EXPLORING THE RECENT LITERATURE ON LONELINESS AS A GLOBAL HEALTH CRISIS

LONELINESS AS A MODERN CONSTRUCT: EXPLORING THE RECENT LITERATURE
ON LONELINESS AS A GLOBAL HEALTH CRISIS

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LAY ABSTRACT

The construct of loneliness is well explored within the arts and humanities, but has only recently been considered to be a condition that should be addressed by public health policy. The governments of Japan and the UK have implemented policy that specifically addresses loneliness as a result of its recent identification as a health concern linked with dementia, heart disease, hypertension, and greater risk of morbidity. This thesis undertook an integrative literature review across the arts, humanities, and sciences, and grey literature to provide an expansive picture of a modern conceptualization of loneliness. The results of this thesis find that loneliness is both a health risk and social problem which can be appropriately addressed by government action. However, the question remains as to whether loneliness should be considered a public health concern or a social concern. More international collaboration on the impact of loneliness on populations is recommended.

Keywords: Loneliness, Health Risk, Public Health, Global Health, Public Policy, UK, Japan

ABSTRACT

The construct of loneliness is well explored within the arts and humanities, but has only recently been considered to be a condition that should be addressed by public health policy. Definitions explored include common sense, existential loneliness, and the cognitive approach. The governments of Japan and the UK have implemented policy that specifically addresses loneliness as a result of its recent identification as a health concern linked to dementia, heart disease, hypertension, and greater risk of morbidity. This thesis undertook an integrative literature review across the arts, humanities, sciences, and grey literature to provide a comprehensive picture of a modern conceptualization of loneliness. The results of this thesis find that loneliness is both a health risk and social problem that is being addressed at the municipal and federal levels in Japan and the UK. However, the question remains as to whether loneliness should be considered a public health concern or a social concern. More international collaboration on the impact of loneliness on populations is recommended.

Keywords: Loneliness, Health Risk, Public Health, Global Health, Public Policy, UK, Japan

ACKNOWLEDGEMENTS

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ABBREVIATIONS

A&E – Accident and Emergency Department
APL – Above Poverty Line
APA – American Psychological Association
AMSTEL- Amsterdam Study of the Elderly
BBC- British Broadcasting Corporation
BCCJ- British Chambers of Commerce in Japan
BDI-II - Beck Depression Inventory II
BPL- Below Poverty Line
EfC- Employers for Carers
CD- Cardiovascular Disease
CHD – Coronary Heart Disease
CMD – Common Mental Disorder
CVD – Coronary Vascular Disease
GP- General Practitioners
HM- Her Majesty (used in the context of Her Majesty's royal government)
JLA- Japan Library Association
LTCI- Long Term Care Insurance
LSDQ- Loneliness and Social Dissatisfaction Questionnaire
MDD- Major Depressive Disorder
MP- Member of Parliament
NHS- National Health Service
NGO- Non-Governmental Organization
R- UCLA- Revised UCLA Scale
SBP - Spontaneous Bacterial Peritonitis
SES- Socioeconomic Status
SSRI – Selective Serotonin Reuptake Inhibitors
UCLA- University of California, Los Angeles
ULS-6- Short form of the UCLA Scale
WHO- World Health Organization

DECLARATION OF ACADEMIC ACHIEVEMENT

I, Juliana Hayden-Nygren, declare this Master's thesis to be my own work. Any ideas that are not my own have been cited using APA format. I have not submitted any former research, course work, or assignment, as part of this thesis. No part of this thesis has been submitted for publication or submitted for degree requirements at another institution.

To the best of my knowledge, no part of this thesis infringes on any other publication's copyright.

My supervisor, Dr. Andrea Baumann, has provided guidance and editorial assistance throughout the research and writing processes. I solely completed all research and writing.

-CHAPTER ONE-

1. Introduction

"O, me alone! Make you a sword of me?" Decries Coriolanus as he takes up arms against the Great Aufidus (Shakespeare, 1884). The Bard's last tragedy, penned in 1608, is an exploration of the tragic hero's physical and psychological experience of otherness from the collective and within himself (Lissak, 2011). The concepts of physical severance and psychological dissociation from one's self and community, such as Coriolanus's severance from Rome, have appeared throughout the literary and theological vocabulary of the early Jacobean era of 1603 to 1625 (Bengston, n.d.). Separating Coriolanus from Shakespeare's other works are the mots-clés of "other," "others," and "otherwise," occurring forty-one times throughout the tragedy, a rate far more frequent than in any other of the Bard's plays (Lisak, 2011). What had spurred Shakespeare, famous for documenting the human condition through comedies and tragedies alike, to delve into the different states of otherness? Was as an aspect(s) of society's structure changing resulting in uncharted territory of isolation, or has humanity always been plagued by internal and external forms of loneliness, social isolation, in essence, otherness?

Long before Shakespeare drafted Coriolanus's divorce from his fellow man and dissociation from himself, Aristotle foreshadowed Coriolanus's sense of disconnection as "he who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or god: he is no part of state (Aristotle, 1905)." While not outright naming loneliness, Aristotle's words can be interpreted as defining the concept of loneliness. Differing constructs of loneliness have been vigorously teased out, debated, and personified in existentialist theory, literature, the political arena, even appearing as early as Greek mythology

(Segal, 2012). In Homer's *The Odyssey,* Odysseus consistently suffers from loneliness as he experiences home sickness on the shores Calypso's beach, the loss of his fellow soldiers in the Trojan War, and the deaths of his shipmates (Rutherford, 1986). His wife, mother, and son all experience loneliness stemming from longing for sincere companionship throughout the epic (Rutherford, 1986). Following this literary lineage, loneliness is portrayed as intrinsic to the human experience. Yet, disciplines across social sciences, arts and humanities, and medical sciences all reframe the construct of loneliness differently.

In 1988, the landmark study, *Social Relationships and Health* suggests that social isolation is a risk factor for morbidity and mortality (House, Landis, & Umberson, 1988). As of 1998, there is a great increase in medical research investigating loneliness as a growing public health concern. Currently, health officials from around the world are presenting the notion of loneliness as a public health epidemic (Malhi, 2018). This thesis presents a chronological conceptualization of loneliness leading to loneliness's current conceptualization as a public health concern and the introduction of government policy, as a remedy. This introduction will outline the four chapters with several subsections respectively that comprise this thesis. Subsection one of this chapter briefly reviews the methodology of this thesis in order to substantiate the choice of method.

The first chapter constructs a timeline of the historical and philosophical development of the construct of loneliness. Subsection II discusses the emergence of loneliness as a common theme in literature prior to World War II. Subsection III discusses how the existential philosophers influenced the conversation on loneliness as 'a crisis of being.' The fourth and final subsection presents an overview of the thinking in political philosophy and psychiatry pertaining to loneliness that emerged out of the Second World War.

Chapter Two provides an analysis of prominent studies examining the measurement of loneliness and the subsequent study of loneliness as an independent health risk. Subsection I reviews the major psychometric analyses of loneliness, which have determined how psychologists and psychiatrists measure loneliness. Subsection II presents an overview of the physiological outcomes of loneliness. The third and final subsection briefly details the potential for pharmacological treatment of loneliness.

Chapter Three is a policy review of governments' emerging strategies for addressing loneliness. Subsection I details Japan's lonely death crisis, and the government's civic data monitorization driven response. Subsection II provides an overview of the UK's comprehensive cross-governmental loneliness strategy. Subsection III explores the UK's impact on Australian academia's attitudes towards addressing loneliness. Subsection IV explores the emergence of literature addressing loneliness as a public health concern in middle to low socioeconomic status (SES) countries, thus investigating the idea that loneliness is a global health concern, and not limited to economically developed nations.

Chapter Four is the conclusion of this thesis. Subsection I summarizes and synthesizes the research, thus substantiating findings. Subsection II presents a discussion of the findings and suggests areas for further research. This thesis will now discuss the chosen methodology.

1.1 Methodology

This thesis uses an integrative literature review. Integrative literature reviews require the review, critique, and synthesis of the representative literature on the chosen topic, in turn allowing for the creation of new perspectives and questions on the topic (Torraco, 2004). The integrative literature review is designed to be used for new research topics, as the case in this thesis, or well-established topics. The integrative literature review is well-suited to emerging topics, such as loneliness, as it allows for the synthesis of the literature to date, including grey literature, which not have been subjected to comprehensive critique (Bem, 1995 & Torraco, 2004). Torraco, a methodological expert on integrative literature reviews, acknowledges, "The integrative literature review is a distinctive form of research that generates new knowledge about the topic reviewed. Little guidance is available on how to write an integrative literature review (Torraco, 2004,)."

In order to organize this thesis integrative review, I developed a conceptual structure of the topic, selecting works focused on different perspectives of loneliness, so as to show comprehensive understanding of the loneliness. The strategy used for selecting literature included a database search of PubMed, NCBI, PsychNet, and JSTOR, using the keywords "loneliness," "social isolation," "solitude," "health risk," "geriatric," "Japan," "UK," and "public health". Additionally, I used the McMaster University Online Health Sciences Library and Google Scholar for more immediate searches. Older literature was found using an ancestry search (a review of citations and footnotes) of relevant peer-reviewed published literature. This thesis includes the synthesis of ideas in peer-reviewed literature with new ideas stemming from grey literature such a government and media reports. Synthesizing the literature allowed for the

research to be discussed as a whole, focusing on the crux of the issue of loneliness, rather than solely presenting ideas from previous academic peer-reviewed literature.

1.2 The emergence of loneliness as a common theme in literature prior to World War II

This chapter will include a summary of several seminal works of literature and philosophy that address loneliness, from the 17th century to the Second World War. Loneliness has only recently been studied within social and medical sciences however, themes of loneliness, solitude, and otherness have been well explored in literature as early as the 17th century. While the term "loneliness" was not always used outright, other descriptors such as "involuntary solitude", "isolation," and "desire for company" frequently appear in the seminal works. The terms used within the literature reviewed in this chapter reflect the common sense definitions of loneliness found in Merriam-Webster English dictionary. The Merriam-Webster dictionary establishes a common definition that express everyday understandings of loneliness. Merriam-Webster presents loneliness as, "a quality or condition existing within people and places alike (Merriam Webster, n.d.)." The common sense definitions of loneliness that appear below associate the state of loneliness with the want of society, being without company, dejection, feelings of bleakness.

Merriam-Webster: Loneliness

1. a) Being without company: Lone
   b) Cut off from others: Solitary
2. Not frequented by human beings: Desolate
3. Sad from being alone: Lonesome
4. Producing feelings of bleakness or desolation

The above definition of loneliness demonstrates variations in how loneliness may present or may be understood. Authors' interpretations of what it means to be lonely vary, however,

commonalities persist that tend to align with the common sense definition. This following section provides a chronological review of loneliness major works of literature dating from the seventeenth century to the Second World War.

As early as the seventeenth century, Dutch pietist, Simon Oomius, a leader in the Dutch Further Reformation movement, notes the connection between loneliness and aging in his writing. (Van der Pol, 2015). In his work, Oomius describes the pain of loneliness that develops in tandem with other symptoms of aging (Van der Pol, 2015). His concern for the spirituality of the elderly stemmed from his own experience with aging (Van der Pol, 2015). Oomius was 76-years-old when he wrote his treatise, *Cierlijke Kroon*, a manual for "travelling the path of life" (Van der Pol, 2015). *Cierlijke Kroon* is specifically a piece of spiritual leadership for the elderly. In his treatise, Oomius states the elderly experience weakened control over their emotions, including pervasive feelings of loneliness, anxiety, and depression (Van der Pol, 2015).

While Oomius presents loneliness as a painful part of the aging process, seventeenth century poets and pamphleteers in England and France depict loneliness as a positive experience (Long, 2003). In Andrew Marvell's famous poem, *The Garden*, he connects self-contemplation to loneliness (Coughlan, n.d.). Critiques of *The Garden* highlight that this poem describes solitude and the physical state of being alone as desirable (Long, 2003). He discusses loneliness in the context of paradise. Andrew Marvell portrays paradise in *The Garden* as a place that is best experienced alone. This point is illustrated in the passage below:

> Such was that happy garden-state,
> While man these walked without a mate:
> After a place so pure, and sweet,
> What other help could yet be meet!
> But 'twas beyond a mortal's share
> To wander solitary there:
> Two paradises 'twere in one
> To live in paradise alone. (57-64) (Marvell, 1681)

Literary criticism on seventeenth century poetry and essays note that Abraham Cowley's 1668 essay "Of Solitude," reinforces the belief shared by writers and poets of the period that experiencing solitude is a reward for those virtuous enough to appreciate their aloneness (Long, 2003 & De Gooyer, 2001). Cowely argues for the social and ethical values of solitude (De Gooyer, 2001). Cowley, among other renaissance poets, expresses a desire for "personal territory free from the compromises of public life (De Gooyer, 2001)." Cowley's use of the term 'solitude' is synonymous with 'loneliness,' as it is in the common definitions of Merriam-Webster and the Oxford English Dictionary (see Appendix 1).

Cowley states that solitude enables self-contemplation (Cárdenas, 2014). Cowley's reverence for solitude is demonstrated in the passage below in which he alleges that solitude is a state that is only accessible when an individual has "enough knowledge of the world to see the vanity of it" and may detach himself from "any lust, or passions (Cowley, 1668)."

> The truth of the matter is, that neither he who is a fop in the world is a fit man to be alone, nor he who has set his heart much upon the world, though he has ever so much understanding; so that solitude can be well fitted and set right but upon a very few persons. They must have enough knowledge of the world to see the vanity of it, and enough virtue to despise all vanity; if the mind be possessed with any lust or passions, a man had better be in a fair than in a wood alone (Cowley, 1668).

Critics agree that the poem "Of Solitude" portrays solitude as peaceful and voluntary (Donovan, 1976 & Nerthcot, 1930). During this period, John Milton presents an understanding of loneliness as neither voluntary nor positive in *Paradise Lost* (1667). Unlike his contemporaries Marvell and Cowley, Milton depicts solitude as a negative state (Long, 2003). Milton's protagonist, Adam, experiences solitude because he is unable to find happiness in Paradise while alone (Hethrone, 2017). Adam's desire for company aligns with the Oxford Dictionary's first ranked definition of loneliness as the "want of society or company (OED, n.d.)

(see Appendix 1)." Adam's strong desire to seek company throughout book nine of *Paradise Lost* suggests he is suffering from loneliness, as per English language dictionaries' definition (Hethrone, 2017) (see Appendix 1).

While the term loneliness itself is not referenced in *Paradise Lost*, Milton does use the terms solitude and alone, which are assigned as synonyms of loneliness in both Merriam-Webster and Oxford (Milton, 1667). The quote from book eight of *Paradise Lost* describes loneliness as an inability to find contentment alone. "In solitude What happiness? Who can enjoy alone, Or, all enjoying, what contentment find? (Milton, 1667)." The emphasis on solitude experienced by Adam, Eve and God in Milton's *Paradise Lost* evidences of importance of the theme of loneliness in seventeenth century contemporary discourse (Brown, 2012).

Mary Shelley's *Frankenstein* (1818) echoes the theme of loneliness that is described in *Paradise Lost* (Pollin, 1965). Mary Shelley's *Frankenstein* (1818) was largely influenced by Milton' (Pollin, 1965 &Wilinsky, 2006). Similarly to Adam in *Paradise Lost*, *Frankenstein's* monster is a creation who also experiences loneliness (Pollin, 1965). Critics argue that the experience of loneliness for both central characters in Mary Shelley's work, Victor Frankenstein and the monster, parallels the solitude, loneliness and otherness of Adam and God described in Milton's *Paradise Lost* (Pollin, 1965 & Oates, 1984).

In the case of Frankenstein, literary critics have posited that both Frankenstein and the monster are tormented by their sense of isolation from society (Zimmerman, 1981 & Özdemir, 2003). In both *Paradise Lost* and *Frankenstein*, Adam and the monster, yearn for companionship (Özdemir, 2003). The monster, whom is often referred to as "devil," "adversary," and "daemon", comes to recognize that hell is an internal condition, stemming from loneliness, if not loneliness itself (Adams, 2001 & Pollin, 1965).

Since the seventeenth century, the presentation of loneliness as an internal state, rather than a physical state of isolation, has been expanded upon in literature (Solomon, 2014). In the late nineteenth century, Joseph Conrad's body of work was seminal in addressing loneliness (Said, 2008). Central to the works of Conrad are themes of man's loneliness and alienation from society (Reeves, 1985). In Conrad's 1897 novella, *The N***** of the Narcissus*, Conrad's preface describes loneliness as an enduring quality of humanity.

> The latent feeling of fellowship with all creation- and to the subtle yet invincible conviction of solidarity that knits together the loneliness of innumerable hearts, to the solidarity in dreams, in joys, in sorrow, in aspirations, in illusions, in hope, in fear, which binds all men to each other, which binds together all humanity – the dead to the living and the living to the unborn. (*Preface*, Conrad, 1919)

Conrad's notion of loneliness as a universal experience is shared by American author and playwright Thomas Wolfe (Mijuskovic, 1981). Wolfe's 1930 essay *God's Lonely Man* directly connects Wolfe's own experiences with chronic loneliness to the belief that loneliness is an inherent aspect of the human condition (Mijuskovic, 1981). This concept is illustrated by a passage in *God's Lonely Man*:

> The whole conviction of my life now rests upon the belief that loneliness, far from being a rare and curious phenomenon, peculiar to myself and to a few other solitary men, is the central and inevitable fact of human existence. When we examine the moments, acts, and statements of all kinds of people-not only the grief and ecstasy of the greatest poets, but also the huge unhappiness of the average soul…we find, I think, that they are all suffering from the same thing. The final cause of their complaint is loneliness (Wolfe, 1941).

Literary critiques have argued that Conrad's past as a sailor and explorer inform his depictions of loneliness (McConnell, 1954). Conrad uses isolated exotic locales to depict the alienation of characters from themselves, others, and their environment (McConnell, 1954). His

seminal novel, *The Heart of Darkness,* became a cultural phenomenon, recognized to influence a host of the great writers of English and American literature (Miller, 2009). The remote and threatening settings of Conrad's novellas, as depicted in *The Heart of Darkness*, *An Outcast of the Islands* and *Tales of Unrest* amongst others, have become iconoclastic as symbolic of the challenge and risks of exploring the lonely self (McConnell, 1954 & Pitt, 1978). In *An Outcast of Islands*, Conrad illustrates that upon entering the dark jungle, Peter Willems is described as:

> […] afraid of his solitude, of the solitude of his body, of the loneliness of his soul in the presence of this ardent and unconscious struggle, of this lofty indifference, of this merciless and mysterious purpose, perpetuating strife and death through the march of ages. (Conrad, 1921)

Conrad's interpretation of loneliness is characterized by protagonists who suffer existential crises, dread, and anxiety (Bohlmann, 1991). Conrad's depictions of existential crises are similarly found in the fiction of Virgina Woolf, whose characters demonstrate struggles with anxiety generated by the loneliness (Pitt, 1978). Critics note that Woolf's characters battle to sustain relationships and make connections with others (Williams, 2013). Cox (1959) finds that fear of existential solitude underlies all of the novelists' works. "Eventually into this lonely world of the mind breaks knowledge of suffering and death, (Cox, 1959). " Through her novels, Woolf creates exceedingly lonely characters who are desperate to develop relationships in order to ease the agony of estrangement (Caughie, 1991). In Woolf's work *The Years*, the major character Sally says that "men and women are prisoners, scratching on the walls of their cells in their attempts to make contact with other people (Cox, 1959)." In this same novel, a central character, Eleanor, walks a dark corridor, representing the deep loneliness of existential angst, which the novelist posits that one can suffer even among familiar company (Cox, 1959). Portrayed as lacking meaning in her life, Eleanor becomes a personification of existential

loneliness (Fromm, 1986). Woolf's piece in essence maintains that loneliness is inherent to the human condition (Bolmsjö, Tengland, & Rämgård, 2018)

> She paused, looking down into the hall. A blankness came over her,
> Where am I? she asked herself, staring at a heavy frame. What is that?
> She seemed to be alone in the midst of nothingness. (Woolf, 2018)

Virginia Woolf's portrayal of existential loneliness is linked to self-awareness (Simone, 2017). Woolf's characters use self-awareness to eventually discover contentment can be found within nature and life events (Cox, 1959). Woolf's conclusions are tempered, and do not imply a directive to resolve existential loneliness. Woolf, as an author is noted for refusing to commit to definitive statements about constructs such as loneliness (Simone, 2017). However, critics have noted that her observations on loneliness and the human condition are profound (Parsons, 2014). In contrast to Virginia Woolf, the works of Thomas Wolfe, another author within the same time period, more clearly seek to offer a solution to the dilemma of loneliness (Hartley, 1961). Thomas Wolfe contends that embracing the emotion of love provides solace from feelings of isolation (Hartley, 1961). He illustrates the importance of love in his poem prefacing *Of Time and the River* (1999). The excerpt below expresses that through love, individuals are able to reconcile the inevitability of existential crisis.

> O flower of love whose strong lips drink us downward into death, in all things far and fleeting, enchantress of our twenty thousand days, the brain will madden and the heart be twisted, broken by her kiss, but glory, glory, glory, she re mains: Immortal love, alone and aching in the wilderness, we cried to you: You were not absent from our loneliness. (Wolfe, 1999)

As of the 17th century, there is much evidence to show that loneliness was a state that was acknowledged, and feared, as writers portrayed loneliness as a desolate place and mental

condition that caused feelings of sadness and anxiety (Worsley, 2018). As demonstrated by this section, some influential works of literature sought to investigate the possibility of tempering feelings of alienation however, others simply expressed it as a fact of the human condition. This chapter's historical exploration into interpretations of loneliness finds that philosophers and psychologists of the mid 19th century onward also investigated the notion of loneliness. In the following discussion of theories on loneliness by seminal philosophers from the mid 19th century to prior to World War II are reviewed.

