American Diabetes Association. (2022). Diabetes Technology: Standards of Medical Care in Diabetes – 2022. *Diabetes Care, 45*(Suppl. 1)*,* S97-112. https://doi.org/10.2337/dc22-S007

American Diabetes Association. (2023). Classification and diagnosis of diabetes: Standards of care in diabetes – 2023. *Diabetes Care, 46*(Suppl. 1), S19-S40. https://doi.org/10.2337/dc23-S002

Araia, E., Hendrieckx, C., Skinner, T., Pouwer, F., Speight, J., & King, R. M. (2017). Gender differences in disordered eating behaviors and body dissatisfaction among adolescents with type 1 diabetes: Results from diabetes MILES youth—Australia. *International Journal of Eating Disorders*, *50*(10), 1183–1193. https://doi.org/10.1002/eat.22746

Atkinson, M. A., Eisenbarth, G. S., & Michels, A. W. (2014). Type 1 Diabetes. *The Lancet*, *383*(9911), 69–82. https://doi.org/10.1016/S0140-6736(13)60591-7

Bailey, K. A., Gammage, K. L., Van Ingen, C., & Ditor, D. S. (2016). Managing the stigma: Exploring body image experiences and self-presentation among people with spinal cord injury. *Health Psychology Open*, *3*(1), 205510291665009. https://doi.org/10.1177/2055102916650094

Balfe, M. (2007). Diets and discipline: The narratives of practice of university students with type 1 diabetes. *Sociology of Health & Illness*, *29*(1), 136–153. https://doi.org/10.1111/j.1467-9566.2007.00476.x

Banister, P., Bunn, G., Burman, E., Daniels, J., Duckett, P., Goodley, D., Lawthom, R., Parker, I., Runswick-Cole, K., Sixsmith, J., Smailes, S., & Whelan, P. (2011). *Qualitative methods in psychology: A research guide for students and practitioners* (2nd ed.). Open University Press.

Bartky, S.L. (1998). Foucault, femininity, and the modernization of patriarchal power. In R. Weitz (Ed.), *The politics of women's bodies: Sexuality, appearance and behaviour* (pp. 25-45). Oxford: Oxford University Press

Beck, R. W., Bergenstal, R. M., Laffel, L. M., & Pickup, J. C. (2019). Advances in technology for management of type 1 diabetes. *The Lancet*, *394*(10205), 1265–1273. https://doi.org/10.1016/S0140-6736(19)31142-0

Bennett, J. A. (2019). Cyborg Dreams. In *Managing Diabetes: The Cultural Politics of Disease* (Vol. 13, pp. 173–202). NYU Press. http://www.jstor.org/stable/j.ctv12fw5z8.8

Berk, E. (2018). A kind of disassembled and reassembled, postmodern collective and personal self: Agency and the Insulin pump. *Journal of Material Culture*, *23*(4), 448–458. https://doi.org/10.1177/1359183518803388

Bordo, S. (2003). *Unbearable Weight: Feminism, Western Culture, and the Body* (1st ed.). University of California Press. https://doi.org/10.2307/jj.8441705

Brady, P. (2024). Wearing Wellness: A Comparative Analysis of Diabetic and Non-Diabetic Continuous Glucose Monitoring in a Self-Surveilling Wellness Culture. *Proceedings of the 42nd ACM International Conference on Design of Communication*, 158–165. https://doi.org/10.1145/3641237.3691664

Braidotti, R. (2008). Affirmation, Pain and Empowerment. *Asian Journal of Women's Studies*, *14*(3), 7–36. https://doi.org/10.1080/12259276.2008.11666049

Braidotti, R. (2011). *Nomadic theory: the portable Rosi Braidotti*. Columbia University Press.

Braidotti, R. (2013). *The Posthuman.* Polity Press

Braidotti, R. (2019). A Theoretical Framework for the Critical Posthumanities. *Theory, Culture & Society*, *36*(6), 31–61. https://doi.org/10.1177/0263276418771486

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57–71). American Psychological Association. https://doi.org/10.1037/13620-004

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589-597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2013). *Successful Qualitative Research: A practical guide for beginners.* SAGE Publications Ltd.

Braun, V., & Clarke, V. (2022). *Thematic Analysis: A practical guide*. Sage Publications Inc.

Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic Analysis. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences,* (pp 1–18). Springer Singapore. https://doi.org/10.1007/978-981-10-2779-6_103-1

Breakthrough T1D. (2024). *Type 1 Diabetes Index Factsheet: GLOBAL.* https://www.t1dindex.org

Breakthrough T1D. (2024). *Type 1 Diabetes Index Factsheet: New Zealand.* https://www.t1dindex.org/countries/new-zealand/

Broom, D., & Whittaker, A. (2004). Controlling diabetes, controlling diabetics: Moral language in the management of diabetes type 2. *Social Science & Medicine*, *58*(11), 2371–2382. https://doi.org/10.1016/j.socscimed.2003.09.002

Browne, J, L., Ventura, A., Mosely, K., & Speight, J. (2013). 'I call it the blame and shame disease': A qualitative study about perceptions of social stigma surrounding type 2 diabetes. *BMJ Open, 3,* https://doi: 10.1136/bmjopen-2013-003384

Browne, J. L., Ventura, A., Mosely, K., & Speight, J. (2014). 'I'm not a druggie, I'm just a diabetic': A qualitative study of stigma from the perspective of adults with type 1 diabetes. *BMJ Open*, *4*(7), e005625. https://doi.org/10.1136/bmjopen-2014-005625

Burnside, M. J., Williman, J. A., Davies, H. M., Jefferies, C. A., Paul, R. G., Wheeler, B. J., Wiltshire, E. J., Anderson, Y. C., & De Bock, M. I. (2023a). Inequity in access to continuous glucose monitoring and health outcomes in paediatric diabetes, a case for national continuous glucose monitoring funding: A cross-sectional population study of children with type 1 diabetes in New Zealand. *The Lancet Regional Health - Western Pacific*, *31*, 100644. https://doi.org/10.1016/j.lanwpc.2022.100644

Burnside, M., Haitana, T., Crocket, H., Lewis, D., Meier, R., Sanders, O., Jefferies, C., Faherty, A., Paul, R., Lever, C., Price, S., Frewen, C., Jones, S., Gunn, T., Wheeler, B. J., Pitama, S., de Bock, M., & Lacey, C. (2023b). Interviews with Indigenous Māori with type 1 diabetes using open-source automated insulin delivery in the CREATE randomised trial. *Journal of diabetes and metabolic disorders*, *22*(1), 861–871. https://doi.org/10.1007/s40200-023-01215-3

Burr, V. (2015). *Social constructionism*. Taylor & Francis Group.

Bury, M. (1982). Chronic illness as biographical disruption. *Sociology of Health & Illness, 4*(2), 167-182. https://doi.org.10.1111/1467-9566.ep11339939

Cairns, K., & Johnston, J. (2015). Choosing health: Embodied neoliberalism, postfeminism, and the "do-diet." *Theory and Society*, *44*(2), 153–175. https://doi.org/10.1007/s11186-015-9242-y

Charmaz, K., & Rosenfeld, D. (2016). Reflections of the body, images of self: Visibility and invisibility in chronic illness and disability. In D. Waskul & P. Vannini (Eds.), *Body/embodiment: symbolic interaction and the sociology of the body* (pp. 35-50). Routledge.

Chowdhury, T. A., Mijovic, C. H., & Barnett, A. H. (1999). The aetiology of Type 1 diabetes. *Best Practice & Research Clinical Endocrinology & Metabolism*, *13*(2), 181–195. https://doi.org/10.1053/beem.1999.0015

Chrisler, J. C., & Johnston-Robledo, I. (2018). *Woman's embodied self: Feminist perspectives on identity and image.* American Psychological Association. https://doi.org/10.1037/0000047-000

Clarke, L. H., Griffin, M., & The PACC Research Team. (2008). Failing Bodies: Body Image and Multiple Chronic Conditions in Later Life. *Qualitative Health Research*, *18*(8), 1084–1095. https://doi.org/10.1177/1049732308320113

Clausi, L., & Schneider, M. (2017). "…Part of My Identity": The Impact of Self-Management on the Sense of Self of Young Women With Type 1 Diabetes. *Clinical Nurse Specialist*, *31*(2), 97–103. https://doi.org/10.1097/NUR.0000000000000280

Commissariat, P. V., Kenowitz, J. R., Trast, J., Heptulla, R. A., & Gonzalez, J. S. (2016). Developing a Personal and Social Identity With Type 1 Diabetes During Adolescence: A Hypothesis Generative Study. *Qualitative Health Research*, *26*(5), 672–684. https://doi.org/10.1177/1049732316628835

Conrad, P., & Barker, K. K. (2010). The Social Construction of Illness: Key Insights and Policy Implications. *Journal of Health and Social Behavior*, *51*(1_suppl), S67–S79. https://doi.org/10.1177/0022146510383495

Crawford, R. (2006). Health as a meaningful social practice. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, *10*(4), 401–420.

