Alleviating Urban Loneliness

Designer's Handbook

General principles



Being alone vs. feeling alone

You cannot "cure" loneliness simply by placing people in a room together. Loneliness is referential, and might prove harder to escape when trapped in the presence of others.



Platforms to "give back"

You cannot "cure" lonely people simply by giving them sympathetic assistance. Instead we yearn for a quality, reciprocal bond: the opportunity to give something back.



Curating personal space

Temporary periods of restorative isolation are actually beneficial, and are enhanced by an environment that reflects personality.



Avoiding over-designed space

Over-designed spaces deny their occupants the opportunity to express their personal preferences, leaving them with the task of building a life amongst someone else's things.



Reducing exposure

When you feel trapped and exposed you can feel incredibly lonely. Carefully designed spaces of privacy are therefore essential for alleviating loneliness.



Increasing control

An exercisable control over where, when and who you are interacting with greatly reduces feelings of stress, crowding or the urge to withdraw.



Promoting unforced meetings

Intuitive routing invites people to interact in a more controlled and relaxed environment: an unpretentious, non-obligating opportunity to see and hear city life.



Using technology wisely

Technology is best-used to facilitate interaction, not to replace it. In the hyper-connected modern world, such a healthy distinction is increasingly difficult to manage.



Responsibility & trust

Contrary to narratives promoted by convenience-oriented "co-living" schemes, taking responsibility can improve well-being, and higher levels of trust permit fewer rules.



Feeling part of society

A perceived lack of companionship with wider society challenges our sense of belonging and compounds our sense of isolation.



Bottom-up conflict resolution

Conflict resolution without an external authority encourages people to take responsibility for disagreements and to circumvent the dangers of social withdrawal.



Top-down finance

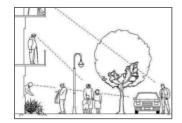
When you do not rely on your neighbours financially, community interactions are likely to be more positive, but a lesser understanding of costs may be problematic.

Spatial principles



Community with critical mass

A critical mass of around 40% permanent residents allows a neighbourhood to feel more lively and for a stronger sense of community to develop.



Defensible space

Increased feelings of communal control enhances the obligation of personal responsibility, enabling residents to feel safer in their local neighbourhood.



Reduced vehicular traffic

Management of potentially dangerous traffic alleviates safety concerns. Improved air quality also improves health, and calmer streets facilitate more helpful behaviour.



Shared entrances

Shared entrances promote passive social contacts, but need to be sufficiently small so that other users are perceived as fellow residents, and not as strangers.



Smaller streets and blocks

Larger buildings provoke a greater sense of fear, lower social interaction, less control over external spaces and more problems with building management.



Opportunity to escape

The (feeling of) opportunity to escape can provide a huge source of relief. Generally, when living above the 5th floor, this vital connection to the street is lost.



Green space

Integration of nature improves both physical outlook and mental wellbeing. Diverse and less-organised (wilder) forms of nature are proven to be more calming and beneficial.



Controlling personal space

Calming notions of privacy and control over our personal space is more important than its size. Smaller personal spaces might be described as cramped, but not crowded.



Promoting civilities

Quality street infrastructure and plantings act as signs of civility, suggesting a degree of social cohesion: indicating that the area is well-cared for and a source of pride.



Neighbourhood densification

A threshold density of residents is required to facilitate public transit and mixed-use amenities typical of (and essential to) walkable, interaction-friendly neighbourhoods.



Repairing incivilities

Rapid repairs of hostile vandalism and signs of physical deterioration help to reduce their stressful association with more serious occurences of crime.



Sense of enclosure

A powerful sense of enclosure (physical or symbolic) fosters autonomy but also allows a group to develop its own norms, making it an ideal typology for places of meeting.

Additional principles



Sensible group sizes

Living in a house of non-kin (typically) comprised of more than five people tends to push occupants towards a more negative sense of crowding.



Controlling personal comfort

Where you are able to exercise control, however small, over furniture and other objects your perceived level of comfort greatly improves.



Promoting meaningful tasks

More meaningful forms of community engagement alleviate the dread of social exclusion. Where life is perceived as worthwhile, loneliness is reduced.



Co-operative spaces

When a group is oriented towards a task involving cooperation instead of competition, the subjective experience of crowding is lessened.



Cultural expectations

For instance in Hong Kong, it is believed that the adverse affects of high density on mental health are lessened by cultural expectations.



Reduced age-segregation

Especially amongst the elderly, residents living in age-segregated accommodation tend to report higher levels of fear than those living in more mixed accommodation.

The city of comings and goings



Permanence

Often framed as a temporary "problem", migration is recognised as a permanent phenomenon, one that necessitates an adequately durable spatial response.





Free anonymity

The freedom to roam safely and anonymously in the presence of strangers. Opportunities for social contact without commitment; social contact does not become "work".



Shared space

Diminished by neoliberalism, accessible public space celebrates staying activities; where everyone is granted free access to a valuable place of meeting and sharing.



High density

A prerequisite of cosmopolitan city life, the provision of highdensity neighbourhoods allows for low-expectation social contacts associated with free anonymity.



Emancipation

Both socially and economically, the city is an emancipatory environment, equipping its residents with a valuable capacity for social freedom and financial opportunity.

Hunger

antonym: not-hungrywarning: avoid malnutrition

solution: eat food

Pain

• antonym: not-in-pain

• warning: avoid further tissue damage

• solution: protect and heal the painful area

Thirst

antonym: not-thirstywarning: avoid dehydrationsolution: drink water

Loneliness

• antonym: not-lonely [or 'normal']

warning: avoid social exclusion

 solution: an incredibly complex balance of objective and subjective alterations

Source: John Cacioppo and William Patrick, Loneliness: Human Nature and the Need for Social Connection (New York: W. W. Norton & Co., 2008)