1.3 Theories of Existential Loneliness Prior to World War II

This section explores a collection of formative works on loneliness written prior to World War II. These seminal works demonstrate that public interest in solutions for loneliness is not a new pursuit. In the mid-19th century, philosophers, writers, and psychologists discussed the phenomenon of loneliness through the discussion of existentialism. The term existentialism is commonly understood as, "a philosophical theory which emphasizes the existence of the individual person as a free and responsible agent determining their own development through acts of free will (Oxford University Press, 2005)." Kierkegaard, Hedigger, and Sartre are all considered to be the fathers of existentialism, and their views on existential loneliness will be summarized in this section (Crowell, 2017). The exploration of these existentialists among others, into what it means to exist initiated a significant shift in philosophy away from discussions of the rational and objective to explorations of the intangible and unknowable (Crowell, 2017). As aforementioned in the discussion of Virginia Woolf's works, existential loneliness considers loneliness to be a part of the human condition (Bolmsjö, Tengland, & Rämgård, 2018b). While deeming the experience of loneliness to be a fact of human nature,

existential philosophers nonetheless seek solutions to help bring reprieve from the desolation of loneliness (Bolmsjö et al., 2018) .

Søren Kierkegaard, a Christian philosopher, believed that human existence could be categorized into three distinct domains: the aesthetic, the ethical, and the religious (William, 2017). In Kierkegaard's *Either/Or: A Fragment of Life* (1843), the aesthetic aspect of existence centers on the enjoyment of the arts, sensuality, and beauty (Giese, 2011). However, Kierkegaard felt this pursuit of amusement and gratification only serves to mask such negative emotions as boredom, alienation, and loneliness (Giese, 2011). Kierkegaard determines that the domain of religion provides an answer to the problem of loneliness (Williams, 2017).

In the religious domain of life, there is an initial stage in which the individual rebels against relinquishing the freedom of the aesthetic domain, and as a result suffers anxiety, boredom, and despair, which may or may not be related to loneliness (Giese, 2011). For Kierkegaard, the act of faith is a choice that relieves the experiences of despair, loneliness, and anxiety (Carlisle, 2005). He proposes that without faith the individual suffers alienation from his very sense of being, and is ultimately overwhelmed by existential angst (Carlisle, 2005). Kierkegaard posits that once the individual seeks a genuine personal relationship with God, he will find that the psychological torment that accompanies existence is eased, even though religion does not allow for all aesthetic liberties (Williams, 2017).

In Kierkegaard's *Either/Or: A Fragment of Life,* the individual's progression to the religious stage of life entails a period of existential loneliness (Kierkegaard, 1843). Through the experience of emotional desolation, the individual advances to revelation and recovery (Kierkegaard, 1843) (Williams, 2017). In *The Concept of Anxiety* (1844)*,* Kierkegaard states that

the individual's ultimate fear is being alone and solely responsible for his actions, as illustrated in this passage:

> Deep within every human being there still lives the anxiety over the possibility of being alone in the world, forgotten by God, overlooked among the millions and millions in this enormous household. One keeps this anxiety at a distance by looking at the many round about who are related to him as kin and friends, but the anxiety is still there, nevertheless, and one hardly dares think of how he would feel if all this were taken away (Kierkegaard, 1844).

Similar to Kierkegaard, existentialist philosopher Martin Heidegger also probes the question of existence. In *Being and Time*, Heidegger states that being in company, 'being-with-one-another,' is not a panacea for loneliness (Ricoeur, 1980). Heidegger emphasizes the notion that others may be a catalyst for an individual's sense of disconnection. Heidegger does not attempt to suggest ways to mitigate feelings of loneliness, but asserts that the resolution to loneliness is not in social environments (Ricoeur, 1980). Critics detail that as Kierkegaard looked to faith as both the revelation and recovery for existential loneliness, Heidegger believed the phenomenon of loneliness arises from the fact of existing as an individual in a society with imposed social structures (Wheeler, 2018). Dahlberg (2006) iterates Heidegger's belief that loneliness exists both as an external and internal experience in the following passage,

> Both Heidegger and Merleau-Ponty point to the essence of loneliness that also became explicit in the empirical analysis: a conclusion is that loneliness explicates our relationship with the world; it can relate us to the world and make the connection closer and stronger, but loneliness can also make the world more remote and leave us without connection, completely abandoned. (Dahlberg, 2006)

Heidegger believed that as we do not exist truly together but rather 'side-by-side,' we live without concern for one another (Dahlberg, 2006). Consequently, it is also the case that if a lonely individual attains company, loneliness may remain (Dahlberg, 2006).

For Nietzsche, loneliness is a painful psychological state that results from feeling alone (Remhof, 2018). His definition exactly matches Oxford's common definition of loneliness as "being alone (OED, n.d.)." Nietzsche associated loneliness with expressions of "shades of distress," "weariness," and "gloominess" (Remhof, 2018). He further links loneliness to feelings of vulnerability, and argues one becomes vulnerable when feeling a void in life (Remhof, 2018). Nietzsche does not view loneliness as an entirely negative experience. Instead, he believes that deliberately provoking psychological distress, including loneliness, is a means to undergo self-transformation (Remhof, 2018). Nietzsche considers loneliness as both a motivator and physical state that can enable individuals to attain personal growth and potential (Wicks, 2018).

In these philosophical explorations, it is established that frivolous activities may superficially distract an individual, but cannot spare him from experiencing the condition of loneliness – look for what Kierkegaard said (Kierkegaard, 1843). Moreover, it would appear in the literature of that the nature of loneliness is not mitigated by being in the company of others, but instead relates to a relationship with self, which may include a relationship with the divine (Ricoeur, 1980). Nietzsche's secular philosophy and Kierkegaard's devout approach share the commonality that loneliness may be a process that involves a difficult stage of self-awareness as a precursor to attain a more enlightened existence (Holt, 2012). Nietzsche's work in particular resonates with the influential political philosophers who furthered explorations into existential loneliness during and post World War II (Illing, 2017). The third subsection of this chapter explores conceptualizations of loneliness during and post World War II.

1.4 Conceptualization of Loneliness During and Post World War II

Following World War II loneliness became a prominent theme in literature (Saleem, 2014). This section reviews conceptualizations of loneliness by major thinkers during and after World War ll. The interest in loneliness in popular literature, political philosophy, and psychology following the 1940s provides insight for the formal academic exploration of loneliness and interventions that largely developed in the 1970s.

Influential novelist and political theorist, Albert Camus brought the concept of alienation, both internal and with the world, into mainstream discussion (Aronson, 2017). In 2012, American scholar Sandra Smith published a new translation of his seminal work *L'Étranger*, and importantly, changed the English language title from *The Stranger* to *The Outsider* (Messud, 2014). Smith explains her reasoning for the title change in the following excerpt:

> In French, *étranger* can be translated as "outsider," "stranger" or "foreigner." Our protagonist, Meursault, is all three, and the concept of an outsider encapsulates all these possible meanings: Meursault is a stranger to himself, an outsider to society and a foreigner because he is a Frenchman in Algeria (Messud, 2014).

Camus's *L'Etranger* portrayal of loneliness aligns with the common sense definition of loneliness used by Merriam-Webster which includes "producing feelings of bleakness or desolation (Merriam-Webster, n.d.)." Camus' *L'Etranger* depicts personal alienation, or desolation, as an outcome of societal upheavals (Messud, 2014 & Timmins, 1970). The protagonist of the novel, Meursault, characterizes bleakness, desolateness, and solitude (L'Etranger, 1942). "The novel cinctures on the loneliness of an individual, who feels anguish in the wake of his estrangement from the environment, tradition, and from his true self (Familia & Ramesh, 2011)."

Camus as a philosopher was committed to investigating a means to help a war-torn population gain a new perspective on the existentialist loneliness that was the outcome of societal cataclysm (Cruickshank, 2019). In the same year that *L'Etranger* was published, Camus wrote the essay *The Myth of Sisyphus* (1942). In this essay, Camus states the philosophy that life is devoid of any meaning (Alva Bialor & Cosman, 1956). However, he theorizes that existential loneliness, which results from a world devoid of meaning, can be mitigated by relinquishing the need for a predesigned reason for living and instead prioritizing a connection to self and to others (Alva Bialor & Cosman, 1956).

War-time and post-war literature, art, psychology, and philosophy, such as the existentialist works of Camus, became a concentrated vortex of questions relating to morality, alienation, choice, and purpose (Hopkins, 1966). Self-reflection and loneliness were part of the post-war discourse of influencers in the arts and sciences following the emergence of details, in newspapers and pictures, about the Holocaust and the outcome of the atom bomb (Yavenditti, 1974).

The philosopher, playwright, and novelist Jean-Paul Sartre presented his essay *Existentialism and Humanism* in Paris, October 1946, at a public lecture (Cotkin, 1999). In this work, he defines the concept of 'abandonment' as the acceptance that the individual has no one but himself (Cotkin, 1999). Lacking God, "We are left alone, without excuse. [...] No rule of general morality can show you what you ought to do: no signs are vouchsafed in this world (Sartre, 1948)." The recognition of individual responsibility is the cause of existential loneliness, which Sartre describes as "anguish" (Jambor, 1990). Ultimately, anguish is the confluence of the freedom to make our own choices, and the lack of a God-given morality or design (Jambor,

1990). Sartre believes we inevitably confront our world alone, with no safety net, and can only "act without hope." (Sartre, 1948)

In opening his lecture, Sartre states his purpose is to refute the notion that the existentialist movement is "an invitation to people to dwell in quietism or despair" (Sartre, 1948). The concept of despair relates to the feeling of bleakness which is included in Merriam Webster's definition of loneliness. Sartre declares his understanding of the discomfort that comes from being assigned total agency over self, which necessarily negates any external blame as to why one's life did not turn out as wished (Sartre, 1948 & Cotkin, 1999).

The existentialist movement recognized that self-responsibility as opposed to a belief in divine guidance and meaning, is a burden (Crowell, 2017). Camus and Sartre addressed the existential loneliness inherent in this concept and argued that whether or not an individual believes in God, he has the capacity to resist despair by confronting his own choices and seeking his own purpose (Crowell, 2017 & Sarte, 1948). Sartre writes, "Life is nothing until it is lived; but it is yours to make sense of, and the value of it is nothing else but the sense that you choose. Therefore, you can see that there is a possibility of creating a human community (Sartre, 1948)."

As Sartre and Camus explored the philosophy of existentialism that result in anguish and loneliness through the personal lens, Hanna Arendt, a political philosopher, explored the dimensions of loneliness as a political tool. In *The Origins of Totalitarianism* (1951)*,* Arendt argues that tyrannical regimes take hold through perpetuating isolation (Gaffney, 2016). While Ardent does differentiate between isolation and loneliness, she posits that both isolation and solitude can lead to loneliness, fostered by environments created by tyrannical governments, or even the self (Shuster, 2012).

Ardent states that under tyrannical regimes, "human capacities for action and power are frustrated (Arendt, 1958)." Tyrannical governments isolate and divide populations which can result in outcomes such as loneliness and negative or harmful thoughts (d'Entreves, 2019).

By Arendt's account, the isolation that accompanies totalitarianism is not the exclusive origin of loneliness. She states that loneliness can also be a personal experience, separate from the influence of historical events, such as the rise of Nazism (Gaffney, 2016). Nonetheless, she maintains that loneliness is a by-product of living in the modern world and under tyrannical governments (d'Entreves, 2019).

Ardent additionally finds solitude is not synonymous with loneliness, but can lead to loneliness itself. In reflecting on her personal experience with loneliness, she states, "solitude can become loneliness; this happens when all by myself I am deserted by my own self (Arendt, 1958)." Arendt expands on the difference between solitude and loneliness in her work, *The Origins of Totalitarianism*.

> The lonely man finds himself surrounded by others with whom he cannot establish contact or to whose hostility he is exposed. The solitary man on the contrary is alone and therefore can be together with himself. In solitude, in other words I am by myself, together with myself, and therefore two in one, whereas in loneliness I am actually one, deserted by all others (Ardent, 1951).

As the existential and political aspects of loneliness became popularized in post-war literature, psychiatrists in the 1950s began clinical studies of loneliness (Snell, 2015). Prior to 1970, merely 35 psychoanalytical articles on loneliness had been published (Wright, 2005). The early psychoanalytical research on loneliness primarily focused on atypical mental processes within patients (Wright, 2005). Much of this early literature situated loneliness as symptomatic of narcissism, obsessive compulsive behaviours, and paranoia (Wright, 2005). This early

research was mostly conducted in the United States and was the result of clinical observations (Nilsson, Lindstorm, Naden, 2006 &Wright, 2005).

A preeminent voice in psychoanalytic literature on loneliness, Frieda Fromm-Reichmann was the first post-war era clinician to study loneliness (Freidenreich, 2009). Fromm-Reichmann began to explore the notion of loneliness while working with a catatonic patient. The patient, a young woman, broke through her previously blocked capacity for communication when prompted by Fromm-Reichmann with the question, "How miserable are you?" (Fromm-Reichmann, 1967). In response to the patient's nod, Fromm-Reichmann followed up with, "Really, you are that lonely?" Eventually, the patient indicated her level of loneliness by holding up a number of fingers (Fromm-Reichmann, 1967).

Fromm-Reichmann's essay *Loneliness* (1959) argues that scientists and clinicians had avoided the topic of loneliness due to its unpleasantness and recognition of loneliness within themselves (Fromm-Reichmann, 1967). However, she asserts there is a significant need for scientific clarification on the matter as there are many different forms of loneliness which are misleadingly grouped as the same experience. She writes:

> Very little is known among scientists about its genetics and psychodynamics, and various different experiences which are descriptively and dynamically as from one another as culturally determined loneliness, self-imposed loneliness, compulsory solitude, isolation, and real loneliness are all thrown into the one terminological basket of loneliness. (Fromm-Reichmann, 1967).

Fromm-Reichmann pioneered treating loneliness with psychotherapy. She uncovered that patients often hide the extent of their loneliness even from themselves, and fear the judgement or misunderstanding on the part of the clinician (Fromm-Reichmann, 1967). Her experience of asking her catatonic patient to express her loneliness, ultimately measuring her own loneliness by using her fingers to numerically display the extent of her misery, would foreshadow the

monitorization of loneliness and development of dedicated clinical intervention (Peplau & Perlman, 1979). In concluding her initial study into loneliness, Fromm-Reichmann makes two essential arguments. First, there is a relationship between anxiety and loneliness. Second, there is need for further conceptual and clinical study of this relationship and of loneliness in its own right (Fromm-Reichmann, 1967). Fromm-Reichmann predicted that loneliness figures within the realm of mental health.

> I expect that, as a result of such scrutiny, it will be found that loneliness plays an essential role in the genesis of mental disorder. Thus I suggest that an understanding of loneliness is important for the understanding of mental disorder. (Fromm-Reichmann, 1967).

While Fromm-Reichmann sought to medicalize the study of loneliness, Harry Stack Sullivan's *Interpersonal theory of Psychiatry* (1953) argues for a social needs approach to loneliness (Rosenbaum, 2013). His theory is based on the affective element of loneliness (Sullivan, 1953). For example, when infants experience emotional bonding with others they also learn the unpleasant feeling of loneliness when a significant other, such as a parent, is out of sight (Sullivan, 1953). Sullivan's exploration into loneliness primarily focused on children's social needs, such as experiencing emotional tenderness from parents. Sullivan defined loneliness as,

> "Loneliness, which is the exceedingly unpleasant experience connected with inadequate discharge of the need for human intimacy, for interpersonal intimacy […] It begins in infancy with an integrating tendency that we only know by inference from pathology material later […] a need for contact with the living (Sullivan, 1955)."

In this definition Sullivan argues that life experiences during pre-adolescence have an impact on the development of an individual's personality and wellbeing (Mandleco, 2004). School-aged children who do not experience intimacy and feel socially isolated may be at risk for impaired cognitive, affective, social and personality development (Budhal, 1998). However,

adolescent social issues, such as loneliness, can be assuaged through the development of close personal relationships (Lionells, Fiscalini, Mann, Stern, 2014a). According to Sullivan, intimacy between two people assists interpersonal development and decreases loneliness and anxiety (Raghuveer, 2011).

Critics of Sullivan's seminal work (1953) posit that his approach rests on two main ideas. Firstly, that a significant portion of mental illness results from, and is exacerbated by, the presence of anxiety that prevents an individual's communicative process (Cohen, 2013). Second, each individual in a two-person relationship is part of an interpersonal field (Cohen, 2013). Similar to Fromm-Reichmann, Sullivan's interpersonal theory may be interpreted as providing insight for the monitorization of loneliness, notably the cognitive approach's study of the predisposing factors which may make people more susceptible to experiencing loneliness versus precipitating events that prompt the experience of loneliness (Peplau & Perlman, 1982).

Post war analyses of loneliness within literature, philosophy, and psychology present different conceptualizations of loneliness (Saleem, 2014). The summary of the literature reveals there is no consensus among the prominent thinkers of the post-war era on whether loneliness is a positive or negative experience. However, these early discussions have influenced contemporary researchers' general consensus that loneliness is a psychological state resulting from perceived or real deficiencies within an individual's social relationships (Peplau & Perlman, 1982). Research within the field of medicine and psychology promote the notion that this psychological state impacts the lonely individual's mental and physical wellbeing (Murphy & Kupshik, 1992).

In providing a summary of the historical summary of loneliness from different perspectives, this chapter sought to establish the prevalence of loneliness as a longstanding

societal concern that resonates across disciplines. The prevalence of loneliness prompted its

medicalization. Chapter two will provide a summary of prominent studies examining the

monitorization of loneliness and its health risks.

-CHAPTER TWO-

This chapter summarizes relevant prominent studies examining the monitorization of loneliness and the consequent conceptualization of loneliness as a health risk. The overview presented in this chapter of the psychometric analysis of loneliness, the physiological outcomes of loneliness, and the potential for pharmacological intervention was conducted using a literature search of multiple databases including PubMed, NCBI, and PsychNet. Search terms included: "loneliness" AND "health risk," "social isolation" AND "disease," "social relationships" AND "illness," "solitude," AND "illness," "health risk," AND "geriatrics," "Japan," AND "public health" OR 'morbidity" OR "loneliness, "UK," AND "public health". A secondary literature search was conducted using grey literature from established media outlets such as the BBC and the Guardian.

2.1 Psychometric Analysis of Loneliness

There is an increasing understanding of loneliness as a public health concern, yet there remains a lack of consensus of a singular definition of loneliness. As a result, self-reporting measurement scales are used to establish a baseline for conceptualizing the experience of loneliness. For the purpose of exploring the literature on psychometric analysis of loneliness, definitions of the cognitive approach to loneliness will be reviewed, as well as their corresponding measurement tools. Definitions of loneliness from the philosophy and literature of existentialism will not be relevant to this discussion.

The preeminent definition of the cognitive perspective is derived from Peplau and Perlman's UCLA loneliness scale, which, in essence, defines loneliness as an undesirable outcome: "A response to a discrepancy between desired and achieved levels of social contact

(Perlman & Peplau, 1982)." The authors previously described loneliness as an "unpleasant experience that occurs when a person's network of social relations is deficient in some way or another (Perlman & Peplau, 1981). " Peplau and Perlman's definition appears to have been informed by Lopata's 1969 conceptualization of the term, which is one of the first definitions of loneliness to appear within the field of psychology. Lopata conceived of loneliness as, "a wish for a form or level of interaction different from the one presently experienced (Lopata, 1969)."

Falling under the umbrella of the cognitive approach is de Jong Gierveld's definition of loneliness as a multidimensional phenomenon (de Jong Gierveld, 1998). Similarly to the definitions of Lopata and Peplau and Perlman, de Jong Gierveld approximates loneliness as a lack of, or perceived lack, of certain relationships. In *A Review of Loneliness: concept and definitions, determinants and consequences*, loneliness is defined as, "loneliness is seen to involve the manner in which the person perceives, experiences, and evaluates his or her isolation and lack of communication with other people (de Jong Gierveld, 1998)."

 de Jong Gierveld's definition therefore positions loneliness as a multidimensional phenomenon, in which three distinct dimensions are distinguished (Penning, Liu, & Chou, 2014). Firstly, there is a deprivation component which is at the core of the conceptualization of loneliness. Deprivation includes the concerns and feelings associated with the absence of an intimate attachment, and/or feelings of emptiness or abandonment (de Jong Gierveld, 1998).

The second component is Time perspective, which includes feelings of hopelessness (de Jong Gierveld, 1998). Lastly, the third component is emotional, including different types of negative emotions such as sadness, shame, guilt, frustration, desperation, and, at the extreme end of the spectrum of intensity, sorrow (de Jong Gierveld, 1998).

The de Jong Gierveld loneliness scale will be compared and contrasted with the revised UCLA scale (R-UCLA) throughout this subsection. The following figure shows the de Jong Gierveld Loneliness Scale, 11-item version. Figure 1 indicates which of the original 11 items are used in the subscale versions including: the original emotional Subscale, original social subscale, short emotional subscale, and the short social subscale (Gierveld & Tilburg, 2006a).

Figure 1: De Jong Gierveld 11-item Loneliness Scale

Statement	Original Emotional Subscale	Original Social Subscale	Short Emotional Subscale	Short Social Subscale
1. There is always someone I can talk to about my day-to-day problems[a]		X		
2. I miss having a really close friend	X			
3. I experience a general sense of emptiness	X		X	
4. There are plenty of people I can rely on when I have problems[a]		X		X
5. I miss the pleasure of the company of others	X			
6. I find my circle of friends and acquaintances too limited	X			
7. There are many people I can trust completely[a]		X		X
8. There are enough people I feel close to[a]		X		X
9. I miss having people around	X		X	
10. I often feel rejected	X		X	
11. I can call on my friends whenever I need them[a]		X		

(Gierveld & Tilburg, 2006a)

In contrast to de Jong Gierveld's conceptualization of loneliness as a multidimensional phenomenon, the R-UCLA scale presents loneliness as a uni-dimensional phenomenon that can be understood using a single global measure (Russell, Peplau, & Cutrona, 1980). Neto's short

scale items, used to assess loneliness in older adults, can be interpreted as following the same ideological trajectory as Russell et al.'s R-UCLA scale (Neto, 2014). Neto's short scales define the root cause of loneliness as the difference between desired and actual social contact (Neto, 2014). Therefore, the greater the discrepancy between the individual's wants of social contact and the actual social contact which the individual has, the greater the subjective experience of loneliness. According to the logic of both Russell et al.'s R-UCLA scale and Neto, loneliness occurs under circumstances where the number of social relationships in existence is lesser than the amount desired (Russell et al., 1980 & Neto, 2014).

