

Anxiety in Older People

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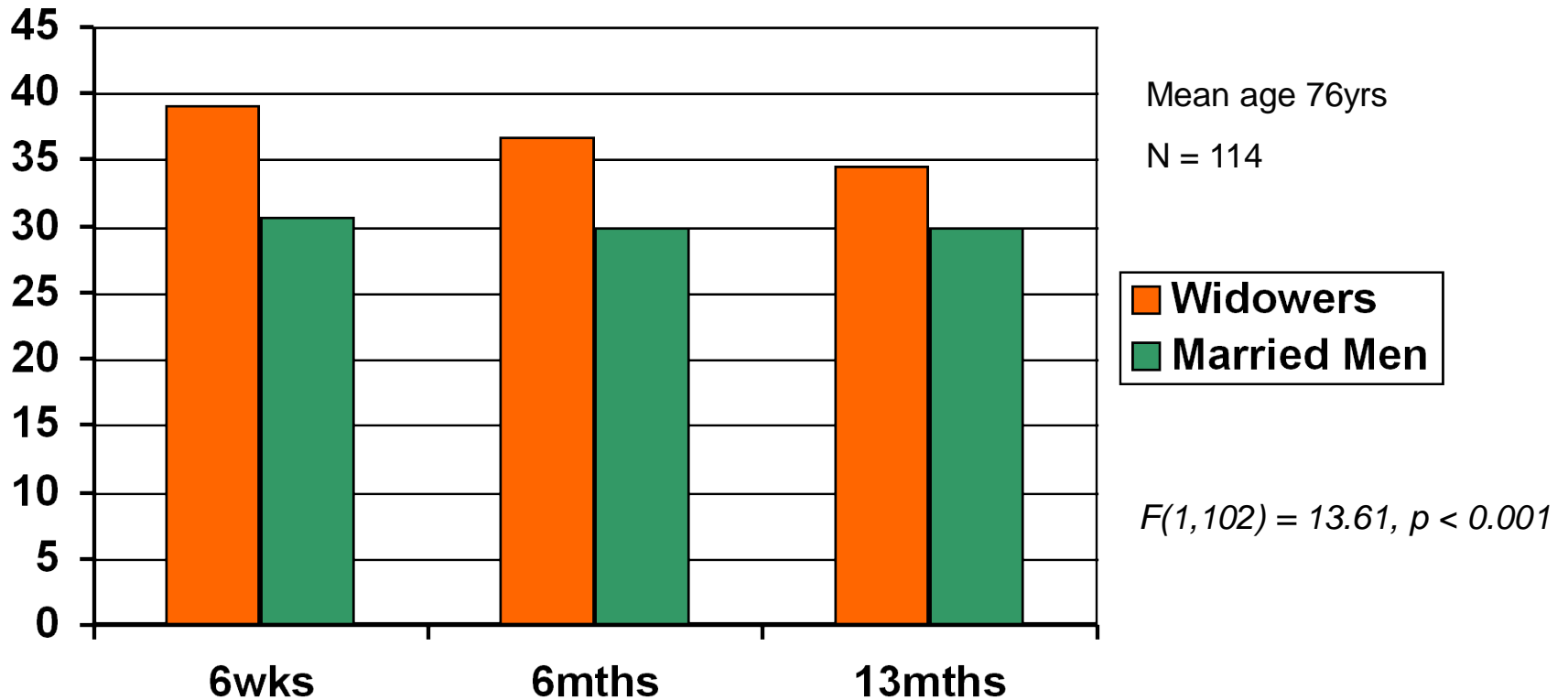


Outline

- Epidemiology
- Clinical features
- Scale development
- Psychological treatment
- Drug treatment
- Impact of cognitive impairment