Understanding social-emotional pain as directly comparable to physical pain

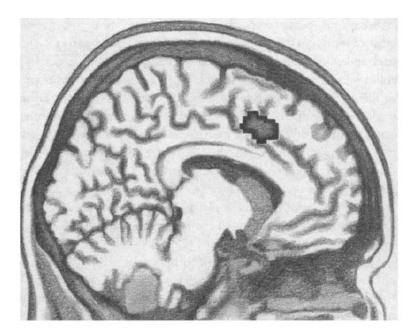
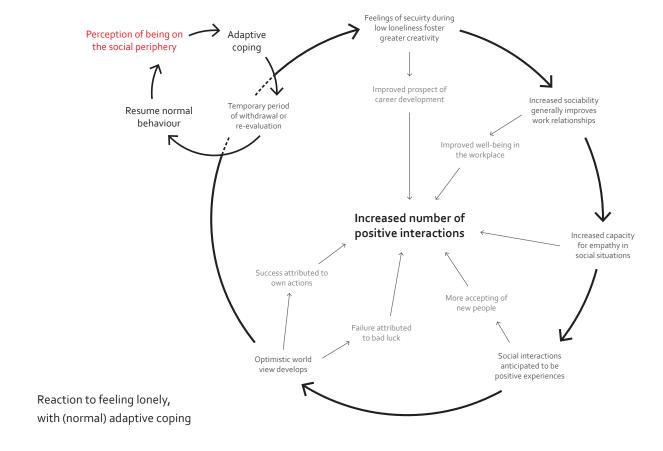
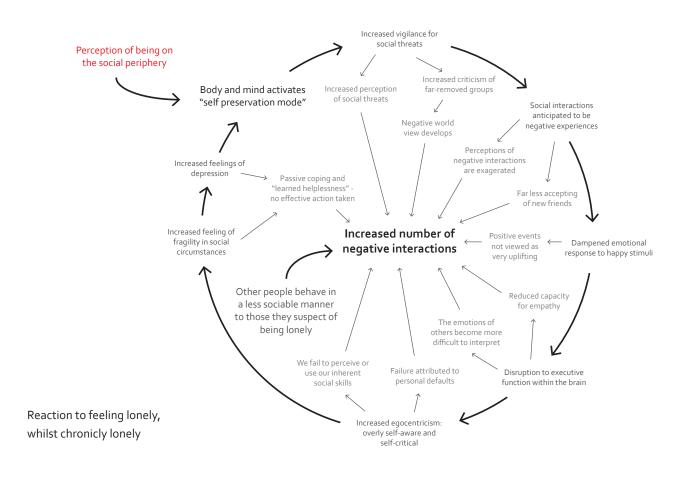


FIGURE 2. The human brain reacting to social pain. The dark rectangular blotch near the top of the brain represents the activation of the dorsal anterior cingulate cortex in response to social rejection. The brain responds similarly to physical pain. Adapted from N. I. Eisenberger, M. Lieberman, and K. D. Williams, "Does rejection hurt? An fMRI study of social exclusion," *Science* 302 (10 October 2003): 290–292.





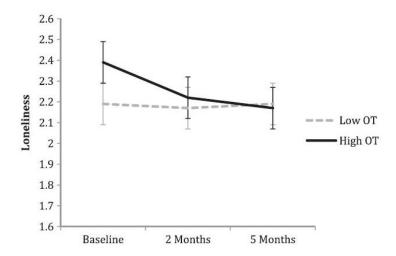


Fig. 4. Trajectories of change in loneliness as a function of baseline plasma oxytocin levels. For illustration purposes, a median split of the baseline oxytocin was used to create groups and high and low baseline oxytocin. Errors bars represent standard error of the mean.

Source: Gouin, Jean-Philippe, Hossein Purnajafi-Nazarloo, and C. Sue Carter,

"Changes in Social Functioning and Circulating Oxytocin and Vasopressin

Following the Migration to a New Country", Psychology & Behaviour, 139 (2014), 67–72

Arginine vasopressin - reacts to changes in social relationship satisfaction, social support and loneliness

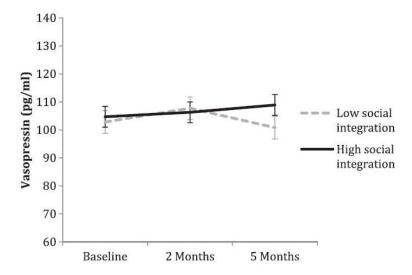


Fig. 1. Trajectories of change in plasma AVP as a function of social Integration. For illustration purposes, a median split of the aggregated social integration variable was used two create groups of high and low social integration. Error bars represent standard error of the mean.





Napoleon in Exile on St. Helena, c. 1815

A solitary confinement cell at the Federal Supermax Prison in Florence, Colorado, USA, c. 2015

Anthropology: what does loneliness remind us?

Social insects Cooperation is inflexible

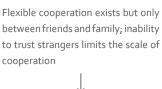
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Social systems are fixed and cannot be reinvented; inability to adapt to new threats



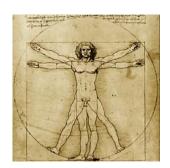
Social mammals

Cooperation is limited





Homo Sapiens



Cooperation is flexible & unlimited

 \downarrow

Capacity to rapidly reinvent social systems and cooperate in large groups with countless numbers of strangers enables world domination



Groups most affected by loneliness



Groups cut off from society

Those suffering from poverty, unemployment, or mental illness.



Minority groups

Especially asylum seekers and refugees, or ethnic minorities, guest workers and seasonal workers.



Groups who require support

The disabled, those addicted to drugs or alcohol, lone parents, or stay-at-home individuals caring for relatives



The elderly

Especially those who live alone as a result of bereavement, or those who are without adequate social care.



Young people

Recent changes in the way we live and work are having a huge impact on the social and mental well-being of younger generations.



Groups undergoing life events

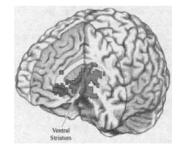
Moving to a new town, losing a loved one, getting a divorce, having a new baby, or adapting to the departure of a child from the family home.

Factors affecting loneliness: nature, nurture and perception



Genetically inherited vulnerabilities (52%)

Different people are more/less sensitive to the pain of social exclusion.



Social cognition

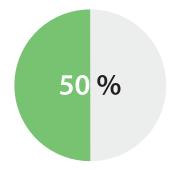
The way we perceive our social interactions determines the response in our brains; we are the architects of our own reality.



Our environment (48%)

Genes interacting with the environment determine the expression of basic personality aspects; whether or not people become lonely is largely due to their environment.