Crotty, M. (2020). Introduction: the research process. In. M. Crotty (Ed.), *Foundations of Social Research* (3rd ed., pp. 1-17). Routledge. https://doi.org/10.4324/9781003115700

Csajbók, É. A., & Tamás, G. (2016). Cerebral cortex: a target and source of insulin?. *Diabetologia*, *59*(8), 1609–1615. https://doi.org/10.1007/s00125-016-3996-2

Curtis, E., Jones, R., Tipene-Leach, D., Walker, C., Loring, B., Paine, S.-J., & Reid, P. (2019). Why cultural safety rather than cultural competency is required to achieve health equity: A literature review and recommended definition. *International Journal for Equity in Health*, *18*(1). https://doi.org/10.1186/s12939-019-1082-3

Danesi, G., Pralong, M., & Pidoux, V. (2018). Embodiment and Agency through Self-tracking Practices of People Living with Diabetes. In B. Ajana (Ed.), *Metric Culture* (pp. 117–135). Emerald Publishing Limited. https://doi.org/10.1108/978-1-78743-289-520181007

Dawes, T., Turuwhenua, J., & Edmonds, M. (2024). Health providers' experiences of health technologies within Te Tai Tokerau, Aotearoa New Zealand. *Kōtuitui: New Zealand Journal of Social Sciences Online*, *19*(3), 301–314. https://doi.org/10.1080/1177083X.2023.2270003

Deleuze, G., & Guattari, F. (1987). *A thousand plateaus: Capitalism and schizophrenia* (B. Massumi, Trans.). University of Minnesota Press

Diabetes Canada. (2022). *Continuous glucose monitoring (CGM) coverage in Canada.* https://www.diabetes.ca/advocacy---policy/advocacy-reports/continuous-glucose-monitoring-cgm-coverage-in-canada

Dovc, K., & Battelino, T. (2020). Evolution of Diabetes Technology. *Endocrinology and Metabolism Clinics of North America*, *49*(1), 1–18. https://doi.org/10.1016/j.ecl.2019.10.009

Falcão, M. A., & Francisco, R. (2017). Diabetes, eating disorders and body image in young adults: An exploratory study about "diabulimia." *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, *22*(4), 675–682. https://doi.org/10.1007/s40519-017-0406-9

Forlano, L. (2017). Data Rituals in Intimate Infrastructures: Crip Time and the Disabled Cyborg Body as an Epistemic Site of Feminist Science. *Catalyst: Feminism, Theory, Technoscience*, *3*(2), 1–28. https://doi.org/10.28968/cftt.v3i2.28843

Foucault, M. (1977). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). Vintage Books

Foucault, M. (1990). *The history of sexuality: Volume 1: An introduction* (R. Hurley, Trans.). Vintage Books

Foucault, M. (2008). *The birth of biopolitics: Lectures at the Collège de France, 1978–1979* (G. Burchell, Trans.). Palgrave Macmillan.

Freund, P. (2004). Civilised Bodies Redux: Seams in the Cyborg. *Social Theory & Health*, *2*, 273–289 https://doi.org/10.1057/palgrave.sth.8700031

Friedman, J. G., Cardona Matos, Z., Szmuilowicz, E. D., & Aleppo, G. (2023). Use of Continuous Glucose Monitors to Manage Type 1 Diabetes Mellitus: Progress, Challenges, and Recommendations. *Pharmacogenomics and Personalized Medicine*, *Volume 16*, 263–276. https://doi.org/10.2147/PGPM.S374663

Gailey, J. A. (2022). The Violence of Fat Hatred in the "Obesity Epidemic" Discourse. *Humanity & Society*, *46*(2), 359–380. https://doi.org/10.1177/0160597621995501

Garland-Thomson, R. (2009). *Staring: How we look.* Oxford University Press.

Garland-Thomson, R. (2011). Misfits: A Feminist Materialist Disability Concept. *Hypatia*, *26*(3), 591–609. https://doi.org/10.1111/j.1527-2001.2011.01206.x

Garland-Thomson, R. (2022). Feminist disability studies. In S. C. Arel & J. Mohr (Eds.), *The Routledge handbook of feminist philosophy of science* (pp. 365–375). Routledge. https://doi.org/10.4324/9780429507731

Gavey, N. (2005). *Just sex?: The cultural scaffolding of rape* (2nd ed.). Routledge. https://doi.org/10.4324/9780429443220

Gergen, K. J. (2009). *An Invitation to Social Construction*. Los Angeles, USA: Sage Publications Inc.

Gibson, B. E., Fadyl, J. K., Terry, G., Waterworth, K., Mosleh, D., & Kayes, N. M. (2021). A posthuman decentring of person-centred care. *Health Sociology Review*, *30*(3), 292–307. https://doi.org/10.1080/14461242.2021.1975555

Gill, R. (2007). Postfeminist media culture: Elements of a sensibility. *European Journal of Cultural Studies*, *10*(2), 147-166. https://doi.org/10.1177/1367549407075898

Gleeson, K., & Frith, H. (2006). (De)constructing Body Image. *Journal of Health Psychology*, *11*(1), 79–90. https://doi.org/10.1177/1359105306058851

Goodley, D. (2014). *Dis/ability Studies: Theorising Disablism and Ableism*. Taylor & Francis Group.

Goodley, D. (2017). Dis/entangling Critical Disability Studies. In. A. Waldschmidt, H. Berressem, & M. Ingwersen (Eds.), *Culture-Theory-Disability: Encounters between Disability Studies and Cultural Studies* (pp. 81-97) Open Access.

Gounder, F., & Ameer, R. (2018). Defining diabetes and assigning responsibility: How print media frame diabetes in New Zealand. *Journal of Applied Communication Research*, *46*(1), 93–112. https://doi.org/10.1080/00909882.2017.1409907

Graham, C. (2017). Continuous Glucose Monitoring and Global Reimbursement: An Update. *Diabetes Technology and Therapeutics, 19*(Suppl. 3). https://doi.org/10.1089/dia.2017.0096

Gurney, J., Fraser, L., Ikihele, A., Manderson, J., Scott, N., & Robson, B. (2021). Telehealth as a tool for equity: pros, cons and recommendations. *NZMJ, 1530*(134), 111-115.

Hansen, U. M., Olesen, K., & Willaing, I. (2020). Diabetes stigma and its association with diabetes outcomes: A cross-sectional study of adults with type 1 diabetes. *Scandinavian Journal of Public Health*, *48*(8), 855–861. https://doi.org/10.1177/1403494819862941

Haraway, D. (1991). *Simians, cyborgs and women: The reinvention of nature.* Routledge

Haraway, D. (2006). A Cyborg Manifesto: Science, Technology and Socialist-Feminism in the Late 20th Century. In J. Weiss, J Nolan, J. Hunsinger, & P. Trifonas. (Eds.), *The International Handbook of Virtual Learning Environments.* Springer. https://doi: 10.1007/978-1-4020-3809-7_4

Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene.* Duke University Press

Hayfield, N., & Huxley, C. (2015). Insider and Outsider Perspectives: Reflections on Researcher Identities in Research with Lesbian and Bisexual Women. *Qualitative Research in Psychology*, 12(2), 91–106. https://doi: 10.1080/14780887.2014.918224

Hempel, C., Sezier, A., & Terry, G. (2018). What helps or hinders clinicians in their decision-making processes when using or prescribing mHealth apps in practice? An exploratory study. *New Zealand Journal of Physiotherapy*, *46*(2). https://doi.org/10.15619/NZJP/46.2.04

Hofmann, B., & Svenaeus, F. (2018). How medical technologies shape the experience of illness. *Life Sciences, Society and Policy*, *14*(1), 3. https://doi.org/10.1186/s40504-018-0069-y

Hogle, L. F. (2005). Enhancement Technologies and the Body. *Annual Review of Anthropology*, *34*(1), 695–716. https://doi.org/10.1146/annurev.anthro.33.070203.144020

Holder-Pearson, L., & Chase, J. G. (2022). Socio-Economic Inequity: Diabetes in New Zealand. *Frontiers in medicine*, *9*, 756223. https://doi.org/10.3389/fmed.2022.756223