Anxiety in Bereaved Older Men

Spielberger State Trait Anxiety Inventory (state) score



Top 5 Causes of Disability Burden

Years Lost to Disability (YLD) by Gender, 2003

- Males

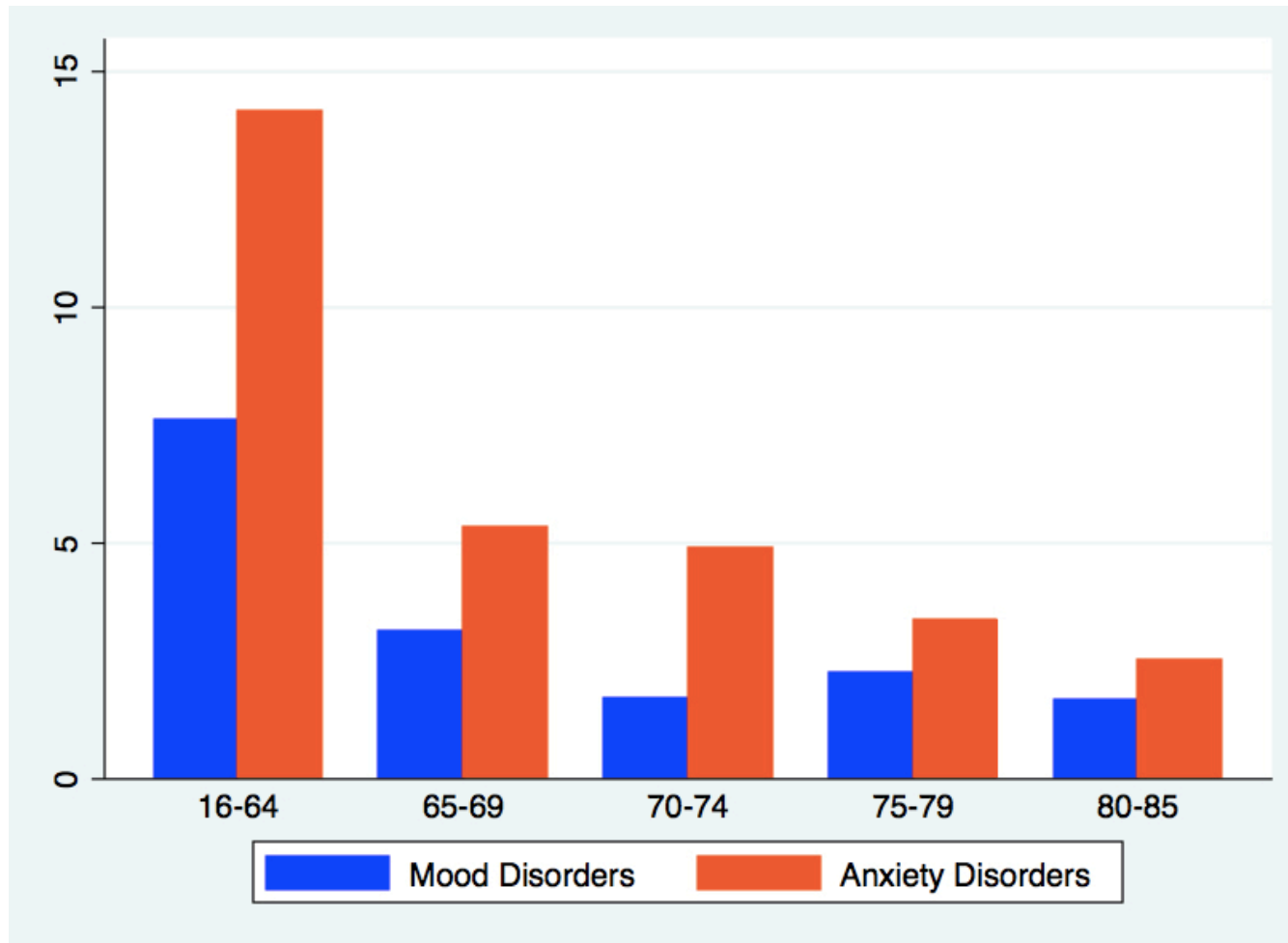
- Anxiety & Depression
- Type 2 diabetes
- Adult onset hearing loss
- Asthma
- Dementia

- Females

- Anxiety & Depression
- Type 2 diabetes
- Dementia
- Asthma
- Ischaemic heart disease

