



ARC CENTRE OF
EXCELLENCE IN
**POPULATION
AGEING
RESEARCH**

Demographic differences in the association between social networks and self-rated health in later life

Results from the Social Networks and Ageing Project

Heather Booth, Pilar Rioseco, Heather Crawford
Australian Demographic and Social Research Institute

Australian National University

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Social networks and self-rated health

Benefits of social networks for health and wellbeing are well-established, including for older populations (e.g., Bowling and Grundy 1998).

Self-rated health is associated with objective health and with mortality (e.g., Idler and Benyamini 1997).

Social network characteristics are associated with self-rated health (e.g., Fiori and Jager 2012). This evidence is varied – depends on network type (e.g., family, neighbours) and social context (e.g., ethnic group, nationality).

Demographic dimensions of the SN-SRH association have not been systematically investigated.

Aim

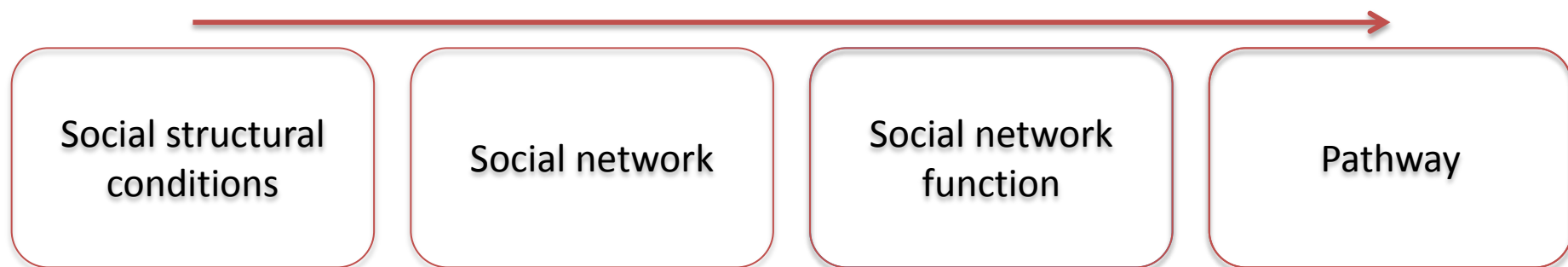
To examine the social network predictors of self-rated health of the older population:

- for different demographic groups within the older population
- also contrasting family-based, friend-based and group-based social network characteristics

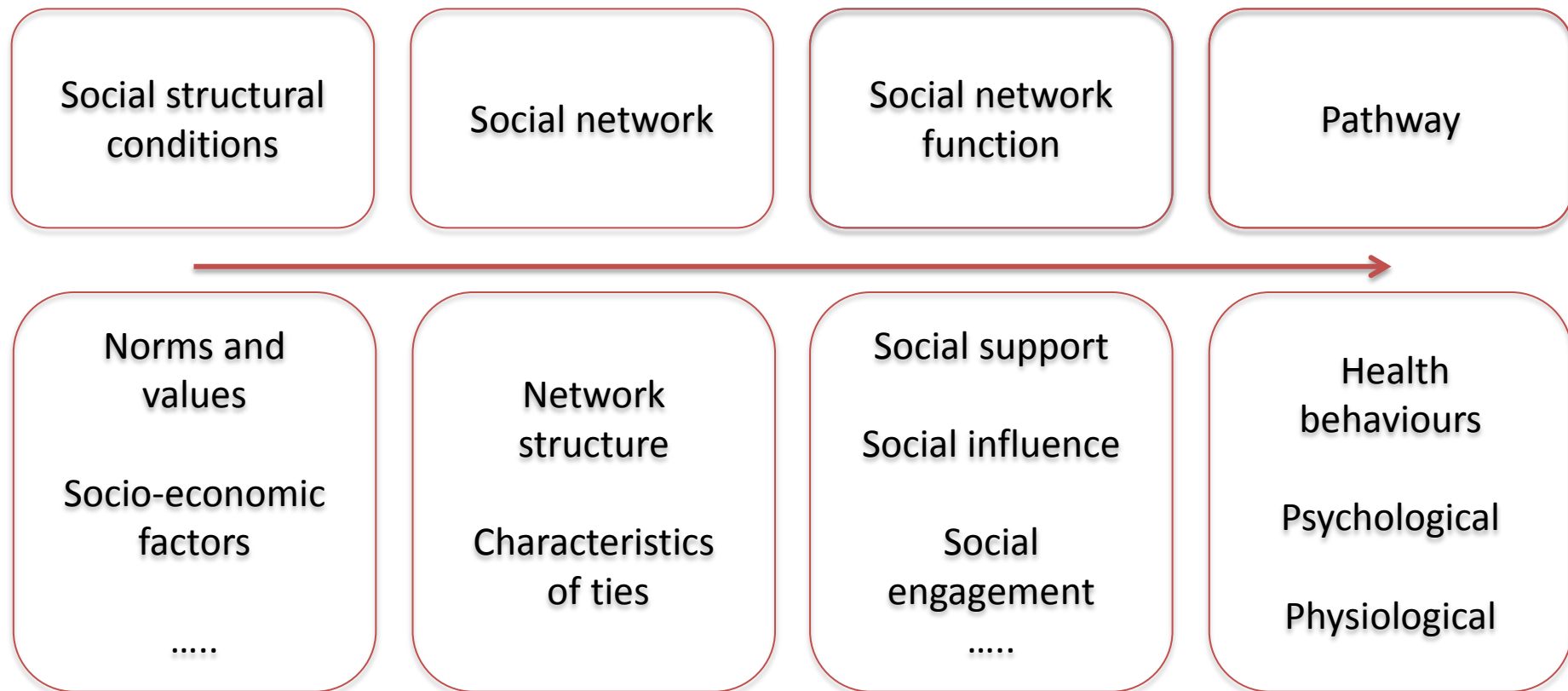
Social network concepts

- **Social network:** web of social relationships that surround an individual; defined by
 - network structure: **nodes** – number, boundedness, range, homogeneity
 - characteristics of **ties**: frequency of interaction, duration, reciprocity, intimacy
- **Social support:** emotional support, instrumental support, appraisal support, and informational support (Berkman et al 2000, Thost 1995, House 1981).

Analytical framework linking social networks and health (Berkman et al 2000)



Analytical framework linking social networks and health (Berkman et al 2000)