The urgency of preventing loneliness

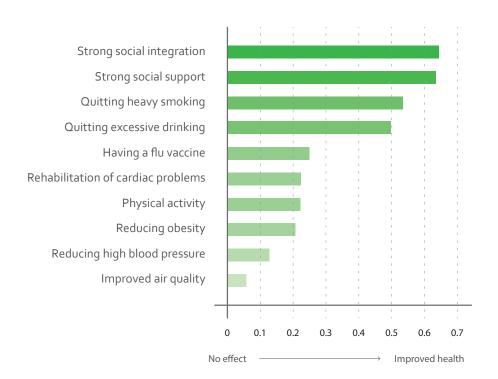


General increased likelihood of survival for participants with stronger social relationships

Meta-Analysis of 148 studies, adjusted for error Over 300,000 participants followed for an average of 7.5 years Consistent across age, sex, initial health status and cause of death

Source: Holt-Lunstad, Julianne, Timothy B. Smith, and J. Bradley Layton,
'Social Relationships and Mortality Risk: A Meta-Analytic Review', PLoS Med, 7 (2010)

Probability of decreased mortality relating to various health conditions



"Health is a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity."

The Constitution of the World Health Organization, 1948

Global cost of obesity-related illness to hit \$1.2tn a year from 2025



'Depression lost me my job': How mental health costs up to 300,000 jobs a year



Loneliness twice as unhealthy as obesity for older people, study finds



Physical Mental Social

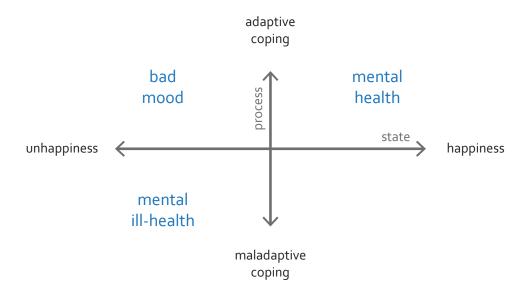
The economic potential of preventing loneliness

£6000

Average medical costs relating to loneliness for one decade of an older person's life

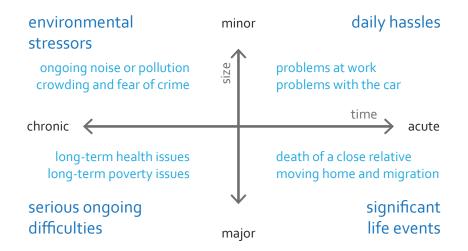


An evaluation of "navigation schemes" (services connecting people with similar interests) found that for every pound spent preventing loneliness, there were two-to-three pounds of savings in medical costs



Source: Halpern, David, Mental Health and the Built Environment: More than Bricks and Mortar? (London: Taylor & Francis, 1995)

Migration as a major, acute stressor



Extended consequences

Increased exposure to stressors

Like a self-fullfilling prophecy, lonely people report more social stressors and are more likely to feel trapped in unfullfilling employment

Increased difficulty coping with stressors

With feelings of helplessness and threat, everyday stresses are perceived as being worse than they actually are, and social uplifts are reported as less-gratifying. The sympathetic nervous system's 'fight-or-flight' evolutionary response is also over-activated

Worsened health behaviours

The wear-and-tear of loneliness in middle-age leads to bad diet, less exercise and addictive tendencies in an attempt to alleviate mood

Depleted rest and recuperation

Loneliness reduces the quality (not quantity) of sleep and leads to increased daytime fatigue

Domino-effect of psychological issues

- Depression
- Paranoia
- Anxiety
- Insomnia
- Increased sense of threat

Domino-effect of physical issues

- Dementia
- High blood pressure
- Heart disease and strokes
- Lowered resistance to viruses
- Higher rate of accidents
- Increased vulnerability in cases of extreme weather

Sources: George Monbiot, Out of the Wreckage: A New Politics for an Age of Crisis (Verso, 2017), pg. 17
Cacioppo, Loneliness: Human Nature and the Need for Social Connection

Debunking the myths of loneliness

Social skills

"People are lonely because they have poor social skills"

Everybody has good social skills to begin with, but the experience of loneliness leads to self-preservation and the under-using of our inherent social skills

Social support

"Lonely people can be 'cured' with the support of people around them" Dispelling the feeling of loneliness relies upon mutual aided protection and reciprocal connections; simply 'getting help' from others is not enough

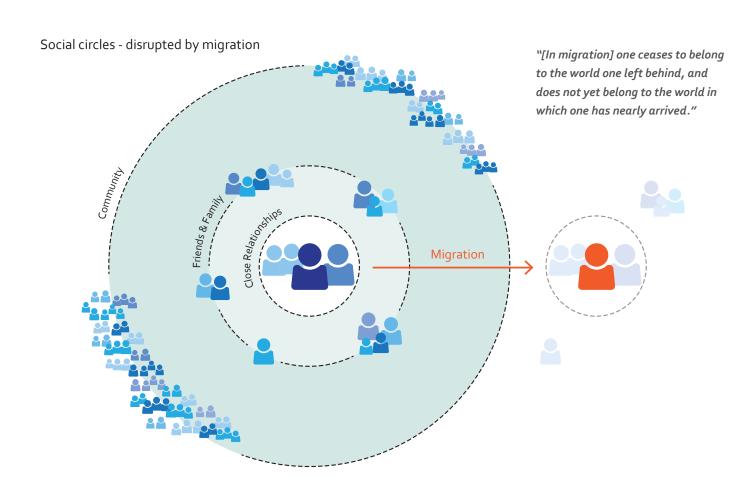
Social Engagement

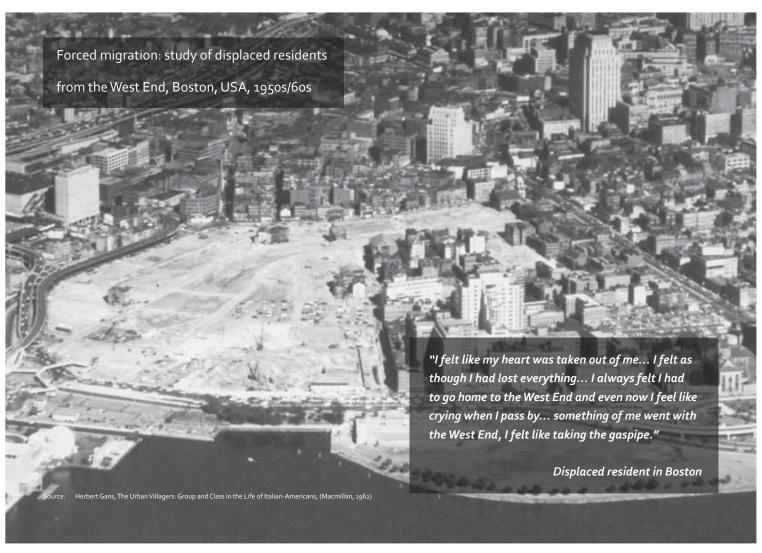
"Take lonely people and put them in a room together"

