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# Social Causes of Mortality and Morbidity: The Current and Future Potential of Longitudinal Studies of Ageing

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On behalf of the National Steering Committee of TILDA

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# Social Determinants of Mortality and Morbidity

- **Social Engagement** (social network, support, integration, relationship quality)
  - Socio-Economic Status (education, income)
  - Social Gradient (social hierarchy)
  - Social Capital (community level characteristics)
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# Domains of 'social engagement'/connectedness

- **Social network:** structural characteristics
  - **Social integration:** positive engagement in relationships and activities
  - **Social support:** functional content
  - **Relationship quality:** negative aspects, conflict demands, criticism
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# Why is 'social engagement' important in longitudinal studies?

Scientifically...

- Arguably the **least understood** aspect of ageing – new area of scientific enquiry
  - Diverse approaches have yielded plentiful evidence of **association between 'social' and 'health'** (and 'social' and 'wealth') ---
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## Why is social engagement important?

The **health risks** associated with lower levels of **social integration** are comparable to those of smoking, high blood pressure and obesity

(Cohen, Underwood and Gottlieb 2000: 6)

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# Why is social engagement important?

Socially integrated persons are less likely:

- To have **heart attacks** (Kaplan et al. 1988)
  - To develop **upper respiratory illness** (Cohen et al. 1997)
  - To die from breast **cancer** (Funch and Marshall 1983)
  - To have **cognitive decline** and **dementia** (Bennett et al. 2006)
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# Aim of the presentation:

- Discuss the ‘social engagement’ variables (network, support, participation, integration, relationship quality)
  - Discuss the potential for advancing social epidemiology through incorporation of “**social engagement indicators**” and **physiological measurements** in the Irish Longitudinal Study on Ageing (TILDA)
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# Why is the 'social' component challenging?

1. **Lack of uniformity on definitions** leading to a variety of terminology (Social network, participation, integration, support, engagement, conflict, activity etc.)
2. **Heterogeneity in methods and measurements** with obvious overlaps between concepts and measurements

**Proposed solution** to generate '**broader**' measurements (terms that encompass multiple concepts include: 'social engagement', 'social connectedness')

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# Why is the ‘social’ component challenging?

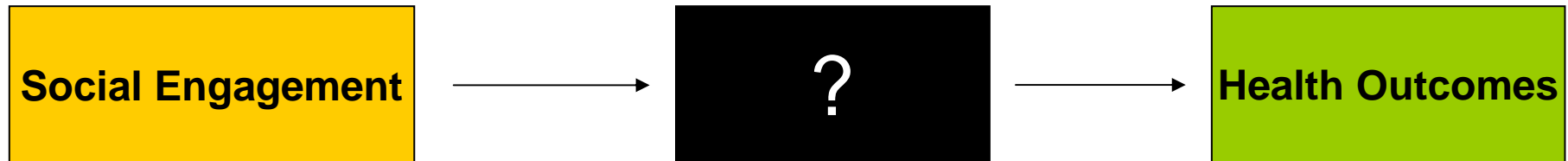
## 3. Complex interactions and association with ‘health’:

- All these concepts represent **different constructs**, often only **moderately correlated**
    - e.g. structural (network) and functional (support) measures are NOT highly correlated
  - Association between ‘social engagement’ and mortality/morbidity probably **more complex than a unilateral cause-effect relationship**
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# Why is the 'social' component challenging?

## 4. Precise pathways as-yet poorly understood



Does social engagement influence the development of

- Risk factors or health behaviours?
  - Disease progression?
  - Survival after an event (e.g., CVD and CVD prognosis, breast cancer)
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## Links between ‘social’ and ‘health’