Asher and Paquette's 2003 definition of loneliness is in tandem with the aforementioned notion that loneliness at its core is the result of discrepancy. Asher and Paquette define loneliness as, "the cognitive awareness of a deficiency in one's social and personal relationships, and ensuing affective reactions of sadness, emptiness, or longing (Asher & Paquette, 2003)." Consequently, their research indicates that even children may develop a fundamental understanding of what it means to be chronically lonely (Asher & Paquette, 2003). This definition extends itself to understanding the relationship between peer experiences and mental wellbeing.

Utilizing the aforementioned definitions of loneliness, Nazzal et al. explore the mental wellbeing of Palestinian university students through a cognitive approach (Nazzal, Cruz, & Neto, 2018). In their discussion of cognitive definitions of loneliness, the authors put forth a foundational concept that informs this thesis's exploration of loneliness. Nazzal et al. argue there are three key aspects that stand out in within cognitive definitions. First, definitions of loneliness emphasize that perceived deficits in social relationships determine the extent of loneliness experienced (Nazzal et al., 2018). This dissatisfaction is described as, "When people are satisfied

with their social network they are more likely to feel less loneliness. People who have difficulties getting satisfying relationships within their social network are more likely to experience maladjustments like loneliness (Nazzal et al., 2018)."

The second aspect of a cognitive approach to understanding loneliness is the recognition that loneliness as a subjective experience may be determined by not attaining the specific type of relationship which the individual desires. Accordingly, an individual with few relationships is not necessarily lonely (Nazzal et al., 2018). This assertion is supported by Peplau and Perlamn's finding that "people can be alone without being lonely, or lonely in a crowd (Perlman & Peplau, 1982)."

Nazzal et al.'s third aspect of loneliness states that while loneliness is subjective in nature, experiencing loneliness can result in objective and serious outcomes (Nazzal et al., 2018). This recognition of the poor outcomes of loneliness aligns with the consensus in the literature that loneliness results in poor psychological and physiological health outcomes (J. T. Cacioppo & Hawkley, 2003). The literature on the impacts of loneliness on physical health will be summarized in Subsection II. The literature finds that the harmful effects of loneliness necessitate the appropriate measurements of the phenomenon (N. K. Valtorta, Kanaan, Gilbody, & Hanratty, 2016a). It is through accurate measurement that strategies may be developed in order to lessen the physical and mental burdens of loneliness (J. T. Cacioppo & Hawkley, 2003).

A widespread method of measuring loneliness is self-reporting scales, such as the aforementioned UCLA scale and the de Jong Giervald Loneliness Scale. These scales are considered to be the academic 'gold standard' for measuring loneliness however, all answers to self-reporting scales are informed by a degree of subjectivity (Victor, Grenade, & Boldy, 2005).

The literature reveals that the degree of subjectivity within the literature reveals that the degree of subjectivity within self-reporting scales may be determined by the question formulation (Perlman & Peplau, 1981). Item formulations may range from more objective to more subjective. In Valtora et al.'s classification and comparison of measures of social relationships, they found that questions included in the UCLA Scale are of a more subjective nature (N. K. Valtorta, Kanaan, Gilbody, & Hanratty, 2016b). Items in the UCLA Scale ask respondents about their feelings relating to social relationships, including if they feel, ' isolated from others,' 'left out,' or 'completely alone' (Russell et al., 1980). The R-UCLA scale includes items concerning positive and negative feelings in addition to quantifying the number of relationships extant and the quality of these social relationships.

In Valtora et al.'s study, the de Jong Gierveld Loneliness Scale includes highly subjective items, particularly pertaining to the adequacy of social relationships from the respondents' perspective (N. K. Valtorta et al., 2016b). Respondents may respond to the proposition of, "I find my circle of friends and acquaintances too limited," with the options of: 'yes!' 'yes', 'more or less', 'no' and 'no! (Gierveld & Tilburg, 2006b).' In responding, the participant must evaluate the intensity of their feelings regarding their social relationships against their own expectations of social relationships

Self-reporting scales explicitly designed for measuring loneliness such as the UCLA Loneliness Scale and the de Jong Gierveld Loneliness Scale were found to comprise more subjective items (N. K. Valtorta et al., 2016b). Perhaps counter-intuitively, as loneliness is commonly understood as a negative experience in which people perceive a deficit in the quality and/or quantity of social relationships, scales measuring loneliness often focus entirely on the functional aspects of relationships (Perlman & Peplau, 1981). Figure 2 compares the degree of

subjectivity asked of respondents in various measurement tools, assessing degrees of social

isolation and loneliness. This illustration promotes further research by allowing the prospective

researcher to identify measurement tools with similar applications and to select a tool informed

by the varied amount of subjectivity within responses.

Figure 2: Subjectivity within Responses
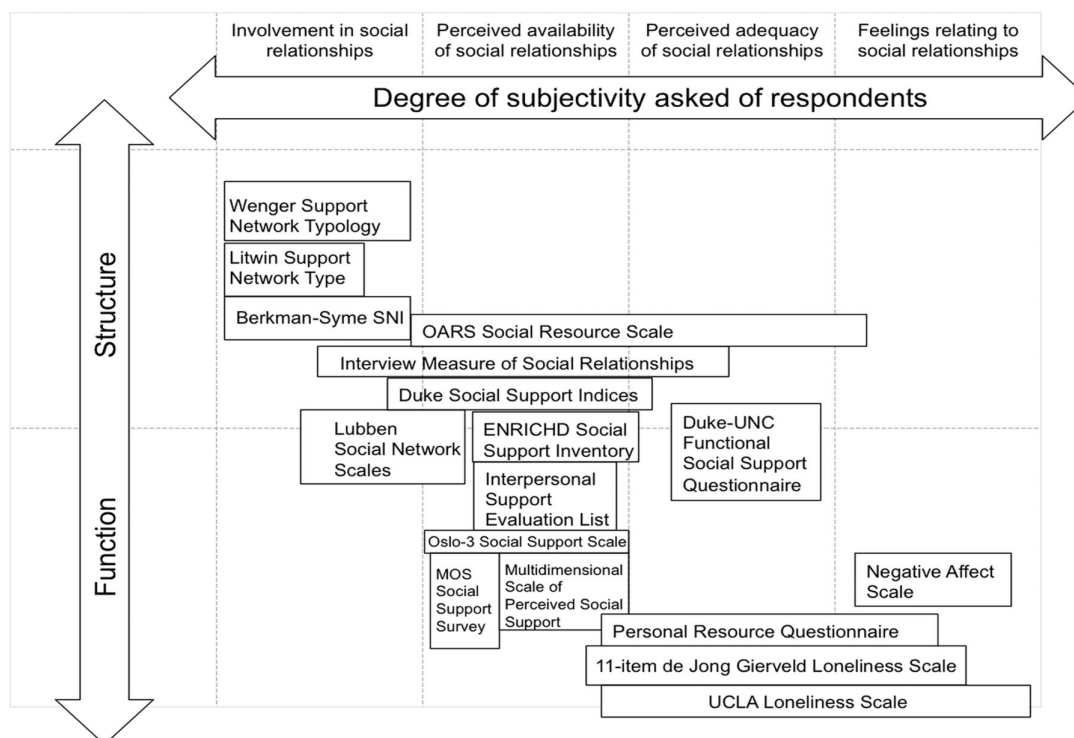
(N. K. Valtorta, Kanaan, Gilbody, Ronzi, & Hanratty, n.d.)

As previously detailed, the self-reporting scales designed explicitly to measure loneliness

are predicated on either a unidimensional approach, often referred to as a global measure as used

by the UCLA scale, or a multidimensional approach, as used by the de Jong Gierveld Loneliness

Scale. The central difference between these approaches is that the unidimensional approach

accepts the idea that loneliness is best measured by a single unit, as no matter the circumstances,

lonely individuals all experience the same feelings (Tomás, Pinazo-Hernandis, Donio-Bellegarde, & Hontangas, 2017).

Whereas the multidimensional approach seeks to differentiate between social loneliness and emotional loneliness (Tomás et al., 2017). Similarly to the de Jong Gierveld Scale categorizations of types of loneliness experienced, DiTommasi and Spinner's Social and Emotional Loneliness Scale for Adults discerns between friendship loneliness which may refer to social loneliness, romantic loneliness and familial loneliness (DiTommaso & Spinner, 1993). The literature search reveals that other measurement tools follow the multidimensional approach establishing even more distinctions within multiple types of social relationships and regional characteristics (N. K. Valtorta et al., 2016b). Marcoen et al.'s Loneliness and Aloneness Scale for Children and Adolescents categorizes loneliness according to peer-related loneliness, family loneliness, and individual's attitude towards solitude (Marcoen, Goossens, & Caes, 1987). According to criticism by Levesque, "in studies directly assessing adolescents, the multidimensional models are proving superior to alternative models that reduce loneliness and solitude to a single underlying dimension (Levesque, 2016)."

Despite the increasing popularity of the multidimensional approach, the R-UCLA Loneliness Scale continues to be the most widely used measure of loneliness and has been for several decades   (Lee & Cagle, 2017 & Hughes, Waite, Hawkley, & Cacioppo, 2004) . Figure 3 displays the original twenty-item R-UCLA Loneliness Scale.

Figure 3: R-UCLA Loneliness Scale

Statement	Never	Rarely	Sometimes	Often
1. I feel in tune with the people around me	1	2	3	4
2. I lack companionship	1	2	3	4
3. There is no one I can turn to	1	2	3	4
4. I do not feel alone	1	2	3	4
5. I feel part of a group of friends	1	2	3	4
6. I have a lot in common with the people around me	1	2	3	4
7. I am no longer close to anyone	1	2	3	4
8. My interests and ideas are not shared by those around me	1	2	3	4
9. I am an outgoing person	1	2	3	4
10. There arc people I feel close to	1	2	3	4
11. I feel left out	1	2	3	4
12. My social relationships arc superficial	1	2	3	4
13. No one really knows me well	1	2	3	4
14. I feel isolated from others	1	2	3	4
15. I can find companionship when I want it	1	2	3	4
16. There are people who really understand me	1	2	3	4
17. I am unhappy being so withdrawn	1	2	3	4
18. People are around me but not with me	1	2	3	4
19. There are people I can talk to	1	2	3	4
20. There are people I can turn to	1	2	3	4

(Hughes, Waite, Hawkley, & Cacioppo, 2004)

Much of the literature on measuring loneliness has deemed the R-UCLA Scale as the most psychometrically rigorous measurement tool (Lee & Cagle, 2017). Russell et al. found, "The construct validity of the revised scale is established by relating loneliness scores to the experience of affects that have been linked both empirically and theoretically to loneliness (Russell et al., 1980)." The total score of the R-UCLA Scale calculates measures of anxiety, depression, and self-esteem in addition to self-rated scores of isolation, social dissatisfaction, emptiness, abandonment, and hopelessness (Russell et al., 1980).

A short-form of the R-UCLA Scale, referred to as the ULS-6, has been developed by Neto. The ULS-6 includes six items determined via an exploratory factor analysis conducted with the R-UCLA Scale (Neto & Felix, 1992). The items on the ULS-6 Scale comprise of: "I

lack companionship," "I feel part of a group of friends," "I feel left out," "I feel isolated from others," "I am unhappy being so withdrawn," and "People are around me but not with me (Neto & Felix, 1992)."

Neto's short-scale has been used to assess loneliness in youths and adolescents, migrant populations, and the elderly (Neto, 2014). The scale has been successfully utilized in measuring loneliness in Portugal, spurring Nazzal et al. to evaluate the psychometric characteristics of the short-form UCLA Loneliness Scale (ULS-6) among Palestinian university students (Nazzal et al., 2018). It is of note that the unidimensional approach of the ULS-6 Scale was supported among the participants. The results of the study suggest that the Arabic version of the ULS-6 is a psychometrically valid tool to assess loneliness (Nazzal et al., 2018).

Similarly to the ULS-6, the de Jong Gierveld Loneliness Scale has both an 11- item and a 6-item version. The short scale version of the De Jong Gierveld scale is predicated on the threefold use of the initial 11-item version, measuring emotional loneliness, social loneliness, and overall loneliness (Gierveld & Tilburg, 2006b). The threefold approach of the 6-item De Jong Gierveld Loneliness Scale, in keeping with the lengthier versions, is a direct contrast to the unidimensional function of the ULS-6 Scale and R-UCLA Scale. A factor analysis validated that the three-item social loneliness subscale and the three-item emotional loneliness subscale constitute two dimensions of de Jong Gierveld's overall conceptualization of the states of loneliness (Gierveld & Tilburg, 2006b).

Scales, such as the aforementioned measurement tools of loneliness, serve as critical diagnostic tools that consequently help to assess effective medical treatment and/or interventions (Stockings et al., 2015). To that end, it is plausible to argue that the existence of measurement

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tools both motivates and justifies a medical response. Research has established a propensity to

define and treat common conditions as medical problems (Smith, 2012). An example of the

medicalization and measurement of a common condition is found in the allied construct of

depression (Smith, 2012). The Beck Depression Inventory-II (BDI-II) was first published in

1961, notably just prior to the period when social sciences' definitions of loneliness were

beginning to emerge (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

The revision of this initial scale, the BDI-II, was developed in 1996 as a response to the

American Psychiatric Association change of the diagnostic criteria for Major Depressive

Disorder (MDD) (Beck, Steer, Ball, & Ranieri, 1996) . Similarly to loneliness measures, the

BDI-II takes the form of a self-reporting inventory that measures the feelings and symptoms of

depression, and subsequently is used to determine a diagnosis (Beck et al., 1996). Figure 4

demonstrates the scoring of the BDI-II which, like measurement tools for loneliness, are rated on

a 4-point scale from 0-3.

Figure 4 : BDI-II Example Score

ITEM	RESPONSE	RATING
1. Sadness	I am sad all the time	2
2. Pessimism	I feel my future is hopeless and will only get worse	3
3. Past Failure	As I look back, I see a lot of failures	2
4. Loss of Pleasure	I can't get any pleasure from the things I used to enjoy	3
5. Guilty Feelings	I feel quite guilty most of the time	2
6. Punishment Feelings	I feel I am being punished	3
7. Self-Dislike	I am disappointed in myself	2
8. Self-Criticalness	I blame myself for everything bad that happens	3
9. Suicidal Thoughts or Wishes	I would like to kill myself	2
10. Crying	I feel like crying, but I can't	3
11. Agitation	I am so restless or agitated that it's hard to stay still	2
12. Loss of Interest	It's hard to get interested in anything	3
13. Indecisiveness	I have much greater difficulty in making decisions than I used to	2
14. Worthlessness	I don't consider myself as worthwhile as useful as I used to	1
15. Loss of Energy	I don't have enough energy to do very much	2
16. Changes in Sleep Pattern	I sleep most of the day	3
17. Irritability	I am irritable all the time	3
18. Changes in Appetite	My appetite is much greater than usual	2
19. Concentration Difficulty	I find I can't concentrate on anything	3
20. Tiredness or Fatigue	I am too tired or fatigued to do a lot of the things I use to do	2
21. Loss of Interest in Sex	I have lost interest in sex completely	3

(Dupont Linhoff, 2006)

In order to determine the clinical utility of the aforementioned scales, it is important to evaluate their psychometric properties. Table 1 displays an analysis of the properties of the UCLA Loneliness Scale, the de Jong Gierveld commonly used six-item scale, and the Beck Depression Inventory-II (BDI-II). It was demonstrated that the BDI-II possessed face and content validity as it covered the various domains it intended to test, further supporting its multidimensional capacity. Additionally, it was found to be internally consistent as the items were significantly co-related. Internal consistency was confirmed with a reliability of r= 0.75, though some papers reported a r=0.92 (Beck, Steer & Brown, 1996 & Beck et al., 1961 & Naughton & Wiklund, 1993). Further, the test has shown a high diagnostic accuracy with a sensitivity of 81% and a specificity of 92 (Dozois, 1989). The BDI-II's high diagnostic accuracy in combination with its criterion-related validity for detecting depression further supports its clinical utility as a measure of loneliness for diagnostic purposes.

The UCLA scale also possessed face validity, as it set out to measure the unidimensional emotional component of loneliness and the test contained items from the desired domain. Due to the scale's popularity internationally, its psychometric properties have been examined by various researchers. Overall, the internal reliability of the scale is $\alpha > 0.90$ and typical is tested in samples of adolescents and college students (Hartshorne, 1993). The exception to this, is in samples of early adolescents where $\alpha=0.81$-0.88 (Aleen & Oshagan, 1995; Hartshorne, 1993). Re-test reliability has also been evaluated and shown to range between r=0.73-0.85. (Hawthorne, 1993). Although its reliability was high, the content validity was shown to be moderate as this scale does not assess other domains of loneliness.

The de Jong Gierveld loneliness scale is a multidimensional measure with 'emotional' items scores of α=0.81 and 'social' items scores of α= 0.85 for internal reliability (De Jong Gierveld, & Tilburg, 2010 & De Jong Gierveld & Tilburg, 2006). However, the scale has shown internal reliability as high as α=0.91 for the emotional domain and α=0.95 in the social domain in Bulgarian individuals ages 60-77 years old, suggesting reliability differs across countries (De Jong Gierveld, & Tilburg, 2010 & De Jong Gierveld & Tilburg, 2006). This scale was also shown to possess face validity through the use of emotional and social loneliness items. The de Jong Gierveld scale was assessed for criterion validity using the UCLA as an external assessor, showing good criterion-related validity with a positive correlation for the emotional domain and a negative correlation for the social domain (Tomas et al, 2017). Finally, it was shown to have a high content validity (Leung, 2008) and test-retest reliability (r=0.93) (Jaafar et al. 2019).

Table 1: Analysis of Loneliness & Depression Scale Properties

Scale	Authors	Number of Items	Domains Included	Sensitivity	Specificity	Face Validity	Content Validity	Criterion-Related Validity	Re-test Reliability	Internal Consistency
BDI-II	Beck	21	Cognitive, Affective, Somatic and Vegetative	81%	92%	+	r=0.60-0.72	r =0.71 – 0.93	r=075- 0.92	α= 0.91
Loneliness UCLA	Russell, Peplau & Ferguson	20	Emotional	NR	NR	+	r=0.40-0.65	NR	r=0.73-0.85	α=0.81-0.94
de Jong Gierverld	De Jong Gierveld	6	Emotional, Social	NR	NR	+	+	r=0.68 (emotional) r=-0.66 (social)	r=0.93	α=0.81-0.94

Legend: (+) denotes demonstrated; NR denotes not reported

The standardized measurement of depression preceded the development of selective serotonin reuptake inhibitors (SSRIs) in 1983, (the first marketed SSRI was made available in 1987) (Foye, Lemke, & Williams, 2008). Currently, SSRIs are the most commonly prescribed

type of antidepressant, and may also be used to treat generalized anxiety disorder and panic disorder among other conditions (Mayo Clinic, 2019). According to a November 2017 analysis by the National Centre for Health Statistics, 12.7 percent of the US population over the age of 12 had taken an antidepressant medication within the past month (Winerman, 2017). There has been a 64 percent increase in the percentage of Americans taking antidepressants between 1999 and 2014 (Winerman, 2017). Subsection III of this chapter will discuss the clinical diagnosis and pharmacological treatments of depression and anxiety's potential influence on the prospective development of prescription drugs for loneliness. This discussion will follow the Subsection II literature summary on the health outcomes of loneliness.

2.2 The Emerging Medicalization of Loneliness

In 1988, the study *Social Relationships and Health* pioneered the perspective that social isolation is a risk factor for morbidity and mortality (House, Landis, & Umberson, 1988). The study introduced the idea that the psychological affliction of loneliness may also be an illness of the body. Over the course of the following two decades, literature on mortality, including measures of social relationships, increased rapidly (Umberson & Montez, 2010). While there has been a substantial increase of study on social relationships and non-suicide mortality within the fields of medical sciences, geriatric studies, and psychology, it is only recently that major health organizations and the general public have recognized loneliness as a risk factor for morbidity and mortality (N. Valtorta & Hanratty, 2012) . A thorough literature review of peer-reviewed and grey literature suggests the delayed recognition of the physiological effect of loneliness may in part be due to the vague nature of the terminology used within the literature such as, 'social relationships.' The subjectivity and wide ranging meaning of 'social

relationships' may have been viewed as an imprecise variable (Holt-Lunstad, Smith, & Layton, 2010).

In the remainder of this subsection, the recent literature from medical sciences that explores the relationships between loneliness and poor physiological health outcomes will be summarized in order to explore the emerging classification of loneliness as a health risk and public health concern. The literature includes studies that measure health outcomes attributed to a lack of, or inadequate, social relationships and social isolation, as these terms are used in tandem with loneliness.

Holt-Lunstad et al. describes two theoretical models in their meta-analysis of social relationships and mortality, the stress buffering model and the main effects model (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). Cassel and Cobb established the stress-buffering hypothesis in 1976 (Cohen & Pressman, 2004). This hypothesis proposes that individuals with strong social relationships are protected, i.e. buffered, from potential pathogenic outcomes of stressful events (Cohen & Pressman, 2004). The model proposes that social relationships provide people with informational, emotional, or tangible resources that promote the adoption of flexible behavioural and neuroendocrine responses to illness, major life events or transitions, amongst other acute or chronic stressors (Cohen & Pressman, 2004). The ability of social relationships to mitigate or buffer the harmful effects of stressors on physical health can be due to either the individual's perceived or real availability of social support, as demonstrated by figure 5 below.