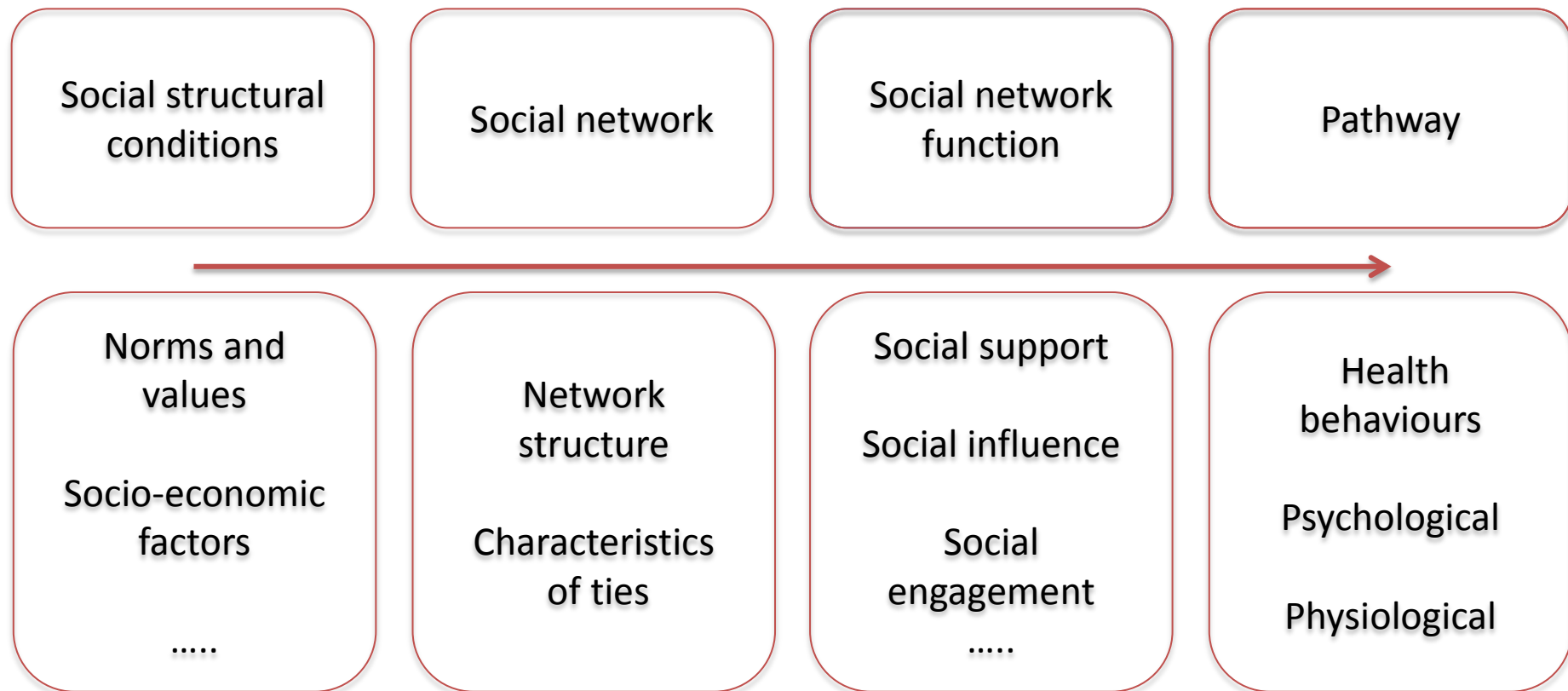
Data source: SNAP survey 2010/11

- Social Networks and Ageing Project (ARC/NSA)
- Surveys: SNAP1 – 2010/11; SNAP2 – 2012
- Study population: NSA members aged 50-89
- Stratified by age, sex and method (online/postal)
- Response rates:
 - online 11.4%; postal 39.4%; overall 17.0%
- Sample size = 2,122
- Unweighted results

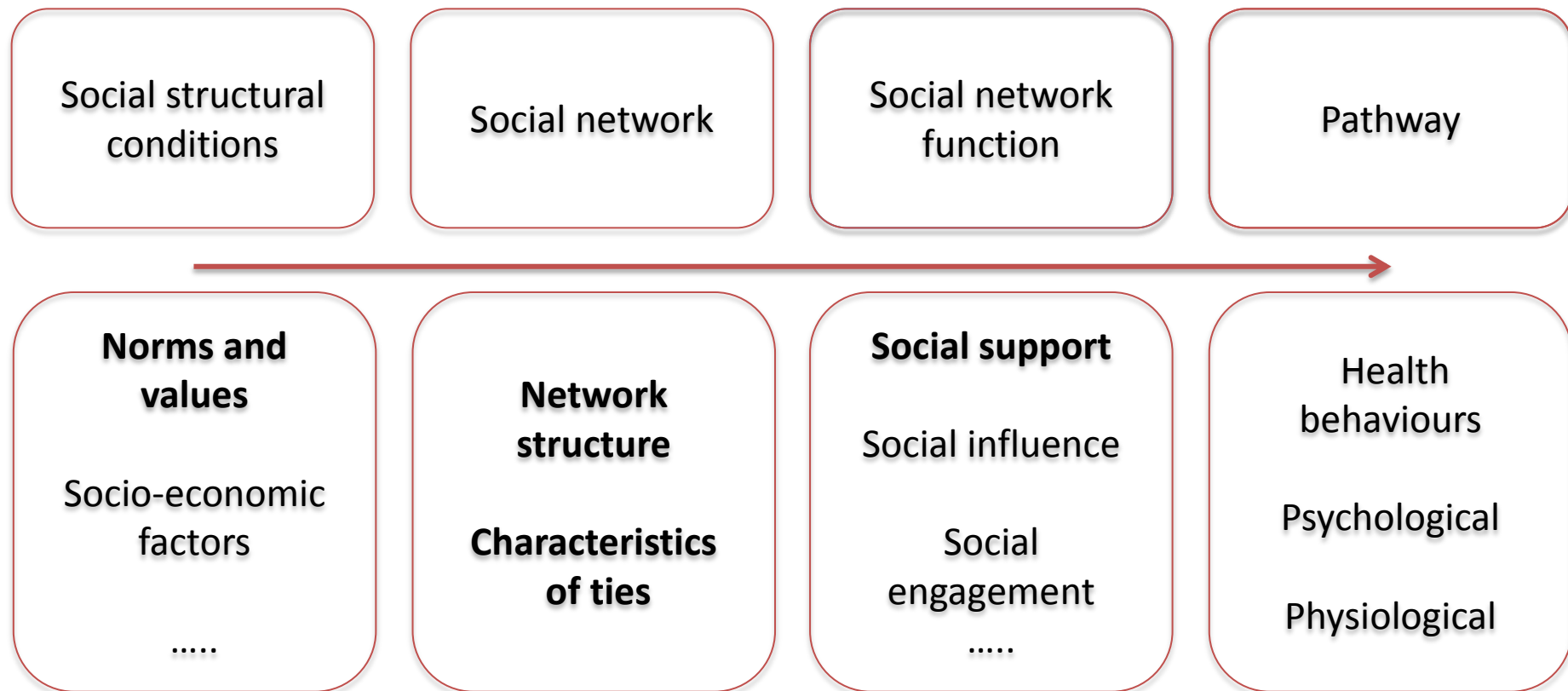
Data - variables

- Family-based vs Friend-based vs Group-based social activity
 - Face to face - in last four weeks
 - Number of people/ occasions/ duration
- Family-based and friend-based social support
 - Instrumental
 - Emotional
- Personal characteristics
- Health: Self-rated Health, objective health-related variables

