Grey & Pleasant Land
WP1: Connectivity Measurement Issues
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This position paper builds on previous discussion and correspondence about the conceptual core of WP1. In this paper I have suggested some ways that we may operationalise some of the ideas that have been put forward. The paper is built on the premise that we have arrived at a tentative agreement that:

1. Social capital does provide a basis for a conceptual core for WP1 however,
   a. it is not something that can be imposed on others
   b. it needs some additions/amendments to fit our purpose

2. The data collected needs to be able to answer a range of research questions for each of the WPs.

In SP1, Nigel identified four types of connectivity to be found in the social capital literature, bonding, bridging, linking and contested. In this respect, social capital can be thought about as the study of social networks, norms, trust and reciprocity. These aspects of social capital need to be considered on three levels, in the informal realm which refers to family friends and neighbours (bonding capital); in the community or generalised realm\(^1\) which refers to engagement in clubs, societies and other formal organisations (bridging capital); and in the institutional realm which refers to relationships to national and local governments, police, organised religion (e.g. church), political parties and other institutions in the public and private sector (linking capital).

If we take social capital as the conceptual core of WP1, we need to be able to investigate social networks, norms, trust and reciprocity within the three realms. However, it is clear from discussion between colleagues (and especially with reference to WP4), there is also another form of connectivity which is not addressed in this framework, that is the bond between a person and the place in which they live. Stone & Hughes (2002) note that although there is some work on community connectedness, the relationships between belonging to a community or locality and social capital is one which requires further empirical exploration. Thus GPL could contribute to theory in this area by determining whether local connectedness informs our understanding of social capital in any geographic area. Certainly some of the research that I have completed shows that attachment to place is associated with community type, and related to previous migration patterns (Burholt & Naylor 2005).

Within each of the four realms (informal, generalised, institutional and place) there has been considerable empirical gerontological research on which we can build. Following is a discussion of the measures in each realm that have been used with older populations.

Informal Realm of Social Capital: Bonding Capital

Despite the considerable accumulation of research on social relationships there is little agreement on the best methods of measuring and conceptualising social resources. This is partly due to the vast array of measures that have been used (Glass et al. 1997; Hanson & Östergren 1987; Heitzmann & Kaplan 1988).

Research has demonstrated that social resources have multiple dimensions (Hall & Wellman 1985; Wellman 1988) and for older people are the products of the cumulative impact of life course factors (Connidis & Davies 1990). Measurements of social resources often distinguish between the structure and the function of the relationships within the network of social resources (Barrera 1986;)

\(^{1}\) My understanding is that the generalized realm extends beyond the confines of a bounded community and as such should be able to incorporate Robin’s concerns about engagement in more remote organisations/activities. As yet there is not have a method of measuring distance incorporated in the standard instruments.
‘Structure’ includes the frequency and quantity of social contact with other individuals (Avlund et al. 1998; Cooper et al. 1999), whereas the ‘function’ is often described in terms of the type of support provided e.g. emotional, informational or practical (Avlund et al. 1998; Cohen & Willis 1985; House & Kahn 1985; Kessler et al. 1985). It has been argued that the quality rather than quantity of social resources are likely to exert an impact on an individual (Orth-Gomér & Undén 1987; Pinquart & Sörensen 2000). Therefore, satisfaction that is expressed about the quality and quantity of relationships should also be taken into account in the measurement of social resources (Cooper et al. 1999).

Criticism of social support research has focused on the lack of a single measure that captures the dimensions of social support and can quantify the intensity of support (Madge & Marmot 1987). Other criticisms of social support network measurement techniques focus on the lack of reporting on the psychometric properties of the scales and that there is little or no reporting of validity and reliability (O’Reilly 1988; Winemiller et al. 1993). A systematic review of seventeen existing models for social resources showed that although functional measures tended to be multidimensional they were difficult to administer, often being time consuming and difficult for the respondents to understand. On the other hand, structural measures were less time-consuming and easily understood by respondents but were not assessed for validity and reliability. Overall, it was suggested that the ‘ideal study’ should include structural and functional measures of social support (Orth-Gomér & Undén 1987).