Figure 5 : Cohen et al. stress-buffering model.
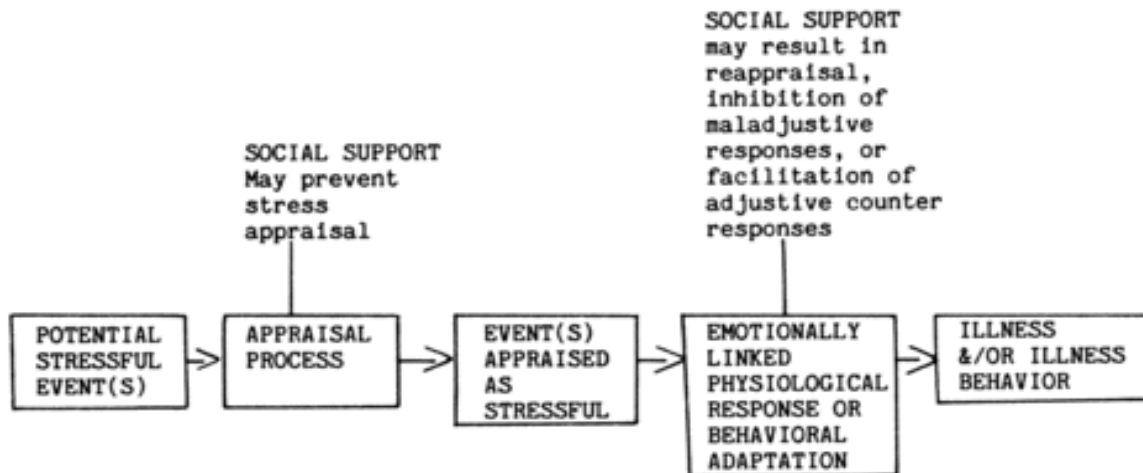
(Cohen & Pressman, 2004).

The main (or direct) effects model argues that an individual's social relationships may provide protective health effects in a more direct manner, such as biological and social benefits, rather than the stress-buffering model's argument that social relationships provide social resources which in turn support an individual's overall physical and psychological health and wellbeing (Rodriguez, & Cohen, 1998). The main effects model further stresses that social resources are always beneficial, whether or not an individual is undergoing stress. The main effects model originates from the "demonstration of a statistical main effect of support with no Stress X Support interaction, this is termed the main-effect model (Cohen & Wills, 1985)." The consensus within the literature is that both models are accurate and contribute to the literature on social relationships and health (McMahon, Felix, & Nagarajan, 2011). Figure 6 demonstrates Cohen et al.'s depiction of the main effects of social support on symptoms and buffering interactions.

Figure 6: Cohen et al. Main effect of social support on symptomatology and two forms of Stress X Social Support buffering interactions.
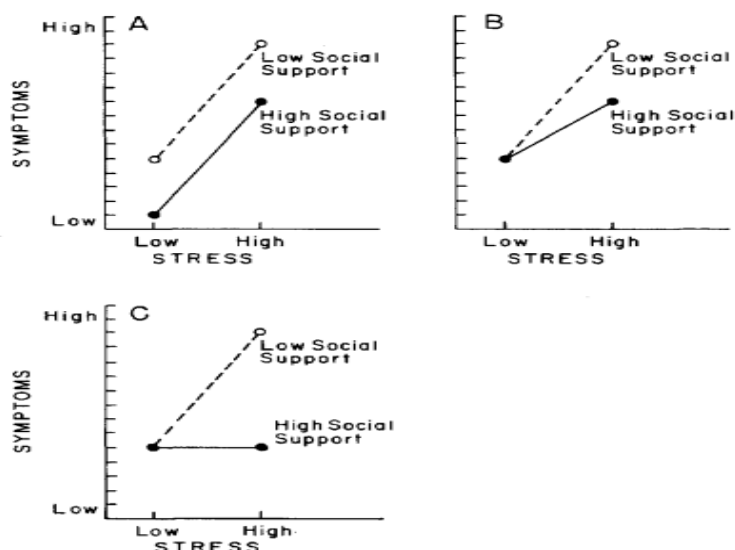
(Cohen & Wills, 1985)

The literature on loneliness and its health outcomes states that loneliness effects health in three ways, targeting behavioural, psychological, and physiological mechanisms, with the above models demonstrating the effects of social relationships on symptomatology (Malcolm, Frost, & Cowie, 2019) . Hawkley et al. test the hypothesis that as a result of loneliness, lonely individuals will produce greater increases in spontaneous bacterial peritonitis (SBP) than the levels observed in less lonely individuals (Hawkley, Thisted, Masi, & Cacioppo, 2010). This study confirms that experiencing loneliness or social isolation is associated with defective immune functioning, including an increase in SBP levels and hypertension (Hawkley et al., 2010). Their data suggests that (subjectively) lonely individuals may be over represented among those experiencing hypertension, including individuals at a younger age (Hawkley et al., 2010). Thus, this study supports the view in literature that loneliness is deemed to carry clinical and public health

implications, given that it appears to significantly compromise the physical wellbeing of individuals (Gerst-Emerson & Jayawardhana, 2015).

Through exploring the role of loneliness as a predictor for increases in blood pressure over the course of four years, Hawkley et al. found that, "Loneliness behaved as though it is a unique health risk factor in its own right (Hawkley et al., 2010)." The recent body of literature concerning the relationship between social relationships and physiological outcomes supports the concept that loneliness itself is a health risk. While the impact of social relationships on morbidity rates is widely accepted within the literature of medical sciences, the specific extent of the risk has remained unclear. Valtorta et al.'s systematic review and meta-analysis investigating the association between loneliness or social isolation and stroke and incident coronary heart disease (CHD) provides clarity on the unique health risk which loneliness poses to heart health (2016). Valtorta et al. state, "addressing loneliness and social isolation may have an important role in the prevention of two of the leading causes of morbidity (CHD and hypertension) in high-income countries (N. K. Valtorta et al., 2016)."

Valtorta et al. present the first systematic review to concentrate on the potential association between loneliness and social isolation and an individual's first incidence of stroke or CHD. Their findings indicate that perceived deficiencies in social relationships are associated with the increased risk of developing CHD and stroke, with a reported 29 percent increase in risk of CHD and 32 percent increase in the risk of stroke (N. K. Valtorta et al., 2016). These findings are in keeping with Hawkley et al.'s aforementioned research on loneliness and hypertension, with hypertension as a risk factor for developing both CHD and stroke (Kannel, 2009).

Previous systematic reviews exploring factors in the etiology and the prognosis of coronary heart disease substantiate that cardiovascular disease diagnosis (CVD) is worse among

lonelier people (Kuper, Marmot, & Hemingway, 2002 & Barth, Schneider, & von Känel, 2010). Valtorta et al recently reviewed seven papers connecting an individual's loneliness and social isolation to the occurrence of CHD and found that loneliness and social isolation's direct impact on the diagnosis and incidence rates of CHD could not be extricated (N. K. Valtorta et al., 2016).

Other recent literature supporting loneliness as a risk factor for poor heart health includes Shankar et al.'s analysis of the direct relationship between loneliness and social isolation on biological factors and health-related behaviour within older adults (Shankar, McMunn, Banks, & Steptoe, 2011). Their investigation explored the effects of loneliness and social isolation as two individual risk factors, as well as the effect of these factors acting simultaneously. They found that both social isolation and loneliness were linked to an increased risk of physical inactivity and smoking (Shankar et al., 2011). The poor outcomes of these health-risk behaviours have been widely established within medical sciences for decades (Heydari et al., 2015). Social isolation individually was determined to be positively associated with hypertension, greater C-reactive protein and fibrinogen levels (Shankar et al., 2011). The latter increase of both fibrinogen and C-reactive protein are associated with poorer outcomes in patients suffering from unstable coronary artery disease (Sheikh, Yahya, Sheikh, & Sheikh, 2012).

Interestingly, the analysis of Shankar et al. suggests that loneliness and social isolation may affect physiological and physical health independently through their specific effects on the health behaviours of older adults. The findings further suggest that social isolation, rather than loneliness, may negatively affect health as a result of biological processes related to the development of cardiovascular disease (Shankar et al., 2011). This thesis proposes that the study of Shankar et al. has unique implications for the growing body of literature specifically studying loneliness and its health outcomes. The conclusion of the study by Shankar et al. may inform

forthcoming literature foci as per their distinction that loneliness and social isolation may have different health outcomes. A significant portion of the literature sampled for this thesis was found to have grouped together loneliness, social isolation, and social relationships effects on health without seeking to study these risk factors individually.

The Amsterdam Study of the Elderly (AMSTEL) also specifically explores the effect of loneliness as its own health risk. The study reports that older adults experiencing loneliness were more likely to develop dementia than older adults who were not experiencing loneliness (Holwerda et al., 2014) . Social isolation, as classified by the participant's status of living alone, being single, and lacking social support, was found not to be associated with a higher probability of developing dementia through a multivariate analysis (Holwerda et al., 2014). Not only was experiencing loneliness, rather than the state of being alone, found to be linked with an higher risk of developing clinical dementia in older age but further loneliness may suggest a prodromal stage of clinical dementia (Holwerda et al., 2014). The study adds to the emerging body of literature which deems loneliness to be a major risk factor independent of other conditions, including the allied concept of depression, which requires clinical attention (Rico-Uribe et al., 2018).

The assertion of Holwerda et al. that loneliness is an independent risk factor is echoed by the study of Perissinotto et al. of loneliness as a predictor of functional decline and death among older adults (Perissinotto, Stijacic Cenzer, & Covinsky, 2012). Prior literature has connected depressive symptoms to increased risks of disability and mortality in older adults (Schulz et al., 2000). Measures of social isolation have also been linked to poor health outcomes among this population segment (Manemann et al., 2018). However, Perissinotto et al. argue quantitative measures of social relationships may not sufficiently translate the extent of an individual's

subjective feelings (Perissinotto et al., 2012). According to Perissinotto et al., more research is required to examine loneliness as a separate entity from social isolation and depression in order to garner its effect as an independent risk factor (Perissinotto et al., 2012) .

The conclusion of Subsection I within this chapter introduced the correlation between the monitorization of a condition and its medicalization, as standardized measurement is necessary for diagnosis. While the allied concepts of depression and anxiety both have clinical recognition, there remains no available diagnosis or pharmacological treatment for those suffering from chronic loneliness. Given the summary of health outcomes in Subsection II, Subsection III poses the question, why should there be no medication to treat loneliness when there are medications to ease symptoms of other social pains, which similarly to the experience loneliness, may be the result of a temporal situation or chronic disposition.

2.3 A Pharmacological Treatment for Loneliness

The argument is made in both peer-reviewed and grey literature that the current epidemic of loneliness is the result of cultural changes (Riesman, Glazer, Denney, & Gitlin, 2001). In Western countries, including the US, UK, and Sweden, more adults are living alone (Klinenberg, 2012). According to EuroStat, the official statistical office of the European Union, nearly half of Swedish households are comprise of childless single adults (Eurostat, 2017). This percentage is significantly higher than the European average, which shows less than one third of all adults live alone and childless (Eurostat, 2017). The demographic profile of countries with high rates of single childless households may be the result of changes in societal norms which include moving away from both the nuclear family and marriage, as well as changes in the job market (Riesman,

Glazer, Denney, & Gitlin, 2001). Whatever the cause, the objective result is that more people are spending more time alone (Klinenberg, 2012).

Cacioppo's book, *Loneliness: Human Nature and the Need for Social Connection*, makes the argument for treating loneliness similarly to treating depression or generalized anxiety disorder (2008). In the early 1990s, Cacioppo introduced the idea of social neuroscience, studying the neural mechanisms within a defined social species, i.e. species that create emotional bonds (Lieberman, 2012). A significant portion of his work hypothesizes that humans are defined by our social connections. Consequently, the brain establishes and monitors our social connections. This results in a perceived level of social relationships (Liberman, 2012). According to Cacioppo, if individuals perceive that they are socially isolated, they will qualify as lonely, whether or not they have social relationships (Cacioppo, J. T., & Patrick, 2008).

As the literature review in Subsection II demonstrates, loneliness is more potent than simply a negative attitude as it can have direct consequence on physiological wellbeing. As iterated in the previous subsection, loneliness is a health-risk for non-communicative diseases including cardiovascular disease (CD), neurodegenerative diseases such as Alzheimer's, and may worsen the outcomes of patients with metastatic cancer (Holwerda et al., 2014 & N. K. Valtorta et al., 2016 & Ganz, Habel, Weltzien, Caan, & Cole, 2011). Lonely individuals may additionally face an increased the amount of SBP and hypertension as outlined by Hawkley et al (Hawkley et al., 2010). Recent studies reviewing the evidence that an individual's perception of loneliness has an impact on the brain and behaviour and increased risk for morbidity have explored mechanistic animal studies (Stephanie Cacioppo, Capitanio, & Cacioppo, 2014). Experimental mechanistic animal studies have shown that social isolation results in substantial changes in brain structures and processes within adult social animals (S. Cacioppo et al., 2014).

With a new lens into the effects of loneliness provided by these mechanistic animal studies, Cacioppo et al. pose the question, "If the brain is such a key organ for social connections and processes, does the perception that one is socially isolated impact brain structures and processes?" (S. Cacioppo et al., 2014). The albeit limited existing literature reviewed by Cacioppo et al. suggest there are significant links between loneliness and regional gray matter density in the brain, age-related cognitive decline, and regional brain activation in response to nonsocial stimuli (Kanai, Bahrami, Roylance, & Rees, 2012). These findings, when considered in conjunction with experimental research on adult rodents, suggest that behaviours in the adult animals response to loneliness also characterize the behaviours of lonely people, thereby providing grounds for future human investigations (Hofer, 2009 & Stephanie Cacioppo et al., 2014).

For example, when mice are socially isolated, their levels of pregnenolone decrease (Sripada et al., 2013). The same decrease is found to occur in lonely humans. The study of Sripada et al. of 31 humans who received oral doses of allopregnanolone, a derivative of pregnenolone, found that the compound interacted with the amygdala and insula, which are implicated in emotional memories and arousing threat-related stimuli, in a way that was calming for the participants (Sripada et al., 2013). Figure 7 displays schematic representation of a socially isolated brain highlighting the main areas associated with perceived social isolation (labeled area A), the effects of social isolation on health (B), the effects of social isolation on brain activation (C) and social isolations effect on brain structures and mechanisms.

Figure 7: The Socially Isolated Brain
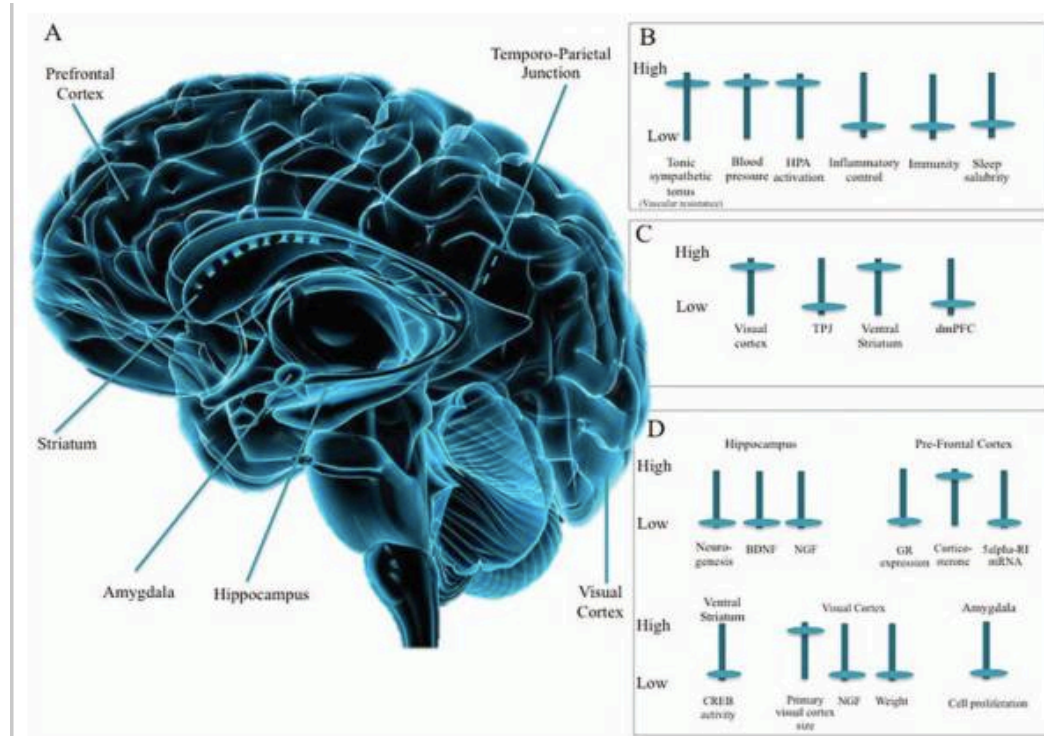
(S. Cacioppo, Capitanio, & Cacioppo, 2014)

These explorations are significant as Cacioppo has been researching the potential for a pharmacological treatment for loneliness. Currently, depressive symptoms and generalized anxiety are classified as disorders when they cause such significant distress as to interfere with an individual's quality of life (American Academy of Family Physicians., Kirst, & Shultz, 1970). Some clinical psychologists, including Hendriksen, suggest that loneliness may receive the same distinction (Entis, 2019) . Hendriksen has proposed the title of "social isolation syndrome (Entis, 2019)."

In 2015, Cacioppo et al. reviewed potential pharmacological treatments for loneliness (S. Cacioppo, Grippo, London, Goossens, & Cacioppo, 2015). This study explores the possibility of treating chronically lonely people with the hormone oxytocin (S. Cacioppo et al., 2015).

Oxytocin, implicated when an individual has feelings related to physical contact, may promote social behaviours, including trust and the establishment of social connections (Uvnas-Moberg & Petersson, 2005). The study identifies a need for greater research, such as randomized trials, to examine the process of rehabilitating underlying maladaptive social cognition (S. Cacioppo et al., 2015). The conclusion of this study is notably optimistic, suggesting that it may be possible to treat the chronically lonely with a combination of social cognitive behavioural interventions in conjunction with short-term pharmacological treatments (S. Cacioppo et al., 2015).

Cacioppo's explorations into the reduction of the prevalence of loneliness and its harmful physiological and mental consequences lays the foundation for her current clinical trials on the effects of pregnenolone on social isolation (S. Cacioppo & Cacioppo, 2015). Preclinical trials find that pregnenlone, similar to antidepressants, could offset the biological changes in the brain which occur during emotional stress such as loneliness (Entis, 2019). Pregnenolone has been well tolerated and does not appear to have the associated side effects of antidepressants, such as nausea, drowsiness, and insomnia (S. Cacioppo & Cacioppo, 2015). The most recent trial ran from May 2017 to June 2019 (Entis, 2019). The research team are currently analyzing the results. Cacioppo et al. hope to find that participants who received oral doses of pregenolone will show a reduced perception of loneliness versus those who received a placebo (S. Cacioppo & Cacioppo, 2015).

Medical researchers from the UCLA School of Medicine have also begun testing the potential for a pharmacological treatment for loneliness. Unlike Cacioppo et. al.'s focus on mitigating the impact of loneliness on brain functions and structures, Cole et al. are targeting the consequences of loneliness on the heart (Cole et al., 2015). The team of researchers believe that beta blockers, which deter the body's negative response to adrenaline, may also provide a

treatment for loneliness (Entis, 2019). As loneliness manifests as a perceived social threat in the brain, this perceived experience results in biological consequences that negatively effect heart health, as detailed in subsection II. The study looks at the potential for beta blockers on reduce stress in cancer patients as stress exacerbates the metastasis of cancer (Ganz et al., 2011). If a significant amount of literature supports the effectiveness of beta-blockers in reducing stress, it is plausible that this medication could be utilized to alleviate the damaging physiological outcomes of loneliness (Hanke, Powell, Stiner, Bailey, & Sheridan, 2012) .

There may be uneasiness within the public, as well as some researchers, to frame loneliness, which is a common experience, as a disorder that requires pharmacological treatment. Holt-Lundstad put forth, " we should be cautious about thinking of this as a disorder, and rather thinking about it instead as something that we all need: social connection (Entis, 2019)." However, Cacioppo disagrees, stating that pharmacological treatment could benefit everyone who suffers loneliness (Entis, 2019). The allied constructs of depression and anxiety are also common experiences (Spence, 2013). People will inevitably experience periods of sadness and nervousness (Spence, 2013). Despite the anticipated hesitation to clinically treat loneliness, the success and popularity of treating depression and anxiety with pharmacological interventions paves the way for a similar approach to the condition of chronic loneliness.

-CHAPTER THREE –

This chapter is a policy review of governments' emerging strategies for addressing loneliness. A review of mental health strategy found that despite recent public surveys and research on loneliness as a public health issue taking place in the US, Scandinavia, Australia, and Canada, only the governments of Japan and the United Kingdom have implemented strategies and programming specifically to address loneliness as a social and public health concern (Heu, van Zomeren & Hansen, 2019 & The Economist, 2019). Subsection III summarizes new research and growing interest in loneliness in middle and low SES (socioeconomic status) countries, indicating a growing recognition that loneliness is a global health concern, not limited to high SES countries.

3.1 Japan's *Kodokushi Crisis*

In recent years, the issues of loneliness and social isolation and has attracted attention from academic researchers, policymakers, local NGOs, and the Japanese public (DiJullio, Hamel, Muñan & Brodie, 2018 & Waterson, 2014). With fading white paint and barred windows, a government owned apartment complex in Tokiwadaria, Japan, has become the unofficial image of lonely deaths (Onishi, 2017). Throughout the 171 almost identical white buildings, senior solo dwellers spend long periods of time tucked away in their apartments and several residents die each year, without anyone being aware of their passing (Onishi, 2017). With the world's oldest population, Japan is concerned about the impact of elder loneliness (Luo, Hawkley, Waite & Cacioppo, 2012 & World Population Review, 2019).

A review of academic and grey literature reveals a consensus that loneliness is emerging as a national public health concern as a result of Japan's significant demographic shift in both rural and urban areas and endemic social isolation affecting seniors and younger generations (Muramatsu & Akiyama, 2011). This section provides a summary of the literature from peer reviewed journals, Japanese government reports, and Japanese media in order to explore Japan's response to the widespread issue of loneliness and social isolation. An exploration of the relevant policies and literature to date reveals that Japan addresses loneliness and social isolation not only as a consequence of an aging society and but also Japanese cultural phenomena across all ages (Muramatsu & Akiyama, 2011).

