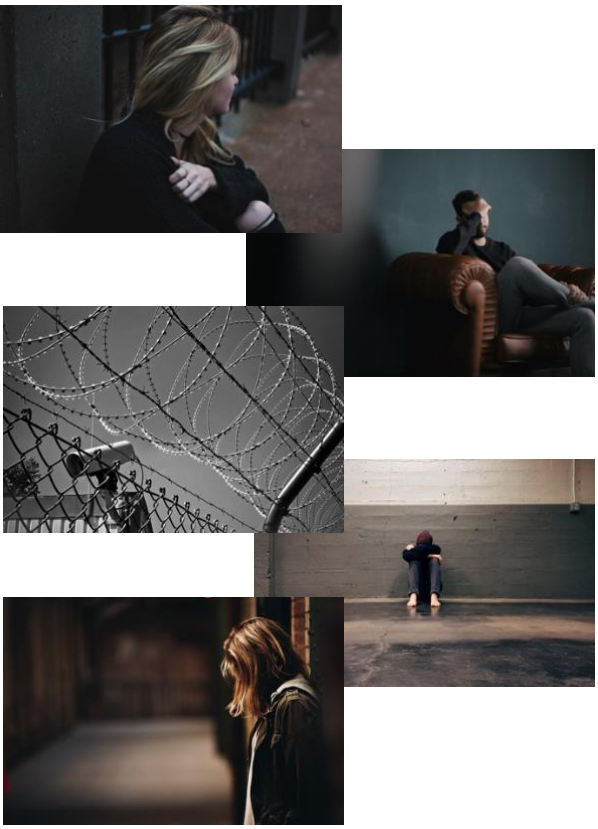

ARISA
Assessing the Risk of Isolation of Suspects and Accused

SOCIAL ISOLATION
RISK ASSESSMENT METHODOLOGIES

This document was funded by the European Union's Justice Programme (2014-2020)

Contents

Introduction and Terminology

Pre-trial justice seeks to achieve the effective "balancing of the presumption of innocence, the assignment of the least restrictive intervention for defendants, and the need to ensure community safety while minimising defendant pre-trial misconduct."[1] The pre-trial decision has far-reaching implications for the way in which the potential risks that the defendant's behaviour poses are managed; at the same time, it also affects defendant's ability to assert their innocence, negotiate a disposition, and mitigate the severity of a sentence.[2] One aspect that has received little attention to date is the overall impact of pre-trial proceedings on the accused both in legal and practical terms. Whilst the effects of the use of pre-trial detention have been extensively documented, the more subtle facets of the imposition of less restrictive measures that may still result in unnecessary damage to the defendant have not been properly examined.[3] This trend is at least in part due to the fact that, by and large, the existing tools, methodologies, and approaches for pre-trial decision-making tend to prioritise community risk mitigation *vis-à-vis* the upholding of the presumption of innocence and ensuring that the accused is not disproportionately disadvantaged during the criminal proceedings. Consequently, the outcome of the trial notwithstanding, the accused often find themselves in a worse-off position at the end of the criminal proceedings compared to the one in which they were prior to having charges brought against them. In particular, even in case of acquittal, the loss of employment, loss of earnings, loss of opportunities, incurred expenses, severed family ties, ruined social status, and broken social relations as a result of the trial could have significant negative impact on the level of social integration and social participation of the accused and thus contribute to their social isolation and marginalisation.[4]

The paper advances the argument that the development of a risk assessment methodology that meets the criteria for delivering pre-trial justice both in procedural and substantive terms requires that attention is given to the consequences that the imposition of restrictive measures may have on the accused. To this end, following a brief overview of the key underpinnings of existing pre-trial decision-making tools, the paper looks into methodologies for assessing the risk of social isolation and/or exclusion, and marginalisation. The instruments under scrutiny seek to highlight the range of factors that are typically being taken into account when studying social isolation. Whilst instructive, this analysis is primarily intended to provide background material

[1] Cynthia Mamalian, *State of the Science of Pretrial Risk Assessment,* Pretrial Justice Institute 2011, available at www.bja.gov/publications/pji_pretrialriskassessment.pdf.

[2] Cynthia Mamalian, *State of the Science of Pretrial Risk Assessment,* Pretrial Justice Institute 2011, available at www.bja.gov/publications/pji_pretrialriskassessment.pdf.

[3] For an overview of the literature on the effects of pre-trial detention, see Deliverable 2.3 of this project.

[4] This aspect has been examined in detail in Deliverable 2.3 of this project.

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which subsequently could inform the development of a methodology for assessing the risk of social isolation of suspects and accused in view of the impact that criminal proceedings may have on them.

Pre-Trial Decision-Making: Key Underpinnings

Most existing pre-trial decision-making tools tend to be based upon a cost-benefit analysis regarding the use of pre-trial detention, that is, they focus on assessing the risk of non-appearance of the defendant before the court and/or of re-offending during the trial period.[5] For example, a robust body of scientific evidence suggests that the likelihood of new criminal behaviour can be reliably assessed based on a limited set of factors (Table 1).[6]

Table 1: Key Factors for Recidivism Risk

Risk Factor	Common Measures
Criminal History	Prior adult and juvenile arrests; Prior adult and juvenile convictions; Prior failures-to-appear; Other currently open cases; Prior and current charge characteristics (e.g. presence of firearms, violence, drug charges, etc.).
Demographics	Younger age; Male gender.
Antisocial Attitudes	Patterns of antisocial thinking, which typically reflect the following primary constructs: (1) Lack of empathy; (2) Externalization of blame; (3) Entitlement; (4) Attitudes supportive of violence.

[5] See Cynthia Mamalian, *State of the Science of Pretrial Risk Assessment,* Pretrial Justice Institute 2011, available at www.bja.gov/publications/pji_pretrialriskassessment.pdf; Neil Vidmar, "The Psychology of Trial Judging", *Current Directions in Psychological Science,* vol.20:1, 2011, pp.58-62; Charles Summers and Tim Willis, *Pre-Trial Risk Assessment: Research Summary,* October 2010, available at www.bja.gov/Publications/PretrialRiskAssessmentResearchSummary.pdf.