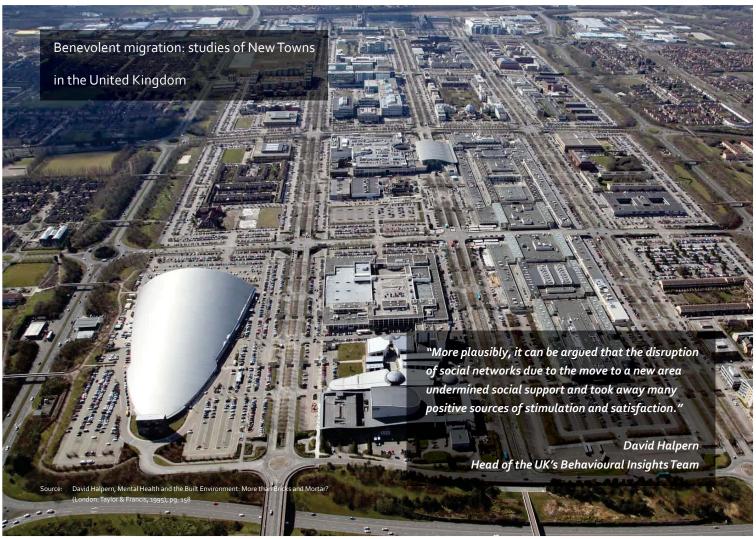
This conflates the idea of being alone with feeling alone

Sense of self Needs Personal or intimate self The need for personal affirmation Friends & Family Social or relational self The need for a wider circle of friends and family Community The need to feel as though we belong to certain collectives Collective self

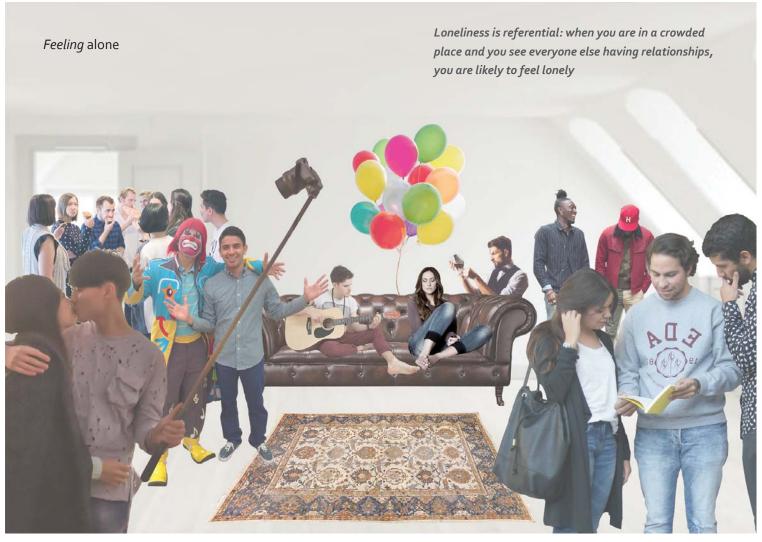
León and Rebeca Grinberg, Psychoanalytic Perspectives on Migration and Exile, 1989

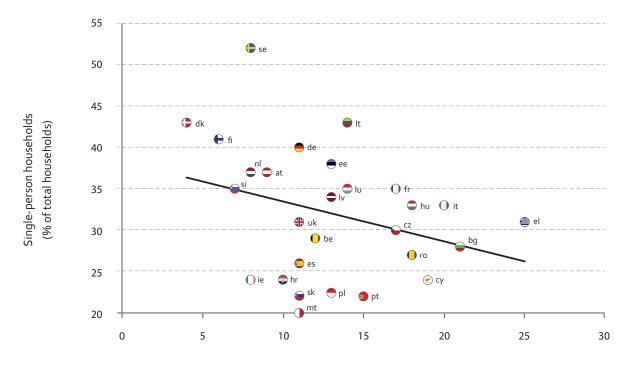








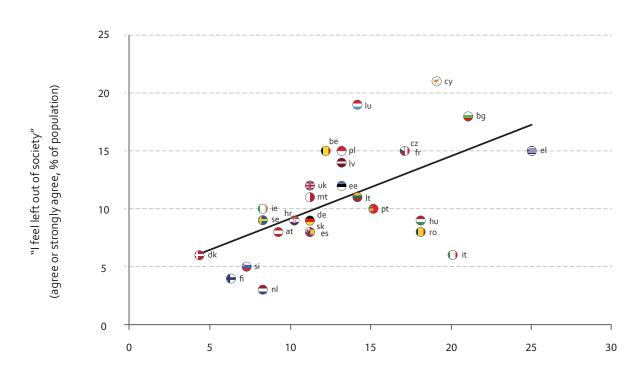




"I have felt lonely" (at least more than half of the time, % of population)

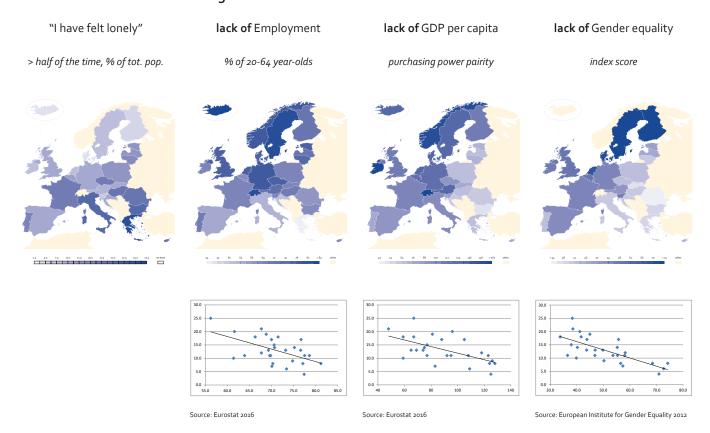
Sources: European Quality of Life Survey 2012, Eurostat Official Statistics 2015 & 2016

Social engagement: Feeling alone vs. feeling left out of society - comparing the EU 28