 "As in the West, loneliness has become a significant social issue in Japan, where the number of single-occupancy households has been increasing among old adults (Igarashi, 2019)." In order to understand the impact of loneliness on Japanese society, it is important to address two factors. First, the rate of the aging population and second, the frequency of Japanese senior citizens' living alone.

In 2014, Japan's Ministry of Internal Affairs and Communication Statistics Bureau reported 33 percent of the Japanese population is above the age of 60, with 12.5 percent aged 75 and older (Statistics Bureau, 2014). Senior citizens currently comprise 25 percent of the country's total population and are predicted to reach a staggering third of the population by 2050 (Statistics Bureau, 2014). Figure 8 depicts a prediction of the population over age 65 in Japan. The graph steeply increases, reaching a plateau in 2050, the tapers off towards 2060. In 2010, the Japanese government predicted that by 2055 one of every two and a half people will be 65 years old and one out of four people will be 75 years old or older (Cabinet Office, 2010). As

Japan's total birthrate decreases as a result of low birthright, "the aging of society will accelerate (Cabinet Office, 2010)."

Figure 8: Prediction of Japanese Population Aged 65 +
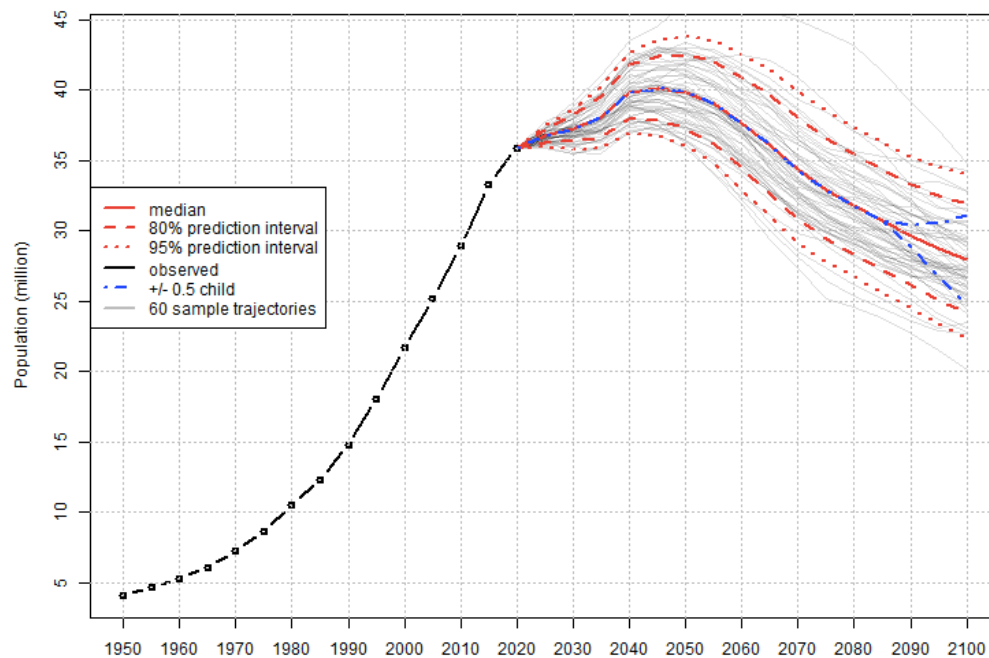
(DESA, 2019)

The National Institute of Population and Social Security Research predicts that by 2040, 40 percent of all senior citizen households will only have one member (The Japan Times, 2019). The number of senior households is set to increase from by 17 percent, with seniors comprising 27 percent of households in 2015 to reach a staggering 44 percent of the nation's total households by 2040 (The Japan Times, 2019). The rising number of senior households, notably of senior single-person households, appears to have an impact on an increase in the phenomena of *kodokushi*, which is directly translated as "lonely deaths (Tiefenbach, Kohlbacher, &

Kohlbacher, 2017).” *Kodokushi* is defined as the circumstance of people dying alone and having their death remain undiscovered for a long period of time (Tiefenbach et al., 2017). The term '*kodokushi'* has an indirect association with loneliness, as per the Merriam-Webster definition of lonely as, "being without company (Merriam-Webster, n.d.)" An individual who dies unattended and whose death is not noted for a significant period of time suggests that individual may have had few, if any, regular social contacts. However, from a research perspective, one can only speculate about their emotional state at the time of his or her death.

While there are no official figures, experts estimate that more than 30,000 individuals per year fall within the category *kodokushi* (Hoffman, 2018). Yoshinori Ishmi, who runs a cleaning service, Anshin net, that cleans up following lonely deaths believes that the actual rate of *kodokushi* is, "twice or three times that (Agence France-Presse, 2017). Figure 9 illustrates the estimated prevalence of *kodokushi* in 2013 occurring within the senior citizen population in the Tokyo prefecture.

Figure 9: Estimated Kodokushi rates for Tokyo Seniors (2013)
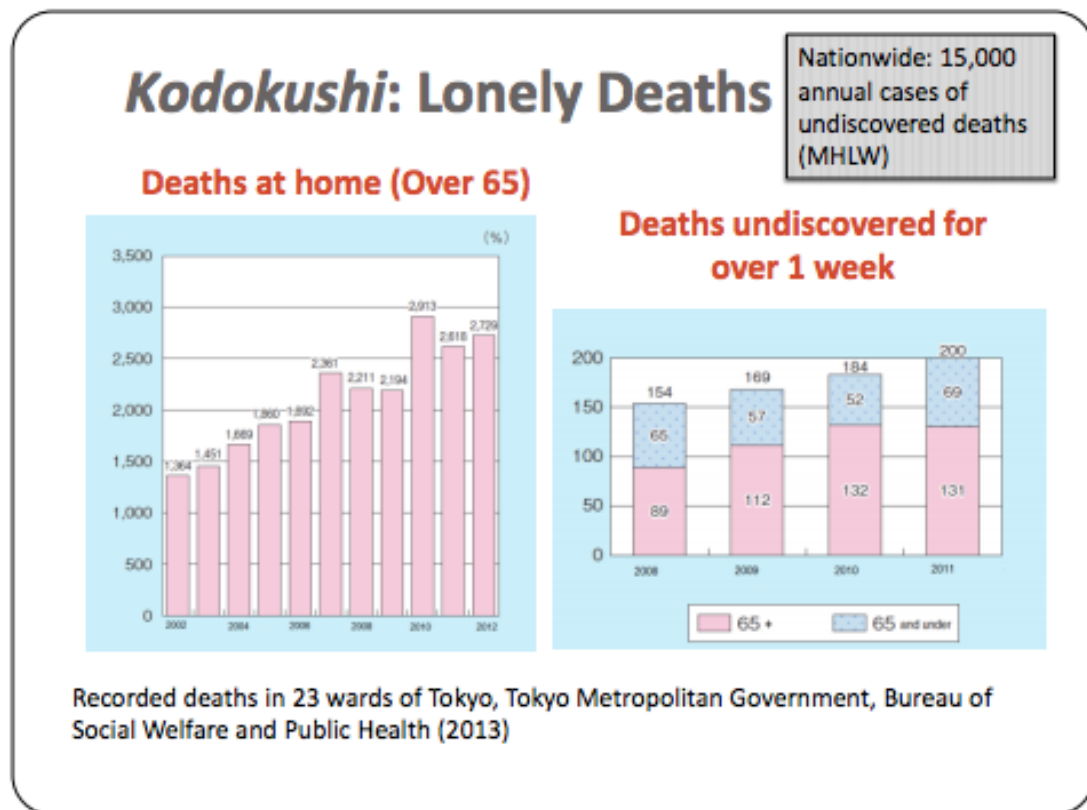
(Bureau of Social Welfare and Public Health, 2013).

The first apparent mention of *kodokushi* by Japan's Cabinet Office appears in its 2010

Annual Report on the Aging Society (Cabinet Office, 2010). The Report defines *kodokushi* as

solitary deaths, rather then the translation of lonely deaths. The report states,

> There is a 1.6 times increase in the number of deaths at home of people over the aged of
> 65 living alone between 2002 and 2008, this included cases of dying alone are also
> presumed to be increasing. Cases in which solitary death occurred in rented
> accommodations (app. 760,000) belonging to urban areas approximately tripled between
> 2001 and 2008 (Cabinet Office, 2010).

While the Japanese Cabinet Office has recognized the phenomenon of *kodokushi* within its elderly population, it is important to note that the central government does not collect lonely death statistics despite regional figures demonstrating an increase over the past decade (Fifield, 2018). Psychologist Juna Okama, author of *Japan's Old Men are the World's Loneliest,* has stated that Japan's "society is not doing enough to address loneliness (Lewis, 2018)."

Kodokushi is not the only public health risk related to loneliness facing Japanese seniors. Another phenomenona that would have an indirect association with loneliness is *hikikomori.* *Hikikomori*, a form of social withdrawal, is on the rise in Japan, notably among adults and seniors (The Japan Times, 2019). *Hikikomori* is further defined by the Japanese Health, Labor, and Welfare Ministry as a circumstance in which individuals stay in their home for a period of six months or greater without going to school, work, or leaving the house to socialize (Teo, 2010). The definition of *hikikomori* also congruent with the Merriam-Webster definition of loneliness as "being without company (Merriam-Webster, n.d.). "

The phenomenon of *hikikomori* first gained attention in Japan in the late 1990s (Teo, 2010). Kato et al. (2018) detail that as Japanese social life was formerly based on village communities and close-knit neighbourhoods, Japan's process of modernization and the development of Japanese megacities has made human connection increasingly difficult to attain and maintain, particularly for individuals who previously lived in traditional family groupings. As individuals of all ages struggle to acclimatize to urban living in single households with significantly fewer social interactions, extreme outcomes such as *kodokushi* and *hikikomori* can occur (Kato et al, 2018). There appears to be an association in the academic research writings that (direct quote) "that loneliness, social withdrawal, and social isolation are related to the urban single-person household structure in Japan (Teo, 2010).

Since 2002, Japan's Cabinet Office has published an annual report on the country's ageing society (Cabinet Office, 2002). While these reports do not typically address the societal issues of *kodokushi* and *hikikomori* (as aforementioned in 2010), *kodokushi* was included in the annual report as solitary death), they do include implementation measures taken on behalf of the government to increase quality of life for older adults. The reports are informed by the 1995 Basic Act on Measures for the Ageing Society (Basic Act on Measures, 1995). While not directly mentioning the terms loneliness or solitude, the Act has a significant goal to seek "promote the sound development of the nation's economy and society and to enhance the stability of people's lives (Basic Act on Measures, 1995)."

Several articles within the Act pertain to areas that may be related to social isolation and lonely deaths among Japan's elderly. Article 11 addresses the learning and social environment of the elderly and states the government "shall adopt measures necessary to encourage participation by the elderly in social activities and to establish a foundation for volunteer activities (Basic Act on Measures, 1995). Japan seeks to create an, 'age-free society in which people of all ages can make use of their motivation and abilities depending on their hope (Basic Act on Measures, 1995)." The 2018 Annual Report on the Ageing Society highlights a goal to "develop a community life base and consolidate a local community where people can imagine their elderly life at any stage (Cabinet Office, 2018)." Of note, the Adachi Zero Isolation project also states its goal to develop community as a means to prevent more lonely deaths (Adachi City Office, 2012).

Article 9 of the Basic Act on Measures for the Ageing Society (1995) addresses the need for Japan's senior population to be included in the workforce and have opportunities to generate

an income. This article indirectly alludes to an attempt to keep senior citizens active and

engaged in society. The article states,

> To contribute to the creation of a vital society, the government shall adopt measures necessary to guarantee that diverse opportunities exist which allow the elderly to work according to their motivations and abilities, to enable workers to develop their occupational abilities throughout their working lives, and to allow workers to effectively use their abilities until old age (Basic Act on Measures, 1995).

Japan has pioneered the first government response to social isolation, such as *hikikomori*

and loneliness, including *kodokushi* with a view that the phenomena are a public health concern

linked to ill health such as to depression, dementia, and heart disease, as substantiated in the

literature review of Subsection II. Interestingly, though the government and peer-reviewed

literature deem loneliness and social isolation to be public health concerns, the Japanese

government has ultimately taken a social approach to the issue of loneliness.

Japan launched its pilot initiative, the Power of Communities Promotion project (Public

Service Division, 2019). In 2011, the Japanese city of Adachi served as the first site for the

Power of Communities Promotion (Japan for Sustainability, 2013). A central focus of this

initiative is the Zero Isolation Project, which continues to strive to eradicate social isolation and

foster a sense of security (Japan for Sustainability, 2013). As of 2013, Adachi used the citizens'

register to identify solo residents over the age of 70 who were not subscribed to a public health

insurance programme, such as the Japan's Long Term Care Insurance (LTCI) (Japan for

Sustainability, 2013). First established in 2000, the LTCI addresses both the physiological and

mental health concerns of Japanese citizens through a comprehensive insurance system (Matsuda

& Yamamoto, 2001).

With the support of 113 registered neighbourhood associations, households were visited

by volunteers to verify the social conditions of at-risk residents, notably those who were not

registered for Japan's LTCI (Tadaka et al, 2016). As of 2013, 500 volunteer community link support workers are involved with the program (Japan for Sustainability, 2013). The Zero Isolation Project has since expanded to encompass more municipalities and to reach more potentially at-risk residents by using a broader range of social isolation indicators, such as being a single parent and/or a person with disabilities (Waterson, 2014). The Project is exploring different solutions for each at-risk group including the elderly, single parents, the disabled, and living alone (Waterson, 2014). At present, there are no finished results or outcome reviews of the Zero Isolation Project reported in English language academic literature or media.

One of the more interesting Japanese strategies is the use of libraries' based on the notion that public libraries serve as a resource for community information and facilitate the development of community connection. One of the ways in which Japan is tracking loneliness and combatting social isolation among the population is through the utilization of public libraries as sources for information on community building and record keeping (Japan Library Association, 2011). Following the 2011 tsunami, libraries in Japan became important providers of local information, as well as safe spaces for community activities (Waterson & Tamura, 2013). Using libraries to foster social connection is a strategy used in the village of Funahashi (Toyama) (Waterson & Tamura, 2013). With a population of 3000, 72 percent of Funahashi residents are now registered library users (Waterson & Tamura, 2013). This high registration rate is accredited to community consultation regarding the library's services. In the much larger city of Imari, with a population of approximately 56,000, libraries are run with the support of 27 different community groups (Waterson & Tamura, 2013). The extensive community involvement and high usage of local library services among residents is deemed an indicator of citizen engagement (Sorensen, Koizumi & Miyamoto, 2009).

Libraries are monitoring residents' level of community engagement, as indirect measures

of community engagement and social connection, through such factors as the number of book

holdings, borrowing rates, and popularity of citizen public halls (meetings) that take place at

libraries (Waterson & Tamura, 2013). As of 2008, Japan reported 3,106 public libraries (JLA,

n.d.). The Japan Library Association (JLA) claims, "the number of towns without a pubic library

is fewer than ever (JLA, n.d.)." The Japan Library Association recognizes the challenges of

Japan's aging population and changing society. On their website they address about the need for

reform of the social system and libraries incorporation of technology,

> "Reform of the social system is currently a critical issue in Japan. The population is
> rapidly aging, and economic development has slowed. Some local governments are trying
> to apply private-sector management methods to public administration of facilities and
> services […] With the rapid spread of information and communication technology in
> recent years, the Japanese information environment has changed dramatically. Most
> people have access to personal computers and are proficient at using the Internet. Local
> governments have promoted networking, and online systems have been installed in many
> public libraries, even in small towns. Thus, people can use online public access catalogs
> and digital content via the Internet. The "integrated circuit" tag has also been introduced
> at several libraries (JLA, n.d)."

According to the Waterson and Tamura report, the city of Hagi, with a population of

approximately 50,000, is a success story of library's growth and ability to act as a community

engagement facilitator (Brinkhoff, 2019). The Hagi City library sought to provide an easily

accessible space to all Hagi residents and encourage community development through new

services including the digitalization of library resources, the creation of outdoor spaces, and a

commitment to community partnership (Waterson & Tamura, 2013). The library partnered with

the local NGO, Everybody's Library Hagi, in order to collect resident input and feedback

concerning the library's management and new programming, including the library's recent

creation of childcare services (Waterson & Tamura, 2013). The outcome of working with Hagi

residents include a 10 fold increase in visitors to the library, a 50 percent increase in the number of books borrowed, and a registration rate of 40 percent of Hagi residents (Waterson & Tamura, 2013).

It is important to note that the phenomenon of loneliness and social isolation has been identified as also prevalent among Japanese youth and young adults, as identified by grey literature (Gent, 2019). A review of the literature on loneliness among youth and young adults in Japan provided extremely limited results. Academic literature within the field of psychology focused on the relationship between solo living and well-being within younger adults. Raymo's (2015) census data study on young adults living alone in Japan finds,

> The first set of analyses indicate that changes in marital behavior explain all of the increase in one-person households for men and three-fourths of the increase for women. Results of the second set of analyses indicate that those living alone are significantly less happy than those living with others, whereas the two groups do not differ with respect to self-rated health (Raymo, 2015).

This literature does not identify the cause of the prevalence of loneliness among Japan's younger citizens. However, Kawanishi's seminal book, entitled *Mental Health Challenges Facing the Japanese Society: The Lonely People* (2009) uses the author's personal commentary, observation, and empirical research to discuss issues of social withdrawal among Japanese youth and the Japanese experience of loneliness. On the topic of social withdrawal (*hikkomori*), Kawanishi hypothesizes that the condition among youth, "sounds more benign and more like a temporary condition than 'personality disorder' and thus tends to gloss over the reality (Kawanishi, 2009)." The author suggests public attitudes toward extended social withdrawal among Japanese youth may be neglecting a growing mental health concern. As of 2009, a reported 1.6 million young Japanese suffered from this pathological form of social withdrawal

(Kawanishi, 2009 & Teo, 2010). Gent, a newspaper reporter with the BBC, notes that *Hikkomori* is on the rise in Japan (Gent, 2019).

Kawanishi (2009) claims that communication is not readily fostered and encouraged within Japanese culture. In her work, she observes that friends, peers, even close family members, typically do not share their feelings with one another (Kawanishi, 2009). While the author does not directly link this lack of emotional communication with the concept of loneliness, her observations provide a potential avenue for further exploration. She writes, "many young Japanese suffer from an inability to relate to other human beings (2009, p. 133)." There is existing evidence to supports a relationship between an inability to communicate and a negative impact on social relationships.

Japan's problem of loneliness and social isolation gained the attention of the British Chambers of Commerce in Japan (BCCJ). Established in 1948, the BCCJ is a not-for-profit private membership organization based in Tokyo designed to strengthen business and trade between the UK and Japan (BCCJ, 2019). The organization actively promotes the development of new British business into the Japanese market and Japanese investment within the UK (BCCJ, 2019). Interestingly, the BCCJ has actively commented on Japan's loneliness and social isolation through its magazine, the BCCJ Acumen magazine. The BCCJ Acumen is a monthly online and print magazine with an apparent focus on industry.

In 2013, the *Japan Quality of Life Survey* administered by the Japanese government's Economic and Social Research Institute reports 32 percent of respondents were "somewhat or very concerned about dying alone (Economic and Social Research Institute, 2013)." The British Chamber of Commerce in Japan then conducted a separate analysis of the 2013 survey results. The Economic and Social Research Institute's survey results finds a high correlation between

concern of a solitary death and unhappiness (Kohlbacher, & Tiefenbach, 2015). Critically, female respondents aged 20-59 reported being more anxious about their prospect of *kodokushi* than their male counterparts, even though males typically experience *kodokushi* more so than females (Kohlbacher, & Tiefenbach, 2015). Additionally, it was found that in both male and female respondents aged 40 to 85, a higher number of offspring correlated to a decrease in concern about *kodokushi* (Economic and Social Research Institute, 2013).

In the context of these results, The BCCJ then identified suggestions for Japan's prevalence of social isolation and loneliness. These suggestions emphasize monetary support for community based programming, including the building and fostering of social support networks for the elderly (Kohlbacher, & Tiefenbach, 2015). The BCCJ also suggests the country seek to improve urban residential experiences by addressing issues of litter, crime, air pollution, and green space at the neighbourhood level (Kohlbacher, & Tiefenbach, 2015).

Potential reasons as to why the BCCJ has taken an interest in Japan's prevalence and policy approach to loneliness and social isolation will be addressed in Chapter 4. However, as the only two countries that have implemented public policy directly addressing loneliness, it is plausible that Japan and the UK may be paying close attention to each other's responses to the issue. As witnessed in Japan, prevalence of loneliness in youth and young adults in significant in the UK. However, the UK has gone a step further and describes loneliness in millennials as a public health problem (Howe, 2019). The UK national strategy for loneliness cites that the Office for National Statistics is exploring how children and young adults experience loneliness (Snape & Manclossi, 2018). The only other country with an official government strategy at this time that considers loneliness as a public health concern, the UK takes a different approach to

combatting loneliness from that of Japan. The following subsection will review the UK 2018

national strategy on loneliness based on a cross-governmental approach.

3.2 The United Kingdom's Cross-Governmental Strategy

In 2015, Jo Cox was elected as a Labour representative for Batley and Spen, West

Yorkshire (BBC, 2016). Cox raised the concern that the UK was facing a hidden loneliness crisis

(Asthana, 2017). Her goal was to establish a cross-party Commission on Loneliness, which

would work across private and public sectors to create public awareness and understanding of

loneliness and a consequent policy response to the loneliness crisis (Jo Cox Commission on

Loneliness, 2018). The Commission was officially launched in January 2017 following her

untimely death on June 16, 2016. (Reuters, 2016 & Jo Cox Commission on Loneliness, 2018).

Under the joint leadership of Conservative Party member MP Seema Kennedy and

Labour Party member MP Rachel Reeves, the Commission invited thirteen organizations to

share knowledge on the prevalence of loneliness at different stages of life and to explore how

loneliness makes an impact on all areas of society (Asthana, 2016 & Jo Cox Commission on

Loneliness, 2018). The final report of this commission on loneliness, *Combatting Loneliness on*

Conversation at a time: A Call to Action, found that approximately nine million UK residents, of

a total population of 66 million residents, report they often or always feel lonely (Jo Cox

Commission on Loneliness, 2018). The commission cites that 200,000 senior citizens in the UK

reported they had not had a conversation with a relative or friend in more than a month (Jo Cox

Commission on Loneliness, 2018).