[6] Sarah Picard-Fritsche et al. *Demystifying Risk Assessment: Key Principles and Controversies,* Center for Court Innovation 2017, available at www.courtinnovation.org/sites/default/files/documents/Monograph_March2017_Demystifying%20Risk%20Assessment_1.pdf.

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Antisocial Personality Pattern	Impulsive behaviour patterns; Lack of consequential thinking.
Criminal Peer Networks	Peers involved in drug use, criminal behaviour and/or with a history of involvement in the justice system.
School or Work Deficits	Poor past performance in work or school (lack of a high school diploma; history of firing or suspension); Alienation from informal social control via work or school (e.g., chronic unemployment).
Family Dysfunction	Unmarried; Recent family or intimate relationship stress; Historical lack of connection with family or intimate partner.
Substance Abuse	Duration, frequency and mode of current substance use; History of substance abuse or addiction; Self-reported drug problems.
Leisure Activities	Isolation from pro-social peers or activities.
Residential Instability	Homelessness; Frequent changes of address.

It is worth noting that the majority of instruments for pre-trial decision-making currently in use tend to prioritise certain aspects such as criminal history, education, employment, and family status, and substance abuse at the expense of personal attitude, peer networks, and level of social integration/isolation. But what is of paramount importance here is the underlying logic of the pre-trial decision-making process. According to this logic, the focus is on the level of risk that the accused poses to society and not on the effects that the pre-trial decision-making process may have on them.

Social Isolation, Loneliness, and Social Exclusion

Despite being often used interchangeably, "social isolation" and "loneliness" are considered two different concepts.[7] Whereas loneliness refers to the absence of a "significant other" and "social loneliness" – to the absence of a social network, "social isolation" is an objective state referring to the number of social contacts or interactions.

The term **loneliness** seems to have longer research history. In 1959, Frieda Fromm-Reichmann defined loneliness as "the longing for interpersonal intimacy" and put the beginning of the so

[7] For example, Bernard S. (2013) Loneliness and Social Isolation among Older People in North Yorkshire: Project commissioned by North Yorkshire Older People's Partnership Board. Working Paper No. 2565, pp. 3-4.

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called “loneliness studies”. She adds that this longing for intimacy “stays with every human being from infancy throughout life; and there is no human being who is not threatened by its loss.” She also links loneliness to physical and mental health status saying that it “renders people who suffer it emotionally paralysed and helpless.”[8] Other psychologists say that loneliness is an internal subjective experience that “is not synonymous with being alone, nor does being with others guarantee protection from feelings of loneliness”.[9]

Social isolation has been defined as “a state in which an individual experiences less social engagement with others than they would prefer, and that interferes with their quality of life.”[10] In other words, social isolation is a deprivation of social connectedness; it is the inadequate quality and quantity of social relations with other people at the different levels where human interaction takes place (individual, group, community and the larger social environment).[11] According to Zavalata et al. “the quantity of social relations refers to the number or frequency of interactions with another individual or individuals” whereas the quality of social relations has to two aspects.[12] On the one hand, it refers to a “type of relationship that satisfies a person’s expectations or standards and is thus subject to an internal evaluation. This evaluation is influenced by the personality and subjectivity of a person and thus by societal norms and culture.” On the other hand, “it is related to the instrumental value of the relationship. That is, one type of friend or network might yield a different contribution to one’s life than others.”

Cacioppo et al. note that social isolation has both an objective and subjective ‘value’ which implies that when measuring these values “perceived social isolation is a more important determinant of deleterious outcomes than is the variation in objective social isolation that is seen in population-based studies”.[13] Social isolation has been studied by both psychologists and social scientists who offer different perspectives – while the former stress subjective perceptions, the latter seek to measure the levels (or lack) of social integration using different indicators (e.g. being married, having small social network, infrequent contact with network members, lack of diversity of social networks, low participation in social activities as volunteering) depending on

[8] Fromm-Reichmann, Fr. (2013) “Loneliness”. In: *Contemporary Psychoanalysis*, 26:2, 305-330, p. 309.

[9] Reis, Harry T. and Susan Sprecher (2009) Encyclopedia of Human Relationships. SAGE Publications.

[10] I-Shian Suen, Tracey L Gendron and Meghan Gough (2017) Social Isolation and the Built Environment: A Call for Research and Advocacy. In: *Public Policy & Aging Report*, Volume 27, Issue 4, 13 January 2018, Pages 131–135, https://academic.oup.com/ppar/article-abstract/27/4/131/4774317?redirectedFrom=fulltext.

[11] Diego Zavalata et al. *Social Isolation: A Conceptual and Measurement Proposal,* OPHI Working Paper No. 67, January 2014, available at www.ophi.org.uk/wp-content/uploads/ophi-wp-67.pdf.

[12] Diego Zavalata et al. *Social Isolation: A Conceptual and Measurement Proposal,* OPHI Working Paper No. 67, January 2014, available at www.ophi.org.uk/wp-content/uploads/ophi-wp-67.pdf.

[13] Cacioppo, J. T., Hawkley, L. C., Norman, G. J. and Berntson, G. G. (2011) “Social isolation”. In: *Annals of New York Academy of Sciences* 1231 (2011) 17–22, p. 18, https://static1.squarespace.com/static/531897cde4b0fa5080a9b19e/t/533d7dcce4b0b959d0ea74fc/1396538828105/social-isolation-2011.pdf.

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the aim of their research and the target group under scrutiny (e.g. elderly people, people with physical or psychosocial disability, certain professional groups). Both psychologists and social scientists link the perception of social support to mental and physical health.