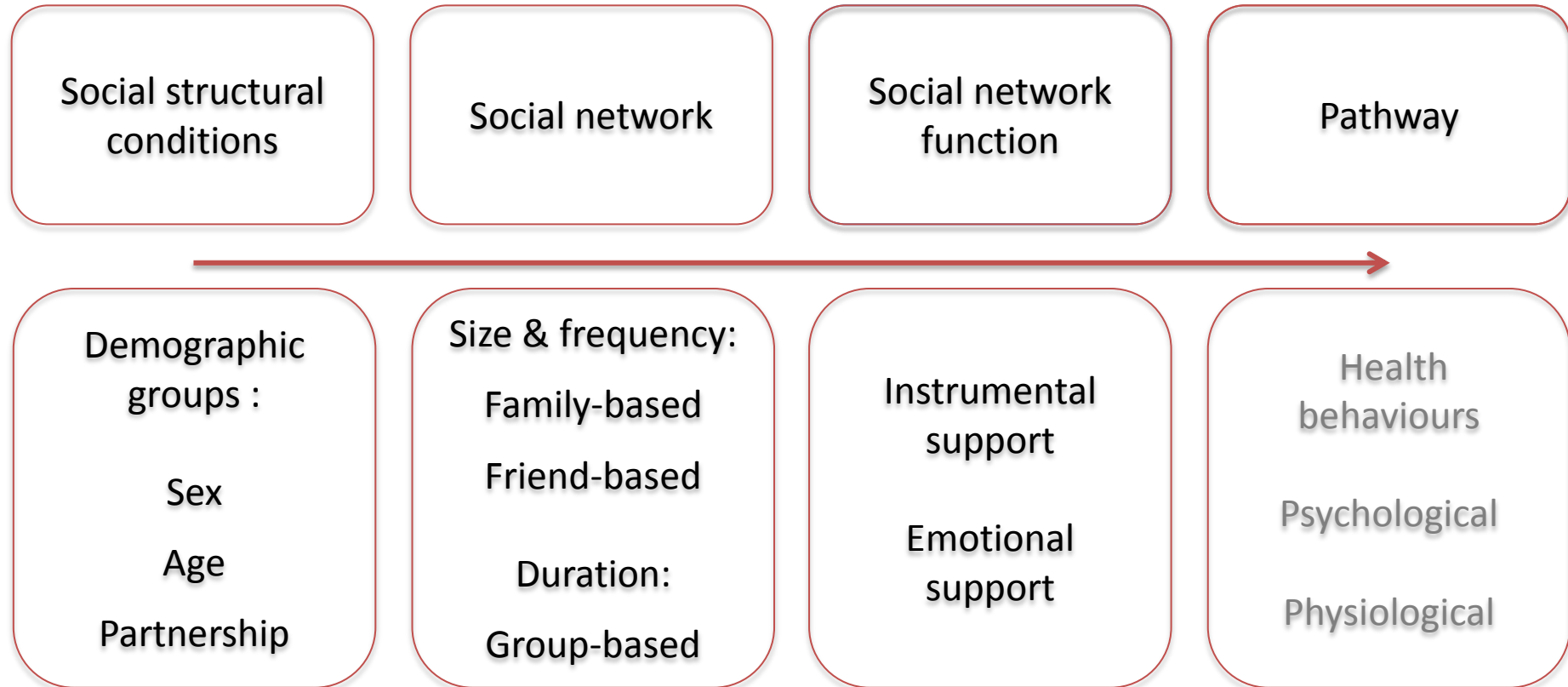
Analytical framework linking social networks and health (Berkman et al 2000)



Analytical framework linking social networks and health (Berkman et al 2000)



Analytical framework for the study (based on Berkman et al 2000)



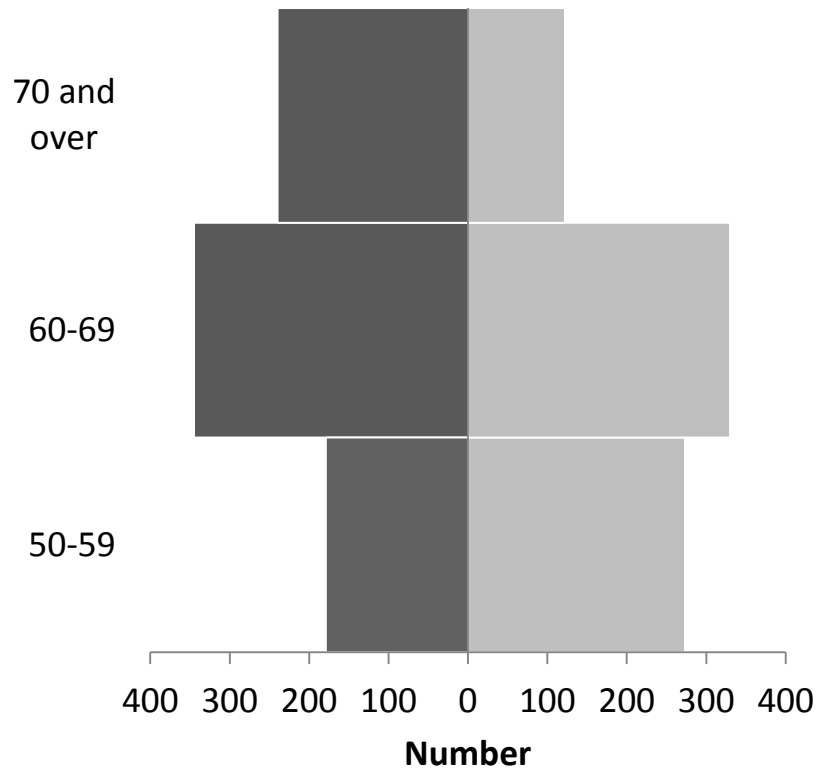
DEMOGRAPHIC GROUPS

Demographic characteristics of the sample

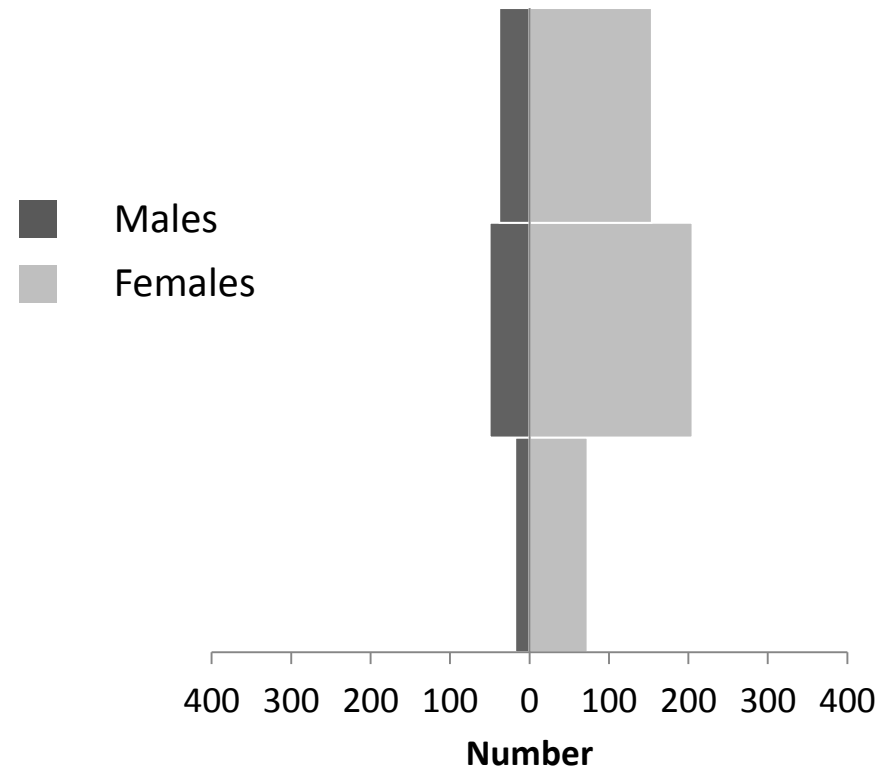
Variable	% of sample
Sex	
Male	42
Female	58
Relationship status	
Partnered	73
Unpartnered	27
Age group	
50-59 years	27
60-69 years	46
70-89 years	28