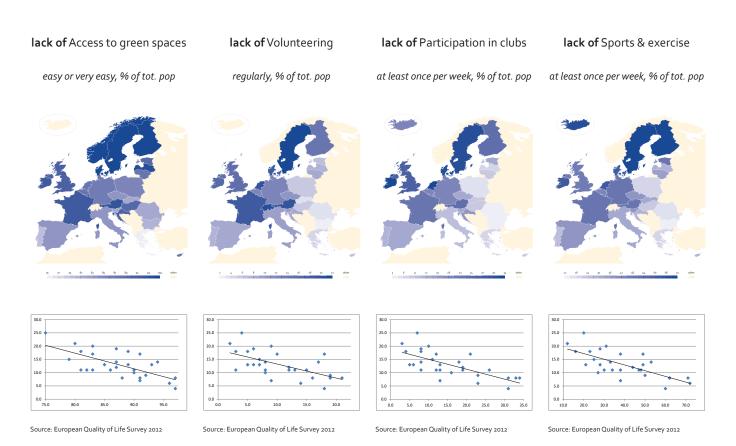


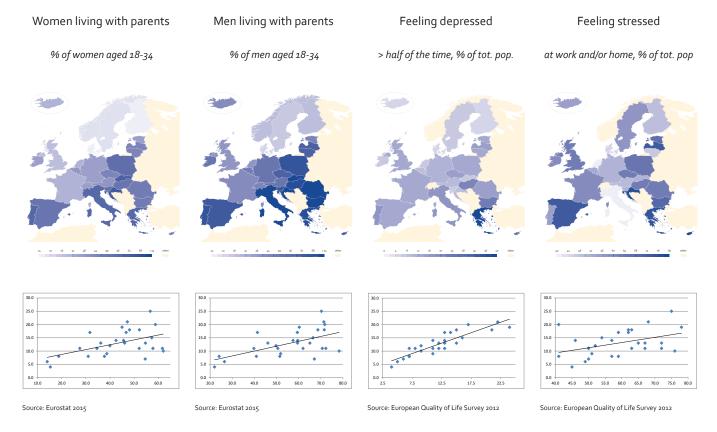
"I have felt lonely" (at least more than half of the time, % of population)

Which factors correlate with feeling alone?



Y axes: "I have felt lonely" (at least more than half of the time, % of population)





Y axes: "I have felt lonely" (at least more than half of the time, % of population)

Social networks and mixed demographics

Age-diverse neighbourhoods

A community of mixed age groups reduces the strains placed on the education sector (balanced mix of families) and the housing sector (balanced mix of persons per household). However, many residents actually prefer to live in homogenous areas (such as "family neighbourhoods") that appear more in tune with their needs. It is also more convenient to build for more homogenous populations who have a generally homogenous (repeatable) set of needs.

Socially diverse neighbourhoods

Mixed-ethnicty neighbourhoods tend to alleviate the urgent problems of social segregation and flashpoints of racial conflict. However, social interactions with members of differrent racial groups tend to be treated with suspicion, so harmonious relations are not guaranteed by spatial proximity alone. Furthermore, people from similar backgrounds tend to have more things in common, and so neighbourhoods that are more socially homogenous might actually exhibit better neighbouring behaviour.

Economically diverse neighbourhoods

As strong boundaries are inherently difficult to resolve, mixed communities alleviate the spike in crime (usually burglaries) observed where an affluent neighbourhood meets a poor neighbourhood. Mixed neighbourhoods also place better safeguards on the affordability of amenities, maintenance, and the fair distribution of (city) resources; the build-up of "good areas" and "bad areas" is also less likely to materialise.

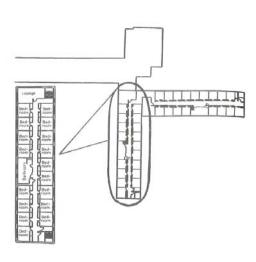
Achieving a fine balance

When the population or neighbourhood density of a certain group (e.g. an ethnic or migrant group, local families, or factory workers) falls below a certain "critical mass" (usually around 40%), this leads to a reduced social cohesion and a higher prevalence of mental illhealth. With this in mind, a fine balance might best be achieved through pursuing urban mosaics of differences at neighbourhood level, whilst maintaining an essential balance of ages, social and economic backgrounds at larger scales.

Study of crowding in Stony Brook University, Long Island, USA, 1977

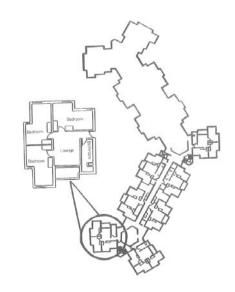
Sociofugal: reducing interaction

- Double loaded corridor design
- 34 students per floor (two per bedroom)
- Bathroom and lounge shared between 34
- Hallway used by all 34 residents



Sociopetal: increasing interaction

- Suite design
- 34 students per floor (two per bedroom)
- Shared spaces broken into smaller units, mostly between 6 people
- Hallway used by up to 24 residents, but not to access shared areas





Less social



More social

When waiting for the start of a group experiment, corridor residents sat further apart, were more likely to avoid eye contact and initiated fewer conversations



More stressed



Less stressed

When joined by a confederate in the waiting room, suite residents felt less stressed whereas corridor residents felt more stressed



More competitive



Less competitive

When involved in an experiment requiring competition, suite residents found the experience to be more stressful

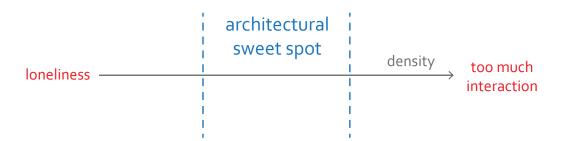


Less cooperative

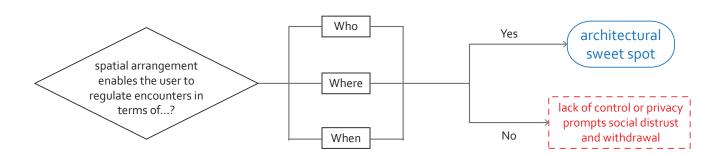


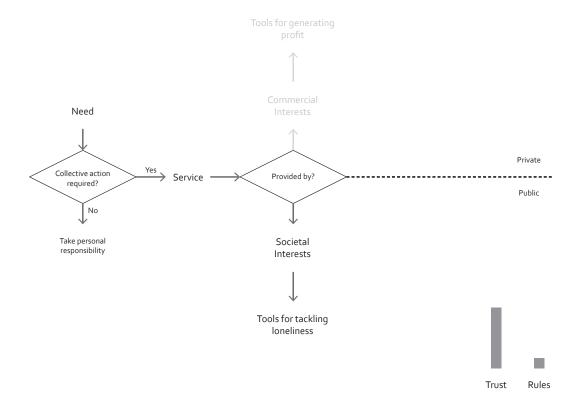
More cooperative

When involved in an experiment requiring cooperation, corridor residents actually preferred to be ignored