Holmes-Truscott, E., Ventura, A. D., Thuraisingam, S., Pouwer, F., & Speight, J. (2020). Psychosocial Moderators of the Impact of Diabetes Stigma: Results From the Second Diabetes MILES - Australia (MILES-2) Study. *Diabetes care*, *43*(11), 2651–2659. https://doi.org/10.2337/dc19-2447

Hough, F. S., Pierroz, D. D., Cooper, C., Ferrari, S. L., & IOF CSA Bone and Diabetes Working Group. (2016). Mechanisms in endocrinology: Mechanisms and evaluation of bone fragility in type 1 diabetes mellitus. *European Journal of Endocrinology, 174*(4), R127–R138. https://doi.org/10.1530/EJE-15-0820

Hunt, D., Lamb, K., Elliott, J., Hemmingsen, B., Slama, S., Scibilia, R., Whitney Daniels, K., & Mikkelsen, B. (2022). A WHO key informant language survey of people with lived experiences of diabetes: Media misconceptions, values-based messaging, stigma, framings and communications considerations. *Diabetes Research and Clinical Practice*, *193*, 110109. https://doi.org/10.1016/j.diabres.2022.110109

Ingersgaard, M. V., Hoeeg, D., Willaing, I., & Grabowski, D. (2021). An exploratory study of how young people experience and perceive living with type 1 diabetes during late adolescence and emerging adulthood. *Chronic Illness*, *17*(4), 475–492. https://doi.org/10.1177/1742395319886487

Iversen, E., Kolltveit, B. H., Hernar, I., Mårtensson, J., & Haugstvedt, A. (2019). Transition from paediatric to adult care: A qualitative study of the experiences of young adults with type 1 diabetes. *Scandinavian Journal of Caring Sciences*, *33*(3), 723–730. https://doi.org/10.1111/scs.12668

Jankowski, G. S., Fawkner, H., Slater, A., & Tiggemann, M. (2014). “Appearance potent”? A content analysis of UK gay and straight men’s magazines. *Body Image*, *11*(4), 474–481. https://doi.org/10.1016/j.bodyim.2014.07.010

Jansky, B. (2024). Disclosing Otherness: Situated Knowledges and the Politics of Ethnographic Approaches to the #WeAreNotWaiting Movement in Type 1 Diabetes and Beyond. *Journal of Contemporary Ethnography*, 53(1), 51–73. https://doi: 10.1177/08912416231207648

Jeong, Y. M., Quinn, L., Kim, N., & Martyn-Nemeth, P. (2018). Health-related stigma in young adults with type 1 diabetes mellitus. *Journal of Psychosocial Nursing and Mental Health Services, 56*(10), 44–51. https://doi.org/10.3928/02793695-20180503-01

Joachim, G., & Acorn, S. (2000). Stigma of visible and invisible chronic conditions. *Journal of Advanced Nursing*, *32*(1), 243–248. https://doi.org/10.1046/j.1365-2648.2000.01466.x

Kafer, A. (2013). *Feminist, Queer, Crip.* Indiana University Press.

Kawai, C., Zhang, Y., Lukács, G. *et al.* The good, the bad, and the red: implicit color-valence associations across cultures. *Psychological Research, 87,* 704–724. https://doi.org/10.1007/s00426-022-01697-5

Kingod, N., & Cleal, B. (2019). Noise as Dysappearance: Attuning to a Life with Type 1 Diabetes. *Body & Society*, *25*(4), 55–75. https://doi.org/10.1177/1357034X19861671

Kruger, S., Deacon, E., Van Rensburg, E., & Segal, D. G. (2023). Young adult women's meaning-making of living with type 1 diabetes: Towards growth and optimism. *Psychology & Health*, *38*(5), 573–590. https://doi.org/10.1080/08870446.2021.1977303

Kubiak, T., Mann, C. G., Barnard, K. C., & Heinemann, L. (2016). Psychosocial Aspects of Continuous Glucose Monitoring. *Journal of Diabetes Science and Technology, 10*(4), 859–863. https://doi.org/10.1177/1932296816651450.

Lawton, J., Blackburn, M., Allen, J., Campbell, F., Elleri, D., Leelarathna, L., Rankin, D., Tauschmann, M., Thabit, H., & Hovorka, R. (2018). Patients' and caregivers' experiences of using continuous glucose monitoring to support diabetes self-management: Qualitative study. *BMC Endocrine Disorders*, *18*(1), 12. https://doi.org/10.1186/s12902-018-0239-1

Leder, D. (1990). *The absent body*. University of Chicago Press.

Lee, H., Hong, Y. J., Baik, S., Hyeon, T., & Kim, D. (2018). Enzyme-Based Glucose Sensor: From Invasive to Wearable Device. *Advanced Healthcare Materials*, *7*(8), 1701150. https://doi.org/10.1002/adhm.201701150

Lewis, G.F., & Brubaker, P.L. (2021). The discovery of insulin revisited: lessons for the modern era. *The Journal of Clinical Investigation, 131*(1), e142239. https://doi.org/10.1172/JCI142239

Lipman, T. H., & Hawkes, C. P. (2021). Racial and Socioeconomic Disparities in Pediatric Type 1 Diabetes: Time for a Paradigm Shift in Approach. *Diabetes Care*, *44*(1), 14–16. https://doi.org/10.2337/dci20-0048

Litterbach. E., Holmes-Truscott, E., Gray, S., & Speight, J. (2024). "I feel like I'm being talked to like an equal": Diabetes language matters to adults with diabetes, a mixed-methods study. *Diabetes Medicine, 41*(6). https://doi.org/10.1111/dme.15424

Lupton, D. (2012). M-health and health promotion: The digital cyborg and surveillance society. *Social Theory & Health*, *10*(3), 229–244. https://doi.org/10.1057/sth.2012.6

Lupton, D. (2013a). Quantifying the body: Monitoring and measuring health in the age of mHealth technologies. *Critical Public Health*, *23*(4), 393–403. https://doi.org/10.1080/09581596.2013.794931

Lupton, D. (2013b). The digitally engaged patient: Self-monitoring and self-care in the digital health era. *Social Theory & Health*, *11*(3), 256–270. https://doi.org/10.1057/sth.2013.10

Lupton, D. (2014). Critical Perspectives on Digital Health Technologies. *Sociology Compass*, *8*(12), 1344–1359. https://doi.org/10.1111/soc4.122263.

Malson, H. (2023). *The Thin Woman: Feminism, Post-structuralism and the Social Psychology of Anorexia Nervosa* (1st ed.). Routledge. https://doi.org/10.4324/9781003401742

Mannering, S. I., Pathiraja, V., & Kay, T. W. H. (2015). The case for an autoimmune aetiology of type 1 diabetes. *Clinical and Experimental Immunology*, *183*(1), 8–15. https://doi.org/10.1111/cei.12699

Masana, L. (2011). Invisible chronic illness inside apparently healthy bodies. In S. Fainzang & C. Haxaire (Eds.), *Of bodies and symptoms: Anthropological perspectives on their social and medical treatment* (pp. 127-149). Publicacions URV.

Maslen, S., & Lupton, D. (2020). Enacting chronic illness with and through digital media: A feminist new materialist approach. *Information, Communication & Society*, *23*(11), 1640–1654. https://doi.org/10.1080/1369118X.2019.1602665

McClure, R. D., Talbo, M. K., Bonhoure, A., Molveau, J., South, C. A., Lebbar, M., & Wu, Z. (2024). Exploring Technology's Influence on Health Behaviours and Well-being in Type 1 Diabetes: a

Review. *Current diabetes reports*, *24*(4), 61–73. https://doi.org/10.1007/s11892-024-01534-6McRuer, R. (2008). Crip Theory. Cultural Signs of Queerness and Disability. *Scandinavian Journal of Disability Research, 10*(1), 67-69. https://doi: 10.1080/15017410701880112

Messer, L. H., Johnson, R., Driscoll, K. A., & Jones, J. (2018). Best friend or spy: A qualitative meta-synthesis on the impact of continuous glucose monitoring on life with Type 1 diabetes. *Diabetic Medicine*, *35*(4), 409–418. https://doi.org/10.1111/dme.13568

Messer, L. H., Tanenbaum, M. L., Cook, P. F., Wong, J. J., Hanes, S. J., Driscoll, K. A., & Hood, K. K. (2020). Cost, Hassle, and On-Body Experience: Barriers to Diabetes Device Use in Adolescents and Potential Intervention Targets. *Diabetes Technology & Therapeutics*, *22*(10), 760–767. https://doi.org/10.1089/dia.2019.0509

Mialet, H. (2022). Bodies in Balance: Tracking Type 1 Diabetes. *Body & Society, 28*(3), 89-113. https://doi.org/10.1177/1357034X221109140

