CASCH
Canadian Alliance for Social Connection and Health

GENWELL PROJECT
HUMAN CONNECTION MOVEMENT

Evidence Brief

How does loneliness change with age?

Background

Age is frequently identified as a risk factor for loneliness and social isolation (Dykstra, 2009) and as such, older adults are frequently targeted for interventions related to loneliness and isolation (Masi et al., 2010). However, loneliness is present across the life course. For example, in Canada, approximately 1 in 4 individuals aged 15-24 report alarmingly high levels of loneliness (Statistics Canada, 2021). Given that people of all ages experience loneliness, it stands to reason that our social relationships throughout our lives play an important role in shaping our social wellbeing at every age. As such, it is important to understand the phenomena of loneliness and isolation across the life course if we are to develop effective interventions to address loneliness and social isolation among not only seniors but all populations (Victor & Yang, 2012).

Purpose

The purpose of this evidence brief is to examine how individuals' experiences of loneliness and social connectedness change with age. To accomplish this aim, we focus only on the effect of age and do not specifically explore whether there are increasing rates of loneliness overtime or across generations – though we acknowledge these effects can be difficult to disentangle. To help us maintain our scope, we will address three specific questions: **(1)** whether there are certain age groups that experience more loneliness, **(2)** how individuals' social networks change across the lifespan, and **(3)** what factors may be important in influencing loneliness at different ages.

Evidence from Existing Studies

Theories on Loneliness and Social Networks across the Lifespan

Several theories have been proposed to uncover how changes in experiences and values across the lifespan may impact a person's evaluations of their social relationships. The Social Convoy Theory describes the dynamic nature of social networks across the lifespan, illustrating how individuals have a group of people, varying in closeness, that safeguard and support them as they navigate through life (Antonucci et al., 2014; Fuller et al., 2020). The individuals that make up this convoy change as individuals' social roles and values evolve at different ages (Antonucci et al., 2014).

Other theories further hypothesize the patterns of changes in social networks and explain the motivations behind them. The Disengagement Theory (Cumming & Henry, 1961; Wanka, 2017) argues that as older adults age, they withdraw from their social commitments and this is

heightened by societal values and community barriers (e.g. ageism, accessibility barriers; Cumming & Henry, 1961). The primary opposing theory, the Activity Theory, emphasizes that maintaining social engagements and a broad social circle helps older adults remain physically active and enhances life satisfaction (Knapp, 1977). In empirical research, older adults exhibit patterns of both engagement and disengagement (Johnson & Barer, 1992; DeLiema & Bengtson, 2017). As such, the Socioemotional Selectivity Theory (SST) has risen to popularity – emphasizing changes in priorities and investments in relationships across the lifespan (Carstensen, 1995, 2021). The SST posits that it is natural for older adults to intentionally reduce the size of their social networks (Adams et al., 2004) as they begin to perceive their time as limited and prioritize the quality of selective social relationships rather than quantity (Carstensen,1995).

Theories have proposed varying hypotheses regarding how adult development and aging processes may impact individuals' social relationships and have stimulated ideas about how loneliness might be experienced differently across the lifespan. Each of them highlights the changing social context of individuals as they age. Providing insight into their validity, the section below reviews patterns of loneliness and social networking across the life course.

Loneliness Across Different Age Groups

Loneliness is also often perceived by the general public as an issue most relevant to elderly populations (Pinquart & Sorensen, 2010; Hawkley et al., 2022; Victor & Yang, 2012). However, when looking at research findings using cross-sectional data, loneliness does not appear to have a linear relationship with age.

Instead, several studies suggest that loneliness tends to peak during two age groups: young adulthood and older adulthood (Hawkley et al., 2022; Lasgaard et al., 2016; Luhmann & Hawkley, 2016; Victor & Yang, 2012; Qualter et al., 2015; Perlman, 1990). We should note that the specific age ranges of these peaks can vary between studies. For instance, Victor & Yang (2012) showed that individuals under 25 and those older than 65 display higher levels of loneliness, whereas Hawkley et al. (2022) found heightened loneliness in those under 30 years old and over 80 years old. Luhmann & Hawkley (2016) indicated two peaks around 30 years and around 60 years.

