ABSTRACT

BEYOND THE FAMILY: SOCIAL CONNECTEDNESS AMONG OLDER ADULTS
IN KANCHANABURI, THAILAND

by Laura Marie Hahn

Scholars examining Thailand's rapidly aging society tend to focus on the importance of familial relationships in the lives of older adults. But due to demographic shifts — namely, a decrease in fertility and an increase in migration — family structures are changing. This study explores how older Thai adults are connected to people outside of their families, and how these relationships may impact health. The majority of the study's sample (n=4,235) reported daily contact with a friend or neighbor, frequent participation in religious activities, and well-connected neighborhoods. Binary logistic regression revealed five dimensions of social connectedness that predict optimal self-rated health: frequency of contact with a friend or neighbor, community participation, religious participation, neighborhood closeness, and presence of a discussion tie. Results suggest that non-kin relationships play a health-promoting role, and they indicate a need for culturally relevant policies and programs that help people connect within their communities as they age.

BEYOND THE FAMILY: SOCIAL CONNECTEDNESS

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CHAPTER I

INTRODUCTION

1.1 Background and Statement of Problem

Social connection is an essential part of people's lives, from childhood through old age. A growing body of literature suggests that an individual's social network — a person's unique constellation of relationships — impacts physical and mental health (Antonucci, Ajrouch, & Birditt, 2013; Berkman, Glass, Brissette, & Seeman, 2000; Cohen, 2004; Cornwell, Laumann, & Schumm, 2008; House, Umberson, & Landis, 1988; Waite & Das, 2010). At its core, research indicates there is risk in isolation and power in connection, some of the most influential relationships being those with family members (Waite & Das, 2010). But friends, acquaintances, and other contacts that enter and exit a person's life can play integral roles in it, particularly as people grow old.

In Thailand, research about social connection tends to center on the importance of familial relationships, particularly the parent–adult child dyad (Knodel, Prachuabmoh, & Chayovan, 2013; Thanakwang & Soonthorndhada, 2011). Based on long-held beliefs of filial piety, children traditionally care and provide financial support for their aging parents, often until end of life (van Willigen, Lewis, Yoon, & Hendricks, 2006). While children remain a primary source of contact for older adults, family structures are changing. In recent years, Thailand has experienced a dramatic drop in fertility coupled with a steady increase in migration (Institute for Population and Social Research, 2015; Knodel et al., 2013; Prasartkul, 2013). More and more older adults live alone or live with their spouses only. By 2050, demographers predict only two people per Thai household (Prasartkul, 2015), down from 5.7 in 1970 and 3.8 in 2000 (Prasartkul, Vapattanawong, & Thongthai, 2011). The future of care and connection will undoubtedly look different and, perhaps, less family-centric and more community-centric in the years ahead.

Outside of the family realm, little is known about social connectedness among older adults in Thailand, particularly how relationships with friends, neighbors, and others may impact health. Most literature on social networks and social connectedness comes from a Western perspective, although some research examines Eastern cultures or takes cross-cultural approaches (Beckett, Goldman, Weinstein, Lin, & Chuang, 2002; Fiori, Antonucci, & Akiyama, 2008; Thanakwang & Soonthorndhada, 2011). A few recent studies in Thailand have examined structural aspects of social connectedness among older adults, such as frequency of contact with family and friends, but the majority of scholarship has not focused on dimensions beyond the family and their associations with self-perceived health, considered a valid indicator of overall physical wellness (Haseen, Adhikari, & Soonthorndhada, 2010). This study aims to fill that gap.

1.2 Thailand's Demographic and Cultural Backdrop

Thailand's population is aging rapidly. In 2015, the number of people ages 60 and older is projected to reach 10.4 million, or 15.9% of the population (Institute for Population and Social Research, 2015). By 2040, that percentage is expected to more than double to 32.1% (Population Projection Working Group, 2010). This age structure is unprecedented. In the coming decade, people 60 and older will outnumber children under age 15 for the first time in Thai history (Knodel et al., 2013).

Thailand's population is aging not only because people are living longer, but also, and perhaps more notably, because younger generations are having fewer children. A decrease in fertility, one component of what is known as a country's demographic transition, can significantly alter a population's age structure. In Thailand, based on 2010 census data, life expectancy at birth in 2015 is 74 years — 71 years for men, and 78 years for women (U.S. Census Bureau, 2015). In the 1960s, life expectancy was approximately 55 years. In the 1980s, as health conditions continued to improve, it increased to 65 years (Prasartkul, 2013). Meanwhile, fertility has been dramatically declining. In 1964, prior to the government's National Family Planning Program to promote contraception and

family planning, the total fertility rate was 6.3 children per woman (Prasartkul, 2013). In 2015, the total fertility rate is 1.6 children per woman (U.S. Census Bureau, 2015), which is under replacement level.

A steady rise in a country's older population often translates to a steady rise in health care costs. One way to cut health care costs is to improve health, a solution that benefits older citizens, as well as their loved ones. Research indicates improvement in overall health among older adults in Thailand, a country that has provided universal health care since 2002 (Knodel et al., 2013; World Health Organization, 2014). The percentage of people 60 and older that reported their health as poor or very poor declined between 2007 and 2011, from 24% to 15% (Knodel et al., 2013). The number of older adults assessing their health as good or very good, however, slightly declined over the same period (Knodel et al., 2013). As explained further in subsequent chapters, better understanding of social relationships may be one key to continuing to improve health among older people in Thailand.

Family is an extremely important context for aging in Eastern societies, which tend to view the self as interdependent and interconnected (Ingersoll-Dayton, Saengtienchai, Kespichayawattana, & Aungsuroch, 2004). In Thailand, it is customary for older people to live with their adult children, often until end of life (Knodel et al., 2013; van Willigen et al., 2006). Co-residence — sometimes many generations under one roof — is a preferred living arrangement, related in part to a sense of duty and reciprocity among family members (Asis, Domingo, Knodel, & Mehta, 1995). Adult children, particularly youngest daughters who are married, may feel pulled to care for their aging parents due to notions of filial piety, an understanding deeply embedded in many Asian countries (Asis et al., 1995).

Religion likely plays a key role in these cultural values of support and interdependence. In Thailand, approximately 93% of the population identifies as Buddhist (National Statistical Office, 2008). Filial piety likely stems from *kathanyu katawethi*, a Buddhist understanding of gratitude. This gratitude is mixed with a sense of obligation or duty for adult children to repay their parents for their upbringing (van Willigen et al., 2006). Buddhism also underscores the importance of earning or "making" merit, an

intangible result of doing good acts or having good thoughts (Rittirong, Prasartkul, & Rindfuss, 2014). Giving back to family may be one way of making merit and, in turn, building karma for the future.

The norm of co-residence is slowly changing, though. In 2011, 57% of people 60 and older reported living with children, down from 77% in 1986 (Knodel et al., 2013). Children and relatives likely still live nearby, though. Social contact with children also remains high, with 98% of older people living either with or next to a child, or having at least monthly visits or phone calls (Knodel et al., 2013).

Of course, quantity of contact does not always mirror quality. Strains often exist related to in-law quarrels, caregiving responsibilities, and privacy limitations (Asis et al., 1995). Prevalence of multigenerational households also does not necessarily mean that all family members are home and present in the lives of older adults. Many Thai women are now busy with full-time jobs, and many working-age men and women are migrating to cities and other countries for work opportunities, fueling worries about social isolation among older adults. Neglect, a form of elder abuse, is a reality that Thailand and other aging societies must not ignore.

Given the country's drop in fertility and increase in migration, Thai families will be smaller in the future, which means this family-based umbrella of protection will likely look different in the years ahead (HelpAge International, 2013). Like most developing countries, Thailand is experiencing a rapid shift from rural to urban, as young adults, primarily, move to urban areas in search of job opportunities (Rittirong et al., 2014). By 2050, demographers predict only two people per Thai household (Prasartkul, 2015), down from 5.7 in 1970 and 3.8 in 2000 (Prasartkul et al., 2011). It's doubtful that older adults are being "abandoned," especially as greater access to technology makes it easier to keep in touch (Knodel et al., 2013), but traditional family life, a key context for older adults, is changing with fewer and more dispersed children (Rittirong et al., 2014).

1.3 Research Questions

This study aims to answer the following two questions:

1: Beyond the family, to what extent are older people in Kanchanaburi, Thailand embedded within interpersonal networks (friends, neighbors) and communities (religious and other organizations)?

2: How do these dimensions of social connectedness relate to health?

1.4 Research Objectives

The study has two primary goals:

1: To gain a more nuanced understanding of social connectedness — particularly non-kin connection — among older adults in Kanchanaburi province.

2: To determine how dimensions of social connectedness outside of the familial realm may affect older adults' self-rated health.

1.5 Benefits of the Study

While social connectedness has been shown to impact health, the current literature and conceptual models primarily are rooted in Western notions of connection. This study examines dimensions of connectedness in an Eastern context to better understand how they influence self-rated health. The study is particularly timely as family structures are changing. Thai households are shrinking as the population ages, meaning that connection beyond the family — with friends, neighbors, and the community — may prove to be even more important in the years ahead. The results of this study will help inform culturally relevant policies, research directions, and community-based interventions aimed to improve health among older adults in Thailand.

1.6 Terminology

The terms below will be explained in more detail in the chapters ahead.

1.6.1 Life course is a theoretical orientation with five core principles: (1) human development and aging are lifelong processes; (2) agency (people construct their own life course through their choices and actions); (3) timing (the precursors and outcomes of life events vary according to their timing in a person's life); (4) historical time and place (an individual is embedded in and shaped by the historical times and places they experience over a lifetime); and (5) linked lives (Elder, 2006). For this study, linked lives — the notion that individuals' lives are inextricably linked, or experienced together — is most applicable.

1.6.2 Social connectedness refers to participation in a broad range of social relationships (Cohen, 2004), through an individual's interpersonal network and community associations (Cornwell et al., 2008). Social connectedness includes both kin and non-kin relationships. In this study, the term social connectedness will be used interchangeably with social integration, social embeddedness, and social connection.

Objective aspects of social connectedness are primarily quantitative measures related to network structure (Fiori, Smith, & Antonucci, 2007). These include total network size, marital status, living arrangement, frequency of contact with network members, proximity of the network, attendance at religious meetings, and attendance at organized group meetings (Cornwell et al., 2008; Fiori et al., 2008; N. S. Park et al., 2013).

Subjective aspects of social connectedness are more qualitative measures, related to perceived function and quality of relationships (Fiori et al., 2007). These include proportion of "close others," measures of instrumental support, and measures of emotional support (Fiori et al., 2008).

1.6.3 Social network is described as a web, matrix, or constellation of social relationships surrounding an individual (Cornwell et al., 2008; Waite & Das, 2010). Social networks influence health in four primary ways: social support, social influence, social engagement and attachment, and access to resources (Berkman et al., 2000).

1.6.4 Social support is a social network's provision of psychological and material resources, often intended to benefit a person's ability to cope with stress (Cohen, 2004). Social support is typically divided into three sub-types: emotional, instrumental, and informational support (Berkman et al., 2000; Cohen, 2004).

Emotional support is the expression of empathy, caring, reassurance, and trust. This type of support provides opportunities for emotional expression and venting (Cohen, 2004).

Instrumental support involves the provision of tangible aid, such as help with daily tasks (Cohen, 2004).

Informational support typically takes the form of advice or guidance in dealing with problems (Cohen, 2004).

CHAPTER II
LITERATURE REVIEW

This chapter includes applicable studies on social connectedness and its association with health among older adults. It begins with a theoretical overview of the life course principle of linked lives and the four pathways that social networks impact health. The chapter then provides historical background for the study of social networks and explains the social convoy model. Next is a synthesis of current findings on social connectedness and health outcomes, followed by a reconsideration of notions of isolation. The chapter concludes with relevant studies about social connectedness among older adults in Eastern countries and Thailand, specifically.

2.1 Theoretical Overview

Relationships shape lives, and the study of relationships shapes our understanding of aging. The principle of linked lives, part of sociology's life course perspective, underscores the power of social connection. No matter how independent people feel, individuals do not grow and develop in isolation. Rather, people's lives are inextricably linked, or experienced together (Elder, 2006; Marshall, 2009). In other words, one person's behavior, decisions, and life events impact those around them, and vice versa. Examining this interconnectedness can help us better comprehend the lifelong process of growing old, and help us better plan for the future.

The life course is a theoretical orientation that contextualizes aging. In total, the life course perspective has five core principles, the most relevant to this study being linked lives. The other principles are: (1) human development and aging are lifelong processes; (2) agency (people construct their own life course through the choices and actions they take within the opportunities and constraints of history and social

circumstances); (3) timing (the precursors and outcomes of life transitions, events, and behavioral patterns vary according to their timing in a person's life); and (4) time and place (individuals are embedded in and shaped by the historical times and places they experience over their lifetime) (Elder, 2006). Although "life course" is commonly used interchangeably with "life span," the life course perspective, rooted in sociology, acknowledges the many external, macro influences at play throughout people's lives. The life span perspective, rooted in psychology, typically takes a more micro-level approach.