Bearing these criticisms in mind, and taking into account that we require a measurement of social networks that is easy to administer, we have several examples of measurements of social support of older people in the informal realm from the gerontological literature on which we can draw. For example, there are measures developed by Wenger (1991), Fillenbaum, & Smyer (1981), Litwin (2001), Melkas & Jylhä (1996) Lubben et al. (2006), or Antonucci (1985) which can be used to measure social networks in terms of their strengths/weaknesses, and breadth. Each of these measurements has their own strengths and weaknesses.

The Wenger Support Network Typology (Wenger 1991) is based on qualitative and quantitative research conducted in the UK and subsequently tested in Bangladesh (Burholt et al. 2000) and China (Wenger & Liu 1999, 2000), as well as other European countries (Scharf 1995, 1997; Thissen et al. 1995; Wenger et al. in press). The responses to eight questions are used to identify five types of support networks based on: the availability of local kin, frequency of face-to-face interaction with family, friends and neighbours and community integration (Wenger 1989). The network types are briefly described in Figure 1. There are a couple of drawbacks to using the Wenger network typology (i) classification is categorical, which limits the types of statistical analysis that can be used with this measure, and (ii) two of the questions used to classify network types examine involvement in community groups and religious activities which refer to the general realm rather than the informal realm of social capital. On the other hand, the network has been used in other rural studies (e.g. Bangor Longitudinal Study of Ageing (Wenger et al. 2001), Rural North Wales Initiative for the Development of Support for Older People (Burholt et al. 2007a; Older People in Europe’s Rural Areas (e.g. Scharf et al. 2003) or studies including rural populations (e.g. European Study of Adult Well-Being (e.g. Burholt et al. 2007b) that we may wish to draw upon for comparative purposes.

In a similar vein to the Wenger Support Network typology, two other 5-category networks have been developed (Israel: Litwin (2001); Finland: Melkas & Jylhä (1996)). Both Litwin’s (2001) and Melkas & Jylhä’s (1996) typologies are similar to those developed by Wenger, although they are labelled slightly differently. Neither provides any additional benefit over and above the original Wenger typology.
Figure 1. The Wenger Support Network Typology

The Local Family Dependent Network – the older person relies for most help and support on relatives living in the same community.

The Locally Integrated Network – associated with helping relationships with local family, friends and neighbours.

The Local Self-contained Network – reflects a more privatised household-centred life style with reliance on neighbours if essential.

The Wider Community Focused Network – is associated with an absence of local kin, primary focus on friends and involvement in community groups.

The Private Restricted Network – is associated with an absence of local kin and low levels of contact with neighbours and the community.

The Older American’s Resources and Services (OARS) Multidimensional Functional Assessment Questionnaire (OMFAQ) was developed by Duke University Center for the study of Aging and Human Development. It includes an assessment of personal functioning in five domains: social, economic, mental health, physical health and self-care capacity. For the social resource domain a summary rating is calculated from the responses to seven questions, with ranges from excellent functioning (1) to totally impaired (6) (Fillenbaum & Smyer 1981). Previously, a test-retest reliability trial showed that 91% of items were identical after a 5-week interval and an intrarater reliability trial demonstrated that 80% of intrarater correlations were 0.8 or higher (Fillenbaum 1988). Although other domains in OARS have been assessed for validity the authors have not examined the social resource component as an external standard of comparison could not be identified (Fillenbaum & Smyer, 1981). In the development of the OARS social resources scale, factor analysis of the items in the social resource domain were undertaken with a sample of older Americans (N=2036) (Fillenbaum 1988). Three factors were identified which reflected the availability and amount of contact with friends (the interaction dimension); the availability of close support (the dependability dimension); and the adequacy of contacts (the affective dimension). The factor groupings were replicated in a Spanish study conducted with a sample of 473 older people (aged 60+) living in Granada, Malaga, Cordoba and Seville in Spain (Fibla et al. 1996). Internal consistency has not been reported for the social resources scale in the USA (Orth-Gomér & Undén 1987), but has been reported in the Spanish study (Cronbach’s Alpha 0.69). Recently, a European study has indicated that although the interaction dimension of social support is fairly reliable in Europe, the other two dimensions are not sufficiently reliable measures of social support in Europe (Burholt et al. 2007b). Therefore, the OARS measure cannot reliably be used to measure social resources in the UK.