Several studies have broadened the contexts of loneliness research in terms of locations and time. For instance, one study examined loneliness across 237 countries using worldwide data (Barreto et al., 2021). Their findings suggested a different trajectory of loneliness depending on sociocultural contexts, indicating lower levels of loneliness among older adults particularly in more collectivistic cultures. Their results highlight the need for future work to expand this research into multicultural contexts.

A cross-temporal meta-analysis that explored loneliness over historical time suggested that while loneliness in older adulthood has remained relatively stable, loneliness in emerging adulthood has been increasing linearly for the past 43 years (Buecker et al., 2021). They suggest that increasing loneliness in younger populations could be due to environmental factors, such as the emergence of the internet or increased mobility leading to more changes to social networks (Buecker et al., 2021). This finding indicates that the observed high loneliness among young adults could be more of a generational phenomenon (see Buecker et al., 2021 for review).

It is important to note however, there are mixed findings about whether loneliness has been on the rise when looking at other age groups, which warrants further research on whether there have been generational changes in loneliness (Hawkley et al., 2019; Victor, 2002).

The majority of research has studied loneliness as a single construct. However, Weiss (1973) introduced the idea that loneliness can be categorized as either social loneliness, relating to a lack of social network, or emotional loneliness, which is more related to the absence of an intimate tie. Some research has indicated these two types of loneliness may have different patterns across the lifespan and arise from different causes. Evidence supports that emotional loneliness is particularly heightened in young adulthood (Diehl et al., 2018; Tilmann von Soest et al., 2020; Manoli et al., 2022) and older adulthood (Fierloos et al., 2021; Manoli et al., 2022; O'Súilleabháin et al., 2019), perhaps due to the absence or loss of intimate ties, such as romantic partners (Manoli et al., 2022; Diehl et al., 2018). Further, one study found emotional loneliness was associated with a higher risk of mortality in older adults, while social loneliness was not (O'Súilleabháin et al., 2019). Findings related to social loneliness throughout the lifespan are more varied. Manoli et al., 2022 found that social loneliness remains constant in early and middle adulthood, but decreases significantly in older age, possibly reflecting the prioritization of selective, close relationships over peripheral ones among older adults (Manoli et al., 2022). However, some studies have found social loneliness heightens in both young adulthood (Diehl et al., 2018) and older adulthood (Fierloos et al. 2021). While these findings convey that certain age groups might experience heightened loneliness, the existing literature on loneliness across the lifespan uses predominantly cross-sectional data. For this reason, it is difficult to differentiate whether these patterns have been observed as a result of aging or may be influenced by different age cohorts and their unique experiences. Notably, one meta-analysis examining longitudinal data found that loneliness remained relatively stable from adolescence to oldest old age (Mund et al., 2019). They propose that changes in levels of loneliness are more connected to individual experiences than to an age-specific phenomenon (Mund et al., 2019). These findings emphasize that further longitudinal research on multi-faceted dimensions of loneliness is needed.

Social Networks Across Different Age Groups

Changes in the size of social networks across the lifespan do not directly align with the trajectory of loneliness, in other words, a larger network size does not always translate to lower levels of loneliness, and vice versa. Regarding the overall size of networks, research indicates that individuals' network size tends to peak during young adulthood and subsequently decreases, with older adults exhibiting the smallest networks (Wrzus et al., 2013; Bruine de Bruin et al., 2020; Ajrouch et al., 2001; Marsden, 1987; Morgan, 1988).