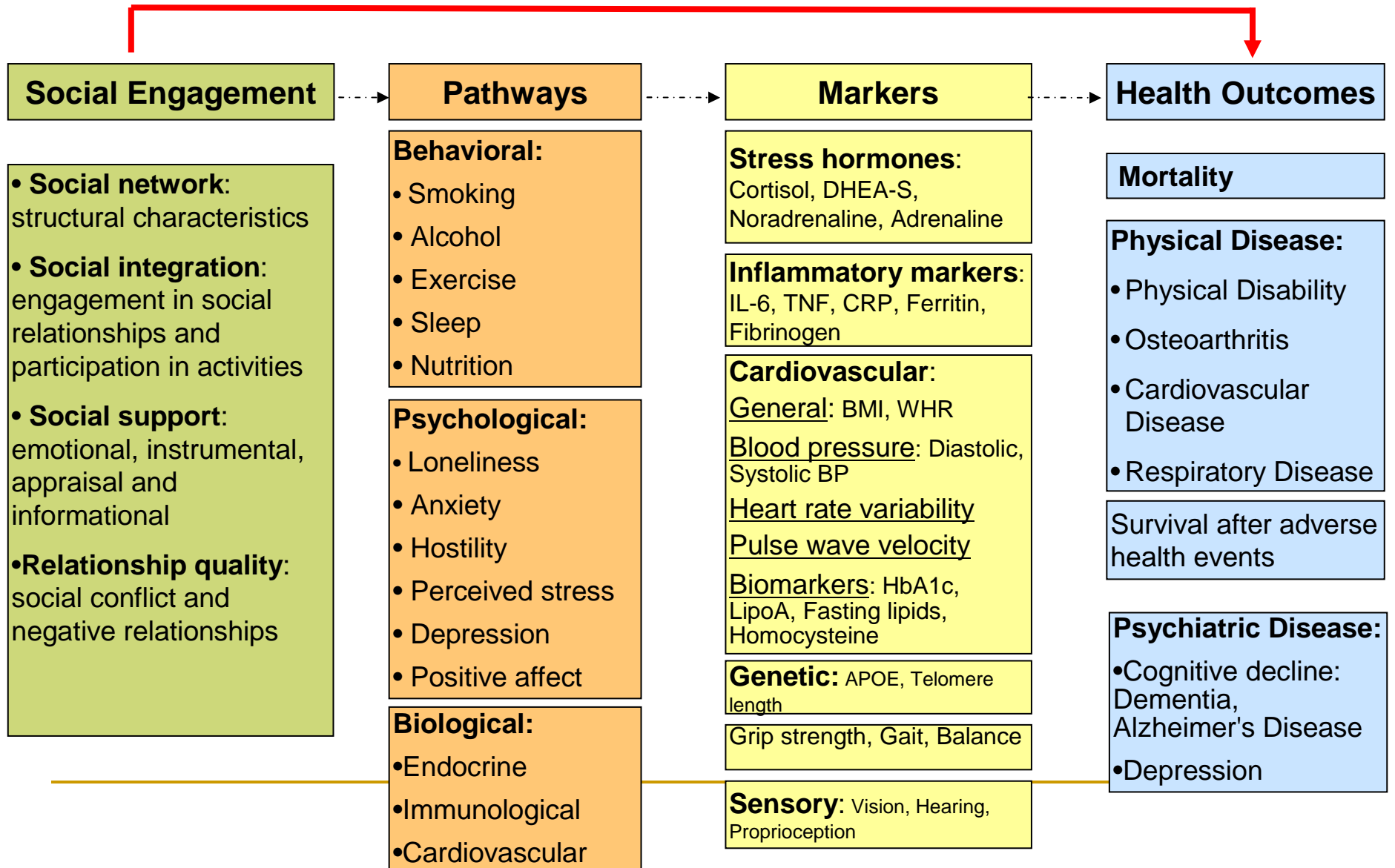
- “Adequate tests of the hypothesis that social circumstances alter general susceptibility of disease in humans will not be possible... until data are available on physiologic mechanisms capable of mediating the relationship between social events and disease outcomes” (Berkman and Syme, 1979)
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# Links between ‘social’ and ‘health’