In conceptual terms, social isolation is juxtaposed with social integration.[14] Two related bodies of literature that cut across this juxtaposition are those of social exclusion and marginalisation. Social exclusion is "a dynamic process of progressive multidimensional rupturing of the 'social bond' at the individual and collective levels".[15] Marginalisation, for its part, has been defined as "both a condition and a dynamic process that prevents individuals and groups from full participation in social, economic, and political life enjoyed by the wider society."[16] A critical factor that determines the level of social exclusion and/or marginalisation is the scope of capabilities which an individual has access to.[17] Capabilities presuppose the extent to which individuals can effectively participate in the social life and thus be adequately integrated within society. Occupation, income, family life, housing, health, and community involvement are all variables in the process of social integration/exclusion.[18] The value of each variable depends on the qualitative and quantitative characteristics of the available capabilities. Socially excluded individuals most often are those have been denied access to the resources (material, cultural, emotional) that enable them to acquire capabilities.[19]

Indicative Instruments for Measuring Social Isolation

1. Social Isolation and Socio-Economic Status

When developing a conceptual model for **measuring social isolation** with regard to **poverty**, Zavalata et al. draw upon research on **social connectedness** compiling an illustrative set of indicators (Box 1).[20]

[14] For example, see: de Jong Gierveld, J. and G. O. Hagestad (2006) "Perspectives on the Integration of Older Men and Women". In: *Research on Aging*, Vol 28, Issue 6, pp. 627 - 637

[15] Hilary Silver, *The Process of Social Exclusion: The Dynamics of an Evolving Concept*, CPRC Working Paper No 95, October 2007, Brown University, RI: Providence. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1087789.

[16] Niyara Alakhunova et al. *Defining Marginalisation: An Assessment Tool,* May 2015, George Washington University.

[17] John Bynner, *Risks and Outcomes of Social Exclusion: Insights from Longitudinal Data,* 1999, University of London.

[18] John Bynner, *Risks and Outcomes of Social Exclusion: Insights from Longitudinal Data,* 1999, University of London.

[19] John Bynner, *Risks and Outcomes of Social Exclusion: Insights from Longitudinal Data,* 1999, University of London.

[20] Diego Zavalata et al. *Social Isolation: A Conceptual and Measurement Proposal,* OPHI Working Paper No. 67, January 2014, available at http://www.ophi.org.uk/wp-content/uploads/ophi-wp-67.pdf.

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Box 1: Suggested Possible Indicators for Measuring Social Connectedness

Measuring Social Connectedness

- Satisfaction with personal relationships.
- Satisfaction with social life.
- Satisfaction with spouse or partner.
- Satisfaction with family.
- Satisfaction with friends.
- Satisfaction with people you work with.
- Self-report of partnership as being extremely happy or perfect.
- Frequency of contact with family.
- Frequency of contact with friends.
- Frequency of contact with neighbours.
- Number of close friends/friends.
- Relationship with children/youth.
- Social network support.
- Feeling of belonging to own neighbourhood.
- Loneliness.
- Free aid data.
- Social participation.
- Volunteering.
- Provision of unpaid aid.
- Donating funds to associations.
- Number of non-profit organisations.
- Number of social cooperatives.
- Participation in groups.
- Non-participation in common social activities.
- Confinement.
- Reciprocity/solidarity/cooperation.
- Trust.
- Trust in workmates.
- Religious engagement.
- Access to communication methods/preferred method for making contact with friends to arrange a meeting.
- Intensity of social networking.
- Participation in group activities.
- Collective action.

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- Mixing socially with people from different ethnic or religious backgrounds in a range of settings (excluding at home).
- Perception of relationships between managers and employees.
- Emotional support.
- Instrumental support.
- Social companionship.
- Existence of other significant persons.
- Actual support received.
- Actual support given.
- Changes in network size.
- Sources of protection.
- Social isolation risk factors.
- Happiness.
- Sources of information.
- Social cohesion.
- Physical safety.
- Empowerment.
- Political participation/civic engagement.

The authors then propose a two-fold model with specific domains for developing indicators for measuring social isolation (Box 2).[21]

Box 2: Two-Fold Conceptual Model for Assessing Social Isolation

Domains for Developing Indicators

External Social Isolation

- Frequency of social contact.
- Social network support.
- Presence of a discussion partner.
- Reciprocity and volunteering.

Internal social isolation

- Satisfaction with social relations.

[21] Diego Zavalata et al. *Social Isolation: A Conceptual and Measurement Proposal,* OPHI Working Paper No. 67, January 2014, available at www.ophi.org.uk/wp-content/uploads/ophi-wp-67.pdf.

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- Need for relatedness.
- Feeling of belonging to own neighbourhood/village/community.
- Loneliness.
- Trust.

The risk of social isolation has also been measured in relation to age and health. Cornwall and Waite suggest that health risks of social isolation should be measured by examining objective and subjective factors together – in their case social disconnectedness and perceived loneliness should be considered simultaneously as both relate to self-rated poor physical health, however, there is a strong relationship between social disconnectedness and mental health.[22]

2. Campaign to End Loneliness

The Campaign to End Loneliness is a UK-based network of national, regional and local organisations and people working through community action, good practice, research and policy to create the right conditions to reduce loneliness in later life.[23] To attain this goal, an assessment of loneliness is being carried out using risk factors as shown in Box 2.

Box 2: Key Loneliness Risk Factors

Key Risk Factors[24]

Personal circumstances

- Living alone
- Being divorced, never married
- Living on a low income
- Living in residential care

Transitions

[22] E. Y. Cornwall, and L. J. Waite. "Social Disconnectedness, Perceived Isolation, and Health among Older Adults". *Journal of Health and Social Behavior*, 50:1, 2009, pp. 31–48, available at www.ncbi.nlm.nih.gov/pmc/articles/PMC2756979/.

[23] Further details are available at www.campaigntoendloneliness.org/.

[24] Campaign to End Loneliness, *Fact Sheet: Risk Factors. Loneliness and isolation a toolkit for health and wellbeing boards*, 2012, available at www.campaigntoendloneliness.org.uk/.

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- Bereavement
- Becoming a carer or giving up caring
- Retirement

Personal characteristics

- Aged 75 plus
- From an ethnic minority community
- Being gay or lesbian

Health and disability

- Poor health
- Immobility
- Cognitive impairment
- Sensory impairment
- Dual sensory impairment

Geography i.e. living in an area

- With high levels of material deprivation
- In which crime is an issue

The Campaign to End Loneliness (CEL) Measurement Tool is a three-question survey using positive language only (Table 2).