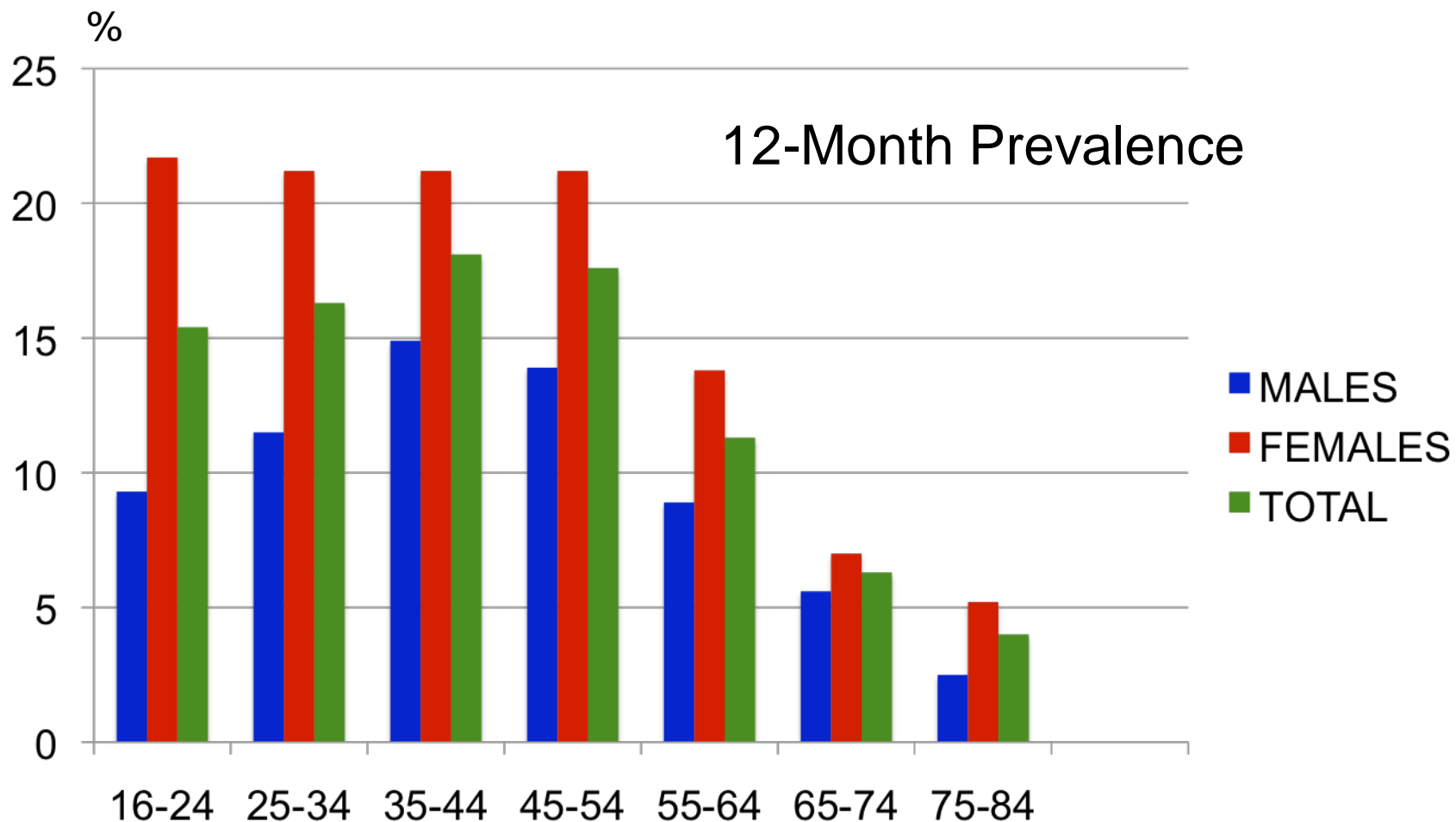
Mood & Anxiety Disorders

12-Month Prevalence (DSM-IV)



NSMHWB
included
community-
residing
individuals
only

Prevalence of Any Anxiety Disorder



Possible Explanations

- The data are wrong
- The instruments are poor
- The diagnostic criteria are inappropriate
- Symptoms are misclassified
- Anxious older people do not answer the front door
- Anxious older people are in nursing homes

Possible Explanations

- The data are correct
- Sub-syndromal anxiety replaces anxiety disorders
- Healthy survivor effect
- Birth cohort effect
- Psychological inoculation
- Declining neuroticism
- Psychophysiological changes

Epidemiology

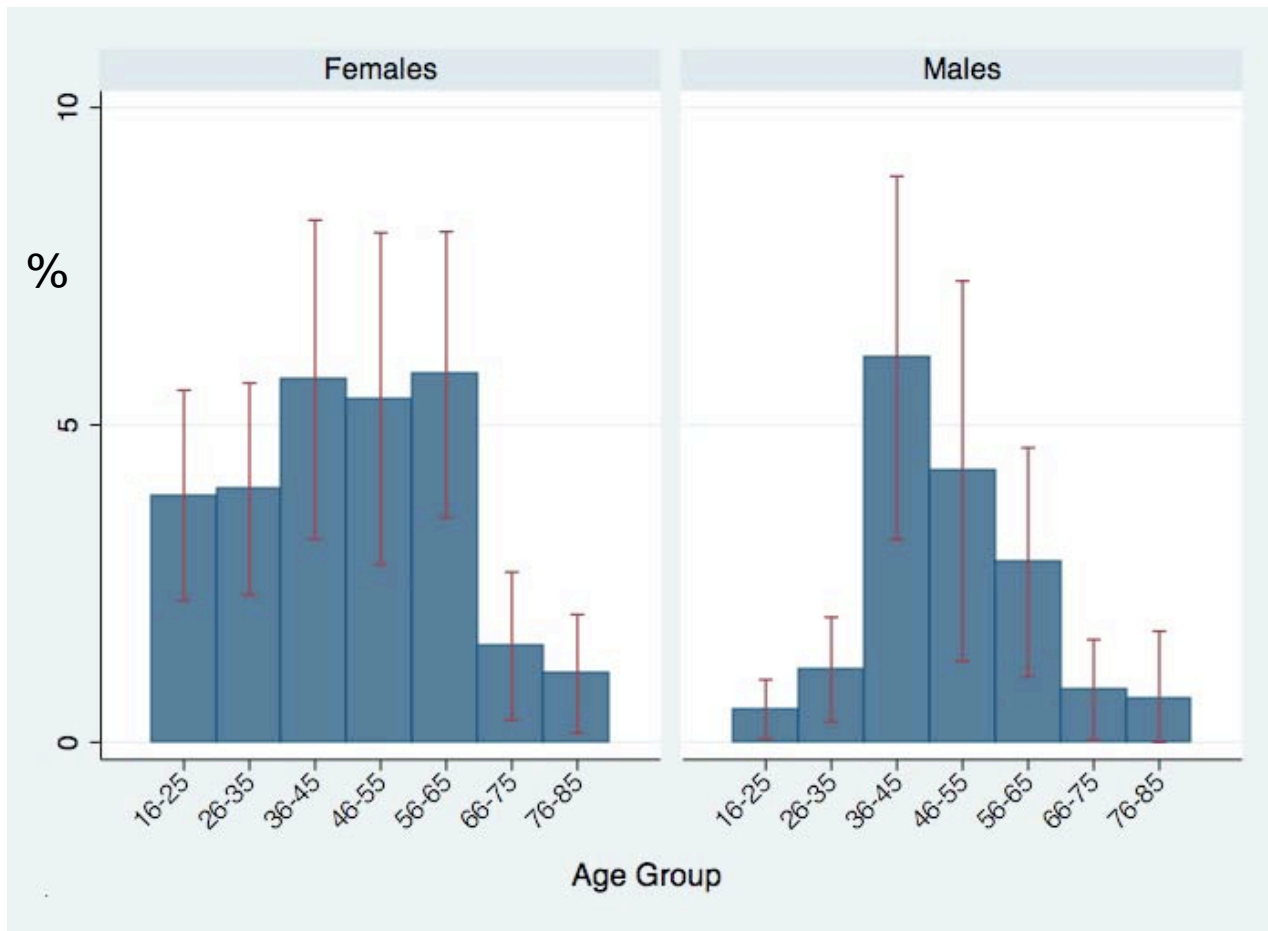
NSMHWB 2007 65-85 years (N = 1,905)