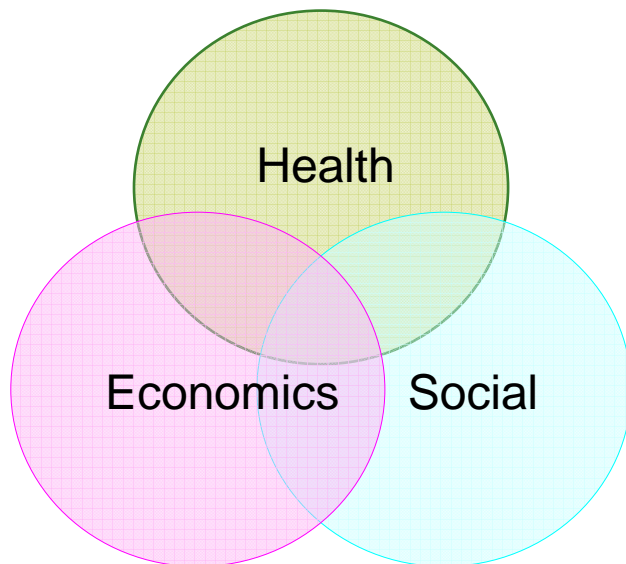
- ‘The evidence that social support is beneficial to health and that social isolation leads to ill health is now considerable...Yet the exact nature of the positive influence of social support on health remains elusive...’ (Stansfeld 2006: 148)
  - ‘The research task is to give an account of what links social structure to health outcomes – to ask, **what are the intermediary steps?**’ (Marmot 2001: 353)
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# Understanding the pathways: Biomarkers, Physical Assessments



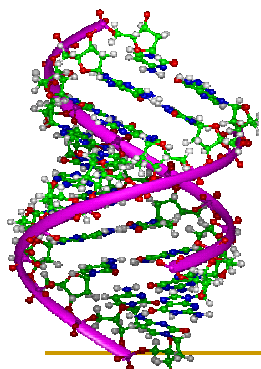
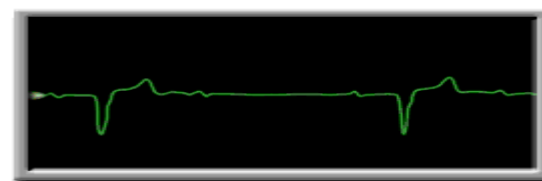
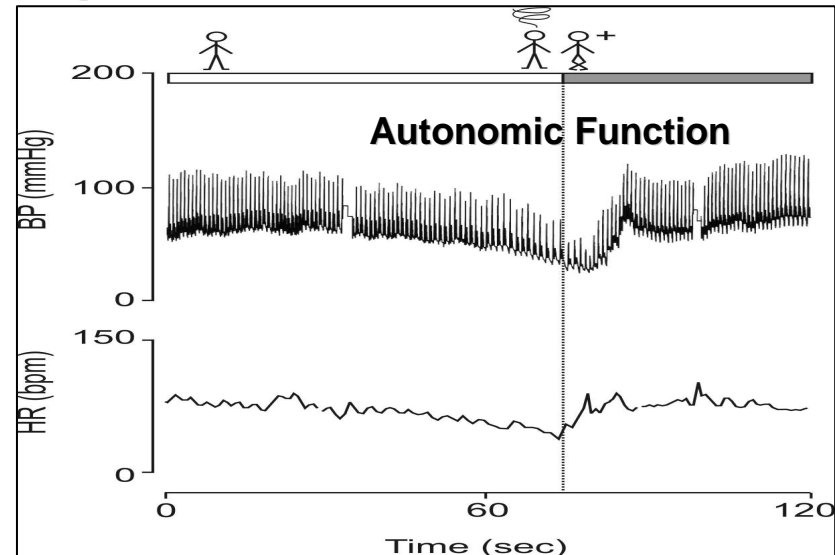
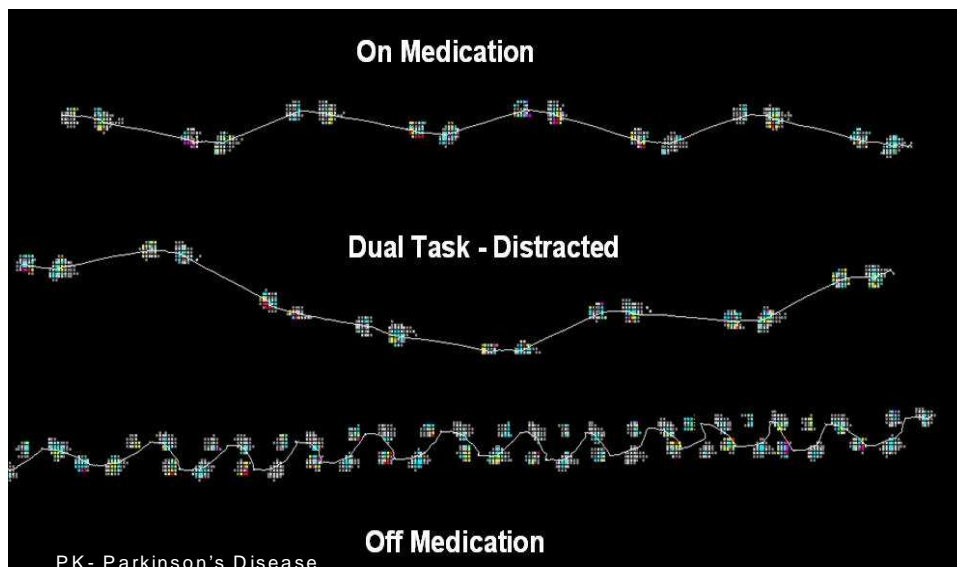
# TILDA