Demographic groups

Partnered



Unpartnered

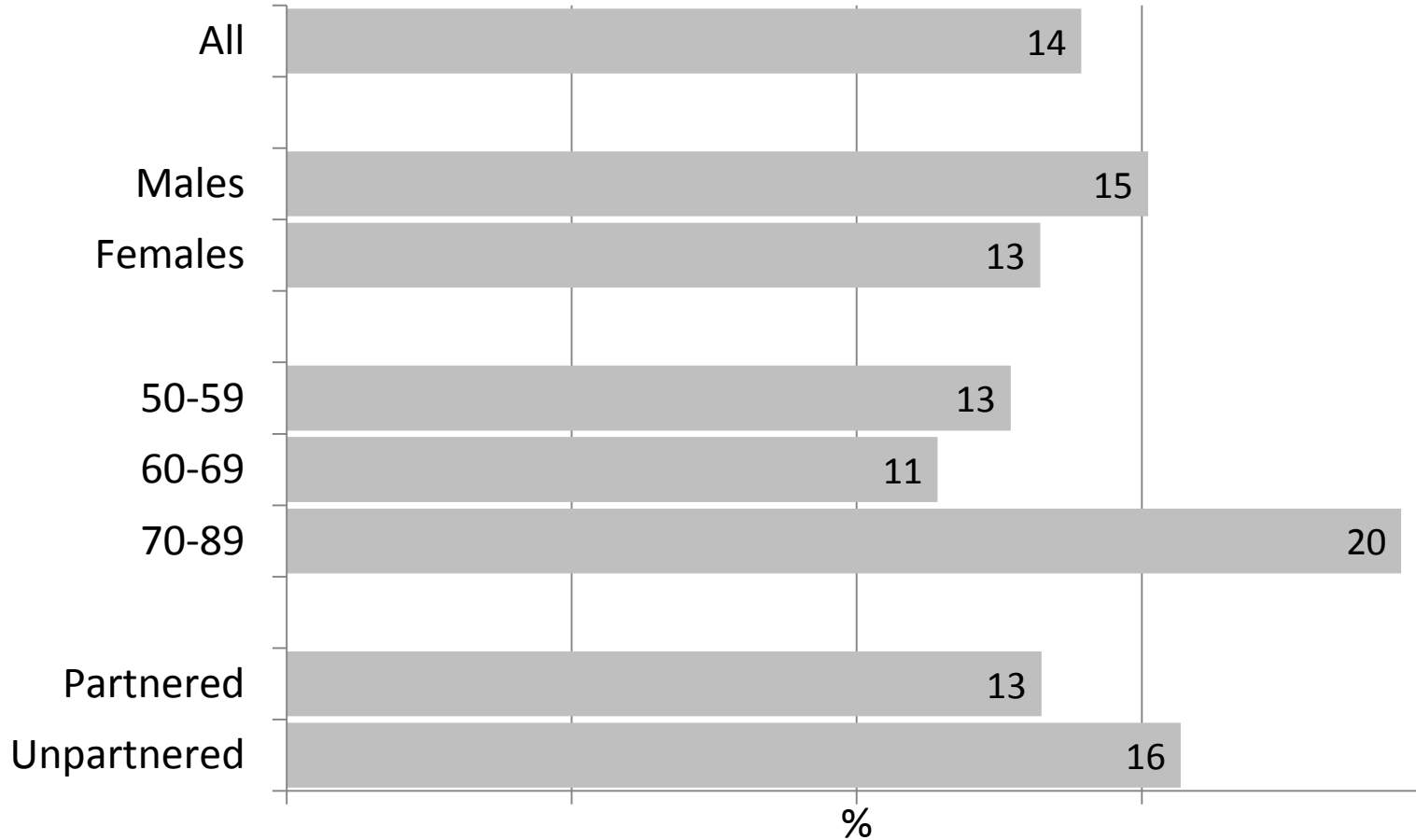


Dependent variable

SELF-RATED HEALTH

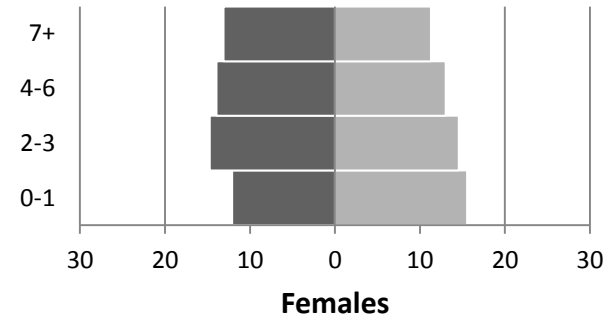
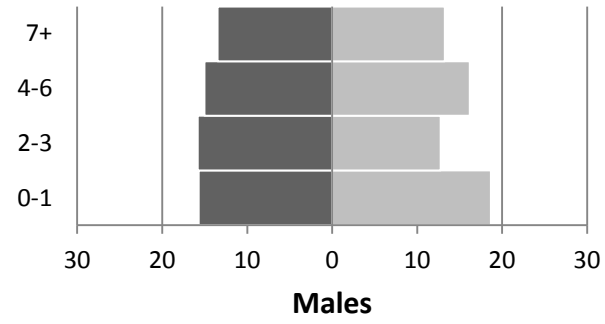
BY DEMOGRAPHIC GROUP

% fair/poor SRH by demographic group



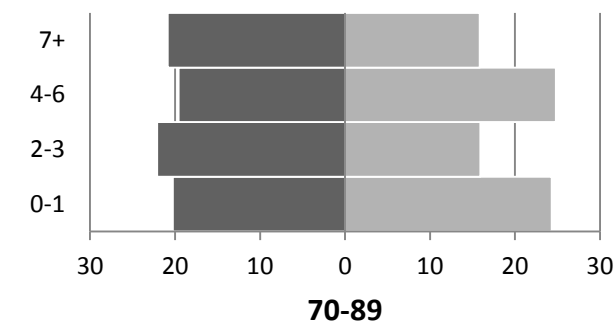
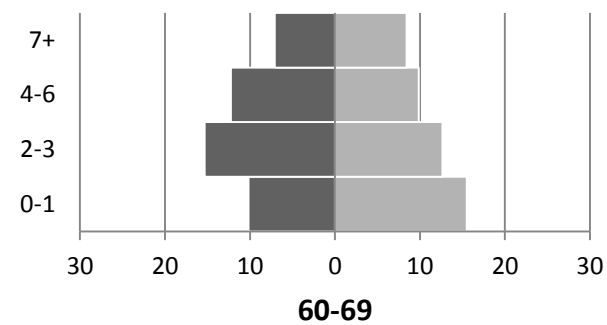
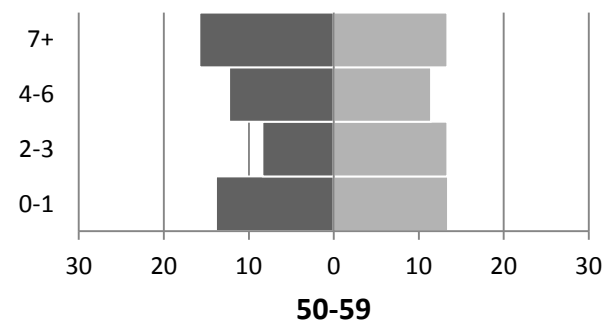
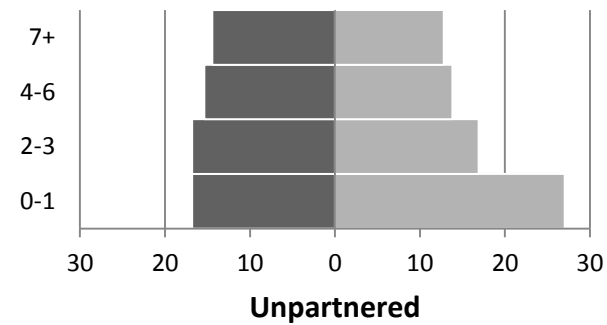
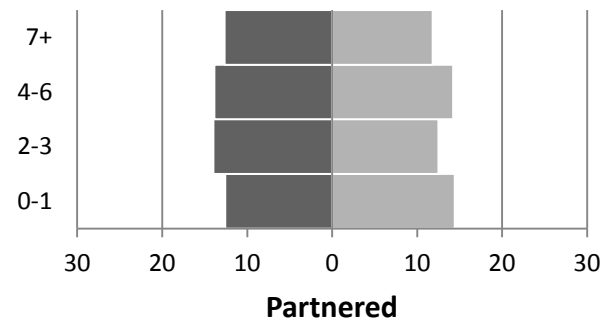
SELF-RATED HEALTH BY SOCIAL NETWORK VARIABLES BY DEMOGRAPHIC GROUP