The major recommendations of the Commission include the creation of a Minister of

Loneliness, as well as the development of a national loneliness indicator, an annual report on

loneliness, and funding for initiatives to help ease loneliness (Jo Cox Commission on Loneliness, 2018). The recommendations informed the government's loneliness strategy released in 2018 (HM Government, 2018).

The major recommendations of the Commission include the creation of a Minister of Loneliness, as well as the development of a national loneliness indicator, an annual report on loneliness, and funding for initiatives to help ease loneliness (Jo Cox Commission on Loneliness, 2018). The recommendations informed the government's loneliness strategy released in 2018 (HM Government, 2018).

On October 15, 2018, the UK released its national strategy to combat loneliness, *A connected society: a strategy for tackling loneliness- laying the foundation for change* (HM Government, 2018). The strategy (2018) recognizes, "Loneliness is not new but we do increasingly recognise it as one of our most pressing public health issues." In the Prime Minister's foreword, Theresea May (2018) writes, "The loss of social contact is incredibly damaging to our humanity and to the health and wellbeing of everyone affected […] This strategy is only the beginning of delivering a long and far reaching social change in our country- but it is the vital first step in a national mission to end loneliness in our lifetime." The Ministerial foreword is co-authored by MP Tracey Crouch, who was appointed the inaugural Minister of Loneliness, and MP Jeremy Wright, Secretary of the State for Digital, Culture, Media, and Sport. They write, "it's so important that we all take time to keep our social relationships strong, so we are better protected at vulnerable points in our lives when we can be at particular risk of experiencing loneliness (HM Government, 2018)." The co-authors (2018) emphasize that while governments cannot "make friends for us," the role of government can strengthen the

foundations of society, using its organizational capacity for solutions for those citizens experiencing loneliness.

The UK has also adopted a working definition of loneliness to guide the scope and response of its national strategy, *A connected society: a strategy for tackling loneliness.* Informed by Peplau and Perlman's (1982) cognitive approach to loneliness (see Chapter Two), the government definition used by the Campaign to End Loneliness and the Jo Cox Commission describes loneliness as, "A subjective, unwelcome feeling of lack of loss or companionship. It happens when we have a mismatch between the quantity and quality of social relationships that we have, and those that we want (Jo Cox Commission, 2018 & HM Government, 2018)." The government strategy includes a framework for understanding loneliness, adapted from Peplau and Perlman's (1992 & 1988) seminar research on loneliness (HM Government, 2018) See the following figure (Figure 10).

Figure 10: *Understanding Loneliness According to the UK National Strategy*
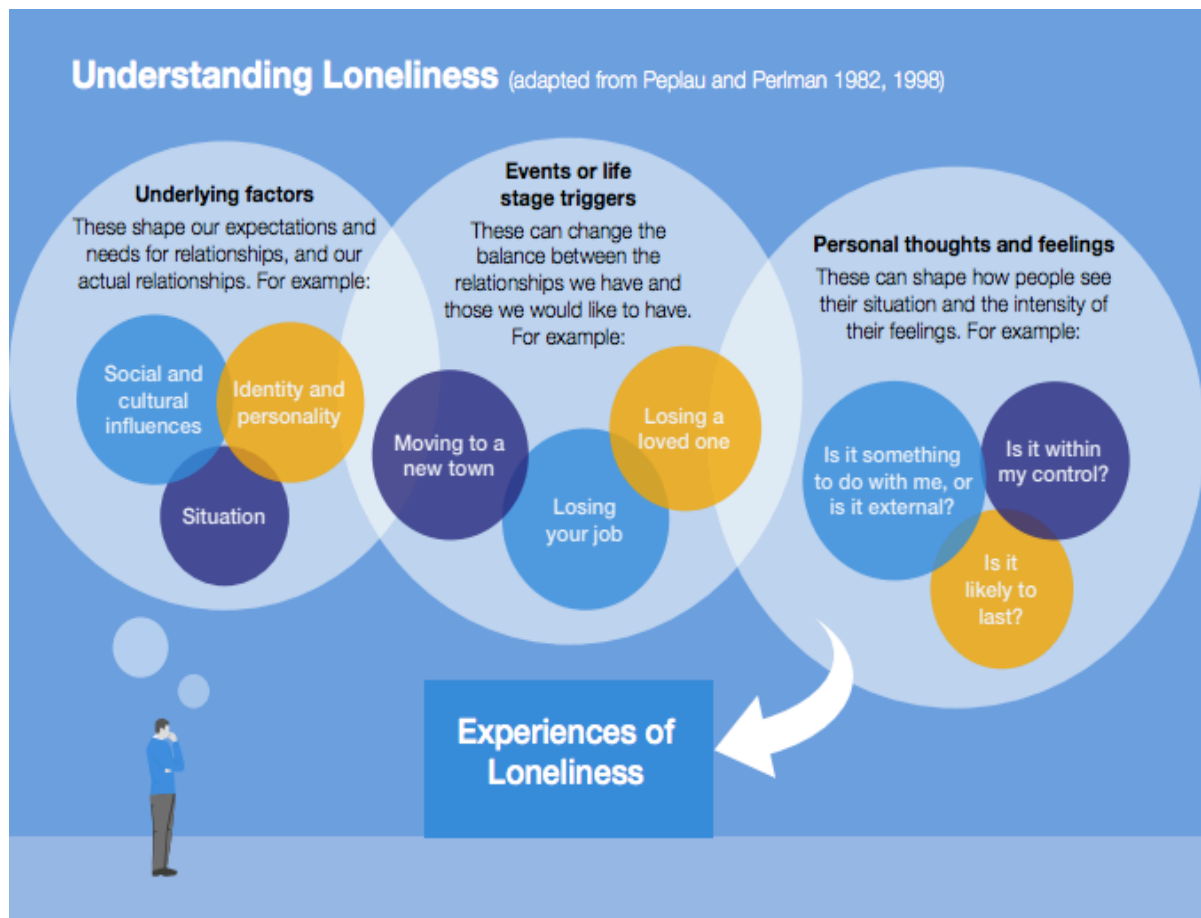
(HM Government, 2018)

As informed by the Jo Cox Loneliness Commission, the national strategy takes a multi-sector approach. The UK is the first country to establish a national strategy. This multi-sector approach sought input from mayors, politicians, private sector leaders and NGOs to help monitor, engage, and promote awareness on the issue of loneliness (Jo Cox Commission on Loneliness, 2018). The strategy recognizes that while loneliness is a normal experience it can result in "ill health and other negative consequences […]. Just as we understand the importance of looking after our physical health and increasingly our mental health, so too must we look after

our social connections, and understand that they are key to our wellbeing (HM Government, 2018)."

The governmental strategy outlines three goals for its role in addressing loneliness as a public health concern. The first goal "is a commitment to play our part in improving the evidence base so we better understand what causes loneliness, its impact and what works to tackle it (HM Government, 2018)." This goal speaks to the objective of assessing existing evidence from national surveys and literature and developing a measure for loneliness, as recommended by the Jo Cox Commission (2018). The second goal seeks to entrench loneliness as an issue to be considered within all relevant government policy. A cross-sector strategy, this second goal will encompass, "a number of crosscutting policies to benefit all of society, alongside more tailored interventions that can support people when they are at greater risk due to specific trigger points in their life (HM Government, 2018)."

The third goal centres on creating awareness of loneliness and its effects. The goal "is to build a national conversation on loneliness, to raise awareness of its impacts and to help tackle stigma (HM Government, 2018)." The national strategy reported that 30 percent of Britons surveyed by the Mental Health Foundation in 2010 claimed they would be "embarrassed to say they felt lonely (HM Government, 2018)." Stigma surrounding loneliness has been established as preventing individuals from acknowledging the extent of their loneliness, as initially presented in Fromm Reichmann's essay *Loneliness* in 1959, summarized in Chapter two, subsection III. Mann et al. (2017) report that experts on mental health have discussed the challenges of getting people to talk about their loneliness and note that people may under-report loneliness in questionnaires. Mann et al. (2017) suggest that public education initiatives may reduce the

"shameful attitudes to being lonely," and note "the added stigma of mental illness, from both others and internalised."

To create the national strategy on loneliness, the UK government partnered with the Loneliness Action Group, an association of more than 40 public and private sector organizations (British Red Cross, 2019). The Loneliness Action Group conducted workshops on behalf of the government to help identify risks for loneliness and inform the national strategy. In its Community Life Survey Data (2016-2017), the Office for National Statistics found the following 13 factors had a direct impact on risk of loneliness (Christophersen, 2017):

1. Age
2. Sex
3. Martial Status
4. Respondents gross income (and partners if applicable)
5. Disability Status
6. General Health
7. Number of adults in household
8. Caring Respondents
9. Whether the respondents chat with their neighbours more than pleasantries
10. Feeling as though they belong to a neighbourhood
11. Satisfaction with local area as a place to live
12. The number of years lived in in local neighbourhood
13. Frequency of in person meet ups with family members or friends

According to the Office for National Statistics, the profile for those most at-risk for experiencing loneliness in the UK are widowed older home-owners living alone with long term health conditions; unmarried middle-aged individuals with long-term health conditions; and younger renters with little trust or sense of belonging to their neighbourhood (Christophersen, 2017). Gender was also found to be a risk factor, with females at higher risk (Christophersen, 2017).

This strategy includes general policies to reduce risk of loneliness within the population at large, and other policies that specifically target vulnerable populations. An example of a policy

targeting those at higher risk for experiencing loneliness is the increased support of Carers UK.

Established in 1988, Carers UK is a government-funded charity that helps the 6.5 million UK

residents who care for family and friends suffering from chronic conditions by providing the

caretakers with emotional support and practical information (Carers UK, 2014). In 2018, there

are 18,500 members and approximately 400 volunteers of Carers UK (HM Government, 2018).

The organization, which worked with the Jo Cox Commission on Loneliness, reports that 32

percent of UK employees who balance careers and caring experienced loneliness or isolation in

their workplace because of their role as a career (HM Government, 2018). In July 2019, the

Department of Health and Social Care launched its £5 million Carers Innovation Fund to develop

new initiatives to support unpaid carers (Carers UK, 2019). This fund will invest in innovations

to assist carers outside beyond mainstream healthcare services (Carers UK, 2019).

Carers UK has an online forum designed to serve as a supportive online community for

family and friends who are unpaid carers and experience the emotional burden as well as rewards

that characterize this role (Carers UK, 2014). Carers UK also provides a business forum,

Employers for Carers (EfC), intended to help guide more than 130 UK employers in establishing

carer-friendly policies to support the one in nine employees who act as carers at home (Carers

UK, 2014). Carers also receive social prescribing by their GPs (Anfilogoff, 2017). Social

prescribing is a key component of the government's national strategy for all citizens, not just for

vulnerable populations that the policy specifically targets (HM, 2018).

A central aspect of the UK's national strategy is the National Health Service (NHS)

institutionalization of social prescribing (HM, 2018 & Marsh, 2018). The national strategy

(2018) finds, "76% of GPs report that 1 to 5 patients a day come to their surgery because they are

lonely." Social prescribing is considered to be a holistic approach to individuals' health. The

NHS (2017) describes the practice as asking the patient to focus on "What matters to me?"

Using social prescribing, general practitioners (GPs) may prescribe non-medical interventions, such as activities, to patients or may connect patients with link workers (The King's Fund, 2019). Link workers facilitate patient involvement in the community and their access to statutory services, which support emotional and financial wellbeing, as well as physical health (Personalised Care Group, 2019).

The national loneliness strategy indicates that social prescribing schemes are commissioned by Clinical Commissioning Groups and local authorities and take referrals from a wide range of agencies (HM, 2018). Former Prime Minister May confirmed that all GPs in the UK will be able to use social prescribing for patients suffering from loneliness by 2023, rather than relying on pharmacological solutions (Prime Minister's Office, 2018).

The UK government states that further research is required to develop and test evidence on the effect of social prescribing. However, the national strategy cites Polley et al.'s (2017) technical report that suggests social prescribing may improve health and wellbeing outcomes for people who have used social prescriptions. Further, Polley et al. state that social prescribing can reduce pressure on the NHS (Polley et al., 2018). Their research reported an average of 28% fewer GP visits and 24% fewer attendances at the A&E in cases where social prescribing link workers were preforming well (Polley et al., 2018).

It is interesting to note, that the social prescribing committee was made up primarily physicians and academics. All authors of the study reported conflicts of interest (Polley et al., 2018). The first author, Polley (2018) is the Co-Chair of the Social Prescribing Network. All other authors of the study are members of the steering committee of the Social Prescribing Network, apart from Dr. Resfum, a clinical fellow with the NHS (Polley et al., 2018). The

authors reviewed 94 projects reports of social prescribing, however, only 14 reports met the

criteria for review. Of this small sample, only one project was a randomized controlled trial

(RCT) (Polley et al., 2018).

There is no consensus within the literature on the NHS practice of the potential success

of social prescribing as described by Polley et al. The systematic review on the evidence of

social prescribing by Bickerdike et al. (2017) looked at 15 evaluations of social prescribing

programmes. Bickerdike et al. (2017) describe the existing evaluations of the programmers as,

> small scale and limited by poor design and reporting. All were rated as a having a high
> risk of bias. Common design issues included a lack of comparative controls, short follow-
> up durations, a lack of standardised and validated measuring tools, missing data and a
> failure to consider potential confounding factors. Despite clear methodological
> shortcomings, most evaluations presented positive conclusions (Bickerdike et al. 2017).

They conclude that this approach is being extensively advocated, the current evidence, "fails to

provide sufficient detail to judge either success or value for money." They recommend that

further research on social prescribing is required and future evaluations must be of a comparative

nature, investigating the issues of "when, by whom, for whom, how well, and at what cost

(Bickerdike et al. 2017)?"

The UK's national strategy includes one similarity to Japan's monitoring strategy. In a

manner similar to Japan's efforts, the UK will begin utilizing volunteers to monitor at-risk

individuals (HM, 2018). The UK government will be partnering the Royal Mail in Liverpool and

other smaller cities to monitor lonely residents (BBC News, 2018). The government will

establish a system of postal workers' visitation to socially isolated residents so as to connect

them with support from family or community networks (BBC News, 2018). Test projects to

incorporate UK residents with long-term health conditions into volunteering will be implemented

in five areas across England (Stubley, 2018). Similarly to Japan's Zero Isolation Project, there is

no analysis of these test projects. At this time, there are no results or academic literature about this initiative to analyze and further research is required.

The national strategy is a cross-governmental approach (HM, 2018). As a result, need for redress of loneliness will be added to the portfolios of the ministries of housing, community and local government (Clark, 2018). Additionally, the concern of loneliness will be included within the departments of business, energy and industrial strategy, transport, digital, culture, media and sport and health and social care (HM, 2018). As a part of the national strategy, the UK has established the first ever Employer Pledge to address loneliness in the workplace (Prime Minister's Office, 2018). Private and public sector employers who support the pledge include Transport for London, Co-op, British Red Cross, Sainsbury's, National Grid and the Civil Service (Department for Digital, Culture, Media & Sport, 2018). The Department for Business, Energy and Industrial Strategy is tasked with encouraging more employers to acknowledge loneliness as a public concern and support their employees' social wellbeing (HM, 2018). Employers who sign the Employer Pledge are requested to submit a mental health action plan (Time to Change, 2019). The not-for-profit organization Time to Change, which is funded by the Department of Health and Social Care as well as the private sector, is responsible for reviewing the mental health action plan for employees and providing feedback to the employer (Time to Change, 2019). Employers have two weeks to resubmit their revised action plan before approval (Time to Change, 2019).

The Employer Pledge is unique as the phenomenon of loneliness in the workplace has received minimal attention in academic literature. In a review of recent literature on loneliness within the field of psychology, it appears existing literature primarily focuses on personal

characteristics that may result in experiencing loneliness. Wright (2005) notes that the literature ignores the potential workplace role as "triggers of loneliness." Wright (2005) explains, "personality tends to be overestimated as the reason for loneliness, whilst only modest emphasis is given to environmental factors, such as organizational environments." The UK's 2018 strategy also cites an increase loneliness in the nation as a result of changing work environments. The strategy states, "Many jobs are becoming more solitary. We can work, shop, travel and interact with businesses and public services online rather than through talking to each other (HM Government, 2018)."

The national strategy will be inclusive of some the UK's youngest citizens, school-aged children (Snape & Manclossi, 2018). Curriculum to teach primary and secondary school students about the importance of social relationships is scheduled to be rolled out in 2019 (HM Government, 2018). As of September 2020, all primary and secondary schools will be required to instruct on social relationships and the effects of loneliness (Fetters, 2018). Additionally, the Department of Education's resources for teachers will include materials highlighting issues of loneliness (Fetters, 2018). In order to foster an understanding of loneliness and the importance of healthy social relationships from a young age, the Department for Education is launching new subjects, such as "relationships and sex education at the secondary level, which will emphasize the value of social relationships (HM Government, 2018)." The Department for Education is also set to publish best practice guidance on work placements for young people, specifically for those with special needs and/or disabilities (Department for Education, 2017). According to the national strategy, gaining effective work experience can be viewed as a preventative measure that mitigates future social exclusion from and within the workplace (Education and Skills Funding Agency, 2017).

Loneliness Minister Tracey Crouch and Minister for Digital and the Creative Industries Margot James are reported to be incorporating meetings with tech companies to examine technology's role in the "loneliness epidemic (Kelsey, 2018)." The relationship between loneliness and technology is probed within the literature of psychology (Kim, LaRose & Peng, 2009 & Sum et al., 2008). According to the American Psychological Association (APA), the research on whether technology can increase or reduce loneliness shows mixed results, with determinants including a person's age (APA, 2019). Chopik's (2016) study of approximately 600 older adults reported the use of social technology, including email, Facebook, and Skype, was linked to lower levels of loneliness and higher self-rated levels of health. However, Hunt et al.'s (2018) study of 143 undergraduates limited use of Facebook, Instagram, and Snapchat (10 minutes per day per platform) found the limited group showed, "significant reductions in loneliness and depression over three weeks compared to the control group (Hunt et al., 2018)."

The UK Department for Digital, Culture, Media and Sport features loneliness as part criteria for bidding on the £400,000 Digital Inclusion Innovation Fund, launched September 2018 (HM, 2018). The goal of the Digital Inclusion Innovation Fund is to increase the digital inclusion of older adults and people with disabilities and special needs. These two groups face a greater risk of loneliness and social exclusion. According to the national strategy, digital skills can help lessen the risk of loneliness among vulnerable groups (Department for Digital, Culture, Media & Sport, 2018 & James, 2018).

The national strategy presents the government understanding of loneliness and its belief that the problem must be addressed within multiple sectors: "It commits to some practical actions that government will now take to improve how organisations, community infrastructure and our wider culture support people's social relationships (HM Government, 2018)." Critically,

the national strategy recognizes that the strategy is only a first step to create major social change within the UK (HM Government, 2018). The UK's governmental strategy has inspired Australia (Australian Coalition to End Loneliness, 2017). The following section will briefly summarize the direct influence of the UK national strategy on Australia's public and academic discourse on loneliness.

3.3. Australia Follows the UK's National Strategy

Following the creation of the UK Campaign to End Loneliness, Australian academics established the Australian Coalition to End Loneliness in 2017 (Australian Coalition to End Loneliness, 2017). Social isolation is said to affect one in ten Australians and one in four Australian adults are lonely (Lim, 2018). Self-reported lonely Australians are found to suffer significantly worse mental and physical health than socially connected Australians (Lim, 2018). Additionally, 55 percent of Australians report lacking companionship at least some of the time (Lim, 2018). The Australian Coalition to End Loneliness, like the UK Campaign to End Loneliness, recognizes loneliness as a serious health concern and seeks to raise awareness and address the effects of loneliness and social isolation through evidence-based interventions (Australian Coalition to End Loneliness, 2017).

In 2018, Melbourne's Swinburne University and the Australian Psychological Society launched the Australian Loneliness Report, the country's first research project on the impact of loneliness on physical and mental health (Australian Psychological Society, 2018). This 30-minute online survey (2018) that explores loneliness in correlation with the physical and mental health of Australians over the age of 18, was designed by academics at Swinburne University and the Australian Psychological Society. A national sample of Australian adults (n=1678),

including a nationally representative sample of 500 adults participated in the survey from May 29, 2018 to October 1, 2018 (Australian Psychological Society, 2018). Measuring loneliness using the UCLA Loneliness Scale, the Loneliness Report's findings have solidified loneliness as an Australian public health issue according to the Australian Psychological Society (2018). The Australian Psychological Society recommends strategies that address loneliness be incorporated into Australia's public mental health strategy (Lim, 2018).

In 2017, the nation's Reason Party proposed the introduction of a Minister for Loneliness in Victoria to ensure cross-department initiatives within Health, Infrastructure, Communities, and Justice portfolios (Wahlquist, 2018). This proposed approach would mirror the cross-governmental approach established by the UK's national loneliness strategy (Wahlquist, 2018). Australia's approach to addressing loneliness may differ from the UK in that social prescribing has not been mentioned as a possible solution to the loneliness crisis, to date, by Australian academics or government officials.

The Australian Loneliness Report finds that Australians over 65 years experience better physical and mental health than younger Australians, who reported higher levels of social anxiety and depression than their older counterparts (Australian Psychological Society, 2018). Interestingly, research from Sweden also reports greater loneliness among young adults than senior citizens (see appendix 5 for Swedish case study). As the survey remains ongoing, more data may emerge to provide greater insights as to whether Australians under the age of 65 have more life transitions, such as marriage, divorce, children, career and work life changes, than those over 65 years old (Welsh NHS Confederation, 2019). Figure 15 shows the prevalence of loneliness among different age groups in Australia.