Over the past three decades, scholars have recognized the cumulative effects of social relationships across the life course, particularly related to physical and mental health (Antonucci et al., 2013; Berkman et al., 2000; Cohen, 2004; Cornwell et al., 2008; House et al., 1988). A person's social network — described as a web, matrix, or constellation of social relationships surrounding an individual (Cornwell et al., 2008; Waite & Das, 2010) — can influence health status in several ways. One of the most frequently considered ways, particularly among scholars interested in aging, is through social support, or the provision of emotional, instrumental, and informational assistance (Berkman et al., 2000; Cohen, 2004; House et al., 1988). Social support can involve helping with daily tasks or lending an ear, the intention often being to help others cope with stress (Cohen, 2004).

The effects of social networks on health do not, however, stop at social support. Berkman et al. (2000) identify four primary pathways social networks impact health: (1) social support; (2) social influence; (3) social engagement and attachment; and (4) access to material resources. Social influence refers to how people obtain normative guidance by comparing their attitudes with those around them. Basically, the influence of others creates shared norms that then influence health. Social engagement and attachment refers to how people's participation in various activities provides opportunities for companionship. Access to material resources is a more straight-forward factor, acknowledging how connections can link people to services and goods that might affect health (Berkman et al., 2000). These four pathways are referred to as "downstream" factors of social networks, illustrating how relationships impact health. "Upstream"

factors that provide a wider context for network formation include macro-level influences, like cultural values and gender (Stephens, Alpass, Towers, & Stevenson, 2011).

Depending on the structure of the network and the nature of the relationships, social connectedness can be for the better — or for the worse. Social networks influence health-promoting and health-damaging behaviors, such as alcohol or tobacco consumption, as well as emotional states, such as self-esteem or depression (Berkman et al., 2000; Cohen, 2004). Positive qualities of relationships (e.g., companionship and affection) are often associated with better health outcomes, but relationships are as complex as the people forming them. Sometimes, as explained in more detail later in this chapter, negative aspects of relationships (e.g., conflict or tension) actually result in positive health outcomes (Antonucci et al., 2013). An overarching theme in the literature, however, is that there is power in connection and risk in isolation.

This study draws from the life course principle of linked lives and Berkman et al.'s (2000) four primary pathways that social networks impact health. The notion of linked lives underscores the fact that people experience life along with others. Individuals make choices and decisions, but they are shaped by the choices and decisions of their relatives, romantic partners, colleagues, friends, and neighbors. A person's social networks — their unique constellation of relationships surrounding them — has the power to influence health via social support, as well as through social influence, social engagement and attachment, and access to material resources. This study's theoretical approach also comes from a third source: the convoy model of social relations, which will be introduced after a brief summary of the foundations of social connectedness research.

2.2 Historical Background

In line with the study of gerontology, the study of social connectedness has interdisciplinary roots (Antonucci et al., 2013; Berkman et al., 2000; Borgatti, Mehra, Brass, & Labianca, 2009). French sociologist Émile Durkheim is credited as an early contributor to the field (Berkman et al., 2000; Borgatti et al., 2009; Cohen, 2004).

Published in 1897, Durkheim's *Suicide* showed how "social facts" could be used to explain patterns of tendency towards ending one's life (as cited in Berkman et al., 2000). Suicide, he argued, relates to a person's level of social integration within a group. Another influential scholar was Elizabeth Bott, whose 1957 ethnography *Family and Social Network* followed 20 urban British families to better understand the roles of husbands and wives (as cited in Antonucci et al., 2013; Borgatti et al., 2009). Bott, an anthropologist, determined that the more connected, or dense, the network, the greater the likelihood of adhering to traditional spousal roles. Essentially, Bott explained that the structures of the couple's individual social circles affected relations and behaviors within the dyad (as cited in Borgatti et al., 2009).

Later, work by physician epidemiologists John Cassel (1976) and Sidney Cobb (1976) emphasized the potential of social support to buffer against stress (Antonucci et al., 2013; House et al., 1988). Social relationships, they explained, are central to the maintenance of health since they can moderate stress and other health hazards (as cited in House et al., 1988). At the 103rd Annual Meeting of the American Public Health Association in 1975, Cassel (1976) used his lecture to call attention to the importance of considering social contact in the study of disease control:

> The question facing epidemiologic inquiry then is, are there categories or classes of environmental factors that are capable of changing human resistance in important ways and of making subsets of people more or less susceptible to these ubiquitous agents in our environment? When we have thought of these questions at all, we have been accustomed to think in rather general terms of such things as nutritional status, fatigue, overwork or the like. I would suggest, however, that there is another category of environmental factors capable of producing profound effects on host susceptibility to environmental disease agents, and that is the presence of other members of the same species, or more generally, certain aspects of the social environment. (Cassel, 1976, p. 108)

In a presidential address the same year, Cobb (1976) focused on social support, defining it as "information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations" (p. 300). He emphasized the ability of

social support to prevent health problems including low birth weight, arthritis, and depression (Cobb, 1976).

Several subsequent population-based investigations examined social relationships and mortality. These studies, conducted primarily in the United States, generally demonstrated that social ties were significantly related to lower morality (Antonucci et al., 2013; Berkman et al., 2000; House et al., 1988). Social contact was explained to be, quite literally, a matter of life and death (House et al., 1988).

Berkman and Syme's (1979) study in Alameda County, California is often cited as a seminal population-based investigation (Antonucci et al., 2013; Cohen, 2004; House et al., 1988). The research team identified four types of social ties — marriage, contact with close friends and relatives, church or temple membership, and other formal and informal group membership — among 2,229 men and 2,496 women ages 30–69 in 1965. Nine years later, the researchers analyzed mortality data to discover that each of the four types of social ties predicted mortality. In other words, people without social or community connections were more likely to die in the follow-up period than those with more extensive contacts (Berkman & Syme, 1979).

The Alameda County study (1979) employed what the investigators called a Social Network Index, a composite score based on the four types of contact. The Index weighted intimate ties, namely marriage and contact with friends and family, more heavily than what they termed the "weaker ties" of membership to religious organizations or other groups. Intimate ties were stronger predictors of mortality, they found. Men who ranked low on the Index had an age-adjusted mortality rate 2.3 times higher than men with the most connections. For women ranking low on the Index, the mortality rate was 2.8 times higher than the rate for women with the most social contact (Berkman & Syme, 1979; House et al., 1988).

The Index also explored confounding factors such as health status, socioeconomic status, and health behaviors, including smoking, alcohol consumption, and physical activity. Association between the Social Network Index and mortality was found to be independent of all of these variables (Berkman & Syme, 1979). For example, in every category of self-reported health at the time of the 1965 survey, people with the most

social contacts had lower mortality rates after nine years than people who were most isolated. Over a dozen replications of the Alameda County study have affirmed Berkman and Syme's findings, suggesting causal impacts of social relationships on health (Cohen, 2004; House et al., 1988).

Studies of social connectedness often cite population-based investigations, particularly Berkman and Syme's Alameda County study, as early evidence of the impact of social contact on health, namely mortality. These longitudinal studies had an epidemiological bent, perhaps inspired by the work of John Cassel and Sidney Cobb. Earlier inquiry by anthropologist Elizabeth Bott and sociologist Émile Durkheim explored smaller samples to draw conclusions about social dynamics and health behavior. Today, researchers draw from this literature and more as they aim to better understand how relationships — in all their complexity — influence health.

2.3 The Convoy Model

In response to this early work, social scientists expanded the literature by focusing on more qualitative aspects of connection (Antonucci et al., 2013; Berkman et al., 2000; Pinquart & Sörensen, 2000). In 1980, Kahn and Antonucci introduced the convoy model of social relations (Antonucci et al., 2013), which is in line with the life course principle of linked lives. The term "convoy" — defined as "a group of vehicles or ships that are traveling together usually for protection" (Merriam-Webster.com) — is meant to convey the protective function of social relationships as individuals experience events throughout their lifetimes (Antonucci et al., 2013). Basically, a person's convoy moves through time, space, and the life course (Fiori et al., 2007), constantly changing and evolving while providing an important context for aging. In the convoy model, it is understood that relationships are complex, and that they differ in closeness, quality (e.g., positive, negative), function (e.g., aid, affirmation exchanges), and structure (e.g., size, composition, contact frequency, geographic proximity) (Antonucci et al., 2013).

The social convoy is considered a protective base that is both objective, as measured by network structure, and subjective, as measured by perceived function and quality of relationships (Fiori et al., 2007). Researchers following this model may consider a variety of social network dimensions, also referred to as variables, domains, aspects, or characteristics. Objective dimensions may include marital status, living arrangement, frequency of contact with family members, frequency of contact with friends or neighbors, total network size, proximity of the network, attendance at religious meetings, and attendance at organized group meetings (Cornwell et al., 2008; Fiori et al., 2008; N. S. Park et al., 2013). Subjective dimensions may include the proportion of "close others," measures of instrumental support, and measures of emotional support (Fiori et al., 2008). Some studies use counts of self-reported close others, such as frequency of contact with close friends (N. S. Park et al., 2013).

The traditional way to measure a social convoy requires participants to place network members into three concentric circles based on three levels of closeness: close, closer, and closest (Antonucci et al., 2013). This is also known as network mapping (Fiori et al., 2008). Participants typically are asked to list approximately 10 people in their network, and then answer a series of questions about them. For each network member, participants often report the following: gender, age, relation to focal person, and frequency of contact (Cheng, Lee, Chan, Leung, & Lee, 2009), as well as information about instrumental support, emotional support, and negative quality (Fiori et al., 2008). These subjective measures are typically gauged using prompt sentences and agree-disagree scales. For example, '[Other] gets on my nerves' may be one prompt to measure negative quality (Fiori et al., 2008).
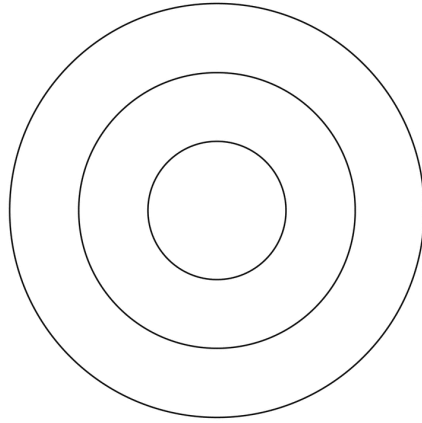
Figure 2.1: Three concentric circles used for network mapping, based on the convoy model of social relations. Researchers ask participants to place each of their network members within the model based on their level of closeness: close (outer circle), closer (middle circle), closest (inner circle) (Antonucci et al., 2013).

Understanding social relationships from a convoy model perspective, many scholars have started moving away from variable-centered study of social integration, towards a patterned-centered approach that considers the social network as a whole (Antonucci et al., 2013; Cornwell, 2009; Cornwell et al., 2008; Fiori et al., 2008; Fiori et al., 2007; Litwin, 2006; N. S. Park et al., 2013). Clustering different aspects of social connectedness into broader categories of network types allows for more variation and nuance, according to proponents. The network approach also allows for the study of associations — links to health, for example — based on category, rather than on singular aspects, such as frequency of contact. Four common network types are recognized across cultures: diverse, family-focused, friend-focused, and restricted (Cheng et al., 2009; Fiori et al., 2008; N. S. Park et al., 2013; Shiovitz-Ezra & Litwin, 2012). Based on analysis of their results, research teams add additional types, often variations on the four main types, such as unmarried/diverse (N. S. Park et al., 2013).

To better understand this line of thinking, consider Ron, a fictional study participant: Ron reports frequent contact with family. However, Ron also reports negative interactions with family, and does not list family as the people with whom he feels most comfortable talking about problems, should they arise. Under a variable approach, similar to what Berkman and Syme (1979) might have employed, he is considered socially connected because of the high count of interactions. Under a network approach, his situation is not so black and white. Depending on the study's design and results, Ron's case may fit into a category called family-focused/negative, a network type found in a recent United States sample (Fiori et al., 2008).

The convoy model of social relations acknowledges the complexities of relationships, but their overall protective function. This theoretical perspective moved the literature away from linear thinking (i.e., social contact yields better health) by highlighting how relationships differ in closeness, quality, function, and structure. In order to better understand how networks impact people's lives, it is important to consider both objective dimensions of social connectedness, such as frequency of contact, and subjective dimensions of social connectedness, like proportion of "close others." Scholars consider reports of these dimensions, together as a whole, to identify network types, the four common types across cultures being diverse, family-focused, friend-focused, and restricted. The next section will describe health implications of social connectedness, as well as, more specifically, the health implications of being situated within these types of networks.

2.4 Social Connectedness and Health Outcomes

The social networks of older adults are strongly related to their perceived state of health (Litwin, 2006). Current literature, based most often in the West, generally suggests that higher levels of social connection are associated with better health among older adults (Cheng et al., 2009; Ertel, Glymour, & Berkman, 2008; Pinquart & Sörensen, 2000; Shiovitz-Ezra & Litwin, 2012; Waite & Das, 2010). In keeping with the social

convoy perspective, some studies combine objective and subjective measures of social connectedness — essentially, quantity and quality of social contact — to determine overall integration scores or types of networks, then analyze their associations with health. Other investigations consider various dimensions of social connectedness and their associations with health. This section will focus primarily on literature based in Western contexts, as the majority of scholarship in the area of social connectedness comes from Europe, Israel, and the United States.