Table 2: CEL Measurement Tool

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
1.	I am content with my friendships and relationships						

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2.	I have enough people I feel comfortable asking for help at any time						
3.	My relationships are as satisfying as I would want them to be						

Each answer is coded by a different number of scores:

- strongly disagree=4
- disagree=3
- neutral=2
- agree=1
- strongly agree=0

The total score is between 0 and 12 where 0 is least lonely and 12 is most lonely.

The main purpose of this tool is to measure a change in time as conditions outside the two extremes cannot be evaluated. The key is to focus on is how people's scores change over time.

By dint of being short and not too detailed, this tool can be easily used in a social isolation risk assessment as loneliness is among its important components. At the same time, having results in the extreme values can be a clue for any emotional or mental condition.

3. The University of California, Los Angelis (UCLA) Loneliness Scale

Developed in the 1970s and revised in the 1990s, the University of California, Los Angelis (UCLA) Loneliness Scale uses the cognitive discrepancy theory of loneliness (loneliness occurs when there is a gap between the quantity and quality of connections we have and want).[25] It is drawn from two larger older scales, and after being tested, 20 questions remained to measure both loneliness and social isolation (Table 3).

[25] See Dan Russell et al. 'Developing a Measure of Loneliness', *Journal of Personality Assessment,* vol.42:3 (1978), pp. 290-294; Daniel Russell, 'UCLA Loneliness Scale (Version 3): Reliability, Validity, and Factor Structure, *Journal of Personality Assessment*, vol.66:1 (1996), pp. 20-40.

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Table 3: UCLA Loneliness Scale, Version 1[26]

	Indicate how often each of the statements below is descriptive of you:	Often	Sometimes	Rarely	Never
1.	I am unhappy doing so many things alone.				
2.	I have nobody to talk to.				
3.	I cannot tolerate being so alone.				
4.	I lack companionship.				
5.	I feel as if nobody really understands me.				
6.	I find myself waiting for people to call or write.				
7.	There is no one I can turn to.				
8.	I am no longer close to anyone.				
9.	My interests and ideas are not shared by those around me.				
10.	I feel left out.				
11.	I feel completely alone.				
12.	I am unable to reach out and communicate with those around me.				
13.	My social relationships are superficial.				
14.	I feel starved for company.				
15.	No one really knows me well.				
16.	I feel isolated from others.				
17.	I am unhappy being so withdrawn.				

[26] Dan Russell et al. 'Developing a Measure of Loneliness', *Journal of Personality Assessment,* vol.42:3 (1978), pp. 290-294.

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18.	It is difficult for me to make friends.				
19.	I feel shut out and excluded by others.				
20.	People are around me but not with me.				

The chief weaknesses of the system are that it uses negative wording only and that it is not adapted to a certain national, professional, age, etc. group. In order to correct the first deficiency, in 1980, the authors revised the scale to include ten negatively worded and ten positively worded statements.[27]

When using the instrument for studying more diverse groups of population, the authors found out that some of the statements were misunderstood by certain groups of respondents which impacted negatively on the reliability of results. In version 3 of the UCLA Loneliness Scale the authors have aimed to simplify the wording.[28] The resultant scale has been further shortened[29] to three questions so that it could be used in larger surveys (Box 3).

Box 3: Short Scale for Measuring Loneliness

1. How often do you feel that you lack companionship?

2. How often do you feel left out?

3. How often do you feel isolated from others?

With generally three response categories: Hardly ever=1; Some of the time=2; Often=3.

[27] Daniel Russell, 'UCLA Loneliness Scale (Version 3): Reliability, Validity, and Factor Structure', *Journal of Personality Assessment*, vol. 66:1, (1996), pp. 20-40.
[28] Daniel Russell, 'UCLA Loneliness Scale (Version 3): Reliability, Validity, and Factor Structure', *Journal of Personality Assessment*, vol. 66:1, (1996), pp. 20-40, pp. 21-22.
[29] Mary Elizabeth Hughes et al., (2004) 'A Short Scale for Measuring Loneliness in Large Surveys: Results from Two Population-Based Studies', *Research on Aging,* vol.26:6 (2004), pp. 655–72.

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Similarly to the CEL Tool, the short version of the UCLA Scale is suitable as a component of the complex factors leading to social isolation of accused people.

4. De Jong Gierveld Scale

The Scale[30] consists of 11 items - six formulated negatively and five formulated positively – around people's situation of being alone (Table 4). Participants self-report on the extent to which statements apply to their situation. The model is based on the so-called cognitive-theoretical approach to loneliness (the discrepancy between what a person wants in terms of interpersonal affection and intimacy, and what they have; the greater the discrepancy, the greater the loneliness).

The scale may be used in face-to-face interviews, telephone interviews, self-administered (mail) questionnaires, as well as in electronic data collection.

Table 4. De Jong Gierveld Loneliness Scale

	Please indicate for each of the 11 statements, the extent to which they apply to your situation, the way you feel now. Please, circle the appropriate answer. **Yes!** **Yes** **More or less** **No** **No!**					
1.	There is always someone I can talk to about my day-to-day problems.					
2.	I miss having a really close friend.					
3.	I experience a general sense of emptiness.					
4.	There are plenty of people I can lean on when I have problems.					
5.	I miss the pleasure of the company of others.					
6.	I find my circle of friends and acquaintances too limited.					
7.	There are many people I can trust completely.					
8.	There are enough people I feel close to.					

[30] Jenny de Jong Gierveld and Theo van Tilburg, *Manual of the Loneliness Scale*, 1999, VU University Amsterdam, available at http://home.fsw.vu.nl/tg.van.tilburg/manual_loneliness_scale_1999.html.

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9.	I miss having people around me.					
10.	I often feel rejected.					
11.	I can call on my friends whenever I need them.					

When developing the scale, the authors used a 34-item scale of loneliness by performing a content analysis of accounts written by 114 lonely people about their experiences. The items were then tested in a pilot survey and then revised. After another test of semi-structured face-to-face interviews (N=556) the authors found out that the scale measures mostly the severe feelings of loneliness, they made an 11-level scale.