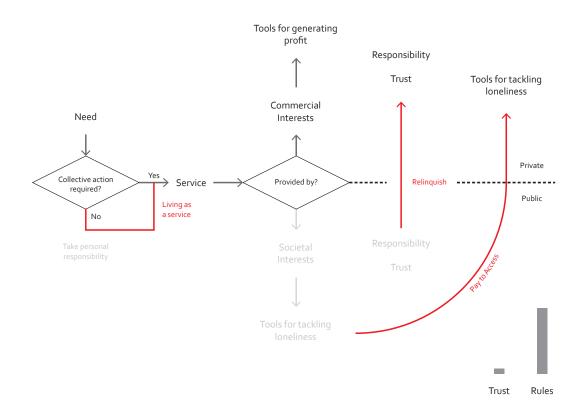


A more effective thought process for alleviating the sense of crowding





Understanding that these tools as relinquished by the narrative of convenience-oriented co-living



Optimising community sizes --- 1500 ---- 500 ----

Megaband

Tribe

Support clique

High-level emotional support (affirmation of self-worth, etc.)

— Sympathy group -

High-level instrumental support (help with childcare, etc.)

Band -

Personal connection is maintained between all members

- Clan -

Low-level instrumental support (provided via "weak ties")

— - Megaband - — -

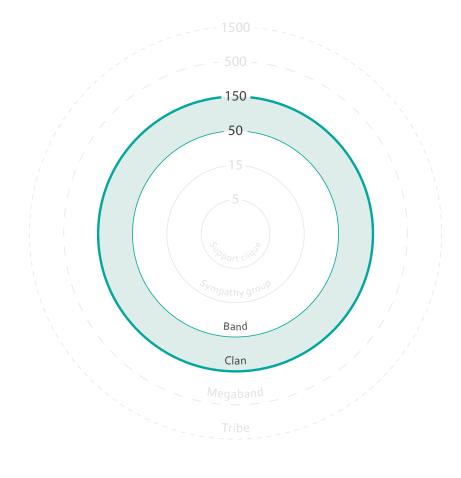
People that we might consider "acquaintances"

----- Tribe -----

People that we are able to recognise

Source: Robin I. M. Dunbar and Richard Sosis,

'Optimising Human Community Sizes', Evolution and Human Behaviour, 39 (2018), 106–11.



Support clique –

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People that we might consider "acquaintances"

---- Tribe ----

People that we are able to recognise

Mechanical surveillance



Trust Rules

Passive surveillance

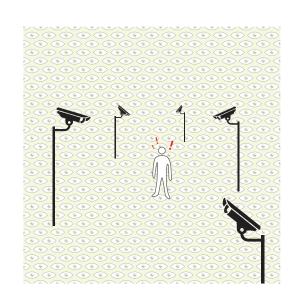


Trust Rules

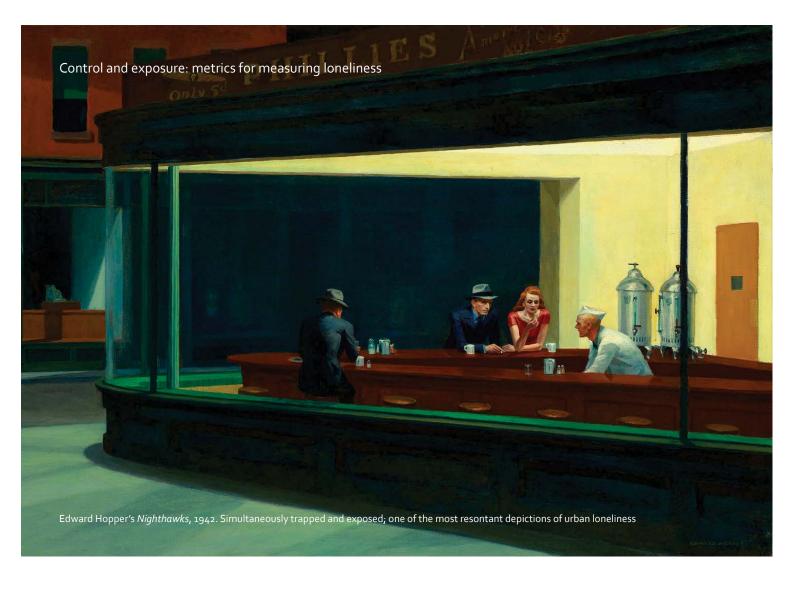
Understanding the smart city as a potential stressor; the intimidating effect of too much surveillance