Before describing the evidence, it is important to establish that social connectedness impacts health differently in different cultural contexts. Certain types of contact may be more critical to health in certain cultures than in others. A study of older people in Israel provides a great example of this. Dimensions of social connection were found to have markedly different impacts on the health of Jewish-Israelis and Arab-Israelis. Among Jewish-Israelis, frequency of contact with friends was a predictor of self-rated health, but frequency of contact with neighbors was not (Litwin, 2006). Likewise, providing support to adult children had a slightly positive association with self-rated health, while receiving support from children had the opposite outcome. Litwin (2006) surmised that these results seemed "to have been a function of principles of both choice and independence" (p. 351). Conversely, among older Arab-Israelis, frequency of contact with neighbors and receiving support from adult children were more strongly tied to self-rated health. This may be because Arab-Israelis have more traditional, familial, and communal values (Litwin, 2006). Network differences between Eastern and Western cultures will be explored later in the chapter.

As discussed in an earlier section, the prevalence of social ties — both kin and non-kin ties — has long been linked to better health (Berkman & Syme, 1979; Cassel, 1976; Cobb, 1976). As Berkman et al. (2000) outlined, social networks impact health through social support, social influence, social engagement, and access to resources.

Relationships may even trigger physiological reactions (Cohen, 2004; Ertel et al., 2008; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Social connection has been shown to have beneficial effects on the cardiovascular, endocrine, and immune systems (Uchino et al., 1996). Greater social integration is linked with survival after heart attacks, less risk

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for cancer recurrence, and more resistance to the common cold (Cohen, 2004). A recent American study discovered that older adults with higher social integration scores — based on marital status, volunteer activity, and contact with parents, children, and neighbors — experienced slower memory decline than their less-connected peers (Ertel et al., 2008). More specifically, memory among the least connected declined approximately twice as fast as it did among the most connected (Ertel et al., 2008).

Some of the most studied relationships among older adults exist within the realm of family: spouses, parents, siblings, children, and grandchildren. Families, according to Waite and Das (2010), provide an important — perhaps the single most important, they say — context for aging. Spouses or partners may become particularly important in later life as children leave home, people retire, and parents pass away (Waite & Das, 2010). Despite this recognized role of family, empirical evidence suggests that contact with friends may be more strongly associated with health than contact with adult children, at least in Western settings (Fiori et al., 2008; Pinquart & Sörensen, 2000; Shiovitz-Ezra & Litwin, 2012). One reason may be because friendships are voluntary relationships, rather than predetermined family ties. Valuing independence and autonomy, Westerners may prefer "intimacy at a distance" with family, especially with adult children (Pinquart & Sörensen, 2000).

Emerging research — based primarily in Europe, Israel, and the United States — suggests network types may be able to predict health, as well as lifestyle behaviors related to health. Generally, older adults who are embedded in diverse, or resource-rich, networks fare more positively than those in restricted networks (Cheng et al., 2009; Fiori et al., 2008; Shiovitz-Ezra & Litwin, 2012). This seems to be true across cultures, though the meaning of "diverse" varies depending on the setting. Typically, diverse network types include people who are married, with large networks (almost 11 people on average), high levels of support, and low levels of negative relations (Fiori et al., 2008).

In a United States sample, people classified in the study's "functionally restricted" network (with low levels of instrumental and emotional support as well as highly negative relationships) had the worst physical and mental health when compared to other network types (Fiori et al., 2008). Interestingly, members of this sample's family-

focused network type rated their relationships as highly negative, while members of more diverse types rated their relationships more positively. In other words, connection with family, in the absence of other non-kin network members, may be a source of stress for Westerners rather than a source of strength.

As for health behaviors, individuals situated within more diverse networks have been shown to have less risk for alcohol abuse and physical inactivity, and greater likelihood of using complementary and alternative medicine (Shiovitz-Ezra & Litwin, 2012). The friend network in this particular study, also analyzing data from the United States, was the most prevalent network type (28%) and also one of the types that the investigators considered resource-rich. Again, family and restricted networks were both considered less resourceful types and, therefore, possibly more detrimental in terms of health behaviors (Shiovitz-Ezra & Litwin, 2012).

It is important to pause here and note that some studies indicate that negative interactions are not necessarily linked to negative health outcomes, as one might expect. Relationships are inherently complex, to echo the social convoy perspective. Conflict may actually boost resilience in some cases. Consider the always-arguing couple that can't imagine separating after 40 years, or the antagonist in a friend group who enlivens a debate. A study by Birditt and Antonucci (2008) — aptly titled "Life sustaining irritations?" — discovered that people with chronic illnesses who reported lower levels of spousal love and more demanding and critical relationships were less likely to die over a 19-year period than those who reported higher levels of love and less demanding and critical relationships. Likewise, people with chronic illnesses and demanding children had greater survival rates than those with reportedly less demanding children, hinting at the nuances of social connectedness and health (Birditt & Antonucci, 2008).

Switching gears, Western-based literature suggests community involvement, which may increase with age, is associated with positive impacts on health. This makes sense, given that engagement in the community may introduce an individual to new contacts and, perhaps, diversify their network. An analysis of data from the National Social Life, Health, and Aging Project revealed that older adults in the United States are more likely than their younger counterparts to socialize with neighbors, attend religious

services, and volunteer in their communities (Cornwell et al., 2008). The probability that an 85 year old will volunteer at least once a week, for example, is .29, compared to .20 probability for a 57 year old (Cornwell et al., 2008).

Social engagement may be particularly important to subjective health in Western contexts. A recent German investigation considered three aspects of the social network: network structure (i.e., network size and frequency of contact), social engagement (i.e., number of social activities and time spent on these activities), and potential emotional support (i.e., number of people an individual can potentially rely on for advice and for solace) (Huxhold, Fiori, & Windsor, 2013). Across a six-year timeframe, maintenance or increases in social engagement — more time dedicated to activities with others, like meeting with friends or attending cultural events — were positively associated with maintaining high levels of subjective health (Huxhold et al., 2013). Self-assessed health was not, however, influenced by potential for emotional support.

> These findings could point to the fact that at older ages, perceiving oneself as being socially engaged and active is more important for one's evaluation of one's own health status than is the emotional support potential a person could activate in times of need. Another explanation could be that subjective health that is improving over time fosters engagement in social activities more than it does emotional support. (Huxhold et al., 2013, p. 14)

Again, this conclusion is made from a Western purview, but it suggests that community involvement and engagement beyond the family realm may play a critical role in the perception of one's health, a strong indicator of overall wellness.

In the United States, as in other Western countries, there is growing interest in strengthening neighbor relationships to promote older adults' health and well-being (Greenfield & Reyes, 2014). Villages and Naturally Occurring Retirement Communities (NORCs) are two examples of aging services models built on the notion of aging in community, more commonly referred to as aging in place. Aging in community initiatives aim to help unite neighbors in small, village-like settings where they can support one another into old age (Thomas & Blanchard, 2009). Findings from a recent study of 1,071

adults ages 40–70, however, did not show that strong ties with neighbors are directly associated with positive or negative reports of well-being. However, the authors point out that relationships can "yield psychological gains by helping people maintain a sense of purpose and find opportunities for continued personal growth" (Greenfield & Reyes, 2014), which matches the idea of community involvement as vital to one's health.

Of course, social networks constantly change as loved ones and other contacts enter and exit a person's life. Widowhood and bereavement may very much alter the composition of an individual's network, a topic many older adults understand far beyond the scope of research. These life changes may not necessarily affect social connectedness in a negative way, though. One Australian study found that network size increased for women who were widowed or separated, or experienced a death of a loved one or a decline in their own health (McLaughlin, Adams, Vagenas, & Dobson, 2011). Women reported feeling their network members rally around them to provide support and care.

In Western countries, empirical evidence suggests that higher levels of social connectedness are associated with better health. Studies analyzing network types and health typically find that it's desirable to be situated within diverse, resource-rich networks, or networks that are large, with high levels of support, and low levels of negative interactions. Connection with friends may be more essential to an individual's health than connection with family members only (i.e., family-focused networks), perhaps underscoring Western values of independence and autonomy. As explained at the end of this chapter, some literature based in Asian countries suggests similarities while other research illustrates differences in how social connection relates to health among older adults.

2.5 Isolation

Though higher levels of connectedness tend to be linked to better health, this is not always the case. Social relationships vary in closeness, quality, function, and structure (Antonucci et al., 2013). Per the social convoy perspective, the nature of the

relationships forming the "protective base" matters. Social networks may provide positive impacts by way of support and influence, but they also may provide opportunities for conflict, exploitation, stress transmission, and feelings of loss (Cohen, 2004).

Smaller network size does not necessarily mean that a person is less connected and, therefore, at risk. An individual may have a few strong relationships that provide the kind of support, influence, and engagement they need. Socio-emotional selectivity theory posits that people actually may restrict their networks as they grow older (Carstensen, Isaacowitz, & Charles, 1999). Understanding their time as limited, older adults cut back on their interactions with less meaningful connections and devote more time to a smaller set of social partners who are important to them (Carstensen et al., 1999).

In a population-based study of Americans ages 57 to 85, Cornwell et al. (2008) identified a decrease in network size with age, but a U-shaped relationship with volume of contact with network members. Participants who were age 57 had a predicted average of 196 days of contact per year with each self-identified network member, compared to 187 days for 70 year olds and 198 for days for 85 year olds (Cornwell et al., 2008). Again, networks may appear smaller with age, but older adults are not necessarily less connected.

It is sometimes assumed that old age is characterized by a descent into isolation. Social disengagement theory brought forth in the 1960s asserts that isolation is a natural result of the abandonment of social roles and the weakening of social bonds (Cornwell et al., 2008). Today, influential organizations such as AARP, Age UK, and HelpAge International tout their efforts to prevent social isolation among older adults. While this is certainly a worthy cause, it must be made clear that isolation is not an inherent part of growing old. There also should be a clear distinction made between isolation and loneliness, which affects people of all ages.

In the study of social connection, it would be remiss not to address the idea of isolation. Many well-known organizations publicize their efforts to eliminate isolation among older adults, as if isolation occurs naturally with age. Current literature, particularly socio-emotional selectivity theory, suggests that social circles may get smaller as people grow old, but they also may get tighter, as individuals become more selective

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with their connections, understanding their time as limited. Methodological approaches that consider both objective and subjective dimensions of social connectedness may help better capture the complexities of social networks.

2.6 Social Connectedness and Health in Eastern Contexts

Most studies examining links between social connection and health outcomes are based on Western populations (Beckett et al., 2002; Thanakwang & Soonthorndhada, 2011). In Eastern contexts, many studies of older adults focus on social support, which Berkman et al. (2000) identify as only one pathway to health. Since family members, particularly adult children, are often the primary caregivers for older adults (Rittirong et al., 2014), it makes sense that much of the literature explores family relationships, familial support, intergenerational transfers, and living arrangements (Thanakwang & Soonthorndhada, 2011). Few studies in Thailand explore non-kin networks (e.g., relationships with friends, neighbors) or community associations (e.g., involvement with religious and other organizations) and their possible links to perceived health. This study aims to fill that gap.

In Eastern societies, social contact is considered an essential part of life, perhaps even more so than in other parts of the world. Western contexts are often rooted ideas of independence, self-reliance, and autonomy (Thomas & Blanchard, 2009). A famous line from the 1916 poem "Mending Wall" by American poet Robert Frost captures this sentiment well: "Good fences make good neighbors" (Frost, 2001). By contrast, Eastern contexts tend to underscore the power of interdependence and social embeddedness within groups (Brewer & Chen, 2007; Ingersoll-Dayton et al., 2004). These differing constructs are commonly referred to as individualism and collectivism, respectively. In the West, psychological well-being is often considered an internal, personal feeling, but in the East, both internal and external components are at play (Gray, Rukumnuaykit, Kittisuksathit, & Thongthai, 2008). Older adults in Thailand specifically report that having harmonious relationships with family and neighbors and participating

in activities with friends — interpersonal factors — contribute to their psychological well-being (Ingersoll-Dayton et al., 2004).

Social connectedness may be essential for physical health among older adults in Asian contexts, too. In a comparative study of Japanese and American adults, the association between perceived support — measured with questions about the quality of emotional support from spouses or partners, family members, and friends — and health was stronger among Japanese respondents (J. Park et al., 2013). This may be because Japanese participants come from what the researchers call a "support-approving cultural context," a setting that may distinguish the East from the West:

> …in East Asian cultures, especially in Japan, Korea, and China, interdependence of the self with others is strongly sanctioned. In this cultural context, support is likely to highlight the culturally endorsed and validated state of interdependence and, as a consequence, may be expected to entail less emotional cost. For example, if friends or family members are willing to provide the support one needs, the person may feel assured that he or she is succeeding in the task of interdependence. Thus, the support-health linkage would be stronger and more positive for Asian than for American adults. (J. Park et al., 2013, p. 227)

This support-approving cultural context echoes the context described in Litwin's study (2006) in Israel, comparing dimensions of social connection and their links to health among Jewish-Israelis and Arab-Israelis. Receiving support from adult children was strongly tied to self-rated health among Arab-Israelis, described as having a culture rooted in communal values (Litwin, 2006). Many Eastern cultures see the merit in collective support, too.