Mol, A. (2000). What Diagnostic Devices Do: The Case of Blood Sugar Measurement. *Theoretical Medicine and Bioethics, 21*(1), 9-22. https://doi.org.10.1023/a:1009999119586

Mol, A., & Law, J. (2004). Embodied Action, Enacted Bodies: The Example of Hypoglycaemia. *Body & Society*, *10*(2–3), 43–62. https://doi.org/10.1177/1357034X04042932

Moore, L. J., & Khan, S. (2021). The (un)healthy body and the self. In D. Vom Lehn, N. Ruiz-Junco, & W. Gibson (Eds.), *The Routledge International Handbook of Interactionism* (1st ed., pp. 134–144). Routledge. https://doi.org/10.4324/9780429276767-14

Moretti, V., & Morsello, B. (2017). Self–management and Type 1 Diabetes. How Technology Redefines Illness. *Tecnoscienza Italian Journal of Science and Technology Studies, 8*(1), 51-71. https://doi.org/10.6092/issn.2038-3460/17345

Mullan, B. A., Dzidic, P., Boyes, M., Hasking, P., Slabbert, A., Johnson, R., & Scott, A. (2020). The lived experience of young Australian adults with type 1 diabetes. *Psychology, Health & Medicine*, *25*(4), 480–485. https://doi.org/10.1080/13548506.2019.1705989

Naranjo, D., Tanenbaum, M. L., Iturralde, E., & Hood, K. K. (2016). Diabetes Technology: Uptake, Outcomes, Barriers, and the Intersection With Distress. *Journal of Diabetes Science and Technology*, *10*(4), 852–858. https://doi.org/10.1177/1932296816650900

National Diabetes Services Scheme**.** (2022). *Continuous and flash glucose monitoring subsidy*. https://www.ndss.com.au/about-the-ndss/diabetes-technology/continuous-and-flash-glucose-monitoring/

National Health Service**.** (2020). *Flash and continuous glucose monitoring*. https://www.england.nhs.uk/diabetes/flash-glucose-monitoring/

New Zealand Medical & Scientific Limites. (2025). *Tandem*. https://product.nzms.co.nz/tslimx2pump-control-iq

Nigi, L., Iraci Sareri, G., Cataldo, D., & Dotta, F. (2024). 12-Month Efficacy of Advanced Hybrid Closed-Loop System in Adult Type 1 Diabetes Patients. *Diabetes technology & therapeutics*, *26*(2), 130–135. https://doi.org/10.1089/dia.2023.0319

Ogrotis, I., Koufakis, T., & Kotsa, K. (2023). Changes in the Global Epidemiology of Type 1 Diabetes in an Evolving Landscape of Environmental Factors: Causes, Challenges, and Opportunities. *Medicina (Kaunas, Lithuania)*, *59*(4), 668. https://doi.org/10.3390/medicina59040668

Owen, L. (2012). Living fat in a thin-centric world: Effects of spatial discrimination on fat bodies and selves. *Feminism & Psychology*, *22*(3), 290–306. https://doi.org/10.1177/0959353512445360

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful Sampling for Qualitative Data Collection and Analysis in Mixed Method Implementation Research. *Administration and policy in mental health*, *42*(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Pals, R. A. S., Hviid, P., Cleal, B., & Grabowski, D. (2021). Demanding devices – Living with diabetes devices as a pre-teen. *Social Science & Medicine*, *286*, 114279. https://doi.org/10.1016/j.socscimed.2021.114279

Pharmac. (2024, August 29). *Decision to fund continuous glucose monitors, insulin pumps and insulin pump consumables.* https://www.pharmac.govt.nz/news-and-resources/consultations-and-decisions/decision-to-fund-continuous-glucose-monitors-insulin-pumps-and-insulin-pump-consumables

Pinnaro, C. T., & Tansey, M. J. (2021). The Evolution of Insulin Administration in Type 1 Diabetes. *Journal of diabetes mellitus*, *11*(5), 249–277. https://doi.org/10.4236/jdm.2021.115021

Pinquart, M. (2013). Body image of children and adolescents with chronic illness: A meta-analytic comparison with healthy peers. *Body Image*, *10*(2), 141–148. https://doi.org/10.1016/j.bodyim.2012.10.008

Policola, C., Di Stasio, E., Rizzi, A., Focà, F., Tartaglione, L., Locantore, P., Ramunno, V., Leo, M. L., Chieffo, D. P. R., Rinaldi, L., Della Casa, S., Pontecorvi, A., & Pitocco, D. (2023). Predisposition to eating disorders in adults with type 1 diabetes: Comparison between multiple daily injections and continuous subcutaneous insulin infusion. *Diabetes Research and Clinical Practice*, *203*. https://doi.org/10.1016/j.diabres.2023.110882

Pravossoudovitch, K., Cury, F., Young, S.G., Elliot, A.J. (2014) Is red the colour of danger? Testing an implicit red-danger association. *Ergonomics, 57*(4), 503-510. https://doi.org/10.1080/00140129.2014.889220

Rahman, M. S., Hossain, K. S., Das, S., Kundu, S., Adegoke, E. O., Rahman, Md. A., Hannan, Md. A., Uddin, M. J., & Pang, M.-G. (2021). Role of Insulin in Health and Disease: An Update. *International Journal of Molecular Sciences*, *22*(12), 6403. https://doi.org/10.3390/ijms22126403

Ramanathan, V., & Makoni, S. (2007). Bringing The Body Back: The (Mis)Languaging Of Bodies In Bio-Medical, Societal And Poststructuralist Discourses On Diabetes And Epilepsy. *Critical Inquiry in Language Studies*, *4*(4), 283–306. https://doi.org/10.1080/15427580701786885

Rapley, T. (2012). Interviews. In C. Seale (Ed.), *Researching society and culture* (3rd ed., pp. 15–33). SAGE.

Reeve, D. (2012). Cyborgs, cripples and iCrip: Reflections on the contribution of Haraway to disability studies. In D. Goodley, B. Hughes, & L. Davis (Eds.), *Disability and social theory: New developments and directions* (pp. 91–111). Palgrave Macmillan. https://doi.org/10.1057/9781137023001_6

Rice, C., Riley, S., LaMarre, A., & Bailey, K. A. (2021). What a body can do: Rethinking body functionality through a feminist materialist disability lens. *Body Image*, *38*, 95–105. https://doi.org/10.1016/j.bodyim.2021.03.014

Riley, S. & Chamberlain, K. & (2021). Designing Qualitative Research in Psychology. In, Flick, U. (Ed.). *SAGE Handbook of Qualitative Research Design.* SAGE

Riley, S. & LaMarre, A. (2023). *Developments in qualitative inquiry*. In McCullen, M. (Ed.) APA Handbook of Research Methods in Psychology. Second edition.

Riley, S., & Paskova, K. (2022). A post-phenomenological analysis of using menstruation tracking apps for the management of premenstrual syndrome. *Digital Health*, *8*, 205520762211441. https://doi.org/10.1177/20552076221144199

Riley, S., Evans, A., & Robson, M. (2018). Postfeminism and Health: Critical Psychology and Media Perspectives (1st ed.). Routledge. https://doi.org/10.4324/9781315648613

Riley, S., Evans, A., & Robson, M. (2022). Postfeminism and Body Image (1st ed.). Routledge. https://doi.org/10.4324/9780429056000

Riley, S., Evans, A., Elliott, S., Rice, C., & Marecek, J. (2017). A critical review of postfeminist sensibility. *Social and Personality Psychology Compass*, *11*(12), e12367. https://doi.org/10.1111/spc3.12367

Riley, S., Robson, M., & Evans, A. (2021). Foucauldian-Informed Discourse Analysis. In M. Bamberg, C. Demuth, & M. Watzlawik (Eds.), *The Cambridge Handbook of Identity* (1st ed., pp. 285–303). Cambridge University Press. https://doi.org/10.1017/9781108755146.016

Robertson, C., Lin, A., Smith, G., Yeung, A., Strauss, P., Nicholas, J., Davis, E., Jones, T., Gibson, L., Richters, J., & Bock, M. D. (2020). The Impact of Externally Worn Diabetes Technology on Sexual Behavior and Activity, Body Image, and Anxiety in Type 1 Diabetes. *Journal of Diabetes Science and Technology*, *14*(2), 303–308. https://doi.org/10.1177/1932296819870541

Ruiz-Aranda, D., Luque, A., Russo, F., & Fenollar-Cortés, J. (2025). Sociocultural Attitudes Toward Appearance and Attitudes Toward Eating in Adolescents With Type 1 Diabetes: The Importance of Perfectionism. *Pediatric Diabetes*, *2025*(1). https://doi.org/10.1155/pedi/9993342