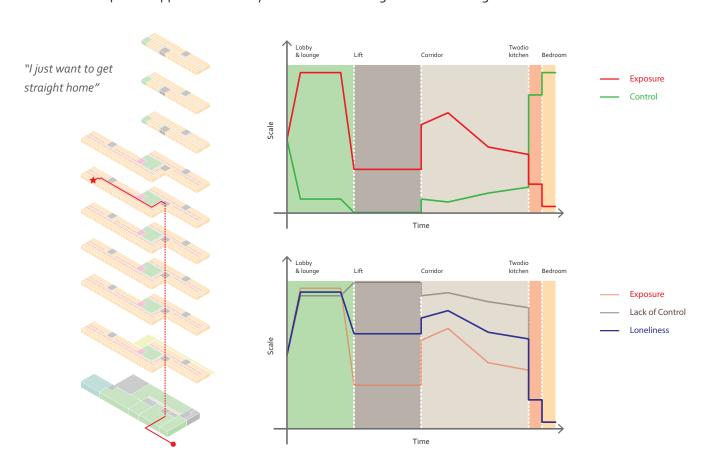
Perception of exposure when not lonely

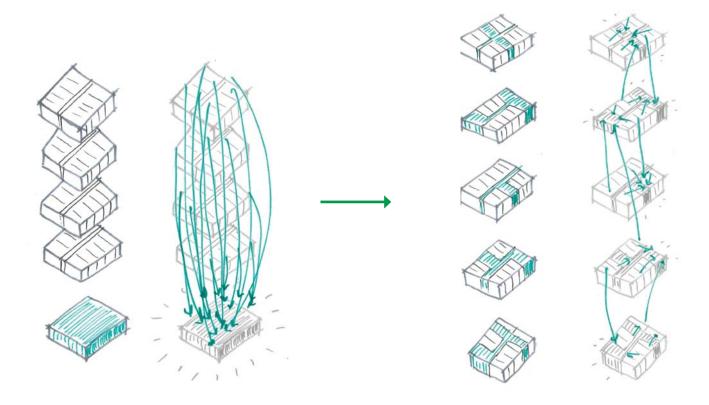


Perception of exposure when lonely



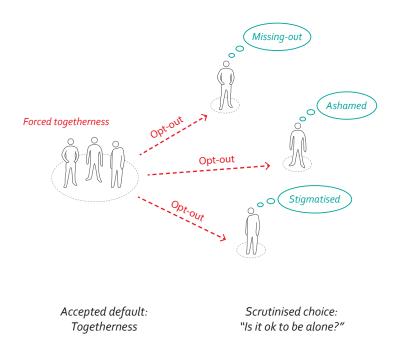
Control and exposure applied as an analytical tools for routing within a co-living scheme



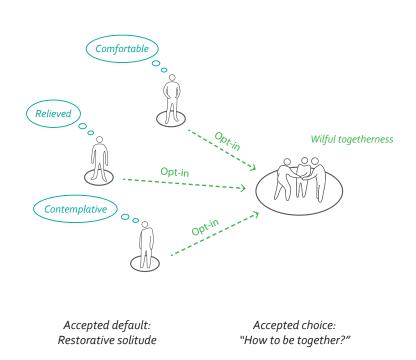


Subsequent call to design spaces for a range of relateable scenarios, not just the glamourous and pro-social





Healthier narrative: social interactions understood as part of an opt-in system



Study of social decline in Pruitt Igoe, St. Louis, USA, 1971

Opening in 1954, Pruitt Igoe comprised 43 11-storey buildings, housing a total of 2762 apartments. The design originally won significant praise for its efficiency, however 16 years after opening 27 of the 43 buildings were vacant. The project was completely demolitioned in 1972, an event desribed by postmodern architectural historian Charles Jencks as "the day Modern architecture died."

Key findings:

- Although 78% of residents were satisfied with the quality of their new apartments, only 49% were satisfied with actually living on the project, largely due to the increased incidence of social atomisation
- Reliance upon the police for conflict resolution further exacerbated tensions between residents
- With only strict divisions between private and public space, the response to fear of crime was often one of social withdrawal
- Around the same time, a public housing project in Baltimore housed a similar population (heavily reliant on welfare) but did not induce similar levels of social atomisation due to its integration of semi-public common play areas overseen by each block
- The importance of "defensible space" is therefore integral to social cohesion: areas shared by small groups of neighbours who use the space regularly, control it and regulate its use

Source: William Yancey, 'Architecture, interaction, and social control: The case of a large-scale public housing project', 1971, Environment and Behaviour, pp. 3-21

"They are selfish. I've got no friends here. There's none of this door-to-door coffee business of being friends here or anything like that. Down here, if you are sick you just go to the hospital. There are no friends to help you. I don't think my neighbours would help me and I wouldn't ask them to anyway. I don't have trouble with my neighbours because I never visit them. The rule of the game down here is go for yourself."

Pruitt-Igoe resident, speaking about his neighbours



At one stage in the life of the project, a construction fence provided a valuable degree of security to residents of one block, where keys were only given to residents. Crime was thereafter reduced by 80% in comparison to the Pruitt norm, and after six months the residents petitioned for the fence to remain.

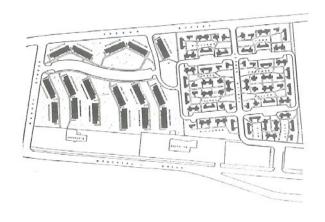
Study of neighbouring patterns in Westgate West and Westgate, USA, 1950

This study documents how the physical environment altered the social behaviour of a relatively homogenous community; where rates of group conformity varied depending (solely) upon architectural circumstance. At Westgate, residents lived in prefabricated bungalows arranged into a set of u-shaped courts. At Westgate West, residents lived in the two-storey blocks of a converted navy barracks.

Key findings:

- In the u-shaped courts of Westgate, group pressures were not as strong and so consistent social attitudes were more uncommon
- Houses that faced outwards from the u-shaped courts were less likely to form groups due to less passive contacts
- The routing (functional distance of each scheme) better predicted friendship encounters than (only) the proximity between residents
- In the blocks of Westgate West, there was a consistency of social attitudes observed within, but not between, each block
- Group conformity may have helped to reduce vandalism and social deviancy, but the associated pressure to conform also acted as a source of stress





Study of neighbouring patterns in Dagenham, England, 1963

Between 1921 and 1932 over 22,000 houses were built on the estate, housing around 90,000 working class people.

Key findings:

- Shorter streets and cul-de-sacs had a much greater sense of community
- On wider and longer roads, fewer people knew their neighbours or described them as friendly
- The absence of traffic in shorter/quiter streets was perhaps the largest factor in promoting helpful neighbouring behaviour

"They are all very nice in this turning. If anybody wants anything done we'll all sort of muck in and help. If people want the gas man let in, or if anybody's ill and wants some shopping done, or anything like that, we all sort of help one another."

Mrs. Farley, living at the end of a cul-de-sac

"Apart from people on either side of you, you're only on good-morning terms with the rest. But when we lived in Poplar it was a small turning. There were only about 40 houses in the turning and everybody knew each other."

Mrs. Salmon, living along a long avenue

Source: Peter Willmott, The Evolution of a Community, (1963 London: Routledge & Kegan Paul)





Study of social labelling at the Wine Alley 'problem estate', Glasgow, Scotland, 1976

In this semi-vacant working class area of Glasgow, residents resented the fact that people from the nearby slum (the Gorbals) were being rehoused in their neighbourhood, instead of local residents. This resentment was reflected in the press, who sensationalised any misdemeanours committed by the new residents.