Health impacts of social support may vary by gender, in Western contexts (McLaughlin et al., 2011; Stephens et al., 2011) and Eastern contexts. One Japanese cross-sectional study discovered that level of social support is more closely linked to health among older men than health among older women (Okamoto & Tanaka, 2004). Researchers considered two subjective aspects of emotional support: (1) the willingness of one's spouse, children, and others to listen to personal problems; and (2) the amount of love and caring respondents can expect from their spouse, children, and others. The direct

effect of social support on subjective health was much larger among men (82.6%) than among women (23%). In other words, men who reported loving networks with people to listen also were likely to report "excellent" or "good" health, more so than women, who, as the researchers point out, likely provide and receive more support from members in their networks (Okamoto & Tanaka, 2004).

In keeping with notions of the importance of familial support in Eastern cultures, a recent study suggests diverse and family-focused networks may be the most beneficial for subjective well-being among older Chinese adults in Hong Kong (Cheng et al., 2009). The research team identified five network types among their 1,005-person sample: diverse, friend focused, restricted, family focused, and distant family. Surprisingly, though, the friend-focused network — characterized as frequent contact and high support exchange with non-kin network members — was associated with only slightly lower well-being than family-focused networks (Cheng et al., 2009).

In a comparative study of network types among American and Japanese older adults, however, no such links were found between mental or physical health in the Japanese sample (Fiori et al., 2008). In other words, though the researchers identified diverse, restricted, family-focused, and friend-focused network types among older people in Japan, there were no significant health differences between them. The U.S. sample, on the other hand, revealed a link between network type and health, with those situated in the restricted network type reporting the worst physical and mental health at follow-up (Fiori et al., 2008).

Other findings from Asian studies mirror more Western ideas of social connectedness, suggesting that connection with non-kin contacts — or lack of connection — can impact health. Using longitudinal data collected from older people in Taiwan, Beckett et al. (2002) discovered that infrequent contact with friends was significantly associated with poor health status, based on self-rated health and self-reported functional status (i.e., participants' report on the amount of difficulty they have performing six functions, such as bathing or climbing stairs). Similar to findings about social support in Japan (Okamoto & Tanaka, 2004), gender differences were apparent. For women, low

levels of participation in social activities also was significantly associated with poor health status (Beckett et al., 2002).

So far, most of the studies presented in this section are based on populations in East Asia, not Southeast Asia. In Thailand, specifically, literature on social connectedness and health outcomes is relatively limited, especially research that goes beyond the family circle and attempts to address objective and subjective aspects of social connection.

Analyzing the same data set as this present study, one recent investigation considered the following three dimensions in its measurement of social connectedness among older people in Kanchanaburi province: (1) frequency of contact with family, (2) frequency of contact with friends, and (3) community participation (Krishnakumar, Narine, Soonthorndhada, & Thianlai, 2014). Though the research team was most interested in examining gender variations across a variety of environmental factors associated with health, they discovered that older men have a greater role in the public sphere (e.g., interactions with non-kin and community), while older women are more connected to the private sphere (e.g., family) (Krishnakumar et al., 2014). Social connectedness in this study, however, was assessed with objective measures that assess quantity, and not quality.

One study that does acknowledge the quality of relationships and explores non-kin networks among Thai older adults discovered that friends have a direct effect on health-promoting behaviors (Thanakwang & Soonthorndhada, 2011). Friendships among older adults also may influence family support. Researchers assessed family and friendship ties using objective questions (e.g., how many family members/friends do you see and hear from at least once a month?) and subjective questions (e.g., how many family members/friends do you feel at ease with that you can talk to about private matters?). Results revealed that friendship connectedness, unlike familial connectedness, directly impacts positive health behaviors, such as healthy eating and physical activity. Friendships also provide support and influence care by family members, which the authors say underscores the need for programs that enhance collaborations within neighborhoods and communities (Thanakwang & Soonthorndhada, 2011). The study —

conducted in Nan province in northern Thailand — was limited in scope (n=469), though, and included health behavior measures only.

In Eastern contexts, limited research on social connectedness and health is less conclusive than it is in the West. While some studies suggest diverse and family-focused networks are more beneficial to the health of older Asians — who are located within what some scholars call a "support-approving cultural context" — other studies reveal no health differences at all based on network type. More broadly, much of the literature focuses on social support, primarily provided through family relationships. Few studies explore non-kin connection and community participation, and their links to perceived health. In Thailand, researchers are beginning to explore this realm, but little is known about social network composition beyond the family and how, or if, it affects the health of older adults.

2.7 Conceptual Framework

The conceptual framework for this study is based on the understanding that social networks impact health in a number of ways (Berkman et al., 2000), and that networks, in all of their complexity, can provide a protective base for individuals as they age (Antonucci et al., 2013). Following the convoy model, developed from a Western perspective, this study examines objective and subjective dimensions of social connectedness, with an emphasis on non-kin social connectedness, and how these dimensions relate to self-rated health (Figure 2.2). These dimensions exist within interpersonal networks (friends, neighbors) and community (involvement in religious and other organizations) (Cornwell et al., 2008). For comparison, this study also considers dimensions of kin social connectedness and their associations with self-rated health (Figure 2.3).

Dependent Variable

**Objective aspects of
non-kin connectedness**

Proximity to a
friend/neighbor

Frequency of contact with
a friend/neighbor

Community participation

Religious participation

Self-rated health

**Subjective aspects of
non-kin connectedness**

Instrumental support tie

Discussion tie

Neighborhood closeness

Covariates

Age

Gender

Chronic disease

Figure 2.2 Conceptual Framework: Non-Kin Social Connectedness

Independent Variables   **Dependent Variable**

**Objective aspects of
kin connectedness**

Proximity to a child

Proximity to a relative

Frequency of contact with
children

Frequency of contact with
relatives

Marital status

Self-rated health

**Subjective aspects of kin
connectedness**

Instrumental support tie

Discussion tie

Covariates

Age

Gender

Chronic disease
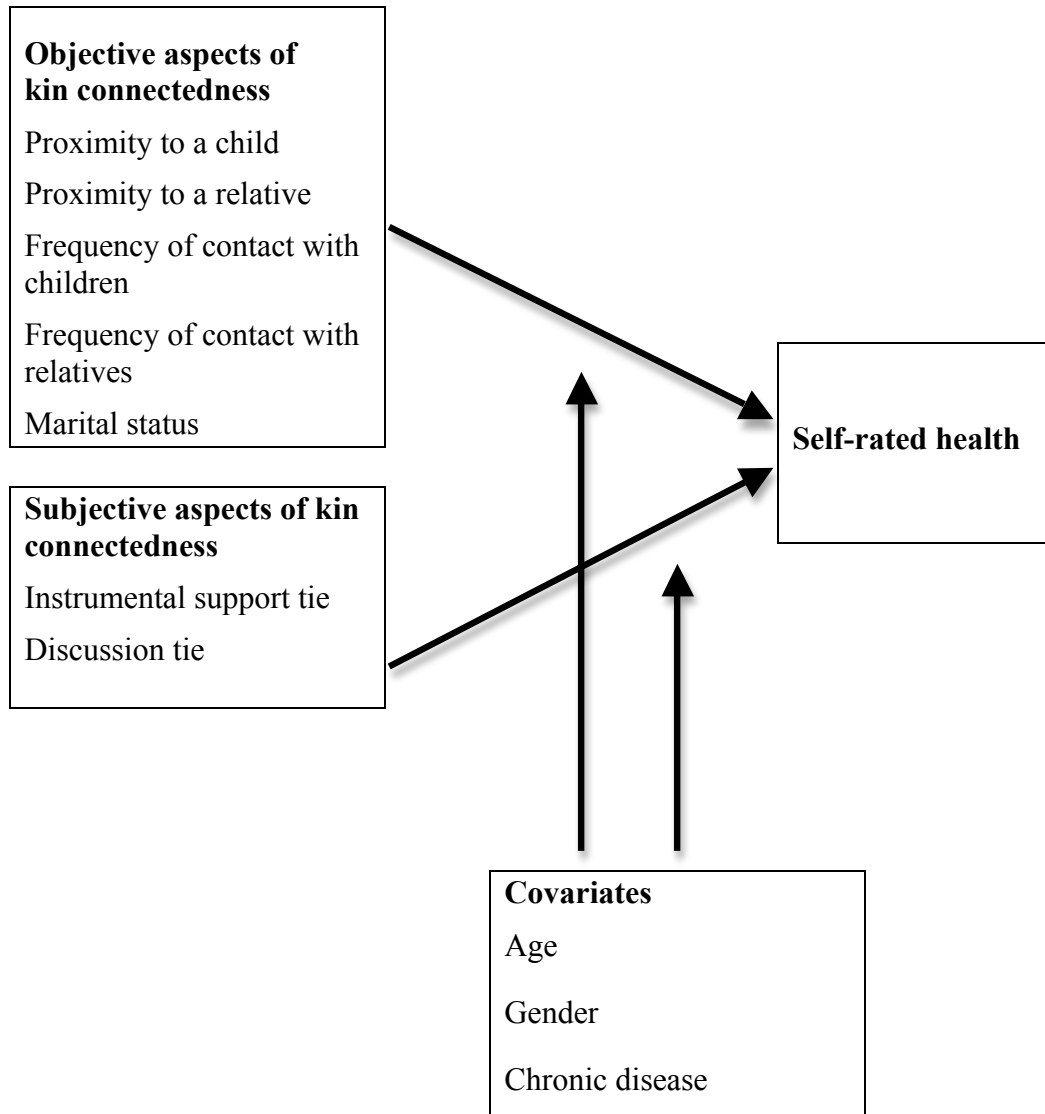
Figure 2.3 Conceptual Framework: Kin Social Connectedness (for comparison)

2.8 Hypotheses

Dimensions of non-kin social connectedness will be positively associated with self-rated health among older adults in Kanchanaburi, Thailand, although differences will emerge from Western contexts. Even in the presence of covariates, social connectedness beyond the family will impact self-rated health. Differences in perceived health are anticipated based on gender, a variable that seem particularly relevant to Thai culture.

CHAPTER III
RESEARCH METHODOLOGY

This chapter presents the study's design. It includes detailed information about the data source, study site, study population, technique for analysis, and operational definitions for each variable. The chapter concludes with a discussion of the study's possible limitations.

3.1 Data Source

Data comes from a 2011 survey titled "Project on Population, Social, Cultural, and Long-term Care Surveillance for Thai Elderly People's Health Promotion," supported by the National Research University (NRU) Fund and the National Research Council. The Institute for Population and Social Research at Mahidol University administered the project. In this study, data from the survey is referred to as the NRU data set.

3.2 Study Site

The NRU data set was collected at the demographic surveillance site in Kanchanaburi province, located approximately 130 kilometers west of Bangkok. In 2014, Kanchanaburi was the third largest province in Thailand, with a population of 848,198 (Department of Provincial Administration, 2015). Demographically, the province is representative of the changes occurring in Thailand, particularly regarding age structure. The number of people ages 60 and older reached 12.5% of the total population in 2014, up from 8.7% in 2000 (Krishnakumar et al., 2014). Meanwhile, the number of people under age 15 reached 19% in 2014, not far from the percentage of older adults (Department of

Provincial Administration, 2015). It is projected that the number of older adults in Thailand will surpass the number of younger adults in the coming decade.

3.3 Sampling Method

The NRU sampling frame comprised of 100 village blocks located in urban, semi-urban, and rural settings. The province was divided into five communities by different strata on the basis of ecological and population features. The strata included: rice field areas, crop areas, high land areas, urban and industrial areas, and other areas, a category for environments that could not fit the previous four strata. Researchers then completed a stratified random sampling in each of the five areas.

3.4 Study Population

During NRU data collection, households with at least one person 50 years or older were considered. Twelve thousand households fit this description, and 10,665 older adults agreed to participate (response rate = 88.9%). This study looks more closely at participants ages 60 and older, which is the current definition of older people in Thailand. To start, there were 4,424 cases in the NRU data set of people ages 60 and older, but many were omitted from analysis. Since this study includes a measure of religious practice exclusively performed by Buddhists (how often participants make merit or offerings of food to monks), participants identifying with other religions were excluded from the study. Participants with missing values and non-responses were dropped from the study, as well. The final sample size was 4,235.

3.5 Research Design

The project is a cross-sectional descriptive study utilizing secondary data. The questionnaire was designed and administered in Thai, then translated to English for

analysis. During analysis for this study, careful consideration was taken to understand the phrasing and cultural connotations of each question.

This study primarily considered the following sections from the questionnaire: (1) household and village network, (2) general activity, (3) health behavior and health condition, and (6) network of children and grandchildren. Additional sections were used to identify covariates: (4) participant characteristics and (5) personal data. Within each section, only relevant questions, outlined later in this chapter, were used for analysis.

3.6 Operational Definitions of the Variables

Below are the functional definitions of the variables for this study. Twelve dimensions of social connectedness — both objective and subjective — were considered as independent variables. Below, these dimensions are separated into non-kin dimensions of social connectedness and kin dimensions of social connectedness, since this study's primary interest is in better understanding social connection beyond the family. Self-rated health, recoded into a dichotomous outcome, was the dependent variable. Covariates included age, gender, and chronic disease.