Sanders, R. (2017). Self-tracking in the Digital Era: Biopower, Patriarchy, and the New Biometric Body Projects. *Body & Society*, *23*(1), 36–63. https://doi.org/10.1177/1357034X16660366

Schabert, J., Browne, J.L., Mosely, K. *et al.* Social Stigma in Diabetes. *Patient* **6**, 1–10 (2013). https://doi.org/10.1007/s40271-012-0001-0

Sharma, Y., Kannan, A., Lee, J. M., Coffman, F., & Mittal, R. (2024). Frederick G Banting (1891-1941): A Pioneer in Diabetes Treatment. *Cureus*, *16*(11), e73806. https://doi.org/10.7759/cureus.73806

Sørgård, B., Iversen, M. M., & Mårtensson, J. (2019). Continuous glucose monitoring in adults with type 1 diabetes: A balance between benefits and barriers: A critical incident study. *Journal of Clinical Nursing*, *28*(17–18), 3318–3329. https://doi.org/10.1111/jocn.14911

Stedman, L., Williman, J., Burnside, M., Davies, H., Jefferies, C., Marsters, B., Paul, R., Wheeler, B., Wiltshire, E., & De Bock, M. (2024). Emergent inequity of glycaemic metrics for Māori children with type 1 diabetes is negated by early use of continuous glucose monitoring. *New Zealand Medical Journal*, *137*(1598), 14–21. https://doi.org/10.26635/6965.6470

Tanenbaum, M. L., & Commissariat, P. V. (2023). Experience with burdens of diabetes device use that affect uptake and optimal use in people with type 1 diabetes. *Endocrine Connections*, *12*(10), e230193. https://doi.org/10.1530/EC-23-0193

Terry, G., & Kayes, N. (2020). Person centered care in neurorehabilitation: A secondary analysis. *Disability and Rehabilitation*, *42*(16), 2334–2343. https://doi.org/10.1080/09638288.2018.1561952

Terry, G., Hayfield, N., Braun, V., & Clarke, V. (2017). Thematic Analysis. In C. Willig & W. Stainton Rogers (Eds.), *The SAGE Handbook of Qualitative Research in Psychology* (2nd ed., pp. 17-37). SAGE Publications

Thrower, S. L., & Bingley, P. J. (2014). What is type 1 diabetes? *Medicine*, *42*(12), 682–686. https://doi.org/10.1016/j.mpmed.2014.09.003

Trainor, L. R., & Bundon, A. (2021). Developing the craft: Reflexive accounts of doing reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *13*(5), 705–726. https://doi.org/10.1080/2159676X.2020.1840423

Ussher, J.M. (2006). Managing the Monstrous Feminine: Regulating the Reproductive Body (1st ed.). Routledge. https://doi.org/10.4324/9780203328422

Vasiljević, J., Torkko, J.M., Knoch, KP. *et al.* The making of insulin in health and disease. *Diabetologia* **63**, 1981–1989 (2020). https://doi.org/10.1007/s00125-020-05192-7

Wallace, T., Heath, J., & Koebbel, C. (2023). The impact of flash glucose monitoring on adults with type 1 Diabetes' eating habits and relationship with food. *Diabetes Research and Clinical Practice*, *196*, 110230. https://doi.org/10.1016/j.diabres.2022.110230

Wang, R. H., Lin, C. C., Chen, S. Y., Hsu, H. C., & Huang, C. L. (2021). The Impact of Self-Stigma, Role Strain, and Diabetes Distress on Quality of Life and Glycemic Control in Women With Diabetes: A 6-Month Prospective Study. *Biological research for nursing*, *23*(4), 619–628. https://doi.org/10.1177/10998004211009606

Wheeler, B. J., Braund, R., Galland, B., Mikuscheva, A., & Wiltshire, E. (2019). *District health board of residence, ethnicity and socioeconomic status all impact publicly funded insulin pump uptake in New Zealand patients with type 1 diabetes*. *132*(1491).

Wiedemann, L. (2021). Being on standby: On maintenance work in chronic disease management. *Ephemera: Theory & Politics in Organization, 21*(1), 31-58.

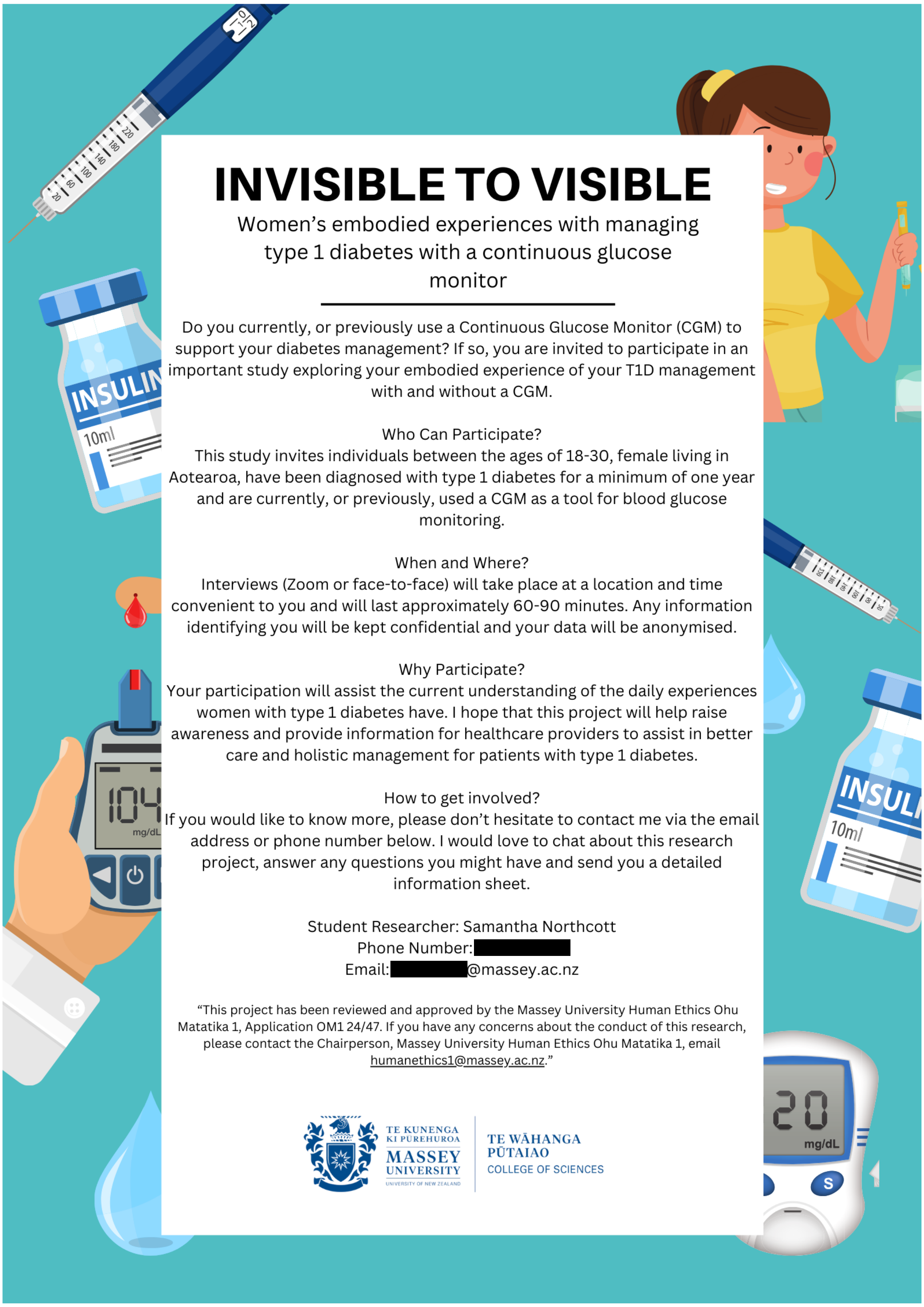
Wilkinson, T., Donnelly, S., Lever, C., Williman, J., Meier, R., Boucsein, A., … de Bock, M. (2025). First-in-human feasibility study: Automated insulin delivery utilizing a self-adapting algorithm in adults with type 1 and type 2 diabetes. *Journal of Diabetes Science and Technology*. Advance online publication. https://doi.org/10.1177/19322968251349528

Willig, C., & Stainton, R. W. (Eds.). (2017). *The sage handbook of qualitative research in psychology*. SAGE Publications, Limited.

