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Evidence Brief | # What is the role of "the self" in loneliness?

Background

It is commonly said that you can feel lonely in a crowded room or feel connected even when you are all alone (Veazie et al, 2019). Empirically the amount of social contact one has is only loosely correlated with experiences of loneliness (Stavrova & Ren, 2023; Cacioppo et al., 2010) and over the life course, experiences of loneliness are markedly stable within individuals (Mund et al, 2020a). These findings highlight the importance of understanding what factors shape the subjective experience of loneliness.

In pursuit of this understanding, researchers have increasingly considered the role of "the self" in shaping loneliness. "The self" is a multifaceted concept that refers to an individual's sense of personal identity (Rogers, 1961; Goffman, 1956; James, 1890; Mead, 1934). It is the essence of who we are as individuals and thusly plays an important role in how we relate with others. As such, a link between "the self" and our social lives may explain the markedly stable and trait-like features of loneliness documented by Mund et al. (2020b), as well as why interventions addressing social cognition and self-construal are the most impactful in addressing loneliness (Cacioppo et al.'s, 2020).

Purpose

The purpose of this evidence brief is to explore the relationship between "the self" and loneliness. In doing so, we recognize that "the self" is multi-faceted and that there are multiple ways of conceptualizing the role of "the self." For the purposes of this brief, we focus on self-concept (i.e., how one perceives themselves), self-esteem (i.e., how one feels about their perception of themselves), self-construal (i.e., the extent to which people view themselves as individuals or part of a group), self-image (i.e., how one perceives of their physical self), self-efficacy (i.e., how one perceives one's ability), and locus of control (i.e., how one perceives the extent to which one's abilities shapes their achievement of outcomes).

Evidence from Existing Studies

Across many studies, multiple dimensions of "the self" have been linked to greater levels of loneliness and social disconnection (Narain & Maheshwari, 2022; Harris & Orth; 2020). Rationalizing these findings, a variety of theories have posited a strong relationship between one's sense of self and one's social wellbeing. For example, Attachment Theory proposes that an individual's early attachments shape their internal working model of the world, themselves, and their relationship to others (Wong et al., 2016). Taking it a step further, Leary's (2012) Sociometer Theory posits that self-esteem is, in fact, an internal meter that measures the degree to which one is accepted by their group (Srivastava & Beer, 2005). Similarly, loneliness too has been described as an evolved mechanism that motivates individuals to repair or replace deficient social relationships in order to facilitate self-preservation (Cacioppo et al., 2015, 2017). Based on this theory, loneliness and self-esteem may be part of the same social-regulatory

system of emotion. Other relevant theories include Risk Regulation Theory and Self-Verification Theory, which each posit that perceptions of self-play an important role in shaping social goals and behaviours. In particular, these theories predict that individuals will adopt interpersonal styles and behaviours that limit external threats and bridge one's sense of self and social reality (Talaifar & Swann, 2020; Ford et al., 2015; Joyce et al., 2014; Cavallo et al., 2014; Cameron et al., 2010; Murray et al., 2006; Swann, 1999). Each of these theories draw strong, fundamental connections between one's self and our social worlds.

Empirically, a vast and growing literature support the relationship between sense of self and social wellbeing (Harris & Orth; 2020) and a wide variety of mechanisms linking these concepts have been proposed:

- First, low self-esteem may lead to social withdrawal and fear of rejection, which in turn contribute to loneliness by cutting people off from social supports (Chen & Hu, 2022; Borawski et al., 2022; Paul et al., 2021; Zhou et al., 2020; Gao et al., 2017). Indeed, individuals who have low self-esteem or poor body image may fear negative appraisal from others (Barnett et al., 2020; Papapanou et al., 2023). At the extreme, these concerns may lead to social anxiety (Whiting et al, 2014) – a key barrier to social interaction, participation, and connection.
- Second, negative social cognitions among those with lower self-esteem may limit self-disclosure – preventing social presentation. Social penetration describes the gradual and systematic unfolding of relationships as individuals reciprocally disclose parts of themselves to eachother (Altman & Dalmas, 1933). Individuals who have low-self-esteem, may be less willing to disclose details about themselves out of fear that others won't like what they learn. Thus these individuals may experience difficulty developing relationships and meeting their relational needs (Chen et al, 2021; Solano et al., 1982; Leung et al., 2002).
- Third, maladaptive social cognitions can distort our perceptions of both ourselves and of others. Studies show that we tend to have a negatively biased view of others and ourselves and that those who are lonely or who have low self-esteem are especially vulnerable to these inaccurate perceptions, (Brockner & Lloyd's; 1986; Boothby et al., 2018; Bellucci, 2020). The biased cognition can extend to how people view their relationships and social skills. Indeed, Zhu et al. (2018) showed that lonely individuals tend to evaluate their social interactions more negatively – motivating them to disconnect rather than engage with other people. It is possible that this negative perception may contribute to a generally negative evaluation of one's social performance – leading to less social effort.
- Fourth, how individuals perceive themselves can shape the extent to which they are able to achieve their social goals. This dimension of self is sometimes described using theories of self-efficacy and locus of control – both of which have been linked to social wellbeing (Lee et a., 2023; Li et al., 2023; Henning et al., 2022; Mori et al, 2022; Fry & Debats, 2003). Self-efficacy is an individual's belief in their own ability to accomplish a specific task, while locus of control is an individual's belief about the degree to which they can control the outcomes in their lives. Individuals with high levels of self-efficacy or high internal locus of control may be better motivated to take action to meet their social needs, while those with low self-efficacy/control may have difficulty doing what they need to in order to find meaningful connection (Levy & Gumpel, 2022). Reinforcing this view, Stavrova et al. (2022) argues that loneliness may result from reduced self-regulatory