3.6.1 Independent Variables

When attempting to measure social connectedness, the convoy model stresses the importance of considering both objective and subjective aspects of social networks (Antonucci et al., 2013; Fiori et al., 2008; Fiori et al., 2007). It is ideal to include a variety of domains that indicate closeness (e.g., discussion confidantes), quality (e.g., positive, negative), function (e.g., aid, affirmation), and structure (e.g., size, frequency of contact). The following objective and subjective dimensions from the NRU data set were used:

Dimensions of non-kin social connectedness:

Proximity to a friend/neighbor: This objective dimension measures geographic closeness to a non-kin contact. Participants were asked: "Where does your friend/neighbor living nearest to you live?" Six responses were given as options: 0=None/all dead; 1=Same village/community in walking distance; 2=Same village/community in non-walking distance; 3=Same sub-district, different village/community; 4=Same district, different sub-district; 5=Different district; 8=Overseas. Since proximity generally represents more possibility for social contact, having a friend/neighbor within walking distance (answer 1) was categorized as more connected, while other responses (answers 0, 2–5, 8) were categorized as less connected. Some Western studies consider network members within a one-hour drive to be close in proximity (Fiori et al., 2008), but this does not seem culturally relevant in this area of Thailand.

Frequency of contact with a friend/neighbor: Also an objective dimension of social connection, this measures how often participants connect with a non-kin contact, although the type of contact is not differentiated in the data. After answering about geographic proximity, participants were asked: "How often do you meet or phone or write to your friend/neighbor?" Participants could choose from the following five responses: 0=Not at all in the past one year; 1=2–3 times a year; 2=At least once a month; 3=At least once a week; 4=Everyday. These responses were collapsed into two categories: more connected, daily contact with a friend/neighbor (answer 4); or less connected, not every day contact with a friend/neighbor (answers 0, 1–3) (Fiori et al., 2008).

It is important to note that in Thai, the word for "friend" and "friends" is the same: *peuang*. Since this question appears after the question about proximity to a friend/neighbor (singular), participants may answer in terms of frequency of contact with that same friend/neighbor. This may not be the case, though. Some respondents may have interpreted the question to be about general contact with their

friends or neighbors (plural). Either way, this variable provides a sense of how often older adults connect with at least one person outside of their family.

Community participation: This objective dimension assesses how frequently older adults engage in activities in their communities, involvement that indicates social connection (Beckett et al., 2002; Cornwell et al., 2008). Participation in community activities may be informal or formal, as through a volunteer organization. This is not specified in the survey. Participants were asked: "In the past six months, did you join any social activities in your community such as (a) transfer knowledge/local wisdom to young generation; (b) serve as a village health volunteer; (c) volunteer to look after the elderly; (d) volunteer to babysit children / look after the disabled; (e) volunteer for community development." Responses were measured on a scale of 1=Not at all; 2=Sometimes; 3=Always.

The five activities were considered together, as the variable "community participation." Participants involved with at least one of the five activities either "sometimes" or "always" (answers 2 or 3) were considered more connected, while those never involved in any of the activities were considered less connected.

Religious participation: Another objective dimension, this variable offers insight into how frequently older adults engage in religious activities that may put them into contact with non-kin others (Cornwell et al., 2008). Participants were asked: "How often do you do the following religious practice: making merit/offering food to monks." Thai people can make merit and/or offerings at home — generally a morning ritual in more rural areas, where monks walk from house to house — or at temples. Responses were measured on a scale of 0=Not at all; 1=Rarely; 2=Often (more than 4–5 times/month); 8=Not relevant. Those who participated often (answer 2) were considered more socially connected in this dimension than those who participated rarely or not at all.

Other components of the question from the questionnaire were omitted from this study, as they did not suggest connection with other humans (e.g., praying, meditation, fasting). Also, since the vast majority of the Thai population is

Buddhist, only the component related to Buddhism was considered to ensure a large enough sample size.

Neighborhood closeness: This subjective dimension measures the participants' perceptions of their neighborhood environment. Relationships with neighbors may have implications for personal well-being (Greenfield & Reyes, 2014). Participants were asked: "How much do people in your neighborhood area know each other?" Responses were measured on the following scale: 1=A little; 2=Moderately, 3=Very much. In this study, knowing neighbors "very much" (answer 3) was considered more socially connected than "moderately" or "a little."

Dimensions of kin social connectedness (for comparison):

Proximity to a child: This objective dimension indicates how near participants are to a biological child. Co-residence with an adult child — particularly the youngest married daughter — is common in Thailand, though it is a norm that is slowly changing (Knodel et al., 2013). An increasing number of older adults are living alone or with their spouses only. Even still, children or other relatives may live nearby. NRU participants were asked: "Does any one of your biological children live in the same house with you?" There was a follow-up for people who answered no: "If you do not have any biological child in the same house, where does the child living nearest to you live (in distance)?" Six responses were given as options: 0=None/all dead; 1=Same village/community in walking distance; 2=Same village/community in non-walking distance; 3=Same sub-district, different village/community; 4=Same district, different sub-district; 5=Different district; 8=Overseas. Participants with a biological child living in the same house (coded 98 in the follow-up question) or within walking distance (answer 1) were considered more connected.

Proximity to a relative: Similarly, this objective dimension indentifies how near older adults are to other family members, which is defined as kin

other than children or spouses. NRU participants were asked: "Do you have other relatives living in the same house with you? (except children and spouse)" There was a follow-up question for people who answered no: "If you do not have any relatives living in the same house, where does the relative living nearest to you live (in distance)?" The same answer options were given, as above. Participants with a relative living in the same house (coded 98 in the follow-up question) or within walking distance (answer 1) were considered more connected than participants answering otherwise.

Frequency of contact with children: This objective measure indicates how often older adults talk to their biological children. Participants were asked: "How often do you talk to your (biological) children, face to face or via phone?" Participants could choose from the following five responses: 0=Not at all in the past one year; 1=2–3 times a year; 2=At least once a month; 3=At least once a week; 4=Everyday. These were collapsed into two categories: more connected, daily contact with children (answer 4); or less connected, not every day contact with children (answers 0, 1–3).

It is important to note that this question differs slightly from the frequency of contact question regarding a friend/neighbor. In that question, respondents were given three options of communication: meeting, phoning, or writing. In this question, participants were only asked about talking face-to-face or over the phone. This difference is perhaps indicative of the expectation of Thai children to be in close contact with their parents. Writing is not even listed as an option.

Frequency of contact with relatives: This objective dimension demonstrates how often participants communicate with other relatives. This question follows the question about proximity, which specifies that children and spouses are excluded from "relatives" in this measure. Participants were asked: "How often do you talk to your relatives by face to face or phone or letter?" (Note: Writing to relatives is listed as an option here.) Participants could choose from the following five responses: 0=Not at all in the past one year; 1=2–3 times a year; 2=At least once a month; 3=At least once a week; 4=Everyday. These were collapsed into two categories: more connected,

daily contact with relatives (answer 4); or less connected, not every day contact with relatives (answers 0, 1–3).

Marital status: Although marital status is often considered a demographic variable in demography, and therefore a control, it is treated as an objective dimension of social connectedness in this study, as is the case in most studies analyzing social connection (Berkman & Syme, 1979; Fiori et al., 2008; Fiori et al., 2007; Waite & Das, 2010). Spouses may significantly affect both social connectedness and health (Waite & Das, 2010). Connection-wise, if you are married, your level of contact with others is likely different than if you are not married. On the NRU questionnaire, possible responses for marital status were: 1=Single; 2=Married and live with spouse; 3=Widowed; 4=Divorced; 5=Separated; 6=Married but live separately. In this study, marital status was considered a dichotomous variable. Participants were coded to either married (answers 2 and 6) or not married (answers 1, 3–5), married being considered more connected. The NRU questionnaire does not account for variations on non-married partnerships.

Instrumental support tie: This subjective dimension is both a non-kin and a kin dimension of social connection. (It is included here because, during analysis, it was incorporated into the models along with the kin dimensions of social connectedness, since the vast majority list family members in this role.) This dimension identifies the primary contact an older adult counts on for help (Cohen, 2004), though the type of support is not specified in the questionnaire: "Who is the important person who always helps you?" Survey administrators prompted participants to give three names in importance order, along with their relationship to each participant. This study only considers the relationship type of the first person listed. Responses were recoded into the categories of no one (those who listed no person for assistance), kin (those who listed a child, spouse, or other family member), and non-kin (those who listed a friend, neighbor or other non-family member).

Discussion tie: Information about discussion networks can identify close confidants, relationships that may be central to people's health (McPherson, Smith-Lovin, & Brashears, 2006). Like the instrumental support tie variable, this subjective dimension could fall into the category of non-kin or kin social connection. (Again, it is listed here in the dimensions of kin social connectedness because of how it is treated in analysis.) Participants were asked: "Whom would you like to talk to most when having a problem?" Participants could then indicate 1=I want to talk to _____, 2=I want to talk to no one, 3=I have no one to talk to. If participants listed a name, they also were asked to indicate their relationship. Responses were recoded into the categories of no one (those who listed no person for assistance), kin (those who listed a child, spouse, or other family member), and non-kin (those who listed a friend, neighbor or other non-family member).

3.6.2 Dependent Variable

Self-rated health: Also known as perceived health, self-assessed health, or subjective health, self-rated health is frequently used as a tool to measure physical functioning in Western and Eastern older adult populations (Beckett et al., 2002; Haseen et al., 2010). It is often considered a good holistic measure of health — a measure of not only physical functioning, but of health status as a whole.

NRU participants were asked: "In the past one month, at what level your health was when comparing to people in the same age?" Responses were measured on a five-point scale: 4=Very good; 3=Good; 2=Moderate; 1=Poor; 0=Very poor. In this study, participants who answered very good or good (answers 4 and 3) were considered in optimal health, while those who answered moderate, poor, or very poor (answers 2–0) were considered in suboptimal health (Beckett et al., 2002; Okamoto & Tanaka, 2004).

Over the last three decades, surveys with older adults in Thailand have made significant advances in self-assessed health status, but there is still some question about gender inequalities (Krishnakumar et al., 2014). Older Thai women are

generally more likely to report poorer self-assessed health compared to older men (Krishnakumar et al., 2014).

3.6.3 Covariates

The following three covariates may affect the relationship between dimensions of social connectedness and self-rated health. For this reason, they were considered as controls in this investigation.

Age: Although everyone ages differently, age has been shown to affect the structure and composition of social networks (Carstensen et al., 1999; Cornwell et al., 2008). Age also may affect one's likelihood of living with disabilities, which could impact self-assessment of health. At the same time, people who reach 80 may have better overall health enabling them to outlive their peers, though the phrasing of the NRU question asks participants to compare their health with others their same age. Age at the time of the survey was bracketed into three categories: 60–69, 70–79, and 80 and older.

Gender: Gender often impacts the ways in which people are embedded in their interpersonal networks and communities (Krishnakumar et al., 2014; McLaughlin et al., 2011; Okamoto & Tanaka, 2004; Stephens et al., 2011). Scholars also have noted gender differences in self-reported health, in Thailand specifically (Krishnakumar et al., 2014). For these reasons, the sex of participants was included as a covariate in this study. The NRU questionnaire does not provide respondents with options for other gender variations.

Chronic disease: Chronic conditions certainly may affect an individual's report of their health (Fiori et al., 2008; J. Park et al., 2013), which is why this study accounted for them. NRU participants were asked whether they have ever experienced a variety of symptoms or diseases. A composite score was created based on their history of hypertension, heart disease, diabetes, cancer, stroke, and paralysis (Haseen et al., 2010). Those who reported that they had experienced one or more of these six measures were grouped into one category, while those who reported no such experiences were groups in another.

Table 3.1: Operational definitions of variables and their measurements

Variables	Operational Definition	Level of Measurement
Independent variables: Proximity to a friend/neighbor	0=Less connected 1=More connected (living within walking distance	Nominal
Frequency of contact with a friend/neighbor	0=Less connected 1=More connected (every day)	Nominal
Community participation	0=Less connected 1=More connected (sometimes or always for at least one activity)	Nominal
Religious participation	0=Less connected 1=More connected (often)	Nominal
Neighborhood closeness	0=Less connected 1=More connected (very much)	Nominal
Proximity to a child	0=Less connected 1=More connected (living with or within walking distance)	Nominal
Proximity to a relative	0=Less connected 1=More connected (living with or within walking distance)	Nominal
Frequency of contact with children	0=Less connected 1=More connected (every day)	Nominal
Frequency of contact with relatives	0=Less connected 1=More connected (every day)	Nominal
Marital status	0=Less connected 1=More connected (married)	Nominal
Instrumental support tie	0=No one 1=Kin 2=Non-kin	Nominal
Discussion tie	0=No one 1=Kin 2=Non-kin	Nominal

Table 3.1: Operational definitions of variables and their measurement (cont.)

Dependent variable:		
Self-rated health	0=Suboptimal health 1=Optimal health (good or very good)	Ordinal
Covariates:		
Age	1=60–69 2=70–79 3=80+	Nominal
Gender	0=Female 1=Male	Nominal
Chronic disease	0=At least one chronic disease 1=No chronic disease	Nominal

3.7 Data Analysis

Demographic information was determined using descriptive statistics. Frequencies of independent and dependent variables were assessed to gain a better understanding of connection beyond the family.

Binary logistic regression was used to create three models: the first model includes dimensions of non-kin social connection, the second model includes dimensions of kin social connection, and the third model combines all of the dimensions. The covariates of age, gender, and chronic disease were included in each model. Connection beyond the family is the focus of this study, but all 12 dimensions of both family and non-family connection were included for comparison and also because social networks include relationships of all types.