Key findings:

- Residents of the estate began to blame their problems on each other; on the 'riff raff' of fellow residents housed there
- However, people from outside the estate did not make the same distinction between residents, instead viewing all of them as deviant
- Residents thereafter came not only to accept but to internalise the deviant image of the estate, withdrawing from public space and viewing the outside world with suspicion
- Rates of objective economic deprivation did little to alleviate perceptions of the estate after it was given such a resonant social label





Dutch "stoops"

A stoop is a small staircase or porch ending in a platform, leading to the entrance of a a building, usually an apartment building. A typology derived from "stoep" (step), orignally brought to New York by Dutch settlers. Traditionally, the stoop served as a spot for brief or incidental social encounters, helping to reaffirm casual relationships. Children would also congregate nearby to play "Stoopball". Stoops also served as a surrogate for front yards in urban areas, with residents holding "stoop sales" instead of "yard sales". Jane Jacobs argued that the presence of stoops help to prevent street crime via "eyes on the street", without intervention from authority figures.







Eyes on the street - the perspective of the resident

From the perspective of the resident, there is little empirical evidence to support the idea that increasing pedestrian traffic reduces fear of

Only those who are socially well-integrated (typically cited by Jane Jacobs) benefit from an increased presence of strangers In general, observing increased pedestrian flows outside the given dwelling makes residents more fearful

An increased flow of strangers increases the chance of unpredictable or indeed strange behaviour

Eyes on the street - the perspective of the visitor

When perceiving the safety of areas in which they don't live, people are most fearful of quiet, deserted and poorly lit areas

Being in an unfamiliar part of town with lots of other strangers makes you feel safer

The dense concentration of individuals acts as a behavioural setting; providing a shared consensus of how one should behave Improved lighting, the perception that help is on hand, and good maintenance of the environment makes both residents and strangers feel safer

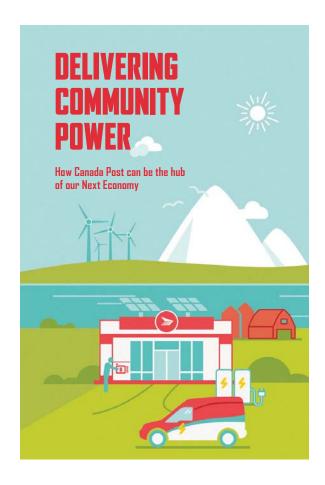
"Delivering Community Power"

"Like postal employees around the world, these workers have been coping with a push to shut down their workplaces, restrict mail delivery, and maybe even sell off the public postal service to FedEx. In other words, austerity and privatisation as usual. But instead of fighting for the best deal they can get under this failed logic, they worked with The Leap team and a group called Friends of Public Services to put together a visionary plan for every post office in the country to become a local hub for the green transition."

Naomi Klein, No Is Not Enough, pg. 251

Postal workers become care workers and climate workers, involving:

- Postal banking a publicly-owned bank
- Maintaining a hub for recharging electric vehicles
- Delivering locally-grown produce: connecting farms directly to consumers
- Check-in services on the elderly and those with limited mobility



Lulu Dans Ma Rue: "on-street concierges", Paris

Lulu Dans Ma Rue recognises that cities are filled with many people who have time, knowledge, skills, a real desire to be useful and are in need of money. We have reached the limits of depersonalised services. Lulu Dans Ma Rue is founded on the conviction that society will benefit from a re-integration of the human element in service provision.

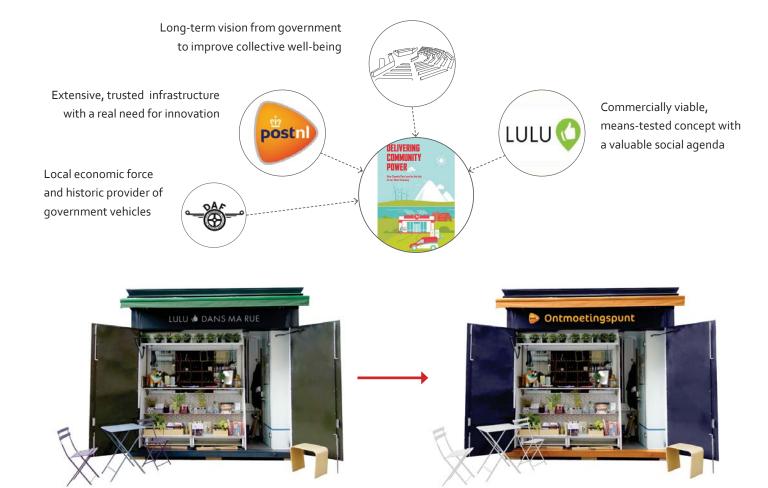
The first neighbourhood concierge was established in Saint-Paul in April 2015. The project was later adapted in the 4th district, and three further kiosks have since been established in Villiers, Commerce, and Gambetta.





Example proposal for the city of Eindhoven





Summary of potential solutions to loneliness

Improved understanding

An improved understanding of the triggers and processes involved with loneliness empowers the individual to exercise greater control over their behaviour

Medical treatment

There is no chemical fix to loneliness, although some medication might first bring depression or anxiety under control

Seeing a psychiatrist is better than nothing, but dealing with loneliness requires more than just 'getting help'

Helping other lonely people

As counterintuitive as it might seem, when feeding the 'hunger' of your own loneliness, you might first need to feed the 'hunger' felt by someone else

Altruism & volunteering

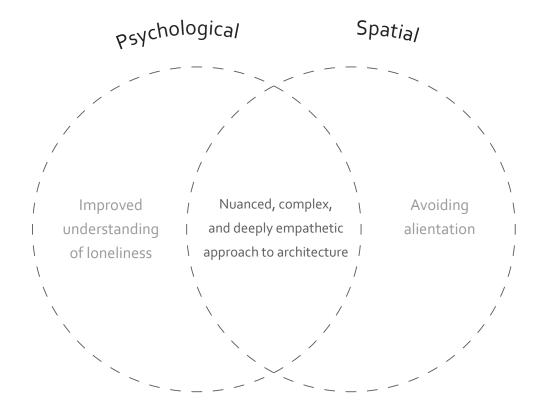
Altruistic gestures increase the sense of meaning in life and offer an immediate psychological reward, esp. where volunteering opportunities benefit both parties

Building quality relationships

It is the quality, not the quantity of our relatioships that matters the most; people wish to have a rich, reciprocal bond with others

Avoiding alientation

Unwanted physical alienation can act as a major, chronic stressor



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