Wu, R., Burnside, M., Davies, H., Jefferies, C., Wheeler, B., Paul, R., Wiltshire, E., De Bock, M., & Williman, J. (2023). Prevalence and incidence of type 1 diabetes in children aged 0–14 years old in New Zealand in 2021. *Journal of Paediatrics and Child Health*, *59*(3), 519–525. https://doi.org/10.1111/jpc.16342

Appendix A

Advertising Poster



INVISIBLE TO VISIBLE

Women's embodied experiences with managing type 1 diabetes with a continuous glucose monitor

Do you currently, or previously use a Continuous Glucose Monitor (CGM) to support your diabetes management? If so, you are invited to participate in an important study exploring your embodied experience of your T1D management with and without a CGM.

Who Can Participate?
This study invites individuals between the ages of 18-30, female living in Aotearoa, have been diagnosed with type 1 diabetes for a minimum of one year and are currently, or previously, used a CGM as a tool for blood glucose monitoring.

When and Where?
Interviews (Zoom or face-to-face) will take place at a location and time convenient to you and will last approximately 60-90 minutes. Any information identifying you will be kept confidential and your data will be anonymised.

Why Participate?
Your participation will assist the current understanding of the daily experiences women with type 1 diabetes have. I hope that this project will help raise awareness and provide information for healthcare providers to assist in better care and holistic management for patients with type 1 diabetes.

How to get involved?
If you would like to know more, please don't hesitate to contact me via the email address or phone number below. I would love to chat about this research project, answer any questions you might have and send you a detailed information sheet.

Student Researcher: Samantha Northcott
Phone Number: [redacted]
Email: [redacted]@massey.ac.nz

"This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 1, Application OM1 24/47. If you have any concerns about the conduct of this research, please contact the Chairperson, Massey University Human Ethics Ohu Matatika 1, email humanethics1@massey.ac.nz."

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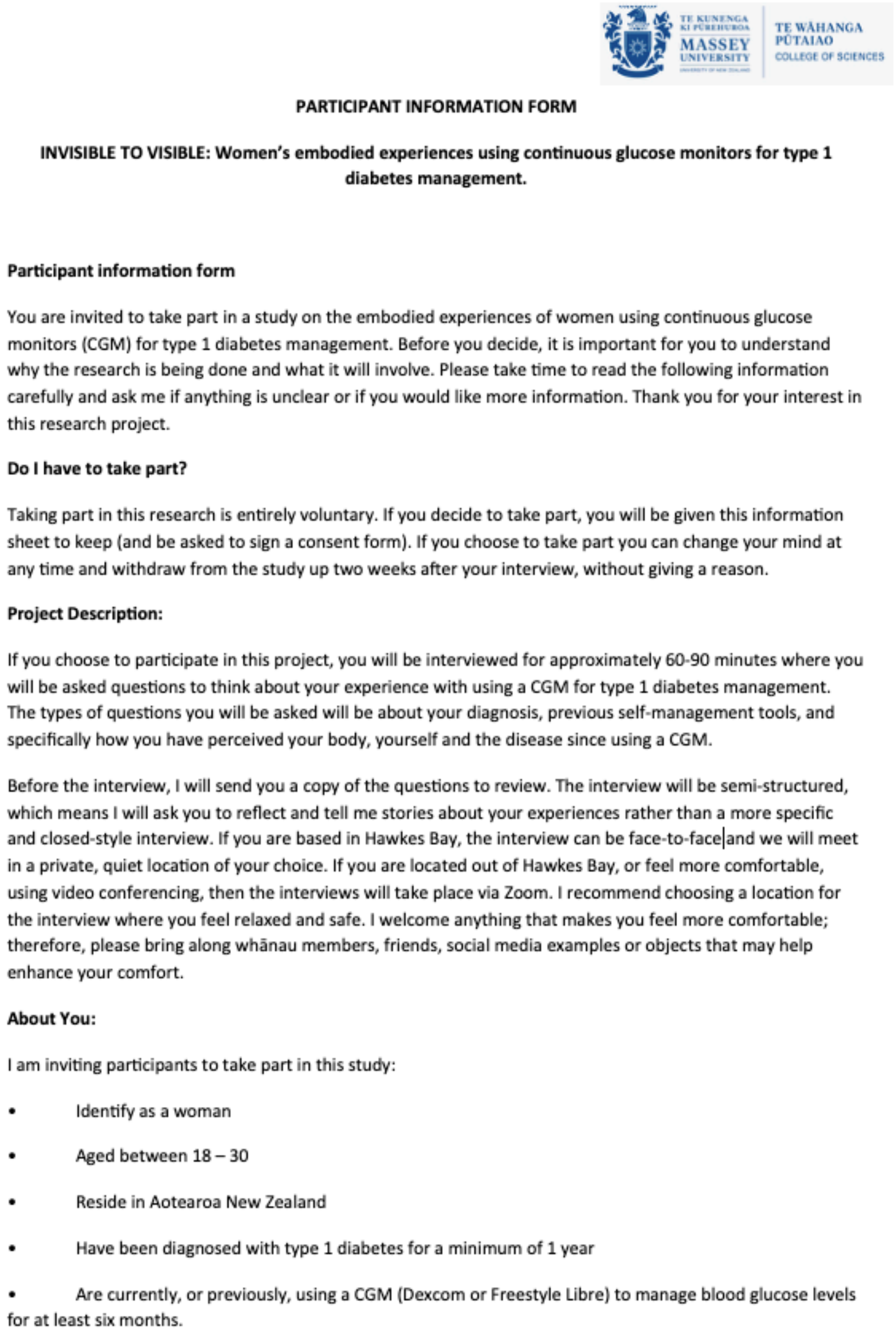
Appendix B

Participant Letter and Consent Form



PARTICIPANT INFORMATION FORM

INVISIBLE TO VISIBLE: Women's embodied experiences using continuous glucose monitors for type 1 diabetes management.

Participant information form

You are invited to take part in a study on the embodied experiences of women using continuous glucose monitors (CGM) for type 1 diabetes management. Before you decide, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and ask me if anything is unclear or if you would like more information. Thank you for your interest in this research project.

Do I have to take part?

Taking part in this research is entirely voluntary. If you decide to take part, you will be given this information sheet to keep (and be asked to sign a consent form). If you choose to take part you can change your mind at any time and withdraw from the study up two weeks after your interview, without giving a reason.

Project Description:

If you choose to participate in this project, you will be interviewed for approximately 60-90 minutes where you will be asked questions to think about your experience with using a CGM for type 1 diabetes management. The types of questions you will be asked will be about your diagnosis, previous self-management tools, and specifically how you have perceived your body, yourself and the disease since using a CGM.

Before the interview, I will send you a copy of the questions to review. The interview will be semi-structured, which means I will ask you to reflect and tell me stories about your experiences rather than a more specific and closed-style interview. If you are based in Hawkes Bay, the interview can be face-to-face and we will meet in a private, quiet location of your choice. If you are located out of Hawkes Bay, or feel more comfortable, using video conferencing, then the interviews will take place via Zoom. I recommend choosing a location for the interview where you feel relaxed and safe. I welcome anything that makes you feel more comfortable; therefore, please bring along whānau members, friends, social media examples or objects that may help enhance your comfort.

About You:

I am inviting participants to take part in this study:

- Identify as a woman
- Aged between 18 – 30
- Reside in Aotearoa New Zealand
- Have been diagnosed with type 1 diabetes for a minimum of 1 year
- Are currently, or previously, using a CGM (Dexcom or Freestyle Libre) to manage blood glucose levels for at least six months.

What are the possible disadvantages and risks of taking part?

Currently, there is little research on the experiences of the use of CGM and how women-identifying individuals perceive their bodies, food choices, self and relationship with the disease. The hope for this research is that the experiences you share will contribute to a significantly under-researched area which will have the possibility to increase understanding of the use of diabetes technology from a biomedical viewpoint to a holistic one. With a greater understanding, the hope is to assist diabetes health professionals and individuals with type 1 diabetes to better understand and support lifestyle stressors and stigma that can arise. You will also be offered a $30 petrol or supermarket voucher in acknowledgement of your time and contribution to the study.

During the interview, you will be discussing details of how the use of a CGM may have impacted your perception and thoughts about your body, yourself and how you self-manage your diabetes. Recalling details from these experiences could bring up unpleasant feelings or thoughts. Due to this, you will be provided with the questions before the interview and are encouraged to ask questions or raise any concerns throughout the research process and the interview. You also have the right to decline any questions you do not wish to answer and can stop or pause the interview at any time without explanation.

If you do find any parts of the interview distressing, you can contact any of the support organisations provided at the end of this sheet.

Data Management:

All personal information relating to you (e.g., email address, mobile phone number) will be kept confidential and in a password-protected file stored on Massey University's network, OneDrive, which is a highly secure cloud system. This data will be backed up and protected against viruses and other attacks. This reliable system ensures that privacy and confidentiality are respected.