Box 4: Data Processing

Processing the scale data

Step 1

Count the neutral and positive answers ("more or less", "yes", or "yes!") on items 2, 3, 5, 6, 9, 10. This is the emotional loneliness score.

Count the missing values (i.e., no answer) on items 2, 3, 5, 6, 9, 10. This is the missing emotional loneliness score.

Count the neutral and negative ("no!", "no", or "more or less") answers on items 1, 4, 7, 8, 11. This is the social loneliness score.

Count the missing values (i.e., no answer) on items 1, 4, 7, 8, 11. This is the missing social loneliness score.

Step 2

Compute the total loneliness score by taking the sum of the emotional loneliness score and the social loneliness score.

Step 3

The emotional loneliness score is valid only if the missing emotional loneliness score equals 0.

The social loneliness score is valid only if the missing social loneliness score equals 0.

The total loneliness score is valid only if the sum of the missing emotional loneliness score and the missing social loneliness score equals 0 or 1.

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Step 4

If desired, the total loneliness score can be categorized into four levels: not lonely (score 0, 1 or 2), moderate lonely (score 3 through 8), severe lonely (score 9 or 10), and very severe lonely (score 11).

Source: Manual of the Loneliness Scale, 1999.

When applying the scale, the authors registered certain disadvantages. Furthermore, due to the specificities of its practical application norm scores were developed for an older Dutch population.

Another concern was related to the use of data collection method – self-administered questionnaires vs. face-to-face interviews. The authors believe that the absence of an interviewer would encourage the respondents to share but there is the possibility of higher non-response rate associated with self-administered questionnaires. Evidence from the practical application shows that there was a significantly higher loneliness score when self-administered questionnaires were used. The authors thus confirm the observation that, compared with interviews, the more anonymous and private setting in which mail surveys are completed, seem to reduce the tendency of respondents to present themselves in a favourable light.[31] This observation is quite relevant to the aim of this research, namely, to map the existing social isolation measurement methodologies that might be adapted to be used for people suspected or accused in committing a crime. Assuring anonymity and privacy, would however be a difficult issue, still practitioners who will apply the methodology should be aware of how it impacts the results and should do what is possible within the available context to assure privacy.

In addition, the authors have conducted a study among Dutch older adults in which the scores on the Loneliness Scale were compared with the UCLA-loneliness scale described in the preceding section. [32] The results showed that this Loneliness Scale was sufficiently reliable, but insufficiently homogeneous. In another study among Dutch young adults,[33] there was a strong correlation

[31] Seymour Sudman and Norman Bradburn, *Response Effects in Surveys: A Review and Synthesis*. National Opinion Research Centre, Chicago: Aldine Publishing, 1974, available at www.norc.org/PDFs/Publications/Response_Effects_in_Surveys_1974.pdf.

[32] Jenny de Jong Gierveld and Theo van Tilburg, 'Kwaliteitsbepaling van meetinstrumenten via triangulatie'. In P.G. Swanborn, J. de Jong Gierveld, T.G. van Tilburg, A.E. Bronner, & G.W. Meijnen (Eds.), *Aspecten van onderzoek: Theorie, variabelen en praktijk*, Rijksuniversiteit Utrecht 1991, pp. 29-64; Jenny de Jong Gierveld and Theo van Tilburg, 'Triangulatie in operationaliseringsmethoden' in G.J.N. Bruinsma & M.A. Zwanenburg (Eds.), *Methodologie voor bestuurskundigen: Stromingen en methoden*, Muiderberg: Coutinho, 1992, pp. 273-298.

[33] L. Gerritsen and J. de Jong Gierveld, 'Validating the De Jong Gierveld's Loneliness Measurement Instrument: Young Adults' Concepts of Loneliness Investigated by Means of the Vignette Technique' in J.J. Hox & W. Jansen (Eds.), Measurement Problems in Social and Behavioral Research. Amsterdam: SCO-Kohnstamm Instituut, 1995.

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between the two scales. Both correlated more or less equally with two single, direct questions on loneliness.

5. Duke Social Support Index

In contrast with the above instruments that measure loneliness, the Duke Social Support Index measures the perception of social support.[34] Social support is considered important for countering the adverse effects of stress and promoting health. First designed as a 35-component tool for measuring different aspects of social support (Table 5), the Duke Social Support Index (DSSI) has later been adapted to be used for surveying older adults and people with poor health.[35] The design and the form of DSSI can serve as a basis for methodology development.

Table 5: Original 35-item Duke Social Support Index

	Duke Social Support Index	
	Social Network Subscale	
1.	Number of parents and grandparents who live within 1-hour travel.	
2.	Number of brothers and sisters who live within 1-hour travel.	
3.	Number of children who live within 1-hour travel.	
8.	Amount of time spent talking with other people at work or school.	
34.	Household size.	
	Social Interaction Subscale	
4.	Number of family members within one hour that subject can depend on or feel close to.	
5.	Number of times past week spent time with someone not living with.	
6.	Number of times past week talked with friends/relatives on the telephone.	
7.	Number of times past week attended meetings of clubs, religious groups, or other group that you belong to (other than at work).	

[34] Duke University has published a number of instruments on measuring health, age and well-being. They can be found at: http://guides.mclibrary.duke.edu/testinstruments/duke.

[35] H. E. Koenig, et al. 'Abbreviating the Duke Social Support Index for Use in Chronically Ill Elderly Individuals', *Psychosomatics*, vol.34:1 (1993), pp. 61-9.