3.8 Ethical Consideration

Approval from the Institute for Population and Social Research, and the Institutional Review Board of Mahidol University was obtained to use the NRU data set and conduct this research.

3.9 Limitations of the Study

This study is limited in its use of secondary data. Data is therefore restricted to responses gathered from the questions included in the original questionnaire, created by the NRU project team. Some of the questions specify different periods of time (e.g., "In the past one month…" and "In six months before the interview…"), which can be considered a problem of temporal order. The study is also cross-sectional, analyzing data from one point in time, which means that only associations can be determined. For causation to be inferred, the study would have to be longitudinal, measuring the dependent variable at a later point in time, which is not the case here. Additionally, although this

study includes objective and subjective measures of connectedness, it is limited by its quantitative nature, which cannot fully capture the nuances of social relationships.

CHAPTER IV
RESULTS

This chapter includes findings based on descriptive statistics and binary logistic regression. It begins to paint a more nuanced portrait of social connectedness among older adults in Thailand, particularly how they are embedded beyond their families, and its possible links with physical health. The descriptive analysis section presents demographic information about the sample, as well as participants' responses regarding various dimensions of social connectedness. The binary logistic regression section shows how the dimensions and other covariates (age, gender, chronic diseases) are associated with self-rated health.

4.1 Descriptive Analysis

4.1.1 Participants' Characteristics

Demographic information about participants in the study is presented in Table 4.1. The average age of participants (n=4,235) was 69.4 (±7.1). Roughly 56% were under age 70, and approximately 35% were between ages 70 and 79. More than half were female (57%), with at least one chronic disease (51%). The majority rated their health as good or very good (58%), which was considered optimal self-rated health in this study.

Table 4.1: Participants' characteristics

Variables	N	%
Age		
60–69 years	2,354	55.6
70–79 years	1,460	34.5
80 +	421	9.9
Mean = 69.4; S.D. = 7.1		
Gender		
Male	1,810	42.7
Female	2,425	57.3
Chronic disease		
At least one chronic disease	2,148	50.7
No chronic disease	2,087	49.3
Self-rated health		
Suboptimal	1,787	42.2
Optimal	2,448	57.8
Total	4,235	100

4.1.2 Dimensions of social connectedness

Twelve aspects of social connection are presented in Table 4.2. Although this study focuses on social connectedness beyond the family, dimensions of social connectedness with family members were considered, for comparison and inclusion in the logit models.

As far as objective dimensions, the majority of participants reported living within walking distance of a friend/neighbor (95%) and having daily contact (71%) with a friend/neighbor, in person, over the phone, or by letter. Comparatively, 74% reported living with a child or within walking distance of a child, and 77% reported having daily contact with a child, in person or over the phone. Slightly more participants lived with or within walking distance of a relative (77%) other than a child or a spouse. Seventy-one percent reported daily contact with a relative, connecting in person, by phone, or by letter. Within the community, approximately 12% said they were sometimes or always involved in social activities, while 60% were often involved in religious activities, making merit or offering food to monks more than 4–5 times a month. Most participants were married (60%), though a considerable amount (31%) were widowed. Small percentages were single (4%), separated (4%), or divorced (1%).

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Switching to subjective dimensions of social connectedness, most participants (78%) indicated that people in their neighborhood know each other very well, as opposed to moderately or not at all. When identifying important people in their lives, few participants — only 138 out of 4,235 — listed friends, neighbors, or other non-family contacts as their closest tie for instrumental support (i.e., the important person who always helps the participant). An overwhelming majority listed family (94%). Of these family members, the top three most commonly reported relationship types were daughter (30%), son (28%), and spouse (21%). Siblings were the next most common relationship type, with 7%.

Similarly, the majority of participants (78%) listed family members as their closest tie for discussion. Only 3% listed non-kin contacts as their preferred discussion partner — that's 129 out of the sample of 4,235, which is fewer than the number who listed non-kin for instrumental support. Of the family members participants listed for discussion, the top three most commonly reported relationship types were spouse (39%), daughter (30%), and son (17%). Siblings were the next most common relationship type listed, with 8%. Meanwhile, 19% reported no one, either by choice (i.e., indicating they "want to talk to no one") or by circumstance (i.e., indicating they "have no one to talk to").

Table 4.2: Dimensions of social connectedness

Variables	N	%
Proximity to a friend/neighbor		
Living further away	228	5.4
Living within walking distance	4,007	94.6
Proximity to child		
Living further away	1,105	26.1
Living with or within walking distance	3,130	73.9
Proximity to relative		
Living further away	971	22.9
Living with or within walking distance	3,264	77.1
Frequency of contact with a friend/neighbor		
Less than every day	1,217	28.7
Every day	3,018	71.3
Frequency of contact with a child		
Less than every day	985	23.3
Every day	3,250	76.7
Frequency of contact with a relative		
Less than every day	1,228	29.0
Every day	3,007	71.0
Community participation		
Never	3,729	88.1
Sometimes or always	506	11.9
Religious participation		
Not at all or rarely	1,698	40.1
Often	2,537	59.9
Neighborhood closeness		
Not at all or moderately	937	22.1
Very much	3,298	77.9
Marital status		
Single/widowed/divorced/separated	1,655	39.1
Married	2,580	60.9
Instrumental support tie		
No one	131	3.1
Kin	3,966	93.6
Non-kin	138	3.3
Discussion tie		
No one	806	19.0
Kin	3,300	77.9
Non-kin	129	3.0
Total	4,235	100

4.2 Binary Logistic Regression

Three models were created to examine the relationship between dimensions of social connectedness and self-rated health. Model 1 includes dimensions of non-kin social connection only, since the primary interest of this study is to better understand how older Thai people are embedded beyond the family. These dimensions are primarily objective measures (e.g., proximity, frequency of contact, counts of participation), except for neighborhood closeness, the participants' perception of how well people in their neighborhoods know one another. Model 2 includes objective dimensions of social connection with kin, as well as subjective measures that identify important people within participants' networks. Model 3 incorporates all of the 12 dimensions of social connectedness, both non-kin and kin. The controls of age, gender, and chronic disease are included in each of the three models, which are presented together in Table 4.3.

Five dimensions of social connectedness — frequency of contact with friend/neighbor, community participation, religious participation, neighborhood closeness, and discussion tie — were found to be statistically significant in predicting optimal self-rated health. According to the final model, older adults who reported daily contact with a friend or neighbor were 1.2 times ($p < .05$) more likely to report their health as good or very good, when compared to people who connected with a friend or neighbor less frequently. Within the community, those who participated in at least one activity (e.g., transferring knowledge to younger generations) sometimes or always in the last six months were 1.6 times ($p < .001$) more likely to report optimal health than people who never participated. Likewise, compared to people who never or rarely participate in religious activities, people who reported making merit or offerings to monks often were 1.2 times ($p < .01$) more likely to report optimal health.

The subjective dimensions of neighborhood closeness and discussion tie revealed particularly significant associations with self-rated health. Older Thai adults who said people in their neighborhoods know each other "very well" were about 1.8 times ($p < .001$) more likely to report optimal health, when compared to people living in neighborhoods where people know each other "moderately" or "a little." As for choices

related to discussion contacts, compared to older people who have no one to talk to — either by choice or by circumstance — people who list a family member as their discussion tie were about 1.4 times ($p < .001$) more likely to report optimal health. People who listed a friend, neighbor, or other non-kin connection were about 1.5 times more likely ($p < .05$), though this relationship was not as statistically significant as the kin relationship. The discussion tie variable was the only statistically significant dimension distinctly linking family social connection with optimal self-rated health.

The covariates of age, gender, and chronic disease significantly predicted self-rated health, as well. Men were about 1.4 times ($p < .001$) more likely to report optimal health than their female counterparts. Compared to people in their 60s, adults who had reached ages 80 and older were 1.5 times ($p < .01$) more likely to perceive their health as good or very good. Those living without chronic diseases were about twice as likely (1.9 times, $p < .001$) to report optimal health than those who lived with or had experienced diabetes, heart disease, hypertension, stroke, paralysis, or cancer.

As illustrated in Table 4.3, the R-squared values of Model 1, Model 2, and Model 3 progress from .062 to .042 to .067, respectively. In other words, since R-squared assesses the predictive power of the sets of independent variables on self-rated health, 6.2% of variance can be explained by Model 1, 4.2% of variance can be explained by Model 2, and 6.7% of variance can be explained by Model 3. This underscores the relative power of the non-kin dimensions of social connectedness versus the kin dimensions.

l.3: Adjusted odds ratios (OR) from binary logistic regression predicting optimal health (n=4,235)

	Model I			Model 2			Model 3		
	Adjusted OR	95% C.I.for OR		Adjusted OR	95% C.I.for OR		Adjusted OR	95% C.I.for OR	
		Lower	Upper		Lower	Upper		Lower	Upper
friend/neighbor in walking distance (vs. further away)	1.117	0.838	1.49				1.136	0.85	1.519
with friend/neighbor (vs. not every day)	1.204 *	1.039	1.394				1.201 *	1.034	1.394
participation sometimes or always (vs. never)	1.538 ***	1.251	1.891				1.550 ***	1.259	1.908
ticipation (vs. not at all/rarely)	1.244 *	1.090	1.419				1.234 **	1.081	1.409
d closeness (vs. not at all/moderately)	1.764 ***	1.515	2.055				1.775 ***	1.523	2.070
child in walking distance (vs. further away)				1.061	0.871	1.291	1.068	0.875	1.304
relative in walking distance (vs. further away)				0.861	0.689	1.076	0.865	0.689	1.086
with child (vs. not every day)				0.928	0.756	1.139	0.885	0.719	1.089
with relative (vs. not every day)				1.100	0.895	1.351	1.020	0.826	1.259
single/widowed/divorced/separated				.976	.847	1.125	.971	.840	1.121
support tie (vs. no one)				1.190	.828	1.711	1.310	.906	1.894
e (vs. no one)				1.072	.651	1.764	1.093	.659	1.811
				1.424 ***	1.213	1.671	1.378 ***	1.172	1.621
				1.696 *	1.137	2.528	1.529 *	1.020	2.292
69)	1.025	.893	1.176	0.976	0.851	1.120	1.030	.895	1.185
	1.480 **	1.183	1.852	1.319 *	1.053	1.654	1.488 **	1.180	1.877
emale)	1.385 ***	1.215	1.578	1.415 ***	1.234	1.623	1.388 ***	1.205	1.599
iseases (vs. having at least one)	1.922 ***	1.692	2.184	1.915 ***	1.687	2.173	1.920 ***	1.689	2.183
	-1.035 ***			-.539 *			-1.409 ***		
/ations	4235			4235			4235		
	.062			.042			.067		
	269.963 ***			180.204 ***			293.080 ***		
	9 ***			13 ***			18 ***		

<.01; *** p<.001

CHAPTER V

DISCUSSION

This study examines how older Thai adults are socially embedded in their communities, particularly outside of their families, and how this may impact physical health. The following chapter includes insights on the findings presented in the previous chapter. The first section paints a more detailed picture of social connectedness among older adults in Thailand, venturing beyond the often-studied relationships with children, spouses, and other family members. The rest of the chapter is dedicated to discussion about the associations between dimensions of social connectedness and self-rated health. Network mapping and qualitative analysis are identified as two methods that could be used in the future study of social connectedness among older adults, an area that could inform age-friendly policies and programs aimed to improve health in Thailand.

5.1 Social Connectedness Among Older Adults

The first goal of this project was to gain a more nuanced understanding of social connectedness among older generations in Thailand, where family is considered an extremely important context for aging (Ingersoll-Dayton et al., 2004). Studies exploring social connection often focus on relationships with adult children, who traditionally provide social and financial support for their aging parents. This research intended to expand consideration of social connectedness to include dimensions measuring relationships with friends, neighbors, and others within the community.