- 12-Month Prevalence DSM-IV
 - PTSD 1.6% (1.1-2.2)
 - GAD 1.4% (0.8-1.9)
 - Social phobia 1.2% (0.7-1.7)
 - OCD 0.7% (0.4-1.1)
 - Panic disorder 0.5% (0.2-0.9)
 - Agoraphobia 0.3% (0.1-0.6)

Any Anxiety disorder 4.3% (3.3-5.2) in 65-85 year group cf 14.2% (13.3-15.0) in 16-64 year group

Byrne. (2012) Anxiety Disorders In: Denning & Thomas (Eds) *Oxford Textbook of Old Age Psychiatry* 5th edition

12-Month Prevalence Estimates for GAD by Age and Gender

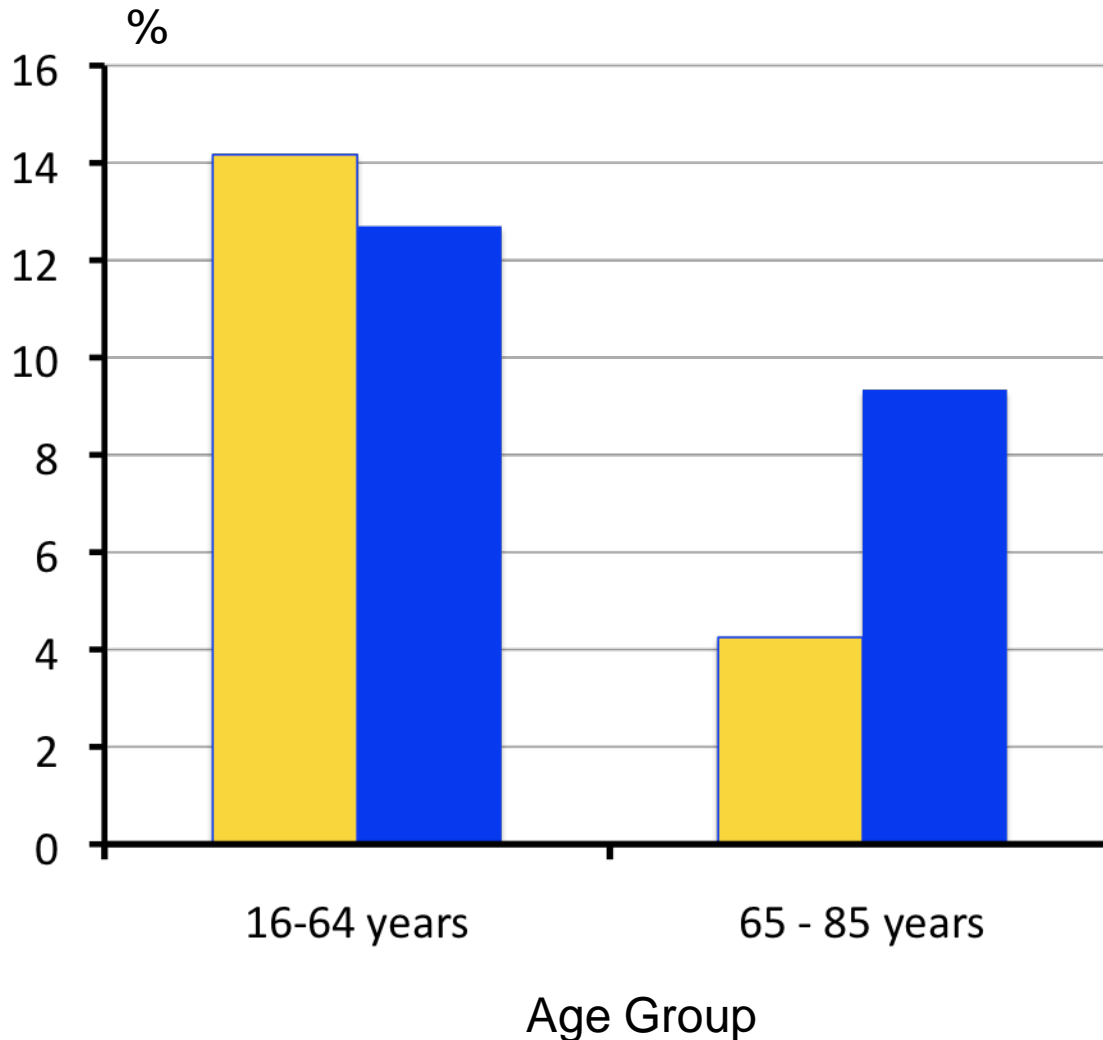


N = 8,841
16-85 years
Community-