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	Subjective Support Subscale	
10.	How often do you feel lonely?	
11.	Do family and friends understand you?	
13.	Do you feel useful to family and friends?	
14.	Do you know what is happening with family and friends?	
15.	Do you feel listened to by family and friends?	
16.	Do you feel you have a definite role in family among friends?	
17.	Can you count on family and friends in times of trouble?	
18.	Can you talk about your deepest problem?	
19.	How satisfied are you with the relationships with family and friends?	
33.	Do you need additional help?	
	Instrumental Support Subscale	
	Do family and friends ever help you in any of the following ways:	
20.	Help out when you are sick?	
21.	Shop or run errands for you?	
22.	Give you gifts (presents)?	
23.	Help you with money?	
24.	Fix things around your house?	
25.	Keep house for you or do household chores?	
26.	Give you advice on business or financial matters?	
27.	Provide companionship for you?	
28.	Listen to your problems?	
29.	Give you advice on dealing with life's problems?	

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30.	Provide transportation for you?	
31.	Prepare or provide meals for you?	
32.	Help take care of small children?	
	Other Items	
9.	Are you satisfied with how often do you see your friends and relatives?	
12.	Is there at least one person with whom you have a close, lasting relationship?	
35.	Are you presently married or currently living with someone as though married?	

Practical Implementation of Assessment Instruments: Improvements and Combinations

1. Measuring Social Isolation among Older Adults Using Multiple Indicators from the NSHAP Study

Cornell and Waite[36] take advantage of the different methodologies and data used within the National Social Life, Health, and Aging Project[37] to conceptualise the measurement of social isolation among older adults. They note the multiple definitions of social isolation and the different approaches taken by social scientists and psychologists. In order to integrate these into a single classification, they propose a two-fold concept of social isolation comprising an objective and a subjective dimension: 1) social disconnectedness and 2) perceived isolation, respectively.

The Social Disconnectedness Scale

The Social Disconnectedness Scale comprises eight items (Table 6). The **first** group of four indicators refers to the size and composition of one's social network. The **second** group of indicators covers the reported number of friends, excluding spouse and family members. The **third** group comprises indicators for assessing the average frequency and participation of individuals in social activities.

[36] E. Y. Cornwall and L. J. Waite, 'Social Disconnectedness, Perceived Isolation, and Health among Older Adults'. *Journal of Health and Social Behavior*, 50:1, 2009, pp. 31–48, available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2756979/.

[37] Further details are available at http://www.norc.org/Research/Projects/Pages/national-social-life-health-and-aging-project.aspx.

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Scores of social disconnectedness range from 1.30 to 2.34 with a weighted mean of 0.02 and standard deviation of 0.63.

Table 6. Social Disconnectedness Scale Indicators

Social Network Characteristics	***Measurement Scale***
Social network size	Ranging from 0 to 5-6 or more.
Social network range	Number of types of relationships in the network; ranging from 0 to 5.
Proportion of social network members who live in the household	Ranging from 0 to 1.
Average frequency of interaction with network members	Ranging from 0 to 1 where 0 is when the respondent does not contact any alters and 1 is when the respondent contacts all alters every day.
Number of friends	
How many friends do you say you have?	0=none; 1=1 friend; 2=2-3 friends; 3=4-9 friends; 4=10-20 friends; 5= more than 20 friends.
Social participation	
Frequency of attending meetings of an organized group	Ranging from 1 (never) to 7 (several times a week).
Frequency of socialising with friends and relatives	Ranging from 1 (never) to 7 (several times a week).
Volunteering	Ranging from 1 (never) to 7 (several times a week).

Covariates and dependent variables are age (in decades) and attendance of college (1=at least some college and 0=no college attendance)

Perceived Isolation Scale

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The perceived isolation scale comprises nine items that measure loneliness and the lack of social support. The **first three** items measuring loneliness incorporate the 2004 UCLA Loneliness Scale discussed in the preceding section. The **remaining six** indicators measure perceived social support (Table 7).

The scores scale ranges from 0.98 to 3.63 with a weighted mean of 0.01 and deviation of 0.59.

Table 7: Perceived Isolation Scale Indicators

Loneliness	***Measurement Scale***
How often do you feel that you lack companionship?	1=hardly ever or never; 2=some of the time; 3=often
How often do you feel left out?	1=hardly ever or never; 2=some of the time; 3=often
How often do you feel isolated from others?	1=hardly ever or never; 2=some of the time; 3=often
Perceived social support	
How often can you open up to member of your family?	1=often; 2=some of the time; 3= hardly ever or never
How often can you rely on members of your family?	1=often; 2=some of the time; 3= hardly ever or never
How often can you open up to your friends?	1=often; 2=some of the time; 3= hardly ever or never
How often can you rely on your friends?	1=often; 2=some of the time; 3= hardly ever or never
How often can you open up to your spouse or partner?	1=often; 2=some of the time; 3= hardly ever or never
How often can you rely on your spouse or partner?	1=often; 2=some of the time; 3= hardly ever or never

Covariates and dependent variables are again age (in decades) and attendance of college (1=at least some college and 0=no college attendance)

Cornell and Waite used as dependent variables the self-rated measures of physical and mental health status, as well as an indicator of depressive symptoms in the form of an 11-item version

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of the Centre for Epidemiological Studies Depression Scale.[38] The obtained data was analysed using the ordered logistic regression.

2. Loneliness among Older Adults: A National Survey of Adults 45+

In 2010, the AARP (formerly American Association of Retired Persons)[39] – a non-profit social welfare organisation in the USA – implemented a nationally-representative survey (N=3,012) among adults of 45 years and older to measure loneliness.[40] Data was collected by using an online research panel with panel members recruited by a probability-based sampling and households were provided with internet access and hardware, if needed. The survey asked about:

- Health and health behaviours;
- Current relationships;
- Size of social network;
- Frequency and methods of communication with the members of the network;
- Participation in religious services, hobbies and community organisations;
- Feelings of loneliness and coping strategies; and
- Use of social and community technology.

The questions were crossed with the measurement of loneliness to associate different aspects of life with the perception of isolation. The survey used two methods to measure loneliness – the UCLA Loneliness Scale of 20 items to assess the perception of loneliness or social isolation and a single-item measure, formulated as: "Overall, how often do you feel lonely or isolated from those around you?"

The respondents scoring up to 43 of the 80-stage scale were classified "not lonely" and those scoring 44 or higher were classified as "lonely".