This investigation reveals that older generations in Thailand are, indeed, socially embedded beyond their families, within interpersonal networks (with friends, neighbors) and their communities (religious and other organizations). Older adults report strong links with friends and neighbors, at least when considering the objective

dimensions of proximity and frequency of contact. Nearly all of the 4,235 participants in this study (94.6%) reported living within walking distance of a friend/neighbor. The majority (71.3%) also reported daily contact with a friend/neighbor, a count that is on par with the number who reported daily contact with a child (76.7%) and daily contact with a relative (71%). These comparisons are illustrated in Figure 5.1.
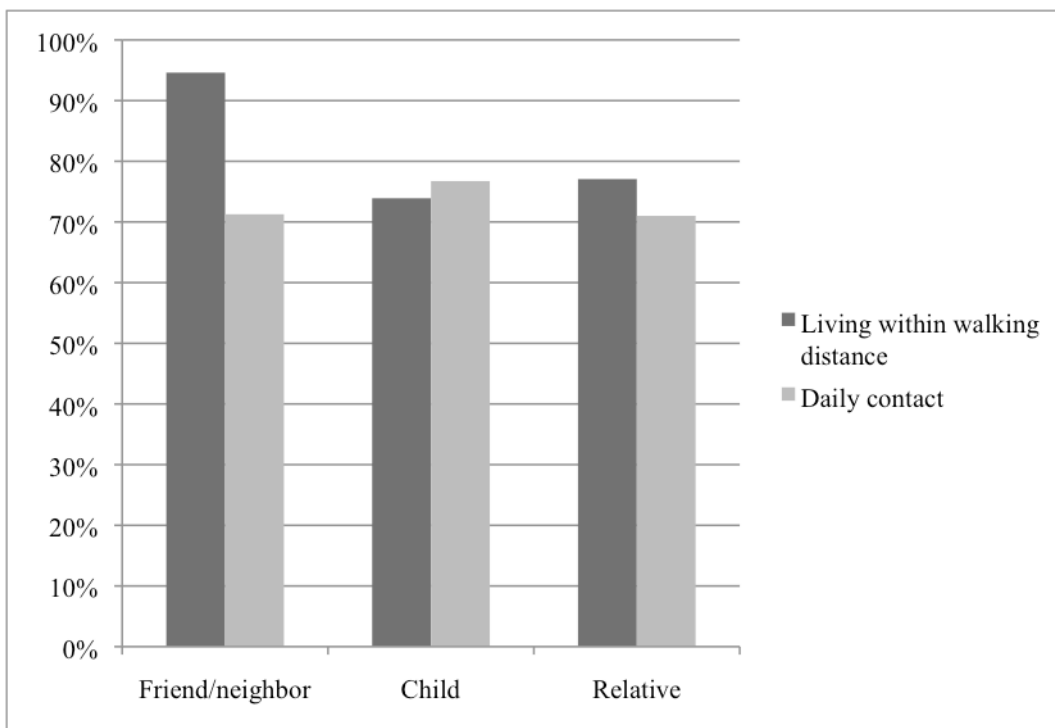

Figure 5.1: Comparing proximity and frequency of contact

The nature of these relationships is unknown, of course, but such high proportions suggest that older adults in Thailand are, in fact, in frequent contact with people outside of their families. Nearly 78% also say that people within their neighborhoods know each other very much, as opposed to a little or moderately. From a life course perspective, these results indicate that the lives of older adults are linked with others within their communities, affecting their choices, outlooks, and day-to-day lives in countless ways. Moving forward, these ties to the community, not only ties to family, must be considered when examining the social connections of older adults in Thailand.

That said, very few participants listed non-kin contacts among their close ties, indicating that these relationships may be more peripheral than central. Only 3.1% named a friend, neighbor, or other contact in the community as their number-one tie for instrumental support (i.e., the important person who always helps them). Likewise, just 3% listed a non-family member as their primary discussion tie (i.e., the person they want to talk to when having a problem). The vast majority identified family members for these important roles, which may be comparable to spots within the inner circle of one's social convoy. Nearly 94% named a family member as their number-one tie for instrumental support, and nearly 78% listed a family member as their primary discussion tie. (A considerable number — 19% — of respondents listed no one as their discussion tie, an important finding that will be explored further in the next section.) These proportions are illustrated in Figures 5.2 and 5.3.
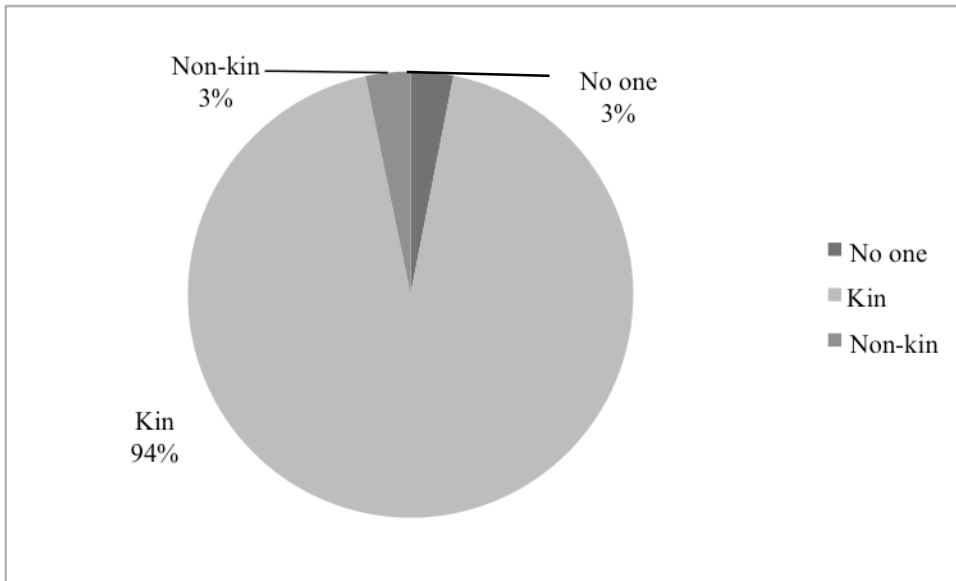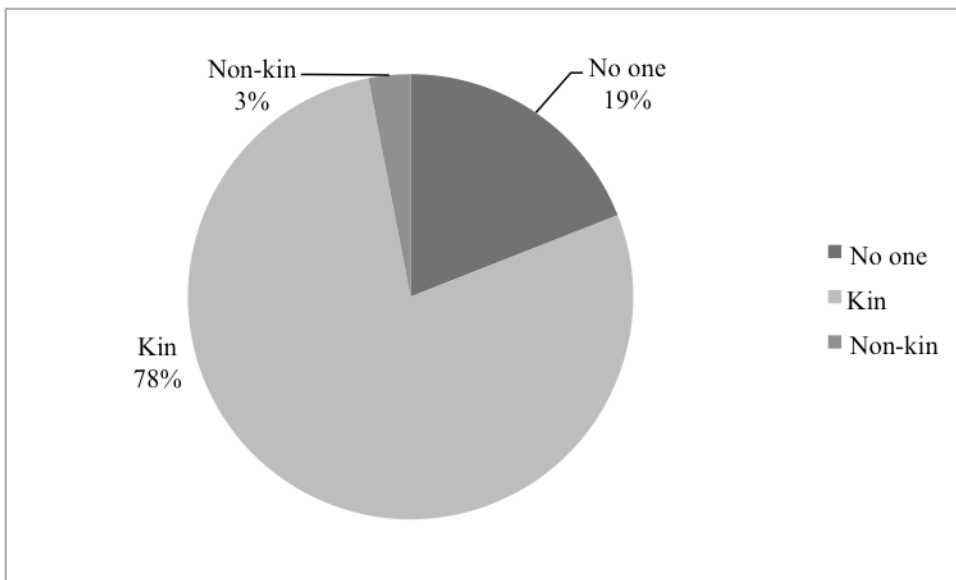
Figure 5.2: Instrumental support tie

Figure 5.3: Discussion tie

Among the vast majority who listed family members for their instrumental and discussion ties, daughters, sons, and spouses were the most common relationship types, echoing what might be expected in a country that deeply values filial piety. A breakdown of these relationship types is illustrated in Figure 5.4. (The relationship type

"Other" included parents, daughter/son in-laws, nieces/nephews, grandchildren, and other relatives.)
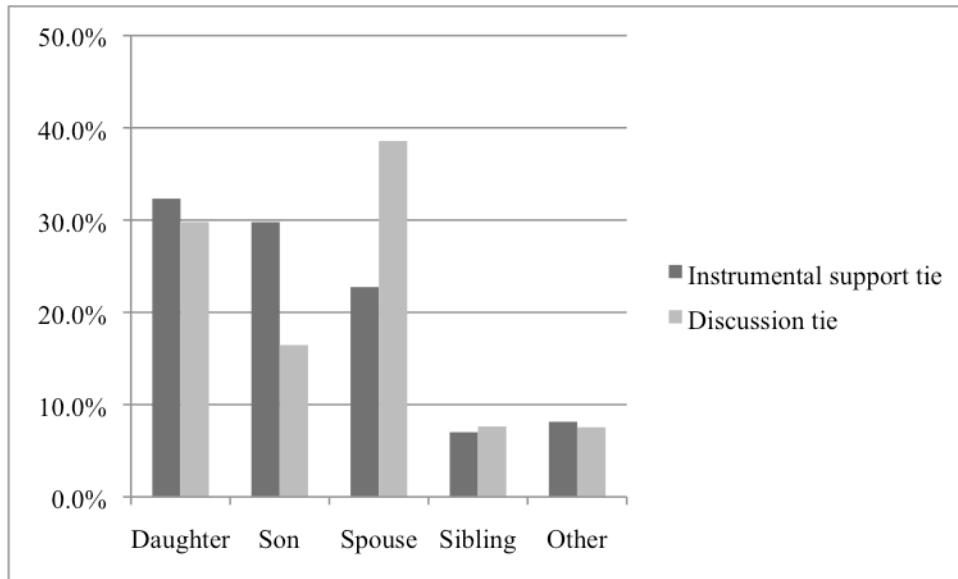

Figure 5.4: Kin tie relationship type

These results, based on subjective dimensions of social connectedness, suggest that while older Thai adults may be in touch with friends and neighbors, they may be more apt to rely on their family members — more specifically, their children and spouses — for help, guidance, and companionship.

It is important to take Thai culture into account when drawing meaning from these findings, too. In Thailand, the lines between neighbor and family are blurry. When 78% of NRU respondents report that people in their neighborhoods know each other "very well," many could be including family members in their count, since the majority live with or within walking distance of a child or relative (Knodel et al., 2013). From a Western perspective, a question about neighborhood closeness might seem to measure social connectedness beyond the family, but in this context, that may not be the case. Similarly, survey questions measuring contact with a "friend/neighbor" could elicit different responses from Thai participants than, say, American participants. In Thailand, it's very possible that a neighbor could be a relative, too. Though that could also be true in

some communities in the United States, the idea of "neighbor" almost always refers to a non-kin tie. Also, as mentioned in Chapter 3, the Thai word for "friend" and "friends" is *peuang*, adding an additional layer of uncertainty regarding plurality. Should this be interpreted as contact with one person or many people? These nuances should be taken into consideration in the development of future surveys, which should include carefully worded and culturally relevant questions that measure social connection as precisely as possible.

As far as social participation, considerably more participants reported religious participation than community participation. More than half (59.9%) indicated that they often make merit or offerings to monks, while less than 12% reported sometimes or always participating in social activities, like transferring knowledge to younger generations and volunteering in other ways. This could, perhaps, be due to the fact that there are not many volunteer opportunities available, or that older adults do not consider their community participation to be volunteer work. Also, while this study considered religious participation as an objective dimension of non-kin connection, making merit or offerings at home or at a temple is often done with family members. Again, the lines are blurry.

By examining frequencies of 12 dimensions of social connectedness, it is safe to say that older adults in Kanchanaburi, Thailand are connected with friends, neighbors, and others beyond their family. Family members do, however, seem to play essential roles in the lives of people ages 60 and older. The vast majority of participants listed daughters, spouses, and sons as the people they turn to for help and for discussion. To better understand how family members and non-family members surround older Thai adults and impact their lives, future research should employ the convoy model, further exploring objective and subjective dimensions of connection to identify network types, such as diverse, family-focused, friend-focused, and restricted (Cheng et al., 2009; Fiori et al., 2008; N. S. Park et al., 2013; Shiovitz-Ezra & Litwin, 2012). This exploratory research suggests that these four universal types may be applicable in Thailand.

5.2 Social Connection and Self-Rated Health

The second goal of this study was to explore how these objective and subjective dimensions may affect older adults' self-reported health. In other words, this research aimed to determine whether being connected beyond the family — through contact with other people and participation within the community — might benefit the health of older people in Thailand. Elsewhere, particularly in Western societies, higher levels of social connection are associated with better health outcomes among older adults, prompting the development of programs and services dedicated to integrating people of all ages.

This study reveals five dimensions of social connection associated with better self-rated health: frequency of contact with friend/neighbor, community participation, religious participation, neighborhood closeness, and presence of a discussion tie. Among these dimensions, the three most significant associations with optimal self-reported health were neighborhood closeness, community participation, and discussion tie. It should be noted that the variables of neighborhood closeness and discussion tie do not necessarily zero in on social connection beyond the family, the focus of this study, but they do underscore the sometimes-blurred lines between family and community in Thai culture.

The subjective dimension of neighborhood closeness ranked highest among the independent variables, as far as their associations with self-rated health. Older adults living in neighborhoods where people know each other "very well" were almost twice as likely to report optimal health as those living in neighborhoods where people know each other moderately or a little. Of course, as explained before, these neighborhoods are likely comprised of non-family as well as family members, given that older adults in Thailand typically do live with or near adult children and relatives (Knodel et al., 2013). However, these results make a case for strengthening social ties at the community level, whatever form those ties take. If older adults living in well-connected neighborhoods are twice as likely to report optimal health, implementing programs and policies aimed to knit people together could be one way to improve health. Further research — particularly qualitative

research that explores social ties at the neighborhood level — is needed to determine the best, most culturally relevant ways to make this happen.

Along the same lines, this study points to the positive effect of community participation, defined as joining in at least one of the following five activities: transferring knowledge / local wisdom to younger generations; serving as a village health volunteer; volunteering to look after older adults; volunteering to look after children or people living with disabilities; volunteering for community development. While community participation was quite low among the sample in this study (12%), participating sometimes or always was significantly associated with better self-reported health than those who reported never participating.

These findings mirror research from Western societies, linking social engagement with higher levels of subjective health (Huxhold et al., 2013). Though older adults and people of all ages should be free to decide how to spend their time — whether it's formally engaging in an activity or informally helping a friend or casually reading at home, alone — communities should provide opportunities for older citizens to engage, if they want to. Age-friendly community initiatives point to the need for challenge and stimulation in the lives of older adults, promoting programs and access (e.g., financial access, transportation) to those programs (Scharlach, 2012).