residing
individuals

Calculated from Australian NSMHWB 2007 CURF (DSM-IV criteria)
[Prevalence estimates using person weights & 95% CI based on jackknifed SEs using replicate weights]

Sub-Syndromal Generalised Anxiety

N = 8,841
Australian National
Survey of Mental
Health & Wellbeing
2007 (1,905 aged
65+)



■ DSM-IV Anxiety Disorder
■ Sub-Syndromal Anxiety

Sub-Syndromal
anxiety defined as
multiple worries plus
moderate to high K10
distress

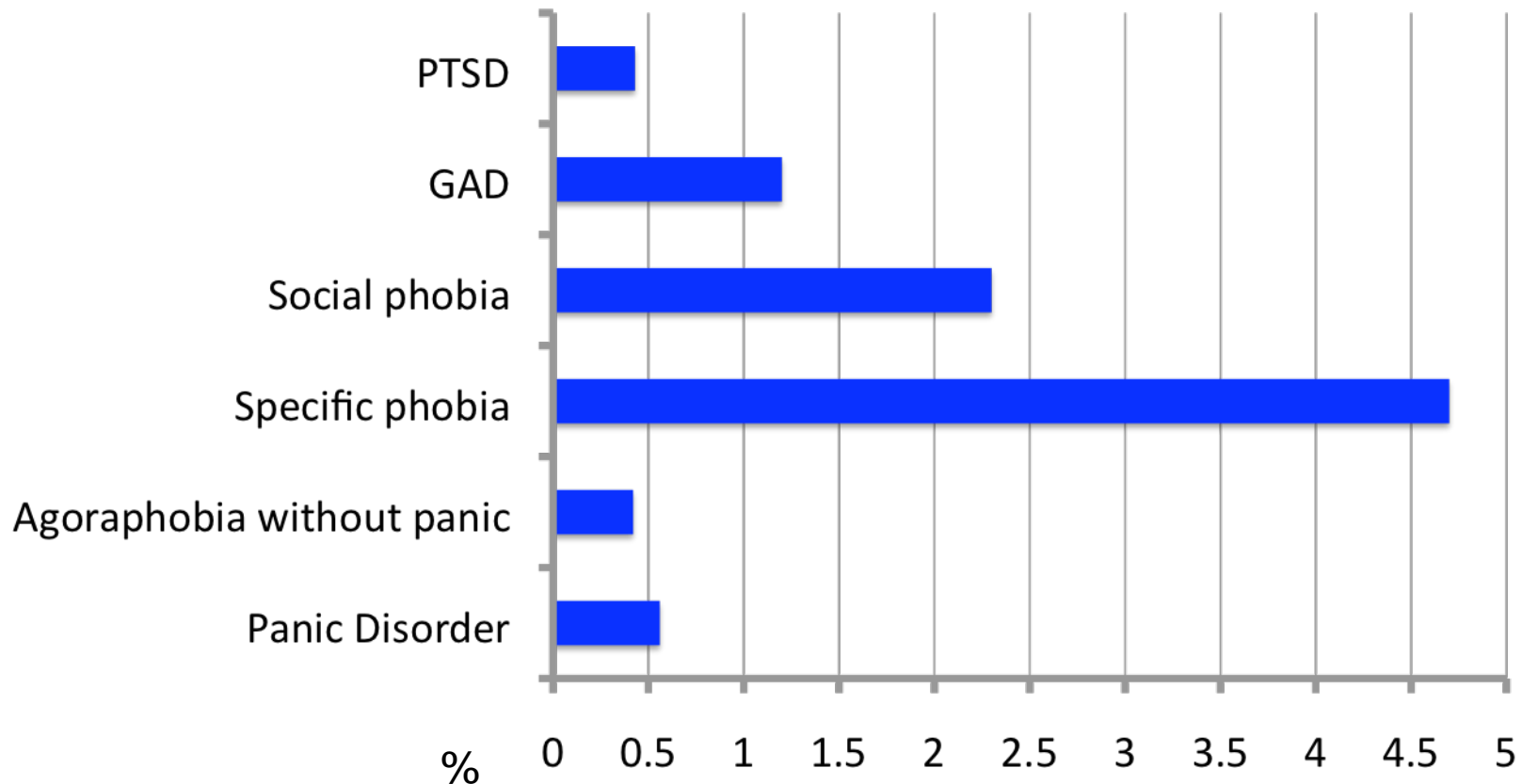
Epidemiology

NSMHWB 2007 55-85 years (N = 3,035)