3. The Role of Social Relationships in Predicting Loneliness

The authors of this study titled *The Role of Social Relationships in Predicting Loneliness*[41] follow the cognitive discrepancy theory of loneliness underscoring the importance of subjective perceptions and evaluations of different factors such as social needs. It lays its concepts on the basis of De Jong Gierveld model which suggests that the "descriptive characteristics of the social

[38] Lenore Sawyer Radloff, 'The CES-D Scale: A Self-Report Depression Scale for Research in the General Population', *Applied Psychological Measurement*, vol.1, 1977; pp. 385–401.
[39] Further details are available at www.aarp.org.
[40] C. Wilson and B. Moulton, *Loneliness among Older Adults: A National Survey of Adults 45+*, Washington, DC: AARP, 2010. Available at www.aarp.org/research/topics/life/info-2014/loneliness_2010.html.
[41] Sh. Shiovitz-Ezra and Sara A. Leitsch,"The Role of Social Relationships in Predicting Loneliness: The National Social Life, Health, and Aging Project", *Social Work Research*, Vol.34: 3, 2010, pp. 157–167.

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network" and the "subjective evaluations of the social network" are the two main components of loneliness assessment:

- The "descriptive characteristics of the social network" (the objective aspect) refer to the network size and frequency of contact. Further research among older adults suggests changes to the methodology, mainly in terms of the weight ascribed to different determinants. Whilst having friends and children living nearby has shown to decrease the level of reported loneliness in Florida, USA and Sweden,[42] no such relation is observed about marital status.
- The "subjective evaluations of the social network" underscore the link between subjective perception and the issue of loneliness. They add that "social ties are not always beneficent and supportive, but can also be hurtful" and both of these characteristics can occur in one relationship.

The research uses data from the first wave of the National Social Life, Health, and Aging Project (NSHAP).[43] This is a nationally representative survey among non-institutionalised older adults and which has generated the same sample as the Health and Retirement Study (HRS) allowing for comparison of data and further analysis.

In terms of variables, the 3-item version of the UCLA Loneliness Scale was used with a 3-stage scale to rate how often respondents felt a lack of companionship; being left out; or being isolated from others. As regards the social network characteristics, the objective ones included current marital status; number of living children and grandchildren; number of relatives and friends in a six-point scale ranging from none to more than 20; number of contacts with neighbours. The subjective characteristics of the social network used MacArthur Midlife in the United States survey (MIDUS)[44] indicators that measure perceived strain and perceived social support (Tables 8 and 9).

Table 8: Indicators of Perceived Support

1.	How often can you open up to your (husband/wife/partner) if you need to talk about your worries?	hardly ever	some of the time	often

[42] L.C. Mullins and C.H. Elston, "Social Determinants of Loneliness among Older Americans". *Genetic, Social & General Psychology Monographs*, vol.122, 1996, pp. 453–473; K. Holmen et al. "Loneliness among Elderly People Living in Stockholm: A Population Study", *Journal of Advanced Nursing*, vol.17, 1992, pp. 43–51.

[43] Further details are available at www.norc.org/Research/Projects/Pages/national-social-life-health-and-aging-project.aspx.

[44] Further details are available at http://midus.wisc.edu/scopeofstudy.php.

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2.	How often can you rely on (him/her) for help if you have a problem?	hardly ever	some of the time	often

Table 9: Indicators of Perceived Strain

1.	How often does your (husband/wife/partner) make too many demands on you?	hardly ever	some of the time	often
2.	How often does (he/she) criticize you?	hardly ever	some of the time	often

The values of the two 'perceived support' indicators and the two 'perceived strain' measures are summed separately for spouse, relatives, and friends.[45]

4. Social Networks in the NSHAP Study

As part of the National Social Life, Health, and Aging Project's (social network module), the authors look at one of the forms of social integration – social network connectedness. [46] They consider it among the most difficult forms to measure thoroughly. As a first step in collecting social network data, they identify each respondent's circle of individuals and the types of relationships that connect them. The pre-defined number of roles and the importance that social scientists attribute to these roles are not relevant to each individual case and often disregard social connections that are more intensive.[47] This approach, however, does not allow for the respondents to select who the most important ones are; another limitation is related to the sensitivity to more general forms of connectedness. The NSHAP study tries to avoid these limitations by allowing the respondents to point several network members assigned to different 'rosters' and to explain the links between them. The study uses the following indicators:

- Network size;
- Network composition;

[45] Another instrument for obtaining self-reported health status (usually used as covariate) is the Duke Health Profile: Parkerson et al. "The Duke Health Profile: A 17-item measure of health and dysfunction", *Med Care*, vol. 28:11, 1990, pp. 1056-1072, https://cfm.duke.edu/research/duke-health-measures.

[46] B. Cornwell et al. "Social Networks in the NSHAP Study: Rationale, Measurement, and Preliminary Findings", *Journal of Gerontology: Social Sciences*, vol. 64B:S1, 2009, pp. i47–i55л

[47] L.F. Berkman et al eds. *Social Epidemiology*. Second edition. Oxford: Oxford University Press, 2014.

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- Emotional closeness to network members;
- Volume of contact with network members;
- Network density;
- Network bridging potential.

5. The Brain and Social Connectedness: GCBH Recommendations on Social Engagement and Brain Health

Social engagement and connectedness have been studied in relation to one's ability to judge, think and sustain perception with age, called cognitive health. The Global Council on Brain Health (GCBH)[48] adds to the existing research that has linked social isolation and loneliness to poorer health by examining the link between social disconnectedness and the capacity for keeping the brain sharp.

When measuring social connectedness for the purpose of their study, the authors use a three-part model of social connectedness comprising structural components, functional components; and quality components (Table 10).