These findings align with the Social Convoy Theory, which describes how age-related life events are accompanied by changes in one's social networks (Akhter-Khan et al., 2022). Wrzus et al., (2013) proposed that in young adulthood, life events, such as attending school, lead to an increase in network size, but in mid-20s to early 30s, co-occurring life events that involve both gains and losses in social contacts lead to the plateau in social networks. For instance, job entry may expand the social network, while parenthood is often accompanied by a loss of social relationships (Wrzus et al., 2013). In older adulthood, life events such as widowhood and bereavement contribute to a decrease in network size (Wrzus et al., 2013).

Studies examining the composition of these social networks have found that the decrease in network size in older adulthood is more related to the loss of peripheral others, rather than the close others. Sander et al. (2017) found that the frequency of visiting family remained relatively stable throughout the lifespan, whereas the frequency of visits to and from non-family members (neighbors, friends, and acquaintances) declined continuously after the age of 30 (Sander et al., 2017). Similarly, another study found the number of non-close others in an individual's social network decreased in older age, but not the number of close friends (Bruine de Bruin et al., 2020). They demonstrated that despite smaller networks in old age, close relationships and relationship quality remain stable throughout the lifespan, which lead to relationship satisfaction in older adulthood (Bruine de Bruin et al., 2020).

These findings align with the Socioemotional Selectivity Theory (SST), which emphasizes a shift in priorities across lifespan (Carstensen, 1995). While young adults prioritize the quantity of social relationships to promote networking and information seeking goals, older adults tend to prioritize focusing their energy on the quality of their closest relationships. Therefore, a loss of peripheral others in older adults does not necessarily lead them to loneliness or relationship dissatisfaction (Carstensen, 1995). These findings suggest that there may be varying factors more relevant to loneliness in different age groups.

Important Factors in the Development of Loneliness across the Lifespan

Given the patterns of loneliness and social interaction outlined above, it is clear that understanding loneliness across the life course requires insights into the proximal and distal predictors of loneliness. Given the cognitive discrepancy model of loneliness, which posits that loneliness rises when an individual perceives a discrepancy between their desired social relationships and the social relationships they actually have (Perlman & Peplau, 1981), it is important to consider factors that predict changes to both one's expectations for social connection as well as their actual level of social inclusion. From an age-normative perspective, the desires that individuals hold for their level and quality of social relationships are dependent on age-related norms and expectations (as described when discussing theories linking aging and loneliness; Luhmann & Hawkley, 2016). As well, the relationship between loneliness and common predictors (e.g., relationship status, income, and self-rated health) also varythroughout life (Nicolaisen and Thorsen, 2016; Hawkley et al., 2022; Luhmann & Hawkley, 2016; Victor & Yang, 2012). For instance, relationship status (i.e., having a partner) was found to be most strongly related to loneliness in middle adulthood (Luhmann & Hawkley, 2016; Hutten et al., 2021), whereas it was not associated with loneliness in young adults (Luhmann & Hawkley, 2016). This could be attributed to changes in social expectations; living with a partner becomes more common and viewed as normative in later ages, while younger adults can more easily compensate for the absence of a romantic relationship with larger networks (Luhmann & Hawkley, 2016). Similarly, as materialistic success and career goals become more important milestones in middle-adulthood than in other age groups, socioeconomic factors such as employment status and income seem to be stronger predictors of loneliness in middle-adulthood (Luhmann & Hawkley, 2016; Hutten et al., 2021). Studies showed that higher income and working full-time was more strongly associated with lower loneliness in middle adulthood, but less so among young adults (Luhmann & Hawkley, 2016; Hutten et al., 2021). In contrast**,** the quantity of social engagement, such as the size of individuals' social network and greater frequency of social interaction, appear to be a more critical predictor of lower loneliness in young adulthood (Victor & Yang, 2012; Green et al., 2001), whereas the quality of interactions

plays a larger role in mitigating loneliness in older adulthood (Victor & Yang, 2012). However, one study suggests that the quantity of social engagement (e.g., number of friends and contact frequency) is important for all age groups, not just in young adulthood (Luhmann & Hawkley, 2016). In addition, health appears to be a stronger predictor of loneliness in younger adults but less so in older ages (Victor & Yang, 2012; Lasgaard et al., 2016). Findings indicated that poor physical health or receiving disability pensions was associated with higher loneliness in young and middle adulthood but not in older adulthood. This could be attributed to the differing perception of health issues, where it might be viewed as less normative in younger adults (Victor & Yang, 2012).