- Nationally representative longitudinal survey of ~10,000 people over age 50
- Multiple waves over 10 years
- Designed to produce public use data



## TILDA is working with other cutting edge research in Ireland

### Gait & Balance

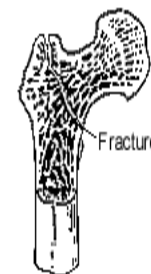


Normal bone



Close-up view

Bone with osteoporosis



Close-up view

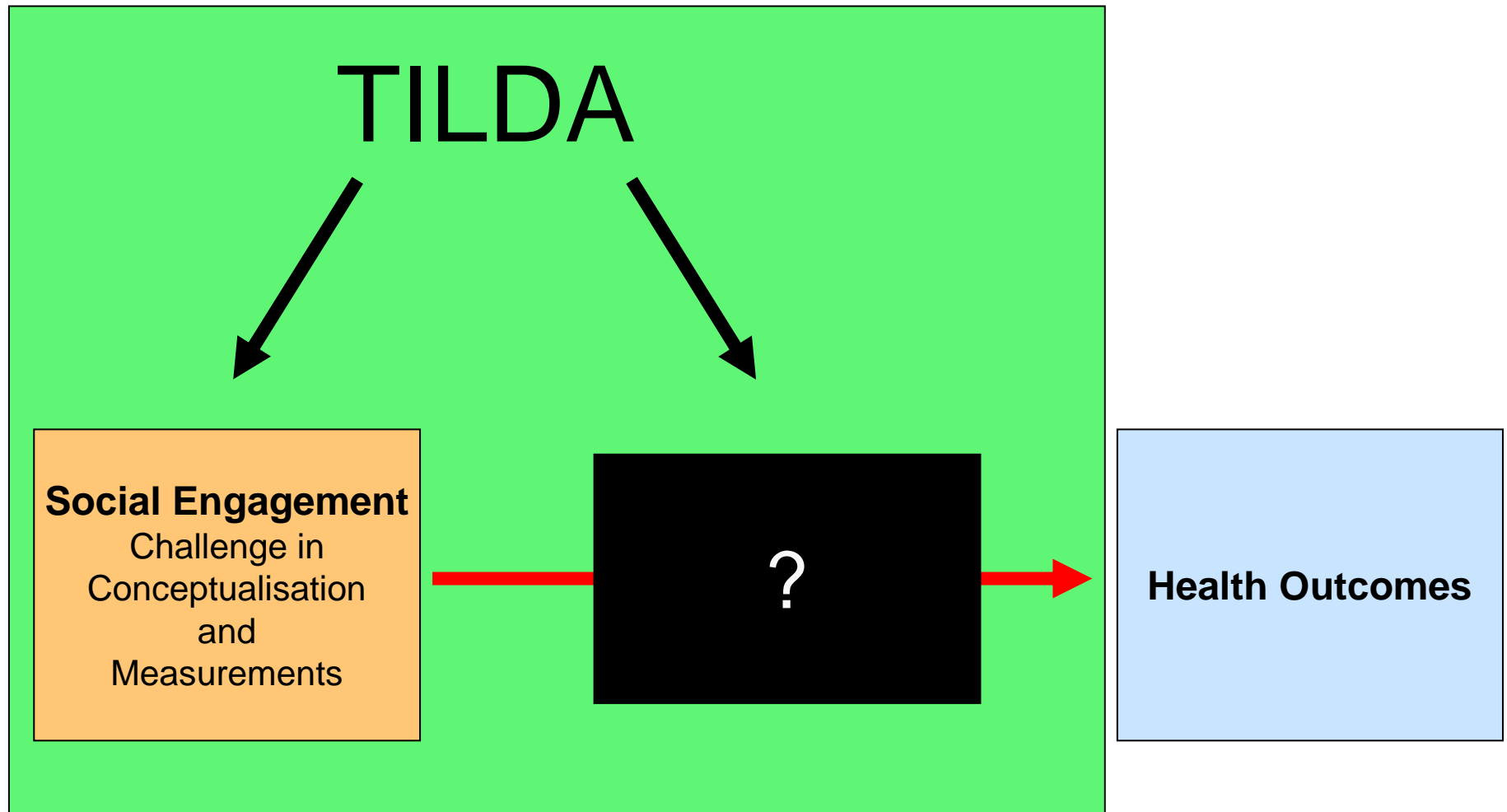
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## Why is the ‘social’ component challenging?