- Prevalence
 - 12-month DSM-IV GAD 2.8% (95% CI: 2.0-3.7)
 - Older age [OR 0.24]
 - Lifetime history of MDD [OR 5.31]
 - Family history of anxiety or depression [OR 2.41]
 - Concerns about having a serious illness despite doctor's reassurance [OR 2.29]
 - Functional limitations [OR 1.07]

Anxiety Disorder Prevalence

12-Month Prevalence (CIDI/DSM-IV) 65+ yrs (n = 1,461)



National Comorbidity Survey Replication; Byers et al. *Archives of General Psychiatry* 2010 67(5): 487-496; [re-weighted prevalence figures]

Any Anxiety Disorder 65+ 7.8% (3.1% if simple phobia omitted)

Epidemiology

DEPS-GP Study – Anxiety Associations

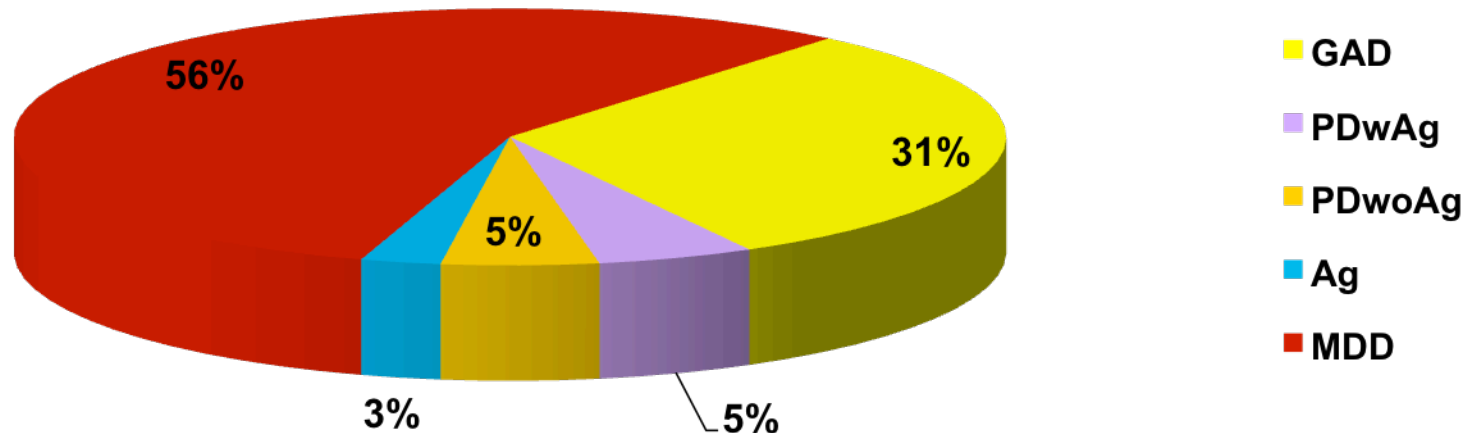
- Protective factors
 - University education; regular exercise; good social support
- Risk factors
 - Lower age; female gender; childhood physical abuse; childhood sexual abuse; substance use

Data from the DEPS-GP study. 20,874 GP patients aged 60 years and over participating in an NHMRC-funded cluster randomised controlled trial of suicide prevention; Mean age 71.8 years; One week prevalence of HADS 11+ anxiety was 6.45%.

Related publication: Almeida et al. (2012) Anxiety, Depression and Comorbid Anxiety and Depression: Risk Factors and Outcome Over Two Years. *International Psychogeriatrics* (accepted for publication)

Anxiety Often Complicates Depression

MDD; N = 39; Mean age 78 yrs



Subjects inpatients & outpatients. DSM-IV diagnoses based on structured diagnostic interviews using the CIDI-A.

Worry in Older People

- Worry is key to GAD
- Do older people worry more or less than middle-aged and younger people?
- Do older people report similar types of worry to middle-aged and younger people?