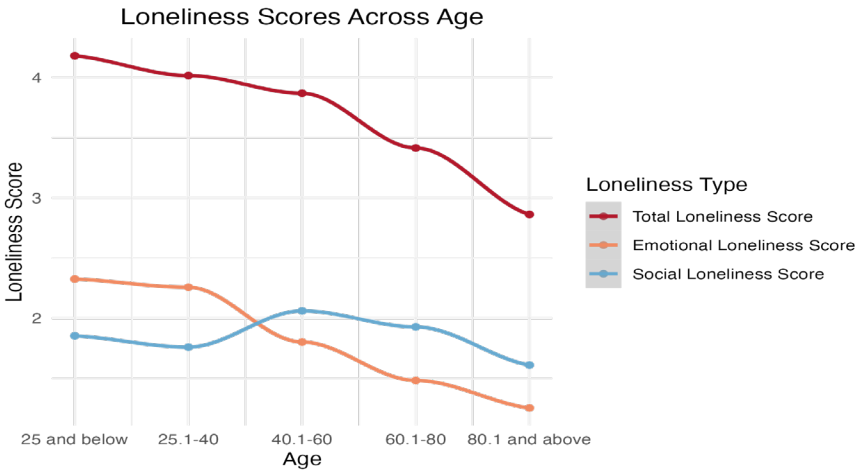
Analyses from The Canadian Social Connection Survey

Loneliness across Different Age Groups

Using the Canadian Social Connection Survey (n = 7,720), we initially explored loneliness patterns across age groups. Peaks in overall loneliness were observed among the youngest young adults (25 and below) and middle-aged adults (40 - 60). Regarding different types of loneliness, emotional loneliness appeared to peak in young adults and decline afterwards, while social loneliness seemed to peak in middle-aged adulthood (40 - 60).

In examining linear relationships (**Figure 1**), the older age group was correlated with lower loneliness (r = -.14, p < .001), and particularly, emotional loneliness (r = -.25, p < .001). However, there was no correlation between age and social loneliness (r = .02, p = 13).

Figure 1. Cross-sectional analysis for age groups and loneliness scores



Social Contact and Time across Different Age Groups

We investigated changes in the quantity of social relationships across different age groups using the Canadian Social Connection Survey (n = 4573 - 5228). The number of total social contacts appears to peak in young adulthood and decline thereafter. Meanwhile, the number of close friends appears to remain relatively stable (see **Figure 2**). In our analysis of linear relationships, older age was correlated with fewer social contacts overall, both fewer interaction partners in the past week (r = -.31, p < .001) and in the past month (r = -.35, p < .001). Older age was weakly correlated with a fewer number of close friends (r = -.11, p < .001).

Similar patterns were observed in the amount of social time across different age groups. Social time tends to decrease, especially from middle-aged adulthood onwards (over 40 years; see **Figure 3**). In our analysis of linear relationships, older age was correlated with shorter social hours overall (r = -.26, p < .001).

Figure 2. Age groups and network size (i.e., number of social contacts)