% fair/poor SRH by family- & friend-based network structure by demographic group



Number with whom respondent had personal contact + occasions in previous 4 weeks

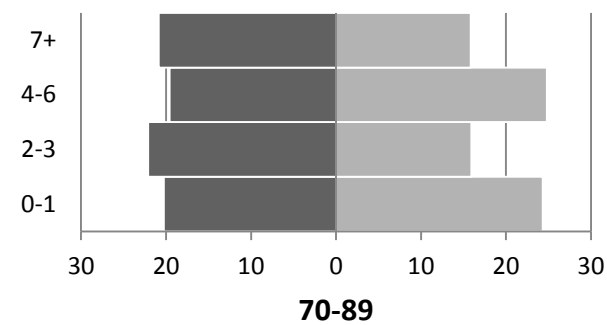
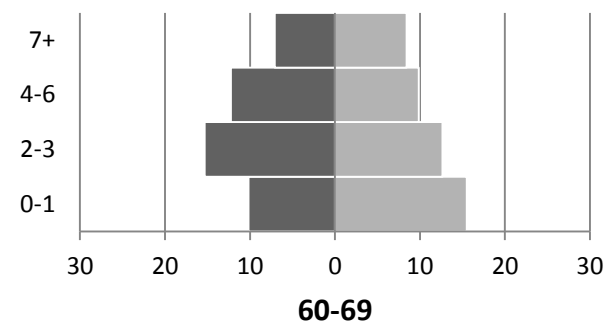
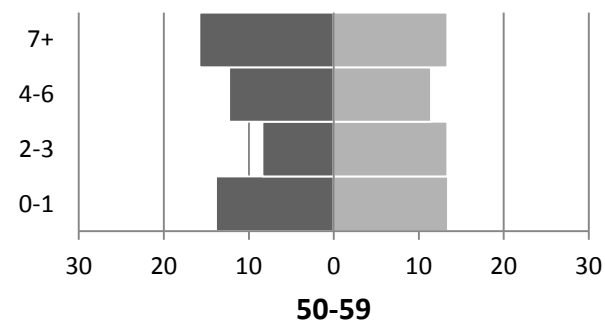
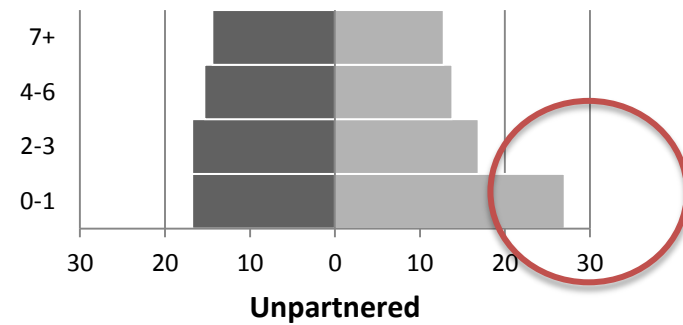
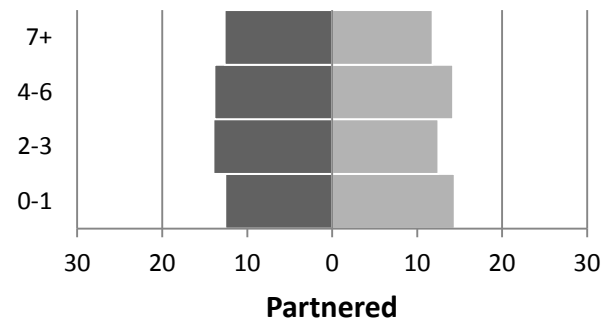
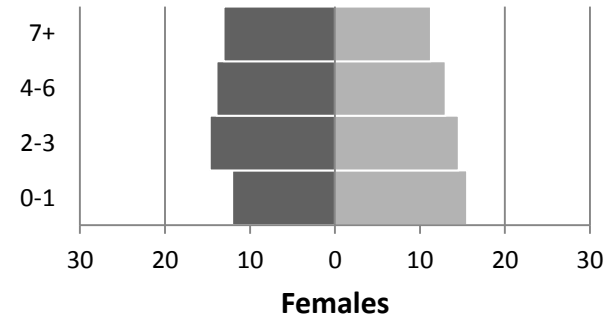
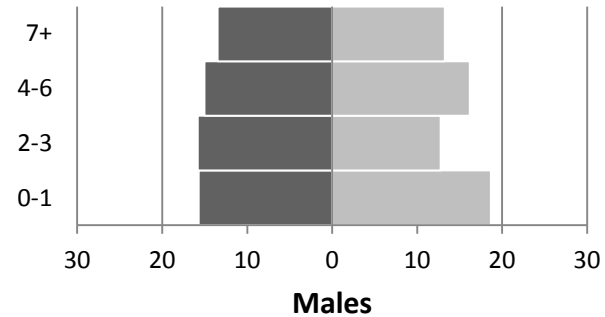
Family
 Friends



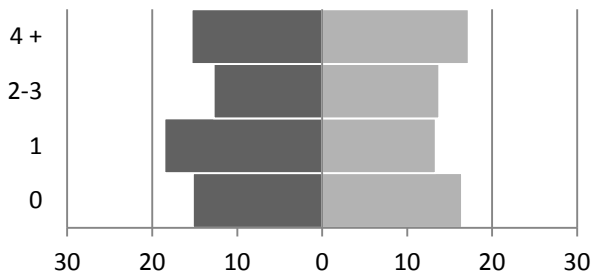
% fair/poor SRH by family- & friend-based network structure by demographic group