Worry in Older Australians

NSMHWB 2007

- 3 screening questions:
 - *Worried more than other people?*
 - *More nervous or anxious than other people?*
 - *Worried most days for one month or more?*
- If yes to any of the screening questions, participants were shown a prompt card listing 26 specific worries
- 3,735 participants answered yes to a screening question (42.2% of 8,841)

Worry in Older Australians

NSMHWB 2007

- Older adults (65-85 years) reported fewer worries (OR 0.36) than young & middle aged (16-64 years)
- Older adults were less likely to report worrying about interpersonal relations (OR 0.66), health (OR 0.65) or work (OR 0.39)
- Older adults were more likely to report worrying about the health and welfare of loved ones (OR 2.46)
- Similar findings were seen in those with or without a 12-month history of DSM-IV GAD

Why Do Older Australians Worry Less?

- Some possibilities:
 - Cohort effects
 - Changes in daily demands
 - Cognitive habituation
 - Increased emotional regulation
 - Assessment artefact
 - Censoring due to premature death or institutionalisation

Scale Development

- Geriatric Anxiety Inventory (GAI)
- Geriatric Anxiety Inventory – Short Form (GAI-SF)
- Informant Questionnaire on Anxiety in Dementia (IQAD)

Pachana, Byrne, Siddle et al. (2007) *International Psychogeriatrics* 19(1): 103-114.

Byrne, Pachana, Goncalves et al. (2010) *Aging & Mental Health* 14(3): 247-252.

Matheson, Byrne, Dissanayaka et al. (2010) *Australasian Journal on Ageing* Dec 29 [Epub ahead of print DOI: 10.1111/j.1741-6612.2010.00487.x

Byrne & Pachana (2011) *International Psychogeriatrics* 23(1): 125-131.

Geriatric Anxiety Inventory (GAI)

- 20-item self-report scale to measure anxiety in older people
- Suitable for use in geriatric psychiatry & geropsychology settings
- Now used in research & routine clinical practice around the world
- Translated into more than a dozen languages

Rationale For A Short Form

- In acute geriatric medical settings, including inpatient wards & emergency rooms, where anxiety might or might not be an issue, a screening scale is needed
- In epidemiological surveys short versions of multiple scales are often used to construct a larger questionnaire and in this context brevity is essential

The Challenge

- To devise a short form of the Geriatric Anxiety Inventory that retains as much of the psychometric strength of the 20-item GAI as possible

Methods 1

- We decided to develop a 5-item version of the GAI based on a combination of psychometric and pragmatic considerations
- Somatic items were eschewed to avoid confounding with symptoms of general medical conditions
- A dichotomous (agree/disagree) response scale was retained to maximize accessibility

Methods 2

- We selected subsets of items from the 20-item GAI & iteratively tested these against the DSM-IV diagnosis of Generalized Anxiety Disorder (GAD) using receiver operating curve (ROC) analyses
- Our test population was a cohort of 284 community-residing women (mean age 72.2 years) selected from the electoral roll

Cohort Characteristics

- 284 Community-residing women
- Mean age 72.2 (SD 7.3; range 60-87 years)
- MMSE 28.4 (SD 1.5; range 22-30)
- GAI 2.5 (SD 4.2; range 0 -20)
- GDS 2.2 (SD 2.5; range 0-13)
- STAI-state 34.4 (SD 11.0; range 20-78)

The Items

		AGREE	DISAGREE
1	I worry a lot of the time	0	0
6	Little things bother me a lot	0	0
8	I think of myself as a worrier	0	0
10	I often feel nervous	0	0
11	My own thoughts often make me anxious	0	0

Findings 1

- Internal consistency was high (alpha = 0.81)
- Concurrent validity against the state half of the Spielberger state/trait anxiety inventory was good ($r_s = 0.48$, $p < 0.001$)
- Optimal threshold was 3 or more out of 5
- At this cut point sensitivity was 75%, specificity was 87% and 86% of participants were correctly classified