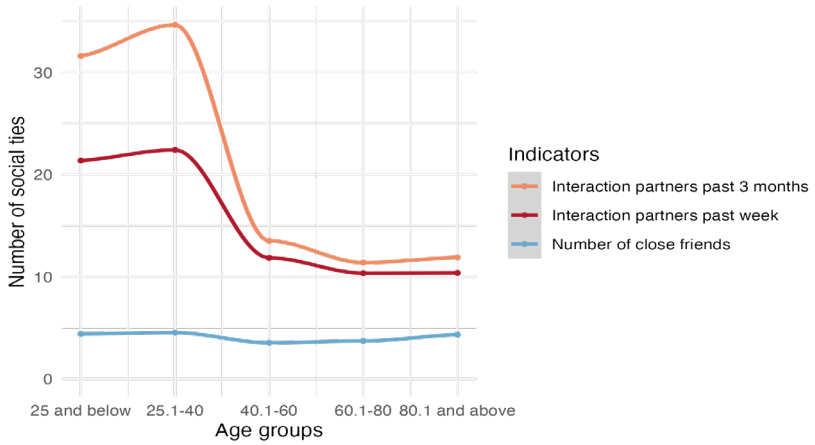
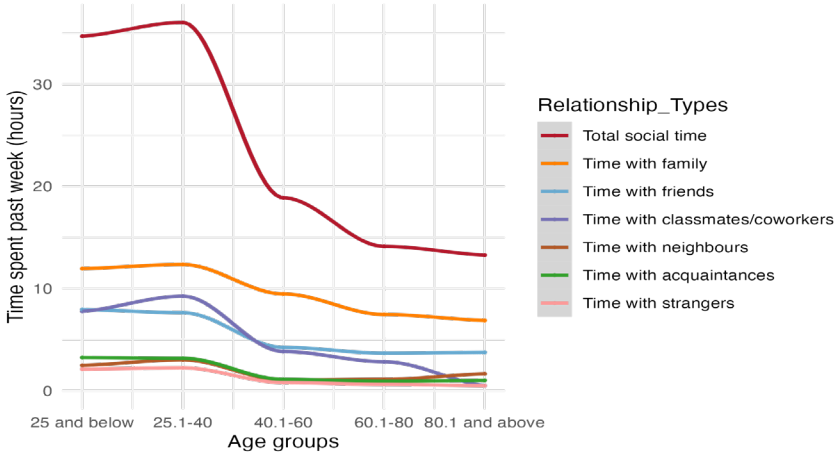


Figure 3. Age groups and social time (time spent socializing past week)



Moderating role of age for the predictors of loneliness

As shown in **Table 1**, the association between the number of social contacts and loneliness was stronger in older ages with increasing age, including both the number of close friends and interaction partners over the past week or past three months.

Table 1. Age Group Interactions with Social Contacts in Predicting Loneliness Scores

	Coefficient (Standard Errors)		
	Number of interaction partners (past 1 week)	Number of interaction partners (past 3 month)	Number of close friends
Predictors	-0.01(0.01)	-0.00(0.00)	-0.10(0.03)**
× Age group (25.1 – 40)	-0.01(0.01)	-0.01(0.00)*	-0.06(0.03)
× Age group (40.1 – 60)	-0.05(0.01)***	-0.03(0.00)***	-0.16(0.03)***
× Age group (60.1 – 80)	-0.07(0.01)***	-0.04(0.00)***	-0.19(0.03)***
× Age group (80.1 and above)	-0.06(0.02)**	-0.05(0.02)**	-0.18(0.07)**

Note: n = 4,479 - 4,747 for each model. Reference: Age group = 25 and below. *p < .05, **p < .01, ***p < .001.

As shown in **Table 2**, the association between social time and loneliness was stronger in older ages, particularly among middle-aged and older adults (ages 40 to 80) compared to younger adults. Specifically, spending more time with neighbors or acquaintances showed stronger associations with lower loneliness in older ages, spanning from middle-aged adulthood to the oldest older ages (ages 40 above). While spending more time with friends remained consistently important, it was particularly crucial in later ages (ages 60 - 80). Notably, family time consistently demonstrated a robust association with lower loneliness across all ages.