One other instrument that has been used to measure social resources is the Lubben Social Network Scale (LSNS). The measure has been widely used with older people in research and clinical settings (e.g. Luggen & Rini 1995; Martire et al. 1999; Pourat et al. 1999; Rubenstein et al. 1994; Steiner et al. 1996; Stuck et al. 1999). The original LSNS is a 10-item scale and has been translated into many languages (e.g. Chinese, German, Japanese, Korean, and Spanish) and has been used with older adult populations of diverse ethnic backgrounds (Lubben et al. 2006). More recently, the LSNS has been abbreviated to a 6-item measure (LSNS-6) (Lubben & Gironda 2003). Subsequently, this measure has been evaluated with older adults in Germany, Switzerland and the UK. The internal consistency for the LSNS-6 (and its sub-scales was consistent across all three sites and item–total scale correlation analyses indicated that the items in the scale are quite
homogeneous, suggesting that the measure could successfully be used to measure social resources in the UK.

The convoy of social support model (Antonucci 1985; Antonucci & Akiyama 1987; Kahn & Antonucci 1980) provides an approach which integrates social support and social networks in a single model. In this model relationships are classified within three concentric circles that surround a person. Each circle represents a different level of closeness to the individual: the inner circle symbolized those to whom the focal person feels very close, are most stable, and are hypothetically least bound by role requirement; those in the second and third circles are successively defined as less emotionally close, less stable and more bound by role requirements (Kahn & Antonucci 1980).

The most significant drawback to using this network typology is the methods used to elicit the information. In Antonucci and Akiyama’s (1987) study, the researchers presented participants with three concentric circles with a smaller circle in the middle that had the work ‘you’ in it. Participants were asked to place people in the concentric circles according to the following rules:

i) Inner circle: people that they could not imagine life without
ii) Next circle: people not quite as emotionally close, but still very important
iii) Outer circle: people that were not yet include but were still important in their lives.

In my opinion, this method would need to be used by social scientists, and would be difficult to include in the closed question survey that we have been envisaging to date. Alternatively, researchers have used other less ‘qualitative’ methods to elicit information for the classification of convoy social networks. However, these require a large number of questions to be asked. Typically, a survey instrument would include a series of questions which address the relationship (spouse/partner, other family member, friend/acquaintance/neighbour, and co-worker (if appropriate)) of the person who the respondent perceives as being helpful with ten or more different general problems: e.g. money, health, care provision discipline/household issues, legal, general demands and responsibilities, love relationships, loneliness, communication, and lack of freedom. For example, a participant might be asked, “if you had a problem with money, would your spouse or partner help you?” The same question would be asked for each relationship. Table 1 shows a graphic depiction of a series of questions that have been asked in a study using this method (Peek & Lin 1999). An additional difficulty related to using this method to elicit data for the convoy social support model is associated with the classification of relationships into the concentric circles of the network i.e. distinguishing between the most and least close/stable relationships. Essentially there are arbitrary decisions to be made about what constitutes ‘very supportive’ relationships. Attempts have been made to consistently classify relationships according the percent of problems with which the participant perceived a particular relationship to be helpful. However, these tend to fluctuate between participants and thus could prove particularly difficult to incorporate into the present study (Peek & Lin 1999).

Table 1: Questions from which kin composition and convoy composition are formed

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<tr>
<th>Problem</th>
<th>Relationship</th>
<th>Spouse/Partner</th>
<th>Other Family Member</th>
<th>Friend</th>
<th>Acquaintance</th>
<th>Neighbor</th>
<th>Co-worker</th>
<th>Helping Professional</th>
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With regard to **norms** and **reciprocity** within informal relationships, we could build on the work of Bengtson’s team at the University of California. Bengtson’s paradigm of intergenerational solidarity is one of the few long-term efforts in family sociology to identify the principal dimensions of intergenerational family bonds (Roberts et al. 1991; Mangen et al. 1988; Bengtson & Schrader 1982). Six principal dimensions of solidarity between generations are identified: 1) structure -- factors which constrain or enhance interaction between family members; 2) association - frequency of social contact between family members; 3) affect -- feelings of emotional closeness between family members; 4) consensus -- actual or perceived agreement in opinions between family members; 5) function -- exchanges of instrumental and financial assistance and support between family members; and 6) norms -- strength of obligation felt toward other family members. The measures have been used to describe intergenerational relationships of older people in the UK (Silverstein et al. 1998). In addition, Burholt and Wenger (1998) have extended the operationalisation of norms and solidarity to measure the strengths of intragenerational relationships.