Number with whom respondent had personal contact + occasions in previous 4 weeks

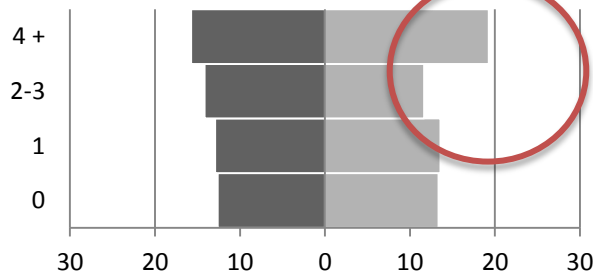
Family
 Friends



% fair/poor SRH by family & friend instrumental support by demographic group



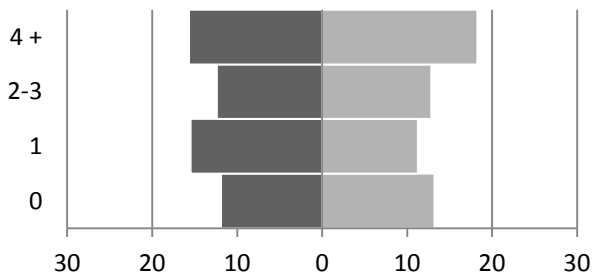
Males



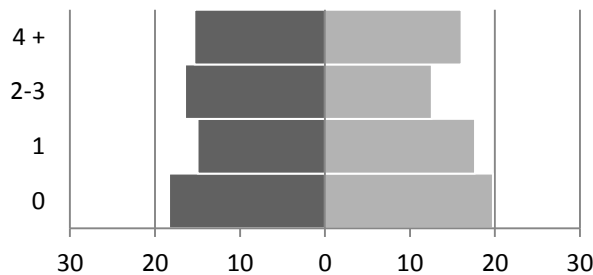
Females

Number who assisted
respondent to do something
practical in previous 4 weeks

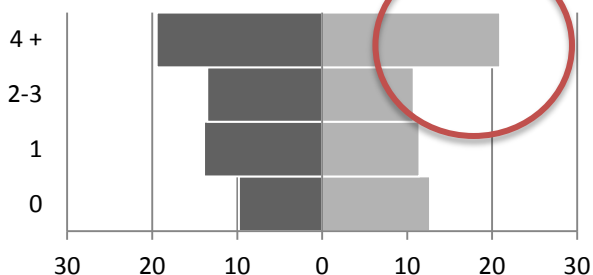
Family
Friends



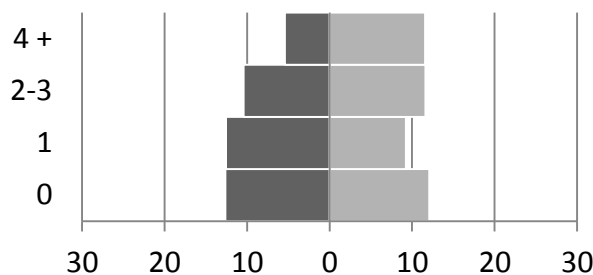
Partnered



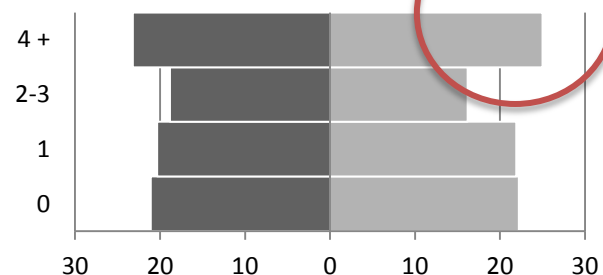
Unpartnered



50-59

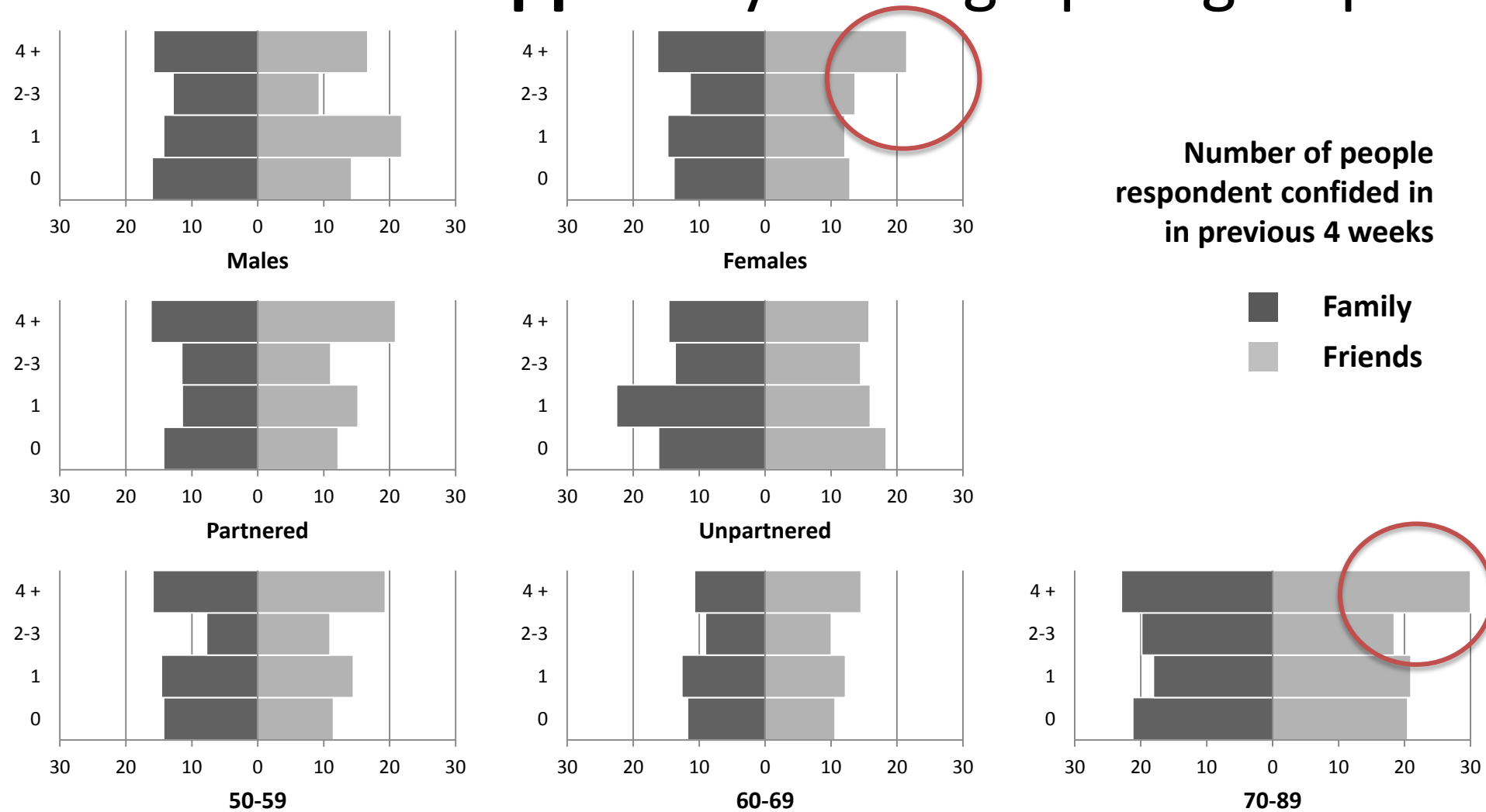


60-69



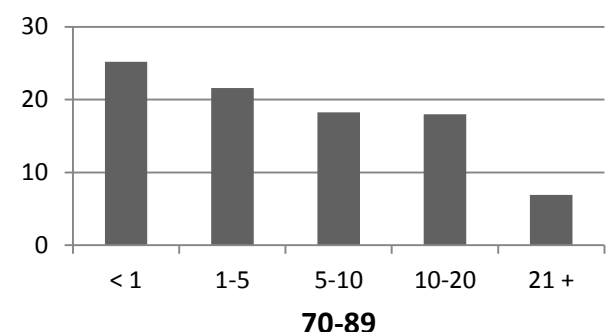
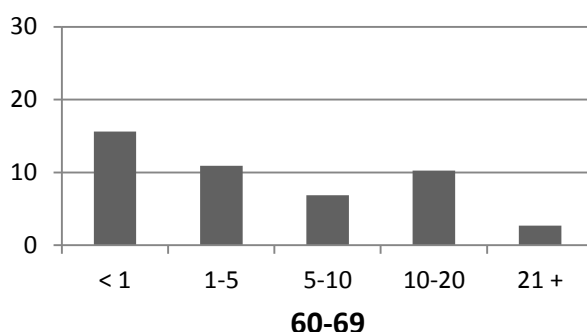
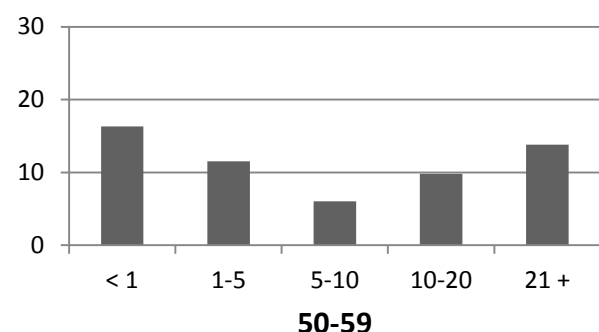
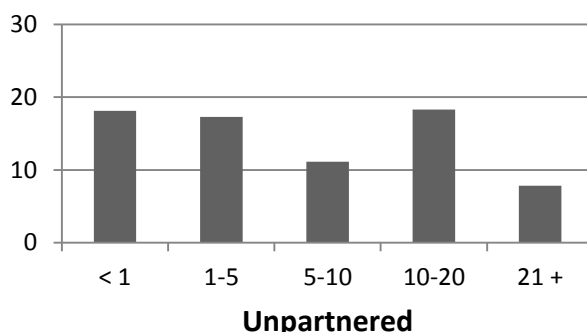
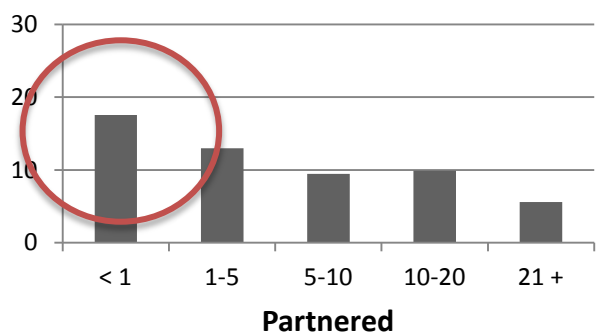
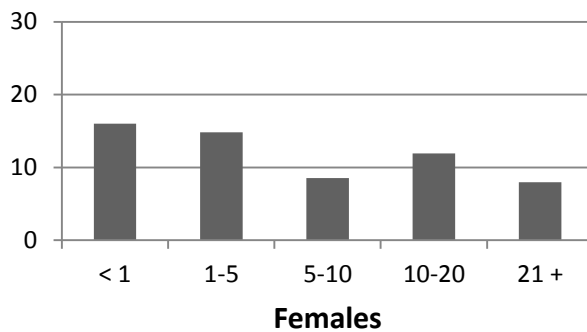
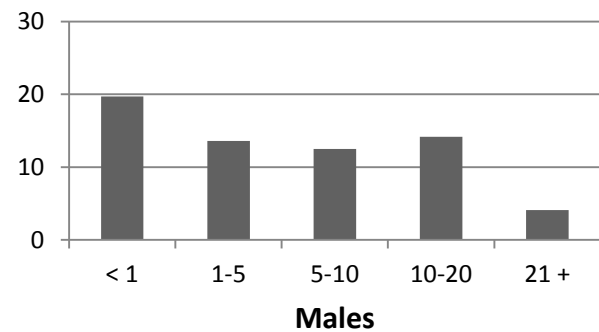
70-89