Figure 11: Mean Loneliness Score by Age group.
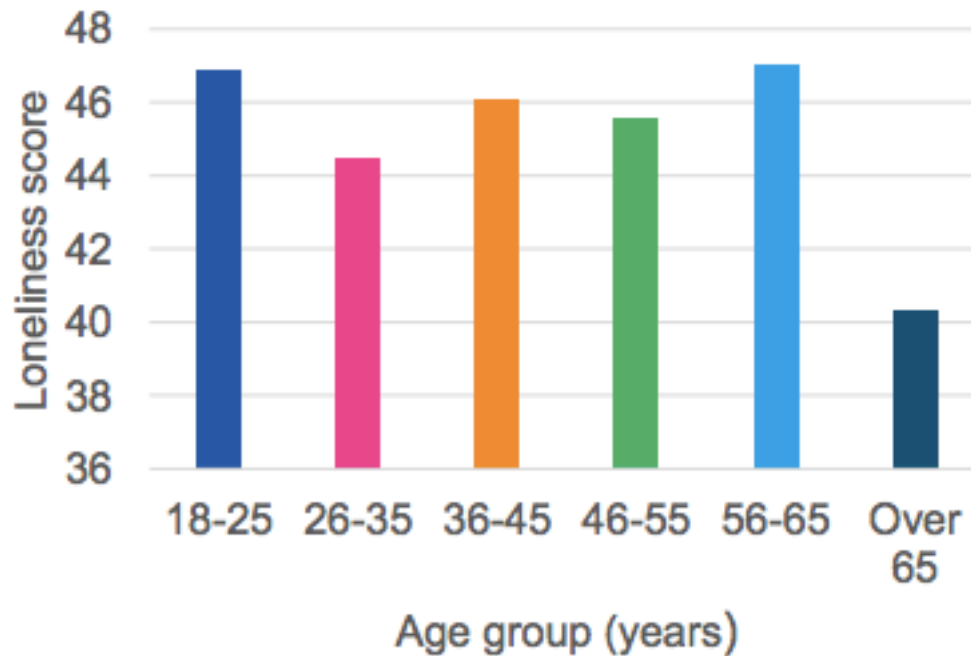
(Australian Psychological Society, 2018).

There is significant support among Australian academics for the inclusions of loneliness within national mental health national strategy, however there is no Australian government action on loneliness at this time (Lim, 2018). The 2014 revised national mental health strategy currently addresses the allied constructs of depression and anxiety but does not address loneliness and social isolation (Australian Government Department of Health & Health Systems Policy Division, 2016).

3.4 Loneliness as a Health Concern in Middle and Low SES Countries

Since the beginning of the 20th century, human life expectancy at birth has almost doubled within economically developing countries (WHO, 2003). A study by Bhatia et. al

(2007) projects that by 2020, there will be 470 million people over the age of 65 in

developing countries, a far greater number than those over age 65 in high income

countries. Given that the projected growth of elderly populations in economically

developing countries is significant, this demographic shift entails sizeable consequences

on health and social policy. Bhatia et al. argue,

> With ongoing economic development and the consequent changes in family structure and relationships, the elderly lose their relevance and significance in their own households and face problems. The problems of the aged differ not only between nations but also within nations and between groups. Being old, weak, hard of hearing, partially blind and immobile, the aged seldom move out or approach for help and consultation. They are superficially respected, cared for and heard. Due to the above problems, the aged feel lonely and this has detrimental influence on health of the aged (both sexes); and also, loneliness leads to progressive spontaneous reduction of daily milieu and social requirements, as well as an impression of dependence that cannot be easily overcome (Bhatia et al., 2007).

Bhatia et al. (2007) investigated loneliness and health-related issues among the

elderly belonging to different socioeconomic backgrounds within Chandigarh, India. The

study included 361 participants aged 65 to 92 years old, with 152 males and 209 females

(Bhatia et al., 2007). Of this group, 33.5 percent were illiterate and 28 percent were

graduates, postgraduates, or professionals (Bhatia et al., 2007). Three hundred and

eleven participants self reported one or more health concerns (Bhatia et al., 2007). Of the

311 participants with health concerns, almost 60 percent were female (Bhatia et al.,

2007). Female participants also demonstrated higher loneliness scores than their male

counterparts, in addition to worse health. Earlier studies by Singh (1996) and Gurudas

(1989) report more loneliness among Indian females than males.

The significantly higher rates of reported loneliness among females in Chandigarh

may be attributed to cultural factors such as illiteracy, loss of companions, and

maltreatment by family members (Bhatia et al, 2007). In the case of Chandigarh, widows may live in the family home where they at risk of experiencing maltreatment or being ignored. Widowers also were found to experience higher rates of loneliness (Bhatia et al, 2007). Given the prevalence of loneliness among the elderly in Chandigarh, notably among women, Bhatia et al. (2007) recommend that geriatric health services dedicated to providing greater social and recreational facilities for seniors be offered by different health-care delivery systems in indoor and outdoor settings.

Loneliness in older adults and seniors in has also been researched in Shanghai, China China (Yang, Zhang & Wang, 2018). The limited English language literature on loneliness in older adults in China demonstrates that loneliness is a public health issue in the nation due to associated health risks. These risks are summarized in Chapter 2 Subsection II (Zhong et al., 2017). Yang et al. (2018) examine the correlates of loneliness in older adults in Shanghai, and explore how the correlates differ across age groups. Using the 2016-2017 Shanghai Urban Neighbourhood Survey (n= 2770), they separately measured loneliness in adults aged 60-79 years old and 80 years and upward, using the six-item De Jong Gierveld Loneliness Scale (Yang et al, 2018). They report that adults aged 80 years and older are at greater risk of loneliness and require more attention. However, they recommend that future interventions include all older age groups (Yang et al, 2018).

Yang, Zhang, and Wang (2018) write that little is known about loneliness in older adults in China, "a country where family and collectivism are greatly emphasized and one where dramatic socio- and demographic- changes have taken place in the past 40 years." Consequently, older adults in China are thought to be at higher risk of experiencing loneliness as a result of significant societal changes such as migration, smaller households, eroding of traditional filial

piety, and increasing numbers of solo dwelling older adults (Yang et al, 2018 & Wu, 1982). Chinese older adults may be disinclined to acknowledge their loneliness and other health concerns as a result of Chinese cultural influence, such as the importance of dignity (Yang et al, 2018 & Dong et al., 2010).

In Iran, the emerging research on loneliness appears to focus on adolescents. Parashkouh et al. (2018) study the relationship between loneliness and addiction to the internet and mobile phones among Iranian adolescents. Parashkouh et al. (2018) write, "addiction to the internet and mobile phones could be related to loneliness. However, less research has been conducted on this topic in developing countries." Their study uses a cross-sectional and analytic investigation from 2015 to 2016 in Rasht, Iran, of both male and female teens, and finds a statistically significant relationship between addiction to mobile phones and loneliness in adolescents ($r = 0.172$, $p =0.0001$). The study demonstrates that 77.6 percent (n= 451) were at risk for addiction to their mobile phones and overall 16.9 percent of participants had a significantly high loneliness score. While few studies have examined the relationship between internet addiction and loneliness in Iran, the existing studies demonstrate a correlation (Kakavand, Nikakhtar & Sardaripour, 2017 & Parashkouh et al., 2018).

Research in India has also examined loneliness among youth. However, this research focused on the relationship between poverty and loneliness in children. Devi, Verma, and Shekar's study (2013), from the University of Jammu finds that loneliness is experienced by children living in socioeconomically deprived environment. Their research indicates that children living below the poverty line (BPL) have more difficulties and experience more loneliness than children living above the poverty line (APL). They argue that living in poverty has a negative effect on families and children's sense of inclusion, which can result in children

experiencing loneliness (Devi, Verma & Shekar, 2013). Their study consisted of 120 participants aged 10 to 13 years old; 60 participants were classified as BPL and 60 as APL (Devi et al, 2013). Each group included 30 males and 30 females (Devi et al, 2013). Using a convenience sampling method, they assessed children's loneliness using the Loneliness and Social Dissatisfaction Questionnaire (LSDQ). A literature search demonstrates that the LSDQ is a popular tool for assessing children's loneliness and social relationships within the fields of education, psychology, and paediatrics (Webster-Stratton & Lindsay, 1999 & Zeedyk et al., 2016, & Poulsen et al., 2008).

Devi, Verma, and Shekar's (2013) findings indicate, "BPL children have more emotional symptoms, conduct problems, peer problems, experiences of loneliness and low pro-social behaviour compared to APL children." Risk factors for the vulnerable psychological state of BPL children include parental unemployment, parental education level, larger family size, poor maternal mental health, and inconsistent parenting (Goosby, 2006 & National Institute of Child Health and Human Development, 2005). The study's findings are consistent with Lemper's et al. (1989) research on economic hardship and children's loneliness and depression. BPL children's experience of loneliness is thought to be caused in part by stigma, social isolation, and the humiliation of poverty (Patel & Kleinman, 2003). Devi, Verma, and Shekar (2013) recommend intervention programs to cater to the needs of BPL children, however they do not expand on what these interventions should focus upon and how they should operate.

An interesting article makes the link between economic recession and women's greater risk for social isolation and loneliness, and merits further investigation (Vlassoff, 2007). This notion in this article can be supported by the findings that in Mexico and Spain, both of which have suffered economic recession over the past decade, it is reported that women are more likely to

lack social connections (Fuller –Igelesias 7 Antonucci, 2016 & Pilnillos- Franco & García-Prieto, 2017). Brazil's population, also subject to economic hardship, may also be at risk of experiencing loneliness (Negrini et al., 2018).

The concept that there is a relationship between economic recession and women's greater risk for social isolation and loneliness, is further supported by the case of Brazil. Brazilian academics note that as social supports in Brazil, such as early childhood care and services for senior citizens, are currently in jeopardy, there is concern that a decrease in social services could erode health outcomes for vulnerable populations (Terra Athayde, 2019 & Felix, 2018). This would notable affect Brazilian women, who often take the role of carer. Brazilian academics have voiced support for the creation of a Brazilian Ministry of Loneliness to counteract the sweeping privatization of health and social services that will leave vulnerable groups without assistance (Felix, 2018). The literature is emerging and the connection with loneliness is not clearly defined however this may be an early trend.

An additional emerging body of literature is investigating the indirect relationship between trauma and loneliness. The research of Dagan and Yager, (2019) supports the notion that loneliness is indirectly related to experiencing trauma, such as armed conflict. A connection between loneliness and trauma has been studied within Israeli veterans, and it was found that veterans' difficulty in sharing their traumatic experiences can result in loneliness (Stein & Tuval-Mashiach, 2015, Dagan & Yager, 2019). Using case studies in Israel where patients suffered from complex PTSD, the authors suggest, "loneliness plays a major role in the development of complex PTSD […] Consequently, therapies for complex PTSD should include interventions that address loneliness (Dagan & Yager, 2019)." The NHS states that children and adults may be

diagnosed with complex PTSD if they have repeatedly experienced traumatic events including violence, neglect, or abuse (NHS, 2018).

The research from around the world summarized in this section demonstrates that the experience of loneliness is not exclusive to high-income countries. Whether a question of geriatric health, societal changes, internet addiction, or trauma, loneliness is being explored as a health risk in middle and low-income countries and requires more research on interventions for vulnerable populations.

-CHAPTER FOUR –

4.1 Findings

Loneliness is a complex phenomenon that may be explored through the lens of many academic disciplines including, but not limited to, English literature, philosophy, medical sciences, and psychology. Given the multidisciplinary nature of loneliness, one objective of this thesis was to identify various conceptual understandings and definitions of loneliness, thus presenting multiple perspectives on the issue. While this allowed for a broad understanding of loneliness within Chapter One and Chapter Two of this thesis, an exact definition of loneliness, which could be applied across disciplines, remains elusive. Consequently, this thesis used a dictionary definition (Merriam-Webster) of loneliness to serve as a framework to facilitate discussion.

Chapter One provided an historical overview of seminal works within the humanities that address loneliness, leading up to the measurement and clinical study of loneliness in the 1970s. The objective of Chapter One was to construct a timeline of conceptualizations of loneliness. Themes of otherness, isolation, and loneliness have been explored in literature as early as the 17th century (Van der Pol, 2015 & Long, 2003). English language authors' individual understanding and portrayal of loneliness varies greatly, and often pre-World War One authors use descriptors of loneliness rather than the actual term itself. The use of the term solitude to refer to loneliness, notably among seventeenth and eighteenth century writers, raises the question as to when the term loneliness became popular. In any event, it appears the increase in the usage of the term

'loneliness' follows on a clinical interest in the condition, which originated with the 1959 essay *Loneliness* by Fromm-Reichman.

Chapter One establishes that loneliness is a common experience of the human condition, however, ultimately finds that there is no consensus as to whether the experience is harmful or productive, the latter of which is the viewpoint of Heidegger and Kierkegaard (Williams, 2017 & Crowell, 2017). Chapter Two is in conflict with Chapter One. Where the different interpretations of the authors and philosophers profiled in Chapter One defy a standardized understanding of loneliness, Chapter Two establishes exact definitions and measurement tools, such as the UCLA Loneliness Scale. The UCLA Loneliness Scale is considered the gold standard for the psychometric analysis of loneliness (Victor, Grenade, & Boldy, 2005b). This Scale is based on the idea of a single, or global, unit measurement (Tomás, Pinazo-Hernandis, Donio-Bellegarde, & Hontangas, 2017b). Peplau and Perlman's single unit measure dictates that the experience of suffering loneliness is the same for all individuals, regardless of differences in personal, environmental, and social influences (Tomás, et al., 2017). Their cognitive approach contrasts ideas found in English literature and philosophy prior and post World Wars that appear to conceive the suffering of loneliness as a unique individual experience that does not have a predicted outcome. Most measurement scales explore loneliness as a perceived deficit in interpersonal relationships, whereas literature and philosophy explore loneliness as an intra-personal relationship that provokes the quest for existential meaning.

The difficulty in studying loneliness arises in part from its multifaceted nature. According to the scientific approach, when a person experiences loneliness he or she is suffering some form of mental distress at the intrapersonal, interpersonal, and/ or environmental levels (Wright, 2005). Therefore, criticism on measuring loneliness notes that cross-sectional self-report

designed research, as is standard practice within medical sciences and psychology, is difficult to evaluate (Wright, 2005).

An additional criticism of evaluating loneliness through measurement concerns the frequent lack of differentiation between emotional and social loneliness. The seminal work of Weiss (1973) *Loneliness: The experience of emotional and social isolation* outlines these two distinct forms of loneliness as natural responses to certain situations. However, Dahlberg and Mckee find that, "Despite the influence of Weiss's (1973) conceptualisation, loneliness is not always operationalised in terms of separate social and emotional dimensions, but often measured by a single item (Dahlberg & Mckee, 2013)." As summarized in Chapter Two, The De Jong Gierveld Scale does separate these dimensions of loneliness as it uses a multidimensional definition and framework for measuring loneliness (de Jong Gierveld, 1998). Yet the UCLA scale remains the more popular measurement tool (Lee & Cagle, 2017). Despite the UCLA scale's multi-item construction, it is a unidimensional scale with the representation of loneliness restricted to a unitary "phenomenon that varies in intensity rather than in nature (Dahlberg & Mckee, 2013)."

Chapter Two seeks to demonstrate that loneliness directly affects an individual's health, leading to poorer outcomes within behavioural, psychological, and physiological mechanisms (Malcolm, Frost, & Cowie, 2019). The chapter summarizes peer-reviewed studies by major loneliness researchers including Hawkley (2010) and Cacioppo (2008), in which loneliness is associated with greater risk of hypertension, stroke, coronary heart disease, and greater increases in the production of spontaneous bacterial peritonitis (SBP), C-reactive proteins, and fibrinogen. Hawkley et al. state, "Loneliness behaved as though it is a unique health risk factor in its own right (Hawkley et al., 2010)."

Validated research on loneliness as a unique health risk provides an argument that can be used to support the development of pharmacological interventions. The literature demonstrating there is a current interest in developing a pharmacological treatment for loneliness prompts discussion of stakeholder interests. As noted in Chapter Two, in November 2017, 12.7 percent of the US population over the age of 12 had taken an antidepressant medication within the past month (Winerman, 2017). One can argue that the monitorization of depression preceded the development of selective serotonin reuptake inhibitors (SSRIs). It appears a similar process may be underway for loneliness, as clinical trials for a pharmacological solution are ongoing.

Just as usage of SSRIs has greatly increased in what is understood as the current era of anxiety, a demand for a pharmacological solution to loneliness may also intensify (Horwitz, 2010). According the 2014 American Freshman Survey (AFS), almost 39 percent of first year students spent less than five hours per week with friends in person (Eagan et al., 2014). In 1987, AFS results show 66 percent of students spent more than 16 hours a week socializing with friends; in 2014, only 18 percent of students reported the same (Eagan et al., 2014). Given the reach and common usages of technology among college students, it is likely that young people worldwide are spending less time socializing in person (Jackson, 2017 & Hawi & Samaha, 2017). Reportedly, there is a prevalence of loneliness among millenials (Howe, 2019). Merriam-Webster's definitions of loneliness as, "being without company," and "cut off from others: solitary," shows the connection between loneliness and lack of socialization (Merriam-Webster, n.d.).

The strongest validation of loneliness as a public health concern is the creation of government policy to address the problem in the UK and Japan. Both these countries consider loneliness to be a public health crisis, notably due to the research that has correlated loneliness

with poor health outcomes. However, in practice, the policies in Japan and the UK do not tackle loneliness as a public health crisis. This may be most keenly evidenced by the fact that in both the UK and Japan, the government departments of health are not taking the lead in directing policy. In the UK, the Minister of Loneliness works within the Department for Digital, Culture, Media, and Sport. In the UK, the National Health Service is mobilized as part of the strategy to combat loneliness through encouragement of the controversial practice of social prescribing, however, the NHS is a component of a cross-governmental strategy that includes need for redress of loneliness within the portfolios of the ministries of housing, community and local government (Clark, 2018). Additionally, the issue of loneliness will be included within the departments of business, energy and industrial strategy, transport, digital, culture, media and sport and health and social care (HM Government, 2018).

A finding of this paper is that in Japan, policies that relate to issues of loneliness are under the purview of municipalities. In effect, Japan has adopted a data-driven social policy approach, evidenced by the use of libraries to facilitate community engagement (Waterson & Tamura, 2013). It is important to note that Japan has incorporated the use of its existing civic services to address loneliness, rather than solely relying upon the creation of new research and policy (Waterson, 2014). An example of this is Japan's use of its senior citizen's registration with the LTCI (Takahashi, & Ogihara, 2015 & Waterson, 2014). Those not registered are considered at greater risk for loneliness (Waterson, 2014).

Can we call loneliness a public health crisis? The UK and Japan deem loneliness a public health crisis, yet it is not overseen by their health departments. Moreover, while research from economically developing countries, including China and India, suggest that loneliness is a health concern, they do not have public policies in place that address loneliness. Should countries

adopt such policies, it will be interesting to note whether they originate with, and are run by, their departments of health. Thus, on a global scale, while there is mounting public awareness and academic interest in loneliness as a health risk, private industry may take the lead in providing solutions that may be pharmacological and/or technology-based.

4.2 Discussion

Loneliness is a construct that will not go away. As a multi-sectorial, multidisciplinary issue it lacks a clear, singular definition. However, through recent literature published within the field of medical science and the implementation of government policy, we are closer to understanding how to approach loneliness as a health concern and societal problem. Japan and the UK have established precedents for tackling loneliness at a national level. It is interesting to note that the UK has incorporated the private sector into its national strategy (HM Government, 2018). This strategy raises two questions. First, what are profitability drivers for corporate involvement in reducing loneliness? Does loneliness have an impact on productivity? Second, what is the evidence that the private sector has capacity to effectuate a reduction of loneliness? As an initial step, it would be critical to understand how the private sector defines loneliness as this would determine how it would be addressed.

The finding of this thesis is that, at this time, there is no singular definition of loneliness. As a result, it may be constructed as a public health problem and/or a social problem. If loneliness was to be framed exclusively as a public health problem, would this bring loneliness under the umbrella of mental health policies? Depression could be considered a precedent. It can also understood as a societal problem, yet today it is recognized as a common mental disorder (CMD) (Jacobs, 2012 & Bianchi, Schonfeld & Laurent, 2017). There has been significant progress in the

destigmatization of depression and anxiety (Alonso et al., 2008). Perhaps, if loneliness was to be categorized as a mental health issue, it could fit into the conversation on the need to destigmatize mental health. People often underreport loneliness due to stigmatization, as mentioned in this thesis (see Chapter Three, Subsection I).

It is interesting to note that studies summarized in Chapter Two omit to investigate whether the practices of lonely people are habitual, developed and sustained over a period of time. Merriam-Webster defines a habit as:

1. A settled tendency or usual mode of behaviour

2. A) An acquired mode of behaviour that has become nearly or completely involuntary

    B) Addiction

    C) A behaviour pattern acquired by frequent repetition or physiologic exposure that shows itself in regularity or increased facility of performance (Merriam-Webster, n.d.).

This author believes this is an important question, which may help determine conceptualizations of loneliness and interventions. If loneliness is a habit, and thereby the individual perpetuates behaviours that result in their perceived isolation, interventions would need to address engrained behaviour patterns (Knowles et al., 2015). It could be that interventions such as social prescribing which call for individuals to partake in social activities would be ineffectual. Themes in Chapter One and Chapter Two address the reality that lonely people may feel lonely in a crowd (Dalhberg, 2006 & Peplau & Perlman, 1982). Whether feelings of loneliness are prompted by mental health or social dissatisfaction, the result is that socialization alone may not be the panacea for a person who practices lonely behaviours.

If loneliness is found to be a habit, the use of technology in day-to-day life may be serving to reinforce the habitual behaviours. As an example, people engaging with their mobile

devices in social settings, such university classrooms, public transport, and before the start of meetings, may be enforcing the state of being without company, as per the Merriam-Webster definition of loneliness (Kopf, 2018). There is an irony about a social media oriented society that encourages sharing of personal life online but refrains from socialization face-to-face.

4.3 Study Limitations

As loneliness as a public health and social issue is an emerging topic, this thesis included grey literature such as government statistics, government reports, legislation, and well-established news media sources such as The New York Times, The Guardian, The BBC, and The Japan Times. However, this literature is typically not robust or validated.