In response to the United Nations' Madrid International Plan of Action on Ageing, created in 2002, Thailand constructed its own map towards increased opportunities for its older generations (Jitapunkul & Wivatvanit, 2008). Thailand's Second National Plan for Older Persons (2002-2021) aims to build an age-friendly society, which includes "promotion and support of elderly integration and participation" and the "ensuring of enabling and supportive environments" (Jitapunkul & Wivatvanit, 2009, p. 67-68). One example of Thailand's commitment to these objectives is their creation of the Older Persons' Brain Bank, a database linking older people with particular skills (e.g., cooking, craftsmanship) to organizations and individuals who need related services or guidance (Jitapunkul & Wivatvanit, 2008). Involvement in such a program would likely fall under the NRU category of "transferring knowledge / local wisdom to young generation" for the item measuring social activity participation within the

community. This study suggests the need for more programs like the Older Persons' Brain Bank, linking generations together and promoting engagement opportunities for all ages. Program evaluation and development for existing programs — discovering and implementing best practices — is also necessary to ensure that efforts are well aimed and funding is well spent.

In recent years, Thailand has created an infrastructure for such programs. In 2005, Thailand's Ministry of Public Health started establishing elderly clubs across the country. As of 2008, 12,000 elderly clubs — offering health-promoting activities like aerobics, cultural events, and lectures about physical and mental health care — had opened doors to older adults in almost every sub-district (Jitapunkul & Wivatvanit, 2008). Participation is high, too, with a reported four million members, which is 64% of the older population (Jitapunkul & Wivatvanit, 2008). Again, access to these elderly clubs is essential (Scharlach, 2012), as is a focus on programming that supports social connection. This study suggests it may be important to involve family members in activities at these clubs, and also welcome people of all ages to participate and engage. Lectures about health may encourage healthy living, but activities that bring people together create connections that promote health, too.

Another highly significant dimension of social connection as it relates to health among older Thai adults is the presence of a discussion partner, a subjective measure. A considerable number of the Kanchanaburi sample (19%) did not list a discussion partner, reporting that when they have a problem, they either want to talk to no one or they have no one to talk to. Compared to respondents who listed a family member or a friend, those who listed no one were more likely to report suboptimal health. Whether older adults turn to a child, a spouse, a friend, or a neighbor, this finding suggests that just having someone to talk to is associated with better self-reported health. Further inquiry, particularly exploring the demographics and lived experiences of those without discussion partners, could help inform programming and support services.

Qualitative analysis could be particularly useful to better understand this phenomenon of discussion preferences within its unique cultural setting. In-depth interviews with older adults could shed light on why or when they want to talk and with

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whom, as well as whether the presence of a discussion partner is meaningful. (It may not be relevant in this cultural setting.) Another useful research tool could be cluster analysis to determine social network types, a possible next step mentioned in the previous section. Given the large percentage of respondents who listed no one as a discussion partner, cluster analysis might reveal a restricted network type, whose characteristics could then be examined further. In the West, restricted network types, or having few contacts within one's social web, have been associated with relatively poor physical and mental health, but in the East, such associations have not always held true (Fiori et al., 2008). Network mapping — gathering data using the social convoy method and constructing network types based on the patterns that emerge — would be a logical, and exciting, next step for research in this area.

The final two dimensions of social connectedness showing significant positive association with self-rated health among older adults were frequency of contact with friend/neighbor and religious participation, two objective measures. Respondents in daily contact with a friend/neighbor were 1.2 times more likely to report optimal self-rated health than older adults with less frequent contact with friends or neighbors. This finding supports recent research indicating the health-promoting power of friendship connectedness among older adults in northern Thailand (Thanakwang & Soonthorndhada, 2011). Friendship ties were found to provide support, influence care by family members, and directly impact health behaviors, like maintaining a healthy diet and staying physically active.

In this study, it is interesting to contemplate why daily contact with a friend/neighbor significantly predicts optimal health while daily contact with a child or relative does not. Considering Berkman's four primary pathways social networks impact health (Berkman et al., 2000), daily contact with a child or relative could be related to doctor appointments or similar logistical matters of social and material support, while the nature of contact with a friend/neighbor could be related to social influence and engagement. In other words, contact with family members could be about routine, whereas contact with friends or neighbors could be a pleasant deviation from that routine. Socializing with friends and neighbors may promote better health, but it also could be that

those in contact every day with their children or relatives are, on the whole, less healthy and rely more heavily on the support of their families.

Religious participation also predicted optimal self-rated health in this study. Those who reported making merit or offerings to monks often, as opposed to never or rarely, were more likely to also report optimal health. This finding mirrors previous studies and underscores the need to include religious participation in the analysis of social networks (Berkman & Syme, 1979; Cornwell et al., 2008). If communities truly want to be age-friendly, they should commit to providing access for older adults to participate in community activities, as well as religious ones. Although many Thai Buddhists make merit from home, giving offerings to monks on their daily walks from house to house, many religious activities, especially social ones, happen at temples. Transportation options should be available for older adults who want to participate in these activities, but may not be able to walk the distance or drive themselves. While this study includes Buddhists only, due to NRU questionnaire limitations, leaders should honor religious diversity when considering how to help older adults attend religious services at temples, mosques, churches, and other places of worship.

Only three control variables were included in this study: gender, age, and chronic disease. In line with the literature, all three were significantly associated with self-rated health, though their additions to the final model did not greatly alter the associations between social connectedness and health. Men, people ages 80 and older, and people living without chronic diseases were more likely to report optimal self-rated health than their counterparts. In this sample, age proved to be a slightly stronger predictor of self-rated health than gender, perhaps underscoring the fact that people who reach their 80s, at least six years beyond Thailand's current life expectancy of 74 (U.S. Census Bureau, 2015), are generally healthier people due to selection.

Additional covariates should be explored in follow-up studies, especially socioeconomic status (SES) and geographic location. Research suggests men and women with higher SES may have larger, more diverse networks, but networks with fewer contacts living nearby and people considered "closest" (Ajrouch, Blandon, & Antonucci, 2005). Likewise, location of residence — whether older adults live in urban, semi-urban,

or rural settings — may affect norms related to connection with neighbors and community members, and should therefore be explored in future research endeavors.

This study revealed five dimensions of social connectedness that predicted optimal self-rated health among older adults: frequency of contact with friend/neighbor, community participation, religious participation, neighborhood closeness, and presence of a discussion tie. Of these, the most predictive variables were neighborhood closeness, community participation, and presence of a discussion tie. People living in well-connected neighborhoods, where people know one another "very well," were approximately twice as likely to report optimal health, compared to people living in less connected neighborhoods. While the relationship composition of these neighborhoods is unknown and should be studied further, this finding underscores the need for programs and policies that strengthen community bonds. Programs could include volunteer and engagement opportunities for older adults and people of all ages, similar to the Older Persons' Brain Bank. This study indicates that such community participation may be linked to better health. The subjective dimension of discussion tie is particularly intriguing and ripe for future research. Older adults reporting no one to talk to — a considerable amount of the sample (19%) — are more likely to report suboptimal health than those with discussion partners, a finding that should continue to be explored, qualitatively and through network mapping.

CHAPTER VI
CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

While limited in scope, this study offers a more nuanced portrait of social connectedness among older adults in Kanchanaburi, Thailand, and it suggests that connection beyond the family can positively impact health. Results reveal that older adults are, indeed, linked with people outside of their families, although family relationships remain central in many cases. Among the sample of residents ages 60 and older (n=4,235), the majority reported living within walking distance of a friend or neighbor, daily contact with a friend or neighbor, frequent participation in religious activities, and well-connected neighborhoods. When asked to list ties for instrumental support and discussion, however, most respondents listed family members — particularly daughters, sons, and spouses — as the people who fill these essential roles.

This study also supports the notion that social connection impacts physical health. Binary logistic regression revealed five dimensions of social connectedness that significantly predict optimal self-rated health: frequency of contact with a friend or neighbor, community participation, religious participation, neighborhood closeness, and presence of a tie for discussion. The dimension of neighborhood closeness ranked as the strongest predictor of health. Older adults living in neighborhoods where people know one another very well were found to be nearly twice as likely to report optimal health, compared to people living in areas where people know each other a little or moderately. Neighborhoods are likely comprised of both family and non-family members, but these findings underscore the need for community-based programs that strengthen social ties to promote health.

In the wake of demographic change — namely a decrease in fertility and an increase in migration — Thai family structures are changing. In broad terms, families are

shrinking. Research in Thailand tends to focus on the central roles of family, particularly adult children, in the lives of older adults. As families get smaller and more dispersed, though, who will fill these roles? And how can communities ensure that their older citizens are well supported and have opportunities to engage? In the years ahead, the social networks of older adults in Thailand will likely look very different than they do today and that they did in the past. This is why, today and tomorrow, attention must be given not only to family relationships, but to non-family relationships, too. By examining how older people are embedded beyond the family — within interpersonal networks and communities — scholars, leaders, and policymakers can develop and fine-tune initiatives that support relationships and, in turn, support health.

6.2 Recommendations

Results from this study can be applied to both research and practice. Scholars examining Thailand's rapidly aging society should focus not only on how familial relationships affect the lives of older adults, but also on how people beyond the family — friends, neighbors, and others within the community — provide health-promoting support and companionship. Better understanding of social connectedness can inform and inspire programs, policies, and infrastructure changes to help Thailand become a more age-friendly society.

Recommended steps for future research include qualitative studies and studies that examine social network types. Qualitative studies utilizing rich observational data and in-depth interviews could provide important insight into the social experiences of older Thai adults. Quantitative analysis can only go so far to measure and attempt to explain the complexities of human relationships. Future qualitative endeavors will require fluent Thai speakers who deeply understand cultural nuances.

As for studies examining social network types — quantitative analysis that digs deeper into the patterns of social connection — researchers will have to adapt surveys to suit Thai culture. Network mapping using the social convoy model requires a

series of questions about individual members within a person's network. It asks participants to place their network members in concentric circles representing close, closer, and closest (Antonucci et al., 2013). Such investigations may help further scholarly understanding of the ways in which people tend to connect with others, and how those ways may affect physical and mental health. This study takes the variable approach, analyzing dimensions of social connectedness individually, while a network approach, identifying network types as a whole, would allow for broader, more holistic understanding social connection patterns.

Leaders and policymakers in Thailand could use this study, as well as future research, to develop strategies that promote social connection and age inclusion at the community level. As many cities and towns in the United States and across the globe initiate aging-in-place, or aging-within-community, movements, Thailand may very well be at an advantage, since the majority of older people already remain within their communities until end of life. As the population ages and family structures change, however, there will be a growing need for programs and services that support the health and wellness of older adults. Social connectedness, as one key to better health, should be considered paramount in the years ahead. For inspiration, Thailand can look to best practices of existing programs at home, such as the Older Persons' Brain Bank, and across the globe.

Two community-based programs that may be of interest are DOROT (dorotusa.org) and Meals on Wheels (mowaa.org). DOROT, meaning *generations* in Hebrew, is a New York City-based organization whose signature friendly visiting program connects older adults with weekly visitors of all ages. DOROT volunteers commit to hour-long home visits once a week for at least one year. The goal of the program — which serves both Jewish and non-Jewish people — is to provide social connection and opportunities for generations to learn from each other in one-on-one settings. Meals on Wheels, which originated in the United Kingdom, delivers hot meals to older adults. Their mission is to help older community members stay nourished, and also stay connected. Volunteer drivers pick up plated meals at community centers, and then deliver them to older adults living nearby. The door-to-door service is meant to provide

food, as well as a quick, relatively anonymous check-in to seniors, many whom may live alone. These two program examples, if implemented in Thailand, would need to be modified to fit the country's unique cultural context.

Creative arts programming also may be beneficial for community leaders to explore. Programs that challenge older adults while also connecting them with others could build relationships and promote health. Program examples include KAIROS *alive*! (kairosalive.org) and Self Stories writing workshops (scripps.miami.edu/self-stories), two American programs. KAIROS *alive*! is a participatory dance program based in Minneapolis, Minnesota. Intergenerational dance and storytelling sessions — often conducted with participants facing one another in a circle — are aimed to create a sense of community among participants. Self Stories, based in Oxford, Ohio, is a writing workshop with four primary goals: to help older adults reflect on the past, engage in the present, accept new challenges, and connect with others. As participants share their work over the course of eight weeks, they engage in a collective effort with shared goals and develop bonds with their fellow writers. Again, if these programs were to be implemented in Thailand, they would need to be modified to suit Thai culture. If communities decide to prioritize social connection as a way to improve health among older adults, however, it may be valuable to provide leaders with concrete examples of programs, like these, rather than vague rhetoric.

This study offers a jumping-off point for future, more in-depth research about the social networks — the webs, constellations, and matrices — of older adults in Thailand. Qualitative research could shed light on the complexities of relationships among family, friends, neighbors, and other community members. Network mapping to determine social network types could provide more answers about how Thai people connect and how the different patterns may impact health. Future inquiry into social connectedness among Thailand's older generations, in whatever shape it takes, is needed to develop initiatives that promote health and enrich the lives of this growing population.

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