% fair/poor SRH by family & friend emotional support by demographic group



% fair/poor SRH by group activity by demographic group

Hours participated in group activities in previous 4 weeks



ANALYSIS

BY DEMOGRAPHIC GROUP

Method: Logistic regression

Outcome variable

Self-rated health (SRH)

1 = Fair, poor

0 = Excellent, very good, good

Control variables – sociodemographic

- Sex
- Age in years (continuous)
- Partnership status (partnered, unpartnered)
 - Partnered includes “in a relationship but not living together”
- Level of educational attainment
- Satisfaction with standard of living
 - Measured by respondent agreement with statement “I am comfortable with my standard of living”, 5-point scale ranging from strongly disagree to strongly agree

Control variables – health-related

- The study focuses on the ‘more subjective’ aspects of SRH.
- ‘Objective’ health is taken into account by three variables:
 1. How often health or disability restricts social activities with family or friends (continuous)
 2. Mental health (continuous) Measured using the Mental Health Index (MHI-5) from the 36-item Short Form Health Survey (SF-36)

Control variables – Future time perspective

3. Future time perspective (continuous) – sense that time is limited. Measured by summing responses to selected items from the Future Time Perspective Scale (Carstensen and Lang 1996):

- “Many opportunities await me in the future”
- “Most of my life still lies ahead of me”
- “As I get older, I begin to experience that time is limited”
- “There is plenty of time left in my life to make new plans”
- “My future seems infinite to me”
- “I have the sense that time is running out”

Effects of control variables

Variable	All	M	F	P	NP	50s	60s	70+
Increasing age	*	*					*	
Female								*
Partnered								
Lower level of education	*			*				*
More dissatisfied with standard of living						**		
Disability limits social activities	***	***	*	***		*	**	**
Mental health (MHI-5)	***	*	**	***			**	**
Disability # mental health	*			*				
Future time perspective	**	**		**			*	**

*p<0.05, ** p<0.01, *** p<0.001

'Beneficial' to SRH/'Detrimental' to SRH

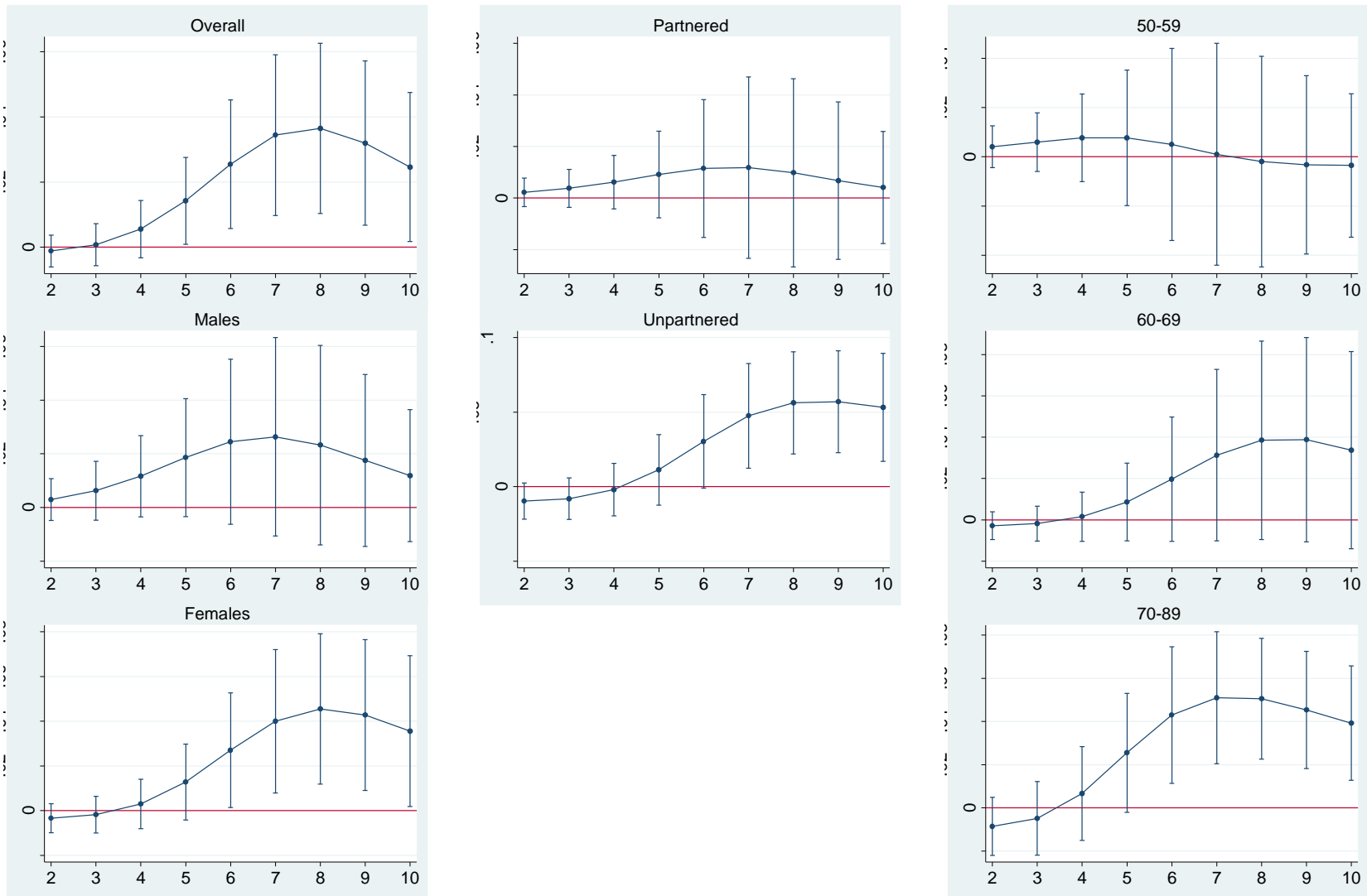
Odds ratios – family-based network

Variable	All	M	F	P	NP	50s	60s	70+
Network (strength)	0.9	1.0	0.8	1.1	0.7*	1.2	0.8	0.7
Network # disability	1.0*	1.0	1.1*	1.0	1.1**	1.0	1.1	1.1**
Instrumental support: Assisted to do something practical (ref 0-1)								
by 2-3 family members	0.8	0.4*	1.3	0.6	1.4	1.7	0.5	0.9
by 4+ family members	1.2	1.3	1.3	1.1	0.8	4.1*	0.1*	0.7
Emotional support: Confided in (ref 0-1)								
2-3 family members	0.9	1.1	0.7	1.1	0.9	0.5	0.8	1.6
4+ family members	0.9	1.1	0.8	0.9	0.8	0.3	2.1	3.0