Table 2. Age Group Interactions with Social Time in Predicting Loneliness Scores

	Coefficient (Standard Errors)						
	Total social time	Time with family	Time with friends	Time with neighbours	Time with colleagues	Time with acquaintances	Time with strangers
Predictors	-0.01(0.00)**	-0.02(0.01)**	-0.05(0.01)***	0.01(0.03)	-0.01(0.01)	-0.00(0.03)	0.00(0.03)
× Age group (25.1 – 40)	-0.00(0.00)	0.01(0.01)	0.01(0.01)	-0.06(0.03)	-0.01(0.01)	-0.04(0.03)	-0.06(0.04)
× Age group (40.1 – 60)	-0.01(0.00)***	-0.01(0.01)	-0.02(0.02)	-0.12(0.04)**	-0.02(0.01)	-0.09(0.03)*	-0.13(0.04)**
× Age group (60.1 – 80)	-0.02(0.00)***	-0.01(0.01)	-0.06(0.02)***	-0.18(0.04)***	-0.05(0.02)*	-0.19(0.04)***	-0.11(0.05)*
× Age group (80.1 and above)	-0.02(0.01)	0.01(0.02)	-0.04(0.05)	-0.22(0.08)**		-0.26(0.12)*	-0.28(0.20)

*Note: n = 2,711 - 4,739 for each model. Reference: Age group = 25 and below. *p < .05, **p < .01, ***p < .001.*

As shown in **Table 3**, household income was notably more strongly associated with loneliness among middle-aged and older adults but less so among younger adults (ages below 25).

Relationship status (being in a relationship) was significantly associated with lower loneliness across all age groups, but with a more pronounced effect in the middle-aged group (ages 40 - 60).

Table 3. Age Group Interactions with Income and Relationship Status in Predicting Loneliness Scores

	Coefficient (Standard Errors)	
	Household income	Relationship status
Predictors	-0.01(0.01)	-0.37(0.13)**
× Age group (25.1 – 40)	-0.03(0.01)**	-0.09(0.14)
× Age group (40.1 – 60)	-0.07(0.01)***	-0.45(0.15)**
× Age group (60.1 – 80)	-0.05(0.01)**	-0.22(0.15)
× Age group (80.1 and above)	0.01(0.03)	0.00(0.35)

Note: n = 6542 - 7681 for each model. Reference: Age group = 25 and below. **p < .01, ***p < .001.

Discussion

In conclusion, this current evidence brief has shed light on the dynamics of social relationships and loneliness across different age groups. Both existing evidence and our analyses from the Canadian Social Connection Survey suggest a trend of diminishing social network size and decreased social contact throughout the lifespan. When examining patterns of loneliness, our analyses aligns with previous literature showing that loneliness, particularly emotional loneliness, tends to peak in young adulthood. However, contrary to existing findings that suggest loneliness is heightened in older adulthood, our analyses revealed the lowest levels of loneliness in this age group and identified a second peak in loneliness in middle-adulthood – highlighting the need to further understand loneliness during these age periods.

Our cross-sectional findings underscore the enduring, if not heightened, significance for middle-aged and older adults to actively engage in various social relationships, such as maintaining close friendships and spending time with neighbours, despite the natural decrease in overall quantity of social contact across the lifespan. Notably, family time and time with friends maintain importance across all age groups. Our analyses also highlight that different factors may be more strongly associated with loneliness in distinct age groups, consistent with an age-normative perspective. Specifically, relationship status and income were found to be even more crucial factors for loneliness among the middle-aged and older adult group compared to those in young adulthood or the oldest older adulthood. This demonstrates the important role that age-typical events and social expectations play in influencing perceptions of social relationships and, consequently, experiences of loneliness.

Future research would benefit from longitudinal methods to address limitations of cross-sectional studies to better understand how loneliness develops and maintains over time. Additionally, further investigation in multicultural contexts is necessary to understand how varying socio-cultural norms around age may influence loneliness across the lifespan.

Conclusion

Based on the available evidence, we recommend that interventions and policies to address loneliness be targeted at each life stage to ensure that individuals are able to maintain a healthy social life as they age. Such approaches should be rooted in the experiences of individuals in these age groups to ensure that they align with the needs, priorities, facilitators, and barriers experienced by these populations.

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