On the whole, when discussing norms in the informal realm, research on social capital tends to focus on trust. Trust in the informal realm is referred to as trust of familiaris; particularised trust; personalised trust; or social trust of familiaris. A brief search of the literature suggests that there is no research specifically with older populations. Typically questions may be asked about hypothetical loan scenarios such as:

- **Consider the circle of people you know best, own many in this circle would you trust (or would trust you) with a personal loan amounting to 5% of your income?** (Padam & Svendsen 1999)

Alternatively, attitudinal questions may be asked such as:

- **How often can your trust each of the following to act in your best interest?** (Always, mostly, sometimes, rarely, never, or not applicable)
  - **Your relatives**
  - **Your friends** (Hogan & Owen 2000)

Guenther & Falk (2001) note that a comprehensive summary of various indicators used to measure aspects of social capital, including trust, has been prepared by Kreuters (1997), however I have been unable to obtain this document.

**General Realm of Social Capital: Bridging Capital**

As noted above, generalised social capital relates to the involvement with, and the sense of trust and reciprocity that exists between people within a local area and among people in general. In this respect, there is considerable work on the life activities of older people, that is their involvement in the ‘general’ realm. On the whole, this has been spurred on by the public debate surrounding demographic ageing as one of the major challenges of the next decade (OECD 2001). In these debates, older adults are often seen as a burden. They are often defined in terms of what they unable to do, using terms such as inactive, unproductive, immobile, unhealthy. This perspective ignores the fact that most older adults are active, mobile, healthy and productive, even if they are not gainfully employed, and as noted by Simon in an earlier communication is one of the areas that this project is keen to highlight (whilst not ignoring that some older people will have particular care needs). The engagement of older people in specific activities means that they contribute to the economic, social and cultural life of the society. Older adults earn money or spend money and stimulate the economy; many are active in voluntary and civic organisations and informal support networks, and contribute to social cohesion. In addition, they are often active in a variety of leisure activities and promote cultural diversity (Droogleever Fortuijn et al. 2006).

In a recent European study, activity involvement was measured by a yes/no dichotomy for each of 13 activities: paid work, volunteering, home maintenance and housekeeping, giving assistance to others, civic activities (church attendance and socials, active club membership, activities in community centres), outdoor activities (e.g. nature walking, bicycling, boating), going

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2 The core instrument for measurement of activity involvement was developed by Hawkins et al. (1996).
out socially (such as cafes, restaurants, day trips), sports, cultural activities and entertainment (such as attending movies, theatres, museums), media (television, radio, newspapers), hobbies at home, social activities at home (visiting, phoning, socialising) and miscellaneous activities (predominantly travelling). Activities were grouped during and after the interview into one of the 13 categories (Droogleever Fortuijn et al. 2006). Exploratory factor analysis identified 3 dimensions associated with activities: home based and family oriented (which perhaps fits better with the informal realm already described), individualistic activity (including cultural activity, sports, paid work), and community activity (volunteering/civic). It would perhaps be possible to extract the questions from this study that refer to the individualistic and community activities for the purpose of the current study.

Although there are other existing tools for measuring the activity engagement of older adults (e.g. the Frenchay Activities Index (Holbrook & Skillbeck 1983)) these tend to focus on three types of activities: domestic, social and outdoor environment. They focus on instrumental activities of daily living and would not provide sufficient information about the breadth of organisations or general contacts that an older person has.

With regard to norms and reciprocity within the general realm, the literature specific to older populations is sparse. According to Durkheim, social integration is governed by attachment and regulation (Durkheim 1897). In this respect, regulation involves the extent to which an individual is held in the fabric of society by its values, beliefs and norms (Turner et al. 1989; Berkman & Glass 2000). Thus, certain values held within an area or by particular groups within an area (e.g. age-based values (Ory et al. 2003), gender-based values (Chow et al. 2006) ethnic group values (Lindström 2005)) may impact on an older person’s engagement in the general realm. However, when discussing norms, research on social capital tends to focus on trust (or norms of reciprocity and trust). This approach has been criticised for ignoring structural inequalities in social capital (Fassin 2003; Muntaner et al. 2001). Measurement (not specific to older populations) has tended to reflect the focus on norms and trust in through questions such as:

- Generally speaking would you say that most people can be trusted, or that you can’t be too careful in dealing with people? (Putnam 1995).