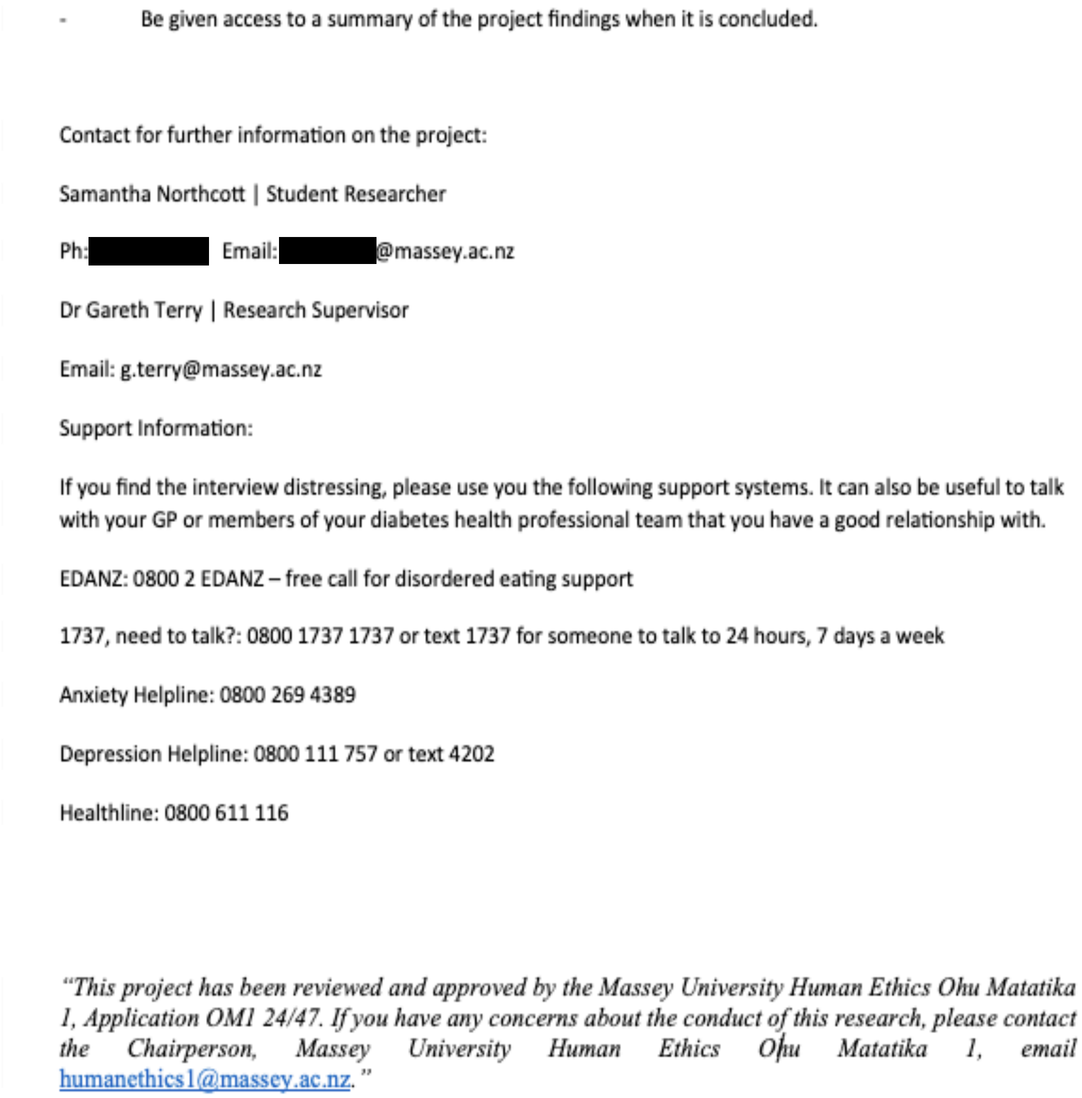
I will record our conversation so that I can transcribe it into a written document. The transcripts that will be included in my research will be deidentified so that you cannot be identified in the research in any way. For example, if you say something that might give away your identity (e.g., where you live), then this information will be removed. The video and audio recordings of the interview are automatically transferred to my personal computer by Zoom immediately after the interview, at which point I will permanently delete the video. The audio file will be password-protected so that no one else can access it.

Upon completion of the research project, all documents will be destroyed following Massey University's document destruction policies. I can also provide you with a summary of the research findings if you request this.

Participants Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- Decline to answer any question
- Withdraw from the study up to two weeks after your interview
- Ask any questions about the study at any time during participation
- Ask for the recorder to be turned off at any time during the interview
- Provide information on the understanding that your name will not be used



- Be given access to a summary of the project findings when it is concluded.

Contact for further information on the project:

Samantha Northcott | Student Researcher

Ph: [redacted] Email: [redacted]@massey.ac.nz

Dr Gareth Terry | Research Supervisor

Email: g.terry@massey.ac.nz

Support Information:

If you find the interview distressing, please use you the following support systems. It can also be useful to talk with your GP or members of your diabetes health professional team that you have a good relationship with.

EDANZ: 0800 2 EDANZ – free call for disordered eating support

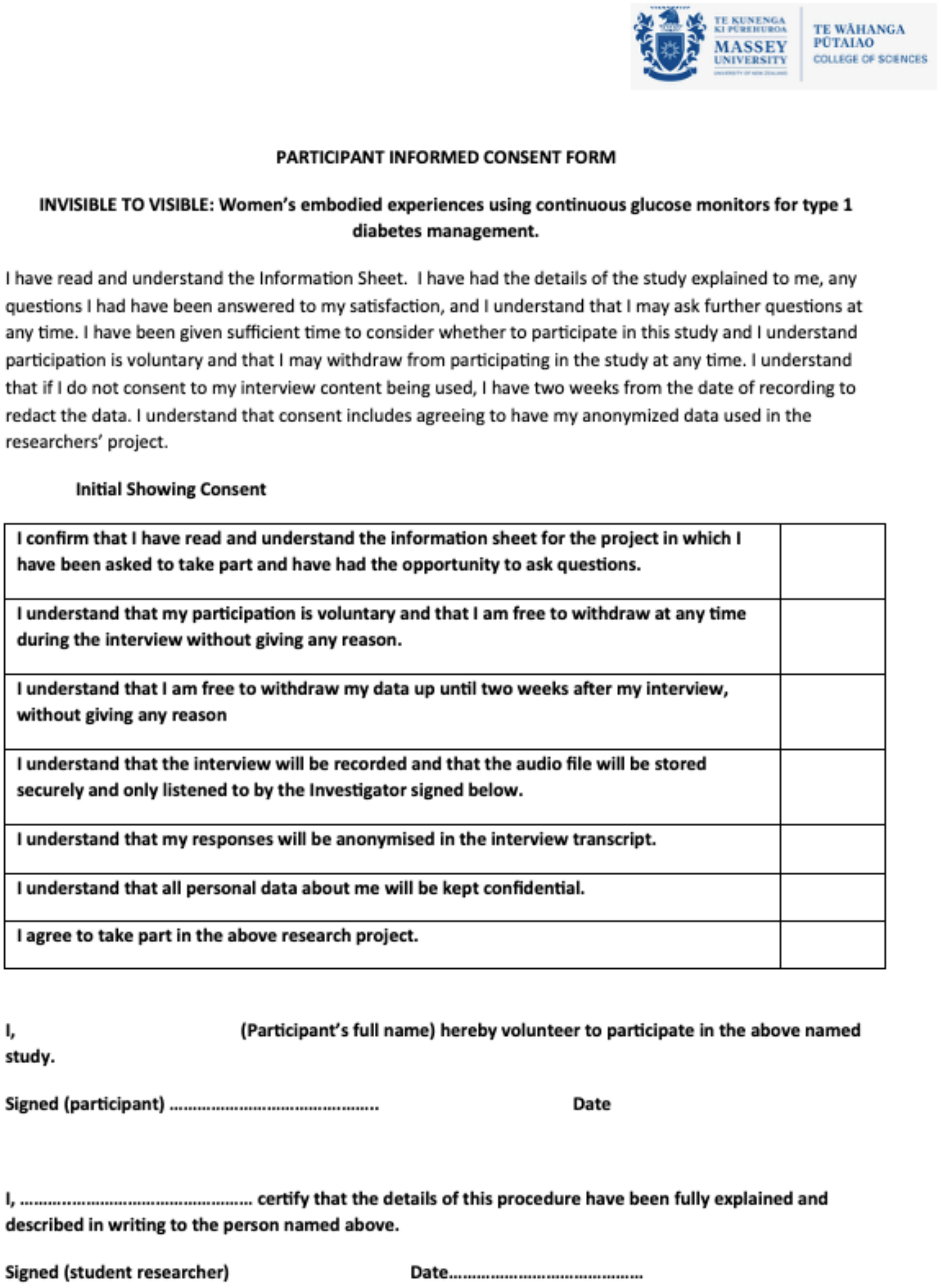
1737, need to talk?: 0800 1737 1737 or text 1737 for someone to talk to 24 hours, 7 days a week

Anxiety Helpline: 0800 269 4389

Depression Helpline: 0800 111 757 or text 4202

Healthline: 0800 611 116

"This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 1, Application OM1 24/47. If you have any concerns about the conduct of this research, please contact the Chairperson, Massey University Human Ethics Ohu Matatika 1, email humanethics1@massey.ac.nz."