An additional study limitation was use of only English language articles. The language barrier significantly limited the number of studies on loneliness as a health concern in China which could be accessed for this thesis. Notably, the greatest impact of this limitation was in researching Japan's strategy for addressing loneliness. Most of the government documents and laws were published in Japanese and then translated via Google. Consequently, primary source materials are vulnerable to misinterpretation as a result of poor online translation. If I had been able to conduct research in its language of origin, I would have been able to access more extensive Japanese academic literature and more government acts of legislation and other grey materials such as government meeting minutes.

4.4 Study Strengths

The inclusion of grey literature reduces likelihood of publication bias. As the methodological framework used in this thesis is an integrative literature review, the synthesis of the knowledge presents opportunity for the application of results into practice. Additionally, given the holistic approach of this work, the findings of this integrative literature review may be generalizable for a variety of disciplines and settings. As such, broad inferences may be made from this work.

4.5 Areas for Future Research

The literature summarized in this thesis found being female to be a higher risk factor for being lonely. It would be pertinent to a fuller understanding of loneliness if research were to examine the gender correlation. The female determinant raises the questions of whether loneliness is a psychological, physiological or social phenomenon. As well, as young women are reportedly experiencing higher rates of anxiety and depression, it would be interesting to explore whether loneliness is inherent to these experiences.

The literature search reveals the health outcomes of loneliness, social, isolation, and inadequate social relationships have been thoroughly investigated within the field of medical sciences and psychology. However, a summary of the literature suggests that further research is required to elaborate on the specific health risk of loneliness by different age groups, and potential for treatment.

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-APPENDIX ONE-

Definitions of Loneliness

English Language Dictionaries: Common Understanding

The gold standards for English language dictionaries, Oxford English Dictionary (OED) and Merriam Webster, establish common definitions that express everyday understandings of loneliness. Merriam Webster's definition was chosen for the purposes of this thesis, however, ,both dictionaries present loneliness as a quality or condition existing within people and places alike (OED, n.d.) (Merriam Webster, n.d.). These definitions put the fact of being alone in context with the want of society, being without company, dejection, feelings of bleakness to delineate the difference between the physical state of being alone and the emotive state of loneliness.

Oxford English Dictionary: Loneliness

1. Want of society or company; the condition of being alone or solitary; solitariness, loneness.
2. Uninhabited or unfrequented condition or character (of a place); desolateness
3. The feeling of being alone; the sense of solitude; dejection arising from want of companionship or society.

Merriam-Webster: Loneliness

5. a) Being without company: Lone
   b) Cut off from others: Solitary
6. Not frequented by human beings: Desolate
7. Sad from being alone: Lonesome
8. Producing feelings of bleakness or desolation

Cognitive Approach

Academic discussion and investigation into loneliness within the social sciences began in the 1970s (Sonderby & Wagoner, 2013). Published in 1982, the first seminal work within social

sciences, *Loneliness A Sourcebook Of current Theory, Research and Therapy*, categorized the

eight existing theoretical approaches to studying loneliness (see Table 1 in Appendix 2). The

cognitive approach, as used in this thesis (see Chapter Two) is based on a discrepancy model

between the desired quality and actual quality of social relations. Pelpau and Perlman's approach

(see Appendix 2 for figure 1) examines the multi-facetted factors that can result in an

individual's experience of loneliness. The cognitive approach differentiates between

predisposing factors which may make people more susceptible to experiencing loneliness versus

precipitating events that prompt the experience of loneliness. Peplau and Perlman's cognitive

approach defines loneliness as,

> "A response to a discrepancy between desired and achieved levels of social contact: and
> […] that cognitive processes, especially attributions, have a moderating influence on
> loneliness experiences (Peplau & Perlman, 1982).

Existential Approach

An existentialist interpretation of loneliness, as popularized in the fields of philosophy

and literature (discussed throughout Chapter One), establishes two main types of loneliness; the

primary type of loneliness as stemming from an existential crisis that is innate to the human

condition, the secondary type of loneliness as based on anxiety. Moustakas, an expert on

humanistic and clinical psychology, authored the book Loneliness in 1961, which became the

reference for heuristic research. While his definition of existential loneliness is not cited in the

main body of this thesis, his definition provided seminal background knowledge for this work.

According to Moustakas, loneliness is understood to create a condition in which individuals are

inevitably challenged to develop self-awareness. His foundational existentialist definition states:

"Existential loneliness is an intrinsic and organic reality of human life in which there is both pain and triumphant creation emerging out of long periods of desolation. In existential loneliness man is fully aware of himself as an isolated and solitary individual while in loneliness anxiety man is separated from himself as a feeling and knowing person (Moustakas, 1961)."

Integrative Approach

A Danish professor and his student, Wagoner and Sønderby, have created a comprehensive integrative approach to studying loneliness after reviewing the eight methodologies and epistemologies in Peplau and Perlman's sourcebook. Though their following definition was not used in the main body of the thesis, this thesis was influenced by their integrative approach by addressing loneliness in a holistic manner. Their research claims that loneliness can not be neatly defined as, "an affective, existential, or cognitive mechanism, but rather a more comprehensive phenomenon (Sonderby & Wagoner, 2013) (see Appendix 2 for loneliness model)". The integrative approach defines the phenomenon of loneliness as,

"[…] a core experience separate from others, but at the same time is combined by a set of reactions, causes and feelings. These reactions, causes and feelings are then guided by cultural structures and positions that point experienced loneliness towards specific individual understandings of the phenomenon. Loneliness can then be understood as a gestalt with a set of factors that separately tell little about loneliness, but together create an understanding of the phenomenon (Sonderby & Wagoner, 2013)."

Pathological Loneliness

Research establishing the poor health outcomes linked to loneliness has resulted in the conceptualization of the construct as a disease or a health condition (see Chapter Two). This approach has largely contributed to the emergence of loneliness as a public health crisis as traits of loneliness entail concomitant physiological processes (Cacioppo et al., 2000 & Schulze, 2018). Through the lens of medical sciences, loneliness is deemed to have its own phenomenology, complications, and aetiology, which require the correct diagnosis, care, and

management (Tiwari, 2013). Consequently, this may be referred to as 'pathological loneliness'. Pathological loneliness may entail the study of cognitive, behavioural, and physiological results of loneliness in order to reduce loneliness itself and its negative health outcomes (Hawkley & Cacioppo, 2010). The concept of pathological loneliness is discussed throughout Chapter Two. Tiwari defines pathological loneliness as,

> […] no more an event or concept or factor. Loneliness with its epidemiology, phenomenology, aetiology, diagnostic criteria, adverse effects, and management should be considered a disease and should find its place in classification of psychiatric disorders (Tiwari, 2013).

Psychodynamic Approach

Psychodynamic theory is based off of the affective element of the construct of loneliness, as summarized in Chapter One Subsection Four (Sullivan, 1953). This approach stems from childhood, when infants experience emotional bonding with others however also learns the unpleasant feeling of loneliness when the significant others, such as a parent, are out of sight (Sullivan, 1953). Psychodynamic writer Sullivan focused on children's social needs and the critical importance for children experiencing tenderness from parents. Sullivan defined loneliness as,

> "Loneliness, which is the exceedingly unpleasant experience connected with inadequate discharge of the need for human intimacy, for interpersonal intimacy […] It begins in infancy with an integrating tendency that we only know by inference from pathology material later […] a need for contact with the living (Sullivan, 1955)".

Systems Approach

A system's approach recognizes that loneliness is multi-dimensional, caused from internal factors, external factors, or a combination of both factors. While this theory was not directly used in the main body of the thesis, this premise was central to presenting a comprehensive overview of loneliness as a phenomenon. Systems theory centres on the premise

that objects in the world are interconnected to each other (Whiteman, McHale, & Crouter, 2011 & Whitchurch & Constantine, 1993). This theory may then apply the principles of natural sciences to approaches exploring the social sciences. Consequently, systems theorist propose that all parts within a system must be examined as a whole, rather than as individual components which can then be put together to study the whole (Von Bertalanffy, 1972). Systems theory is commonly used to study family systems that result in environments manifesting sustained feelings of loneliness, notably within teenagers (Whiteman et al., 2011). This system allows for the classification of what types of families generally tend to produce moderate to chronically lonely adolescents (Broderick, 1993).

Similar to the cognitive approach, systems theory could be used to define social loneliness as, "a type of deprivation experienced by lonely persons as a result of a discrepancy between desired and achieved patterns of social relations or social network (Gierveld, 1998 & Perlman, & Peplau, 2009)."

Her Majesty's Royal Government Definition of Loneliness

As discussed in Chapter Three Subsection Two, the UK has also adopted a working definition of loneliness to guide the scope and response of its national strategy, *A connected society: a strategy for tackling loneliness.* The UK appears to be the only country to formally adopt a definition of loneliness. As aforementioned, the UK definition is centered on Peplau and Perlman's (1982) cognitive approach to loneliness (see Chapter Two). The government definition used by the Campaign to End Loneliness and the Jo Cox Commission describes loneliness as, "A subjective, unwelcome feeling of lack of loss or companionship. It happens when we have a mismatch between the quantity and quality of social relationships that we have, and those that we want (Jo Cox Commission, 2018 & HM Government, 2018)."

-APPENDIX TWO-

Additional Figures & Tables

Figure A: A Model of the Causes of Loneliness
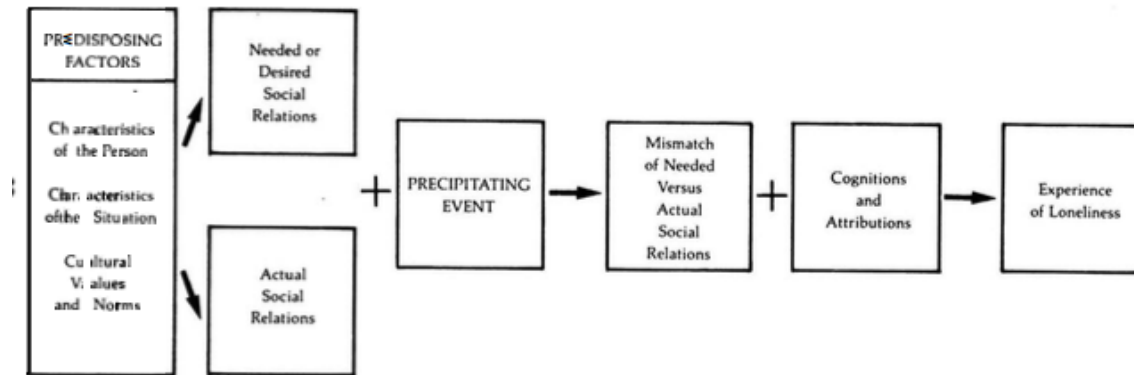

(Peplau & Perlman, 1982).

Peplau and Perlman's cognitive approach model indicates that loneliness is the outcome of a disparity between an individual's desired state of contact and achieved level of contact. From this model, we understand the mitigating factors affecting the experience of loneliness are the individual's personality (correlating to the characteristics of the person), the individual's perception of their social situation and the individual's cultural beliefs and values.

Table A: Loneliness A Sourcebook Of current Theory, Research and Therapy, Summary of Theoretical Approaches

Theoretical Approaches:	Main writer:
Cognitive	Peplau & Perlman, 1982
Existential	Moustakas, 1961
Interactionistic	Weiss, 1973
Phenomenological	Rogers, 1961
Privacy	Derlega & Margulis, 1982
Psychodynamic	Fromm-Reichmann, 1959
Sociological	Riesman, 1961
Systems	Flanders, 1982

Published in 1982, the first seminal work within social sciences, *Loneliness A Sourcebook Of current Theory, Research and Therapy*, categorized the eight existing theoretical approaches to studying loneliness. Table A (above) shows the categorizations of theoretical approaches. All theoretical approaches were reviewed during the conceptualization stage of this thesis. The cognitive, existential, interactionistic, and psychodynamic approaches to loneliness were all referred to in Chapter One or Two. The remaining theoretical approaches provided background knowledge critical to gaining a comprehensive understanding of loneliness.

Figure B : Wagoner and Sønderby's Illustration of the Various Aspects of Loneliness
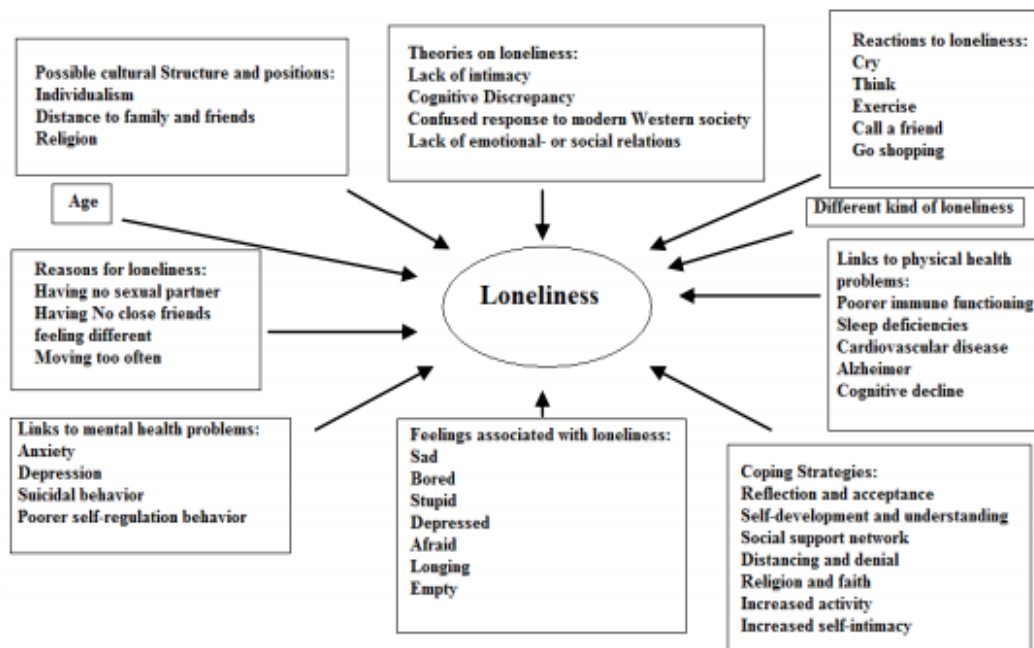
(Wagoner & Sønderby, 2013)

In Figure B (see above) Wagoner and Sønderby illustrate the factors that can result in the phenomenon of loneliness. This figure demonstrates the complex state of what it entails to be lonely and that suggests that new research following their integrative model must try and connect the physiological, cultural, and personal to the specific behaviours of loneliness. This model has informed the integrative approach taken in this thesis.

-APPENDIX THREE-

Definition of Grey Literature

Grey literature was used in conjunction with peer-reviewed literature throughout the body of this thesis. Grey literature appeared predominantly in Chapter Three, as this chapter focused on government policy. As loneliness as a public health and societal topic is an emerging topic, the use of grey literature such as government reports, laws, statistics, and reputable journalism, is integral to presenting an overview of governmental approaches to loneliness. As aforementioned in Chapter Four Subsection Three (Study Limitations), grey literature is not typically subject to peer-review. As the quality of grey literature can significantly vary, only reputable sources should be considered.

Simon Fraser University defines grey literature as,

Grey literature is information produced outside of the traditional publishing and distribution channels, and can include reports, working papers, newsletters, government documents, speeches, white papers, urban plans, and so on. This information is often produced by organizations "on the ground" (such as government and inter-governmental agencies, non-governmental organizations, and industry) to store information and report on activities, either for their own use or wider distribution, and without the delays or restrictions of academic publishing. For that reason, grey literature can be more current than literature in scholarly journals (SFU Library, 2018).

-APPENDIX FOUR-

Loneliness in Sweden

As briefly mentioned in Chapter Three, Subsection Three, loneliness is prevalent among young adults in Sweden. To date, the Swedish government has not addressed loneliness a societal or public health concern. This appendix briefly addresses the cultural influences that may be informing loneliness in Sweden. As an insubstantial amount of peer-reviewed literature and grey literature on the loneliness in Sweden was found at this time, this topic has been relegated to the appendix section.

The European Union's statistics agency, Eurostat, reports that single adults without children comprise half of all Swedish households (Eurostat, 2017). In a society where autonomy and independence is valued, its strong and accessible institutions have guaranteed that Swedes may live without becoming dependent on one another (Haak et al., 2007). Erik Gandini, the director of the documentary, *The Swedish Theory of Love,* believes the nation's preoccupation with self-sufficiency has rendered Swedes a lonely people (Felperin, 2016). The Swedish government has a history of promoting solo lifestyles through the provision of incentives for compact homes, now popular across Sweden (Felperin, 2016). The Swedish ideals of independence and autonomy are seemingly entrenched in the housing market, and social security system, prompting the question of whether the value placed upon personal independence has been a factor in Sweden's widespread loneliness (Felperin, 2016). Significantly, 25 percent of Swedes report feeling lonely (Noack, 2018).

The 2013 report*, Loneliness Among Older People: Results from the Swedish National Study on Aging and Care*, states that women and widows/-ers living alone are more prone to loneliness (Taube, 2013). The longitudal study finds that loneliness is common among senior citizens and is affected primarily by psychological and psychosocial influences, such as personality, satisfaction with life, risk of depression, and lack of friends and/ or family (Taube, 2013). Once a person becomes lonely, he or she is likely to continually feel lonely. The study finds that loneliness is associated with, and may be predicted by, physical and psychosocial outcomes at a multi-level (Taube, 2013). Unlike the notion that is popular in Japan, Australia, and the UK that loneliness is a problem in and of itself, Swedish researchers view loneliness as symptomatic another aliments, rather than its own public health concern (Taube et al., 2018).

Sweden's view of loneliness as a symptom rather than a stand-alone health concern may explain its lack of governmental strategies or public health care initiatives to address loneliness. However, the UK Minster of Loneliness, Tracey Crouch, said since of her appointment she has met with lawmakers from Sweden who are, "looking at us and at how we can perhaps take a lead in helping them tackle isolation (John, 2018)." Given this statement made by MP Crouch, if Sweden does follow the UK's lead and names loneliness a public health concern, it is plausible that it may be addressed as a symptom of depression and other CMDs.

-APPENDIX FIVE –

America's APA Classifies Loneliness as an Epidemic

A decade ago, academia scoffed at the idea of tackling loneliness as a public health issue (Frame, 2018). In the United States, when researcher Julianne Holt-Lunstad began examining the relationship between socialization and our physical health at Brigham Young University, her colleagues dismissed her interest (Frame, 2018). Yet in 2010, Holt-Lundstad's meta-analytic review on the relationship between social isolation and mortality risk found a 50 percent increased likelihood of survival for participants who had stronger social relationships (Holt-Lundstad et al., 2010). The results remained constant across the controls of age, sex, initial health status, cause of death, and during follow-ups with research participants (Holt-Lundstad et al., 2010). The study confirms the impact of social relationships on risk for mortality is analogous to well-established risk factors for mortality (See Chapter Two for a more in-depth review of this paper). The American Psychological Association (APA) now states that the loneliness epidemic poses an even greater threat to public health than obesity (APA, 2017).

The importance of social connection that has been explored in the medical sciences in the UK, US, Australia, and Japan, may be catching the interest of the US government. In April 2017, the Senate Committee on Aging held a hearing on loneliness (United States Senate Special Committee on Aging, 2017). A Republican senator from Utah, Mike Lee, established the Social Capital Project (United States Congress, Joint Economic Committee, 2017). The Social Capital Project is a multi-year study on the interconnections between social relationships that are typically fostered in the course of a lifetime, including family, community, workplace, and religious organizations (United States Congress, Joint Economic Committee, 2017). No other government action on loneliness in the United States has occurred to date.

-APPENDIX SIX –

Emerging Study of Loneliness in South Africa

The not-for-profit organization comprised of health professionals, South African Depression and Anxiety Group (SADAG), is beginning to address factors contributing to loneliness and exploring developing strategies for its management. SADAG's studies fix the concept of loneliness within the socio-cultural context of elderly (South African) citizens (SADAG, n.d). Similarly to the Australian focus on periods of life transition causing emotional loneliness, SADAG cites that sudden changes in seniors' familiar environment and relationships result in, or add to, their loneliness (SADAG, n.d). South Africa's National Health Council adopted the Mental Health Policy Framework (MHPF) in 2013 (Stein, 2014). While mental health needs have been recognized at the national level, there remains need for mental health strategies to be addressed at the provincial level and for the incorporation of mental health services in primary health care (Stein, 2014). As South Africa's capacity for mental health services develops, it is plausible that new academic interest in loneliness, notably targeting the geriatric population, will be incorporated into mental health programming and/ or policy.

–APPENDIX SEVEN –

Colombia Reports a Relationship between Loneliness and Trauma

In regions experiencing armed conflict, loneliness is beginning to be addressed as symptomatic of PTSD (Gaviria et al., 2016) (See Chapter Three Subsection Four, in relation to Israel). Colombia is undergoing a shift to post-conflict status following six decades of armed conflict (Gaviria et al., 2016). Gaviria et al. (2016) argue that Colombia's population, specifically residents of Medellin, has experienced extensive exposure to potentially traumatic events (PTE) throughout their lifespan. Richards et al. (2011) studied the levels of post-traumatic stress disorder (PTSD), depression, and anxiety symptoms of displaced adults in Medellin, Colombia. Their survey of 109 adults finds a significant number of survey respondents exceeded cut-scores for clinically significant levels of PTSD (88%), anxiety (59%), and depression (41%) (Richards et al., 2011). Survey participants supported the idea of community-building activities as a method of therapeutic intervention to reduce their feelings of loneliness (Richards et al., 201).

It is important to note that Colombia's mental health policy, based upon the Ten-Year Public Health Plan 2012-2021, does not address loneliness (Lòpez- Jaramillo, Cuartas Arias & Díaz Zuluaga, 2017) However, mental health surveys carried out under this plan finds the most common pathology among adolescents to be social phobia (Lòpez- Jaramillo, Cuartas Arias & Díaz Zuluaga, 2017). Social phobia may have an indirect relationship to loneliness (Bonetti, Campbell, & Glimore, 2010). The social phobia (sometimes referred to as anxiety) and potential relationship to loneliness among Colombian adolescences is an area for further investigation.