The unidimensional indicator has been improved somewhat in the Australian Community Survey which uses four items:

- Generally speaking, most people in my local area can be trusted
- Generally speaking, most Australians can be trusted
- Generally speaking you can’t be too careful in dealing with most people in my local area
- Generally speaking, you can’t be too careful in dealing with most Australians (Hughes et al. 1998, 2000)

There have been attempts to make these measures more specific to particular environments, and here I just had to include a rural hypothetical example from a Social Capital Assessment Tool developed for the World Bank. I’m not suggesting for a moment that we should use in GPL, but it does serve to illustrate international differences in rural contexts.

- If you lose a pig or a goat, someone in the village would help you look for it or would return it to you (Krishna & Shrader 1999).

**Institutional Realm of Social Capital: Institutional Capital**

This realm includes the relationships between older people and authorities/institutions. Therefore institutional capital encompasses civic engagement. We should be mindful that we should not reduce civic engagement to volunteering (Minkler & Holstein 2008). Martinson & Minkler (2006) have noted that “in reducing civic engagement to this single arena, other activities associated with civic life, including voting, community activism, and caregiving, as mentioned above, are often all but ignored”. Commonly, measure of institutional capital look at the connections have with a range of institutions (e.g. the legal system; churches, policy, media, unions, national government, local government, public services: police, armed forces, health service; corporate bodies such as business/industry) and their trust (or confidence) in these institutions (Stone 2001).
In this respect there seems to be no reason why the generic measures of institutional capital could not be used with older populations.

Place

The emotional bond between people and places has been termed place attachment (Shumaker & Taylor 1983). It is “a set of feelings about a geographic location that emotionally binds a person to that place as a function of its role as a setting for experience” (Rubinstein & Parmelee 1992; page 139). Traditionally, different disciplines have offered alternative theoretical approaches to ‘attachment to place’. For example, environmental psychology (competence theory (Lawton (1988)), human geography and environmental gerontology, (Rowles 1983; Rubinstein & Parmelee 1992), the phenomenological perspective (continuity theory) (Denzin 1989; Dewey 1922; Falk & Pinhey 1978; Harper 1987), and symbolic interactionism (Blumer 1969; Harper 1989) all proffer distinct explanations (see Burholt 2006, for a fuller explanation). Gurney and Means (1993) note that too often there are selective and interpretive biases in research on the meaning of place. Each discipline tends to omit certain elements that are included in the other interpretations. However, there is some overlap between the approaches and the models of place that have been developed. For example, Canter (1977), Gustafson (2001), Relph (1976), and Sixsmith (1986), have identified three components of place that share commonalities (Table 2).

Table 2. Components of place

<table>
<thead>
<tr>
<th>Literature</th>
<th>Components of place</th>
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<tr>
<td></td>
<td>physical</td>
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<tr>
<td>Relph (1976)</td>
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<td>Canter (1977)</td>
<td>physical attributes</td>
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<td>Sixsmith (1986)</td>
<td>physical</td>
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<tr>
<td>Gustafson (2001)</td>
<td>environment</td>
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These models which describe the domains of attachment to place have been extended to a four-component model (Burholt 2006). The four-domain conceptual scheme takes into account the interrelationship between physical, social, temporal, and psychological aspects of place attachment. These domains are closely intertwined, and strongly related to each other. It could be argued that attachment to place is a social product, even when older people refer to the physical attributes of the environment. For example the ability to negotiate an environment (appropriateness of the environment) is important in order for people to engage in social interactions. In addition, the emotional impact of the aesthetic and spatial dimension of the environment is not just the result of the impact of physical manifestations on the psyche, but is symbolically socially constructed, for example, the rural idyll (Cloke et al. 1995; Fabes et al. 1983). In certain rural locations the local population views the landscape not in terms of the scenery but as a social and political unit based on territory (Claval 2005; Clifford & King 1993; Häkli 1999; Nogué & Vicente 2004; Olwig 2002; Williams 1999). Here it is argued that those older people who mentioned a social dimension to place attachment are also affected by the physical attributes of the environment and a temporal influence. In Welsh communities, the predominance of attachment to place expressed in terms of both social integration and a historical perspective suggests that the landscape of the community is impregnated with the ‘national’ and cultural past (Cosgrove 1989; Hefferman 1995; Jenkins & Sofos 1996; Lowenthal & Prince 1965; McDowell 1994; Matless 1998; Nogué 1998). The importance of territory is demonstrated in the use of the symbol of mountains, the Triban, by the National Party (Plaid Cymru) of Wales.