ability for social functioning, arising from a diminished sense of self-control. Similarly, Cai et al. (2021) reported that individuals with a greater sense of power experienced less loneliness and higher perceived social support. Finally, Newall et al. (2009) showed that individuals who had a greater internal locus of control experienced less loneliness and were more socially engaged. Each of these studies, and many more, suggest that a healthy sense of self efficacy and self-control can be an important facilitator in supporting healthy social development and wellbeing.

- Fifth, how individuals orient themselves with respect to others can also shape their ability to meet their social needs. This dimension of self is sometimes described in terms of individualism and collectivism. Individualism is characterized by an independent self-construal and collectivism is described as a more interdependent self-construal. Taniguchi & Kaufman (2018) demonstrated that individuals who construed themselves as interdependent with others, had more positive relationships and experienced greater social wellbeing. Similarly, Zhang et al., (2011) showed that those with higher interdependent self-construal tended to maintain peripheral social relationships, while those with low and medium interdependence gradually lost these relationships as they aged. These studies suggest that collectivism may be more conducive to preventing loneliness (Barreto et al., 2021; Heu et al., 2018). However, collectivism may be associated with higher social expectation – giving rise to greater levels of loneliness if objective social needs are not met (Schermer et al., 2023; Lukes et al., 2013). Likewise, more individualistic individuals may be better empowered to find and meet their social needs – particularly when meeting these needs require out-group social interactions (South; 1987).

- Finally, how others treat you can also contribute to low self-esteem (suggesting reverse causation; Rubin, 2009; Harris & Orth; 2020). Indeed, individuals can be made to feel bad about themselves by others if they are mistreated, rejected, discriminated against, or made to be victims. Reflected appraisal describes the process by which perceptions of self are informed by how we think others perceive us (Leary & Tangney, 2013). It follows that if others signal hostility or distain, that this can be internalized within our mental model of our self.

In summary, the existing evidence linking the self to loneliness is broad and features a variety of important mechanisms and pathways. The links between these concepts is strongly informed by theory and empirical observation.

Analyses from the Canadian Social Connection Survey

To examine the role of self-concept in loneliness we used data from the 2022 Canadian Social Connection Survey to test interrelationships between DeJong Emotional and Social Loneliness Scale Scores (DJESL) with five measures of social connection (i.e., Household size, Number of close friends, Time with friends in past 7 days, Time with family in past 7 days, and Time with coworkers in past 7 days) and five measures of self-concept (i.e., The Rosenberg Self-Esteem Scale [RSE], The General Self-Efficacy Scale [GSE], The Levenson Internal Locus of Control Scale [LOC-I], The Dang-Liu Social Self-Efficacy Scale [SSE], The Body Self Image Questionnaire – Overall Appearance Subscale [BSIQ-OE]. In doing so, we hypothesized that higher self-esteem, greater self-efficacy, an internal locus of control, and positive body image would be associated with lesser loneliness. To illustrate the relative impact of these self-concept measures against measures of social connection, we use correlation plots, multivariable linear

regression and recursive feature elimination with random forests algorithms and repeated cross-validations (a form of machine learning), and examined the variable importance for all predictors in modelling loneliness scores.

As shown in Table 1, we find that measures of self-concept – particularly self-esteem, rival the effects of quantitative measures of social connection, such as time spent with friends in the past seven days.
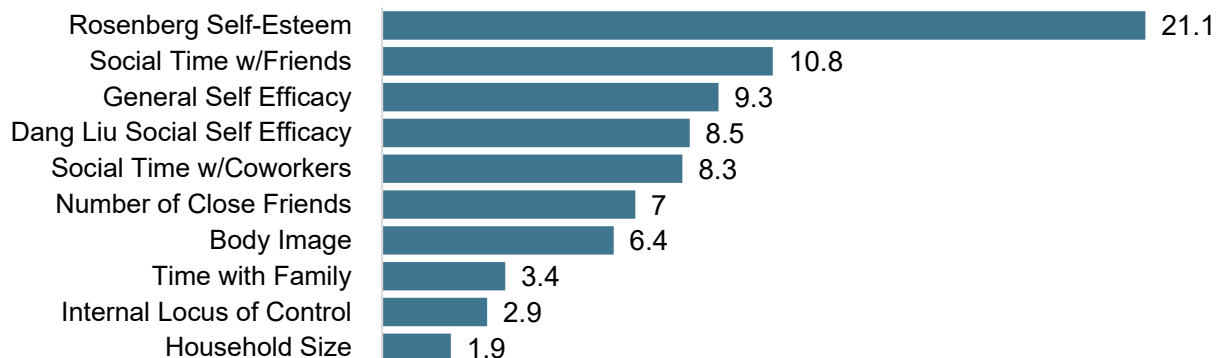
Table 1. Correlation Plot for Social Connection Measures