*p<0.05, ** p<0.01, *** p<0.001

'Beneficial' to SRH/'Detrimental' to SRH

Average marginal effects – family-based network by disability



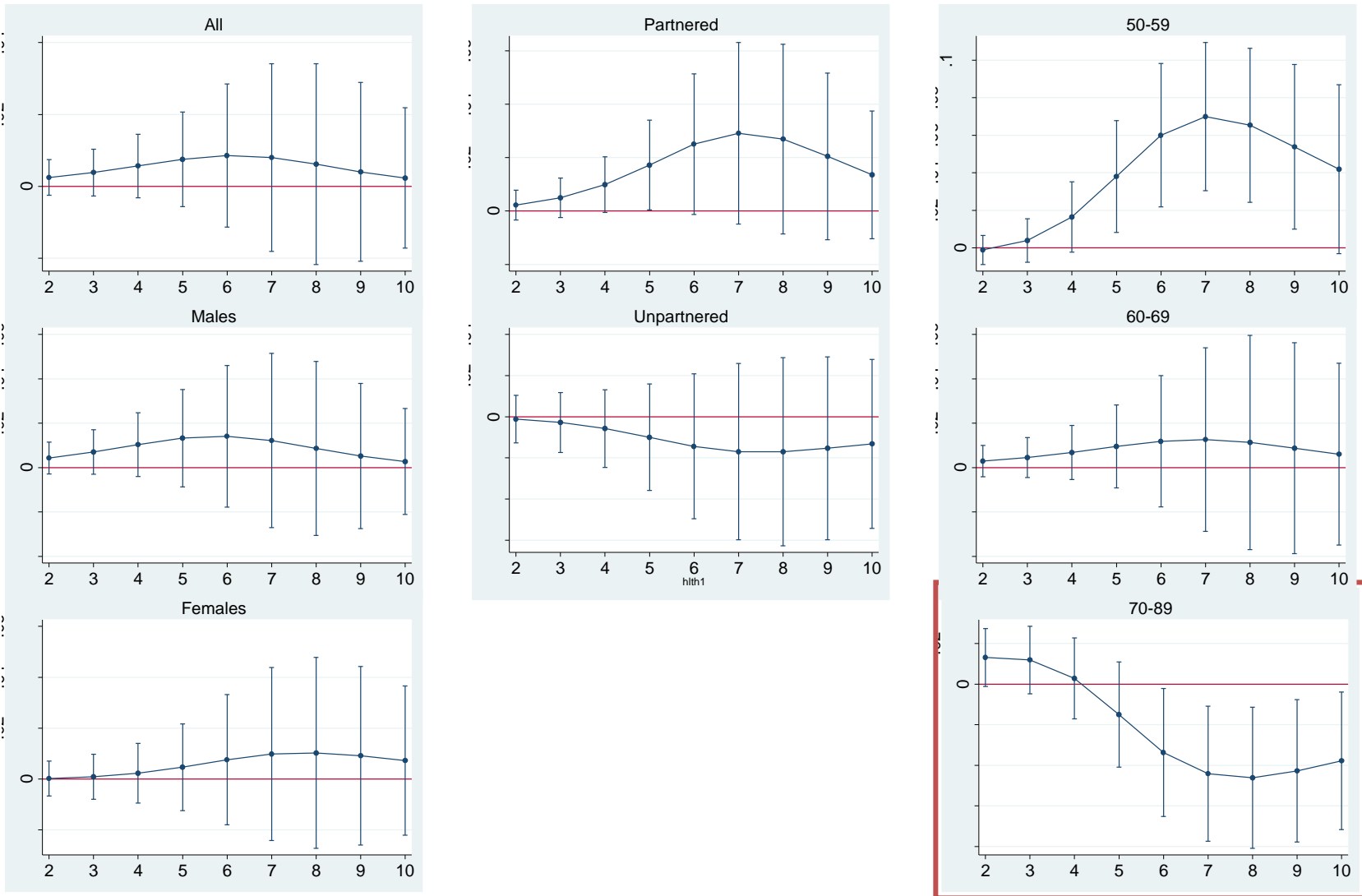
Odds ratios – friend-based network

Variable	All	M	F	P	NP	50s	60s	70+
Network (strength)	1.1	1.1	1.0	1.0	1.0	0.8	1.1	1.6*
Network # disability	1.0	1.0	1.0	1.0	1.0	1.1*	1.0	0.9*
Instrumental support: Assisted to do something practical (ref 0-1)								
by 2-3 friends	0.9	0.9	0.8	1.2	0.4	1.1	1.0	0.5
by 4+ friends	1.0	0.9	1.4	1.6	0.8	1.6	2.2	0.7
Emotional support: Confided in (ref 0-1)								
2-3 friends	0.7	0.4*	0.9	0.7	0.7	0.4	0.8	0.5
4+ friends	1.1	0.5	1.5	0.9	1.9	0.2	1.5	1.4

*p<0.05, ** p<0.01, *** p<0.001

'Beneficial' to SRH/'Detrimental' to SRH

Average marginal effects – friend-based network by disability



Odds ratios – group-based network

Variable	All	M	F	P	NP	50s	60s	70+
Time spent in group activities (ref <1 hr)								
1-5 hrs	0.7	0.6	0.8	0.6	1.0	0.7	0.6	1.2
5-10 hrs	0.6	0.6	0.6	0.5*	1.0	0.2*	0.5	0.9
10-20 hrs	0.5	0.4	0.6	0.4*	1.0	0.6	0.3	0.5
21 hrs or more	0.5	0.2*	0.7	0.5	0.4	1.1	0.1*	0.4

*p<0.05, ** p<0.01, *** p<0.001

'Beneficial' to SRH/'Detrimental' to SRH

SUMMARY AND CONCLUSION

BY DEMOGRAPHIC GROUP

Summary 1

Social network–SRH models differ by demographic group

- Males - lower odds of fair/poor SRH:
 - **Instrumental** support from **family**
 - **Emotional** support from **friends**
 - Participate more in **group activities** (21+ hrs in 4 weeks)
- Females – no significant main effects
 - Interaction: Lower odds of fair/poor SRH associated with **family** network are increased at **high levels of disability**

Summary 2

Social network–SRH models differ by demographic group

- Partnered –
 - No significant family or friend network main effects
 - Lower odds if participate more in **group activities** (5-10 and 10-20 hrs)
- Unpartnered - lower odds of fair/poor SRH
 - **Family network strength**
 - Interaction: but odds **increased at high levels of disability**

Summary 3

Social network–SRH models differ by demographic group

- 50-59 - higher odds of fair/poor SRH:
 - **Instrumental** support (highest level) from **family**
 - Interaction: Lower odds of fair/poor SRH associated with network strength **friends** are increased at **high levels of disability**
 - BUT lower odds if participate more in **group activities** (5-10 hrs)
- 60-69 – lower odds of fair/poor SRH:
 - **Instrumental** support (highest level) from **family**
 - Participate more in **group activities** (21+ hrs)
- 70-89 – network strength effects:
 - Interaction: Lower odds of fair/poor SRH associated with **family network** are increased at **high levels of disability**
 - Main effect & Interaction: Higher odds of fair/poor SRH associated with **friend network** are reduced at **high levels of disability**

Conclusion

- Differences exist among demographic groups wrt the predictive effect of social network structures and functions on SRH after adjusting for objective health
- Overall model (no significant main effects) masks differences among groups
- Importance of family/friend/group breakdown
- Group activity is universally beneficial to SRH
- Policy implications – e.g., group activity, men’s groups/sheds
- Further investigation needed – larger sample

Acknowledgements

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