``The mountains! The perpetual witnesses of our history, and the unchanging background of our language: we can express it in symbolic form therefore our sign the TRIBAN”``

Although this conceptual model provides a rich, flexible framework for describing attachment to place, it does not yet provide a means of ranking the importance of the components of place attachment (see WP3 below).

Proposal regarding measurement of social capital realms
The brief review of the literature demonstrates that a range of indicators exist to measure social capital and other forms of connectivity. It will probably be necessary to combine these measures in some way in the analysis, i.e. to produce some domain/realm scores indicating more or less capital. The members of WP1 will have to make a decision as to whether existing measures that have been used with the older population in the particular realms of interest are used – which will involve some scale development and testing, whether existing measures of social capital are used (e.g. World Bank Measure, Australian Institute of Family Studies), or whether we combine the two approaches.

Research questions
In addition to being able to measure the four dimension of connectivity, the questionnaire developed for WP1 needs to be able to provide data to address the following questions raised by those around the table on 18th December 2009

WP2: This work package is focusing on differences in activity involvement. To date, most studies have looked at differences in activity involvement by identify determinants of these differences. Determinants may be categorised as personal characteristics, such as age, gender, household composition, educational attainment, income and personality characteristics (Dykstra 1995; Horgas et al. 1998; Bennett 1998; Klumb & Baltes 1999; Burr et al. 2002; Strain et al. 2002; Chou et al. 2004; Smith & Gerstorf 2004), or health related determinants such as illness, frailty and disability (Coleman 1993; Coleman & Iso-Ahola 1993; Zimmer et al. 1997). Other studies consider environmental determinants of participation such as the physical characteristics of neighbourhoods, availability and accessibility of transport and the amenity and services provided in the locality (Lawton 1982; Robson 1982; Golant 1986; Rowles 1986; Kempers-Warmerdam 1992; Gant 1997).

It is my understanding that WP3 will require data to identify barriers to participation. In this respect (see Fig. 2) they may need data to identify which antecedents impact on the general realm of social capital. They also intend to explore the role of cultural and leisure activities in ‘active ageing’. The proposal does not include a clear definition of ‘active ageing’ but I wonder if perhaps we could relate this to the relative impact of the general realm of social capital (which could also be considered to be cultural connectivity) on well-being, compared to the other types of connectivity that we may investigate (i.e. informal, institutional, place).

My main concern is that the proposal notes that the “individuals’ cultural connectivity across the life course will be addressed through multivariate analysis of the primary survey data”. This suggests that the team require retrospective data on engagement in this domain, which I think may be beyond the scope of the questionnaire. We may perhaps consider looking at general connectivity by age, or include a question which asks if participation has declined or increased in the last year (or other time period).

WP3: The questions raised by the members of the team with regard to personal mobility and area accessibility seem to miss out connectivity in the sense that we have described it here and in essence look at the relationship between antecedents and outcomes (see Fig. 2). Research questions raised were:
  • What is the impact of personal mobility on well being?
  • What is the impact of area accessibility on well being?
We could perhaps suggest some mediation/moderation analysis to supplement these questions whereby (if a relationship is established between the antecedents and outcomes) we looked at the mediation/moderating effect of informal connectivity.
WP4: The questions that are raised in WP4 relate to place connectivity:

- *In which ways are people attached to places?*
- *How strongly are people attached to places?*
- *How does migration history affect attachment to place?*