Table 10: Classification of Social Connectedness Components

Structural Components (the features of social connectedness)	Functional Components (the nature of interactions)	Quality Components (individual experience)
Composition of group: age, gender, cultural diversity	Complexity (emotional and behavioural dimensions)	Fun/ Novelty
Duration of contact	Instrumental support	Joyfulness
Frequency of contact	Emotional support	Meaningfulness/ Purposefulness
Individual vs. group activity	Intensity	Satisfaction with ties
Presence or absence: family or friends, partner, spouses, neighbours	Intergenerational dynamic (transfer of knowledge)	Sense of belonging
Size of group(s)	Reciprocity	Sense of social well-being
Type	Variety	Supportiveness

[48] Global Council on Brain Health, *The Brain and Social Connectedness: GCBH Recommendations on Social Engagement and Brain Health*, 2017, available at www.aarp.org/content/dam/aarp/health/brain_health/2017/02/gcbh-social-engagement-report.pdf.

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6. The Potential Public Health Relevance of Social Isolation and Loneliness: Prevalence, Epidemiology, and Risk Factors

The study titled *The Potential Public Health Relevance of Social Isolation and Loneliness: Prevalence, Epidemiology, and Risk Factors* was published in 2018 and examines the links between social isolation and health.[49] As other works suggest, social isolation and loneliness are distinct experiences, but the author Julianne Holt-Lunstad adds that both are characterised by a lack of social connection. Despite the general lack of data, there are some basic social disconnectedness indicators collected within the Census in the USA – e.g. number of people who live alone, share of unmarried population, share of first marriages, and number of remarriages ending in divorce. The three main social disconnectedness risk factors are considered to be social isolation, loneliness and living alone.[50]

The study suggests that there is a dose-response effect, or, in other words for every level of increase in isolation, there is an increase in the risk of social disconnectedness. This dose-response effect can be observed among indicators of structural, functional, and quality aspects of relationships. Holt-Lunstad believes that the available data supports that this should be treated as a continuous, and not a dichotomous issue. [51]

There are factors that may contribute to both an increased risk for premature mortality and increased risk for loneliness: e.g. living alone, being unmarried (single, divorced, widowed), no participation in social groups, fewer friends, and strained relationships. Retirement and physical impairments may increase the risk of social isolation. Although few studies examine multiple components of social connectedness in the same sample, measures for complex social integration tend to be the strongest predictors of mortality. [52]

7. Social isolation, loneliness, and all-cause mortality in older men and women

In a similar to the above research,[53] Steptoe et al. agree that social isolation and loneliness are associated with higher mortality rate, but they need to further investigate the link between the

[49] J. Holt-Lunstad, „The Potential Public Health Relevance of Social Isolation and Loneliness: Prevalence, Epidemiology, and Risk Factors".*Public Policy & Aging Report*, Vol. 27:4, 2017, pp.127–130.
[50] J. Holt-Lunstad, „The Potential Public Health Relevance of Social Isolation and Loneliness: Prevalence, Epidemiology, and Risk Factors".*Public Policy & Aging Report*, Vol. 27:4, 2017, pp.127–130, p. 128.
[51] J. Holt-Lunstad, „The Potential Public Health Relevance of Social Isolation and Loneliness: Prevalence, Epidemiology, and Risk Factors".*Public Policy & Aging Report*, Vol. 27:4, 2017, pp.127–130, p. 128.
[52] J. Holt-Lunstad et al. "Social Relationships and Mortality Risk: A Meta-analytic Review", *PLoS Med* vol.7:7, 2010, pp. 1-20, available at http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000316#abstract1; J. Holt-Lunstad et al. "Loneliness and Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review", *Perspectives on Psychological Science*, Vol. 10:2, 2015, pp. 227 – 237.
[53] A. Steptoe et al. "Social isolation, loneliness, and mortality", *Proceedings of the National Academy of Sciences*, vol.110:15, 2013, pp. 5797-5801, available at www.pnas.org/content/pnas/110/15/5797.full.pdf.

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two by assessing the extent to which the association between social isolation and mortality is mediated by loneliness, or whether loneliness represents the emotional pathway through which social isolation impairs health. In order to do that, the authors assess social isolation in terms of:

- contact with family and friends, and
- participation in civic organisations.

A standard questionnaire-measure of loneliness was used.

The survey was carried out among 6,500 men and women aged 52 and older in 2004–2005. The authors then monitored respondents' mortality rate by 2012 and analysed results using Cox proportional hazards regression. The results showed that mortality was higher among more socially isolated participants. However, after adjusting statistically for demographic factors and baseline health, social isolation remained significantly associated with mortality, but loneliness did not. The association of social isolation with mortality was unchanged when loneliness was included in the model. Both social isolation and loneliness were associated with increased mortality. However, the effect of loneliness was not independent of demographic characteristics or health problems and did not contribute to the risk associated with social isolation.

8. Occupational Isolation among General Practitioners in Finland

Another study examines the level of professional isolation and loneliness of general practitioners in Finland as a factor that makes a profession less attractive.[54] The study uses qualitative in-depth interviews with people working in health centres to extract a number of themes which are then analysed.

The research was carried out in six communities – two small-sized, two medium and two large. In terms of results, isolation was one of the topics that emerged in the interviews. When analysing the data, the authors identified four aspects of the concept of isolation at work:

- making decisions alone;
- a lack of collaboration with other workers in the health centre and secondary care;
- not being a part of the work community; and
- a lack of mentoring at work.

These components were disaggregated to fit the different levels of the organisation of the healthcare system (Table 11).

[54] M. Aira et al. "Occupational isolation among general practitioners in Finland", *Occupational Medicine*, vol.60:6, 2010, pp.430-5.

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Table 11: Components of Isolation Perceived by Finnish Primary Health Care Centre Physicians at Different Levels of the Health Care Organisation

Relation to the health care system or employer group	Components of isolation			
	Making decisions alone	**Deficient collaboration**	**Not being a part of the work community**	**Lack of mentoring at work**
Relation to the healthcare system			In the health care system; in the health centre organisation.	Official mentoring
Relation to specialist healthcare	Specialist health care consultations	Collaboration with special health care in hospitals		
Relation to colleagues	Consultations of specialists provided at the health centre; consultations with a GP colleague	Collaboration with other GPs	Among colleagues	Possibility of mentoring among GP colleagues
Relation to nursing team		Collaboration with the nursing team	In the primary health care team	Support from the nursing staff

Source: "Occupational Isolation among General Practitioners in Finland", 2010.

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