1. **Lack of uniformity** on definitions leading a variety of terminology
  2. **Heterogeneity** in methods and measurements
  3. Complex interactions and association with ‘health’
  4. Precise **pathways** as-yet poorly understood
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# Conclusion



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# Social Networks:

## Structural Characteristics

**Kin:** parents, spouse/partner, children, grandchildren, siblings:

**Distance**

**Frequency of contact**

**Mode of contact:** face-to-face vs other (phone, letter, e-mail)

N.B. NOT full-blown network analysis (we omit density, boundedness, homogeneity...)

But questions on multiplexity (number of different types of support flowing through a set of ties) and direction of transfers

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# Social Integration

= 1. engagement in social relationships, 2. participation in activities

## 1. Relationships:

### Items from Berkman's SNI

(Berkman and Syme 1979 – number and relative importance of ties across 4 categories – basis for other longer scales such as EPESE and Cohen's SNI (1991, 1997)):

‘How many children do you feel very close to?’

‘In general, apart from your children, how many relatives do you have that you feel close to?’

‘In general, how many close friends do you have?’

(Specify for latter two: ‘People you feel at ease with, can talk to about private matters and can call on for help’)

### Items from Cohen's SNI (not covered elsewhere):

~~Frequency of talking to ‘other relatives’, colleagues, fellow club/group members (religious and non-religious).~~

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# Social Integration *Cont.*

## 2. Activities:

**Social Participation Scale** (SPS, House et al. 1982 – Tecumseh community study)

**Four activity categories:**

- **Formal organisational involvement** (outside work)

Link to SNI ‘About how often do you attend religious meetings or services’ and ‘Do you participate in any groups’

- **Intimate social relations** (visiting people)
- **Active and relatively social leisure** (cinema, pub etc.)
- **Passive and relatively solitary leisure** (TV, reading etc.)

(Ideally also measure satisfaction with activities undertaken)

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# Social support

Often classified into: **emotional, instrumental**, appraisal (decision-making, feedback), informational.

## **Perceived and Received**

**EPESE** (Seeman and Berkman 1988):

- Close person you can confide in (yes/no) – choose one from list.
- Can count on help with daily tasks? (yes/no) up to 2 from list, adequacy.
- Can count on emotional support? (yes/no) – source, adequacy
- Perceived adequacy of personal contact with children.

(PLUS non-financial transfers in the intra-family (parents-children) section)

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