The taxonomy of place attachment outlined above could be used to address question one; however, question 2 requires us to devise a method of measuring the strength of place attachment. I would like to propose that this builds on some of the previous work outlined above to develop a method of rating strength of attachment in each of the domains (Burholt 2006). Essentially, question 3 would look at the relationship between one of the antecedents and place attachment (see Fig. 2). Analysis could be extended to look at the effects of some of the other predictors on place attachment. For example, other analysis using this classification has demonstrated that similar experiences of place attachment have a spatial (community) dimension (Burholt & Naylor 2005). An individual resides in a particular community because of particular opportunities, life-course decisions, and the consequences of those decisions (Moen 2001; Riley 1998). Many older people living in a particular area are likely to have similar life experiences and thus similar reasons for place attachment. As such, unlike the personal meaning of home, attachment to the community can have a collective meaning that is salient in a specific location, or locations, with similar characteristics (see also Devine-Wright & Lyons 1997; Dixon & Durrheim 2000). Thus we may to a certain extent predict the types of place attachment in a particular rural location. For example, in 'Welsh' communities local places play a key part in the representation of meaningful national and self-identities (Agnew 1987; Gruffudd 1994; Jones & Desforges 2003). For older people living in retirement communities the choice of location has been made taking into account the desirability of local features, both in terms of accessibility and beautiful surroundings. Despite the differentiation of place attachment by community type, it is noted that there is also considerable variation within settlements (Burholt & Naylor 2005).

WP5: As Paul was not present at the meeting on 18th December I have not attempted to address the questions in this WP. However, it is clear that we will need to include measure of low income (defined as below 60% of the national median income), poverty possibly indicators of ‘necessities of daily living’ (e.g. Gordon et al. 2000; Scharf et al. 2002; Burholt et al. 2007a) and multiple disadvantage (e.g. Scharf & Bartlam 2006; Burholt et al. 2007a) although the latter can probably be constructed from other measures. Currently the measure of multiple disadvantage is included in Fig 2 and a predictor or outcome – this needs clarification at some point. Likewise, health could also be placed in either column.

WP6: The question raised by WP6 is the most difficult to include in Fig 2:

- *To what extent is IT connectivity associated with other forms of social connectivity?*

Currently, I have included this as a predictor of other types of connectivity (e.g. it might predict connectivity in the informal or general realm), but we may need to explore this further, for example should it be included as a connectivity in its own right?

One other area addressed in the proposal is not fully covered by the research questions posed in each of the WPs above. Catherine has noted that while some interpretations of human capital focus on its potential to achieve citizenship goals (Putnam 2000, 1995; The World Bank 1999; Performance and Innovation Unit 2002), others note its potential for fractionation, contestation and subversion (Bourdieu 1991; Moseley & Pahl 2007). In this respect we may need to include outcome measures that capture these elements. Thus in Figure 2, I have included outcomes of conflict/cohesion (e.g. Robinson & Wilkinson 1995; Gatrell et al. 2001; Ellaway et al. 2001; McCulloch 2003; Pevalin & Rose 2003; Fone et al. 2006) and loneliness (e.g. de Jong Gierveld & Kamphuis 1985; de Jong Gierveld & Van Tilburg 2005, Solano 1980; Russell et al. 1984; Russell
Proposal regarding the content of the questionnaire
If the proposed content of the model (not necessarily the relationships between the domains) in Figure 2 is agreeable, then the team involved in WP1 need to choose valid and reliable measures for each of the areas under study. I have given some indication of many of the sources for these above. I realise that this text has not necessarily taken into account all of the concerns of Simon and Robin. In particular, I would welcome a discussion of
  a) how we might incorporate ‘needs’ if it is felt that the measures of poverty and health will not capture this, and
  b) how connectivities do/do not intersect with communities of (rural) place (i.e. identifying which elements of informal and generalised connectivities are locale specific and which are not).

Figure 2. Proposed model of connectivity processes on outcomes.

<table>
<thead>
<tr>
<th>Predictors (structural and individual antecedents)</th>
<th>Connectivities</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Place</td>
<td>Informal</td>
<td>Well-being</td>
</tr>
<tr>
<td>Health</td>
<td>Generalised</td>
<td>Loneliness</td>
</tr>
<tr>
<td>Material resources</td>
<td>Institutional</td>
<td>Multiple Disadvantage</td>
</tr>
<tr>
<td>Multiple Disadvantage</td>
<td>Place</td>
<td>Conflict or Cohesion</td>
</tr>
<tr>
<td>Mobility accessability</td>
<td></td>
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<td>Migration history</td>
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<tr>
<td>Demographic characteristics</td>
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</tbody>
</table>
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