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PARTICIPANT INFORMED CONSENT FORM

INVISIBLE TO VISIBLE: Women's embodied experiences using continuous glucose monitors for type 1 diabetes management.

I have read and understand the Information Sheet. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I have been given sufficient time to consider whether to participate in this study and I understand participation is voluntary and that I may withdraw from participating in the study at any time. I understand that if I do not consent to my interview content being used, I have two weeks from the date of recording to redact the data. I understand that consent includes agreeing to have my anonymized data used in the researchers' project.

Initial Showing Consent

I confirm that I have read and understand the information sheet for the project in which I have been asked to take part and have had the opportunity to ask questions.	
I understand that my participation is voluntary and that I am free to withdraw at any time during the interview without giving any reason.	
I understand that I am free to withdraw my data up until two weeks after my interview, without giving any reason	
I understand that the interview will be recorded and that the audio file will be stored securely and only listened to by the Investigator signed below.	
I understand that my responses will be anonymised in the interview transcript.	
I understand that all personal data about me will be kept confidential.	
I agree to take part in the above research project.	

I, (Participant's full name) hereby volunteer to participate in the above named study.

Signed (participant) ………………………………………… Date

I, …………………………………………… certify that the details of this procedure have been fully explained and described in writing to the person named above.

Signed (student researcher) Date……………………………………

Appendix C

Interview Schedule

Interview Schedule and Questions

Introduction

- Greet Participant
- Express thanks and gratitude for participating in the study and interview

I am looking forward to doing this research for your type 1 community and sharing the stories of women with type 1 through the challenges that body, food and self can bring with the illness. This research project is exploring the embodied experience of wearing a CGM with a particular focus on body image, food consumption, relationship with self and relationship with the illness.

I, like you, have type 1 diabetes. I was diagnosed at age 24, with a history of eating distress and body behaviours post-diagnosis. Since being on a pump for a year now, and on and off use of a CGM, I noticed a change in my thoughts and behaviours towards myself, body, food choices and illness. I wanted to take the opportunity with my master's thesis to explore this relationship and potentially identify some resources and findings that could support other women with T1 who face similar struggles, as well as inform health professionals on how to assist women.

While I do have type 1, this interview and research are about your experiences and your stories. There are no right or wrong answers, no silly questions, no silly stories, and we can stop and start, pause, and skip questions whenever you need.

- Questions regarding what I've said, informed consent sheet, information after, etc

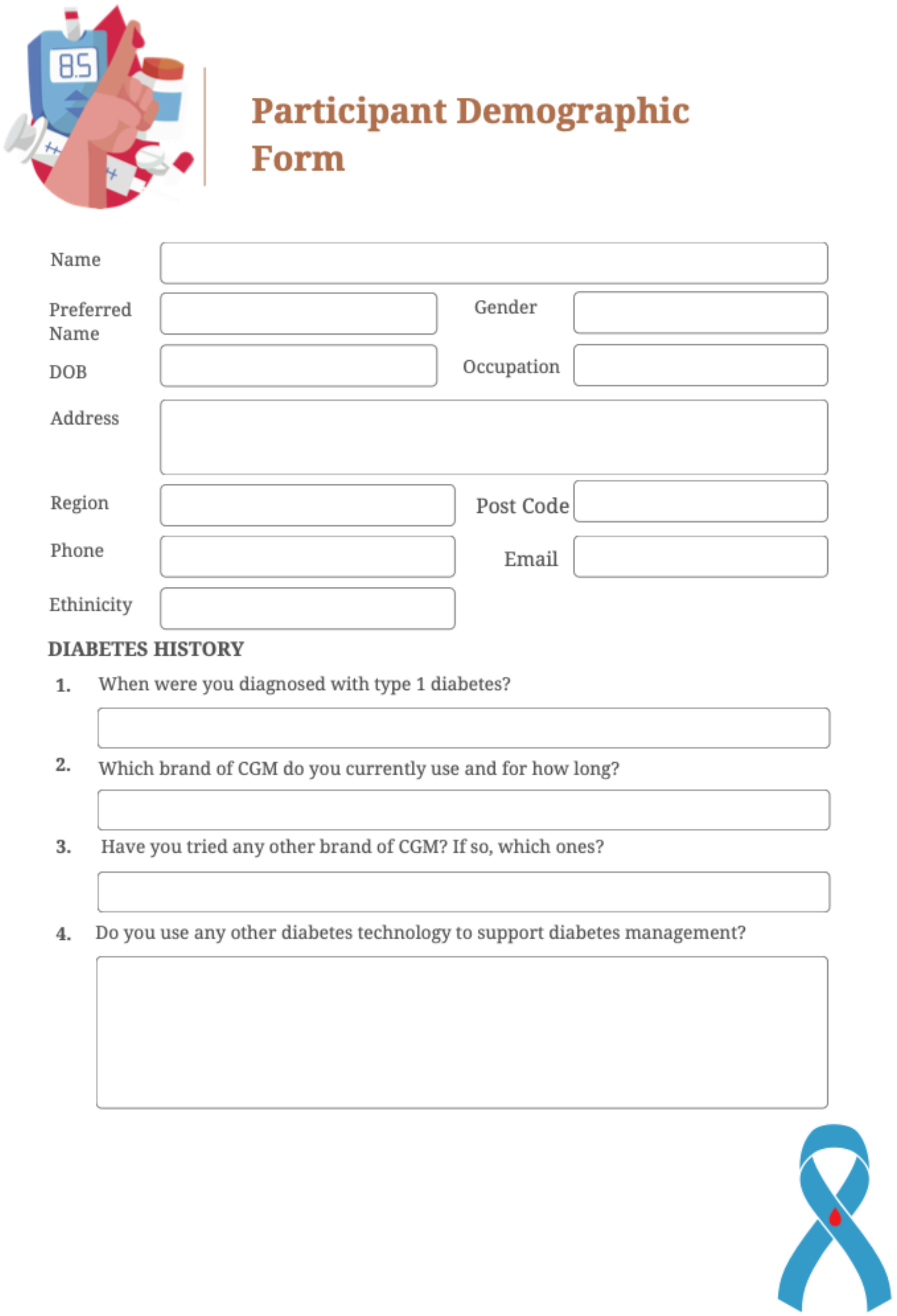
We can get started whenever you are ready. Feel free to take a moment now and at any point during the interview for a breather, time out, glass of water, toilet, etc.

Interview Questions – broad with prompts.

1. Let's start with telling me your diagnosis story.
2. How did you manage your diabetes prior to using a continuous glucose monitor?
3. What led you to use a continuous glucose monitor?
   * What were the barriers to using a CGM? What were the enablers to using a CGM?
4. Tell me about your relationship with your body, generally.
   * How has using the CGM impacted??
5. Tell me about your relationship with diabetes?
   * Has this changed over time? Has the way you managed it changed?
6. How has diabetes impacted your relationships (familial, social and intimate)?
   * How has using a CGM shaped these?
7. Share a story about an experience where a member of the public has noticed or mentioned your CGM.
   * How did they make you feel? What thoughts came up in that moment? Do you remember similar occurrences when you weren't wearing a CGM?
8. How have your behaviours, thoughts or feelings towards your disease and/or body in public changed since wearing a CGM?
9. Is there anything else you'd like to raise that I haven't asked about?

Appendix D

Participants Demographic Form



Participant Demographic Form

Name

Preferred Name

Gender

DOB

Occupation

Address

Region

Post Code

Phone

Email

Ethinicity

DIABETES HISTORY

1. When were you diagnosed with type 1 diabetes?
2. Which brand of CGM do you currently use and for how long?
3. Have you tried any other brand of CGM? If so, which ones?
4. Do you use any other diabetes technology to support diabetes management?