	DJESL	RSE	GSE	LOC-I	SSE	BSIQ-OE	Household Size	No. Close Friends	Time - Friends	Time - Family	Time - Coworkers
DJESL	1.00	-0.49	-0.37	-0.21	-0.41	-0.28	0.08	-0.15	-0.09	-0.13	0.01
RSE	-0.49	1.00	0.58	0.39	0.51	0.50	-0.10	0.10	0.03	0.12	0.01
GSE	-0.37	0.58	1.00	0.58	0.56	0.30	-0.05	0.08	-0.03	0.04	-0.04
LOC-I	-0.21	0.39	0.58	1.00	0.42	0.28	-0.04	0.06	0.05	0.02	0.01
SSE	-0.41	0.51	0.56	0.42	1.00	0.26	0.02	0.19	0.11	0.08	0.06
BSIQ-OE	-0.28	0.50	0.30	0.28	0.26	1.00	0.04	0.13	0.04	0.09	0.08
Household Size	0.08	-0.10	-0.05	-0.04	0.02	0.04	1.00	0.10	0.09	0.20	0.18
No. Close Friends	-0.15	0.10	0.08	0.06	0.19	0.13	0.10	1.00	0.24	0.08	0.12
Time - Friends	-0.09	0.03	-0.03	0.05	0.11	0.04	0.09	0.24	1.00	0.46	0.62
Time - Family	-0.13	0.12	0.04	0.02	0.08	0.09	0.20	0.08	0.46	1.00	0.47
Time - Coworkers	0.01	0.01	-0.04	0.01	0.06	0.08	0.18	0.12	0.62	0.47	1.00

These correlations are supported by models comparing the explanatory power of models with and without self-concept measures. For example, the explanatory power of our models with only measures of social connection were lower (Machine Learning RFE R^2= 0.16; Linear model = R^2= 0.05) than the models with only measures of self-concept (Machine Learning RFE R^2= 0.22; Linear model = R^2= 0.27). Further, a model with both social connection and self-concept measures had only marginal improvement over the self-concept-only model (Machine Learning RFE R^2= 0.23; Linear model = R^2= 0.28).

Finally, in examining which factors are most important for predicting loneliness (See Figure 2), we find that self-esteem scores lead considerably, followed by the number of hours spent with friends, self-efficacy, and other considered measures.

Figure 1. Variable Importance to Modelling Loneliness

Variable	Value
Rosenberg Self-Esteem	21.1
Social Time w/Friends	10.8
General Self Efficacy	9.3
Dang Liu Social Self Efficacy	8.5
Social Time w/Coworkers	8.3
Number of Close Friends	7
Body Image	6.4
Time with Family	3.4
Internal Locus of Control	2.9
Household Size	1.9

Discussion

Results from the existing literature and our analyses of the Canadian Social Connection Survey suggests that self-concept is likely a key factor intertwined with experiences of loneliness. As

such, loneliness interventions should address maladaptive cognition and poor self-esteem while increasing internal participant's locus of control, self-efficacy, self-control, and self-confidence. Given the reciprocal and reinforcing relationship between sense of self and social wellbeing, interventions can both target the development of a healthy sense of self and leverage social connection as a means of helping individuals overcome maladaptive beliefs about themselves and others. Additionally, social health interventions may benefit by (a) leveraging altruistic or other-centered forms of social connection which lesson self-focus (Lanser & Eisenberger, 2022), (b) promoting social support that can help individuals reform their self-esteem (Huang et al., 2022), and (c) helping individuals to develop self-compassion that can buffer against an adverse sense of self (Lee et al., 2021; Peter & Gazelle, 2017; Gao et al., 2023). Given research by Stavrova & Ren (2023) showing that loneliness can be exacerbated by social contact in some individuals, such interventions might be necessary before participants can derive benefits from social connection. Further research is needed to understand which of these mechanisms can most readily be addressed or leveraged in order to address the internal and external barriers to healthy social relationships and connections.

Conclusion

Based on the available evidence reviewed in this brief, we recommend policies and programs that emphasize the healthy development of self and interpersonal connection. Such work is especially important for addressing persistent social and structural inequities that undermine the sense of self-worth among those who are marginalized and oppressed. Survivors of abuse and discrimination may especially benefit from intensive interventions that target issues related to self-esteem and self-worth. Further research continues to be needed to understand what approaches might confer the greatest benefits to individuals experiencing loneliness and low self-esteem. Finally, given the strong relationship between loneliness and self-esteem, future research should examine the moderating and mediating effects that one's sense of self has in shaping experiences of loneliness and interpersonal disconnection. In sum, we endorse holistic, person-centered approaches that meet the specific needs of individuals as well as population-level interventions that aim to support the healthy development of individuals and communities.

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