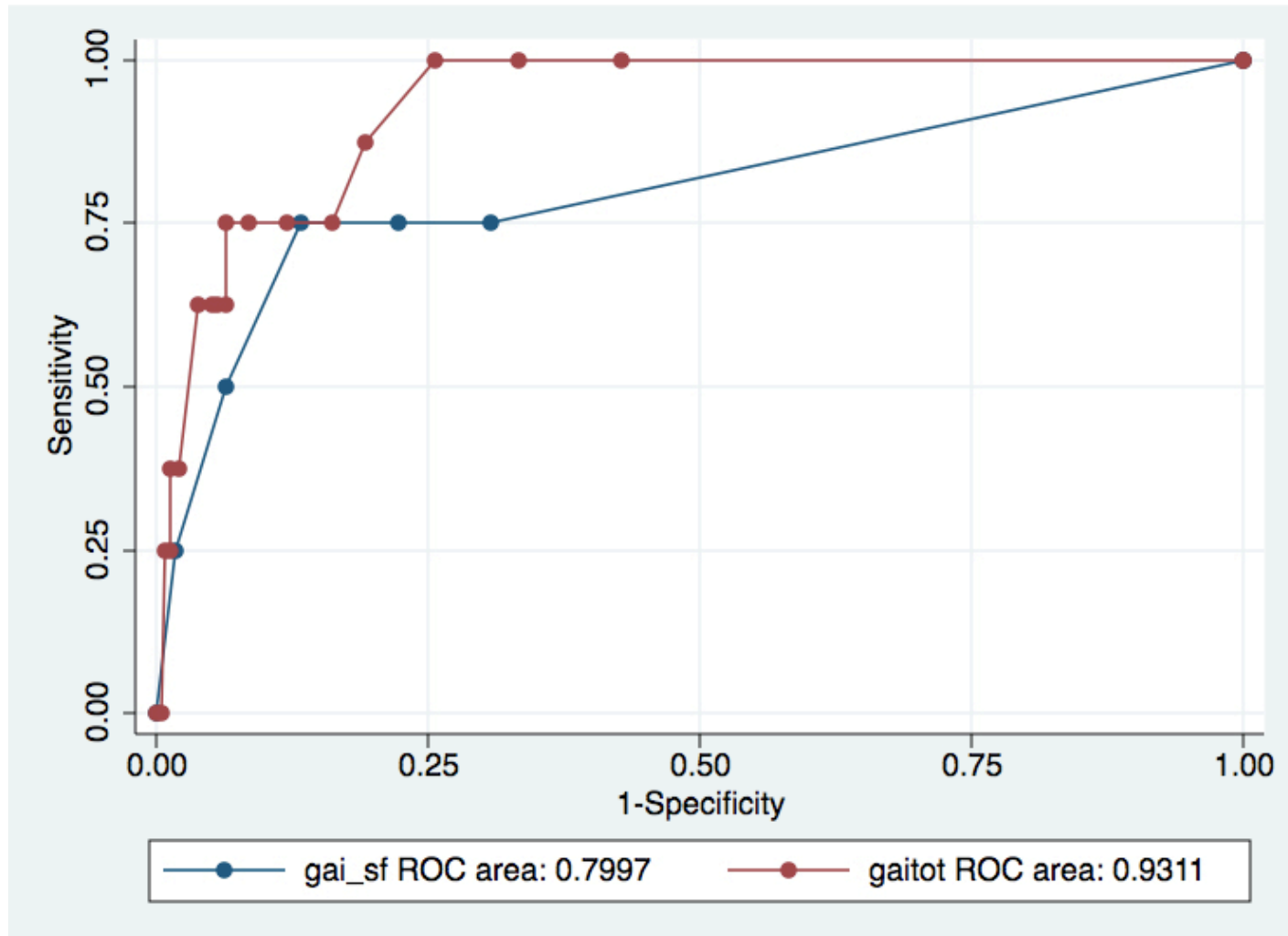
Endorsement & Internal Consistency

		Item Endorsement	Item-Rest Correlation
1	I worry a lot of the time	0.20	0.63
6	Little things bother me a lot	0.13	0.58
8	I think of myself as a worrier	0.25	0.68
10	I often feel nervous	0.13	0.51
11	My own thoughts often make me anxious	0.18	0.57

GAI-SF Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.
1. GAI	1.00							
2. GAI-SF	0.88***	1.00						
3. STAI state	0.47***	0.48***	1.00					
4. GDS	0.38***	0.37***	0.40***	1.00				
5. Age	-0.09	-0.05	-0.03	0.18	1.00			
6. MMSE	-0.06	-0.04	-0.05	-0.16	-0.35***	1.00		
7. Income adequacy	0.01	0.02	-0.05	-0.19	-0.01	0.10	1.00	
8. Educational level	-0.06	-0.08	0.09	-0.06	-0.21*	0.34***	0.06	1.00

ROC Analysis: GAI-SF vs GAI



N = 284
MINI-V DSM-
IV GAD Dx

Sensitivity/Specificity Trade-Offs

Cut Point	Sensitivity	Specificity	J Index	Correctly Classified	LR+	LR-
≥ 0	100	0.0	0.00	3.3	1.0	-
≥ 1	75	69.2	0.44	69.4	2.4	0.4
≥ 2	75	77.8	0.63	77.7	3.4	0.3
≥ 3	75	86.8	0.88	86.4	5.7	0.3
≥ 4	50	93.6	0.56	92.2	7.8	0.5
≥ 5	25	98.3	0.27	95.9	14.6	0.8

GAI-SF Summary

- The GAI-SF has good psychometric properties
- It can discriminate between older persons with and without GAD
- We recommend it for use in epidemiological surveys
- It requires further testing in geriatric medical settings

Current Status of the GAI

- Translated into more than 20 languages, including all the major European languages, as well as Chinese and Japanese, with cultural modifications
- Recommended for use by the U.S. National Guideline Clearinghouse
- First of five instruments recommended for use in older people by an NIH-funded review
- Used in the U.S. VA system
- Used in pan-American & European clinical trials by Eli Lilly

IQAD

Informant Questionnaire for Anxiety in Dementia

- 10-item informant questionnaire
- Focused on the past week
- 4-point response scale (SD, D, A, SA)
- Scored 10-40, with higher scores reflecting greater anxiety
- Sample items
 - *She/he seems to worry a lot of the time*
 - *She/he seems to find it hard to relax*

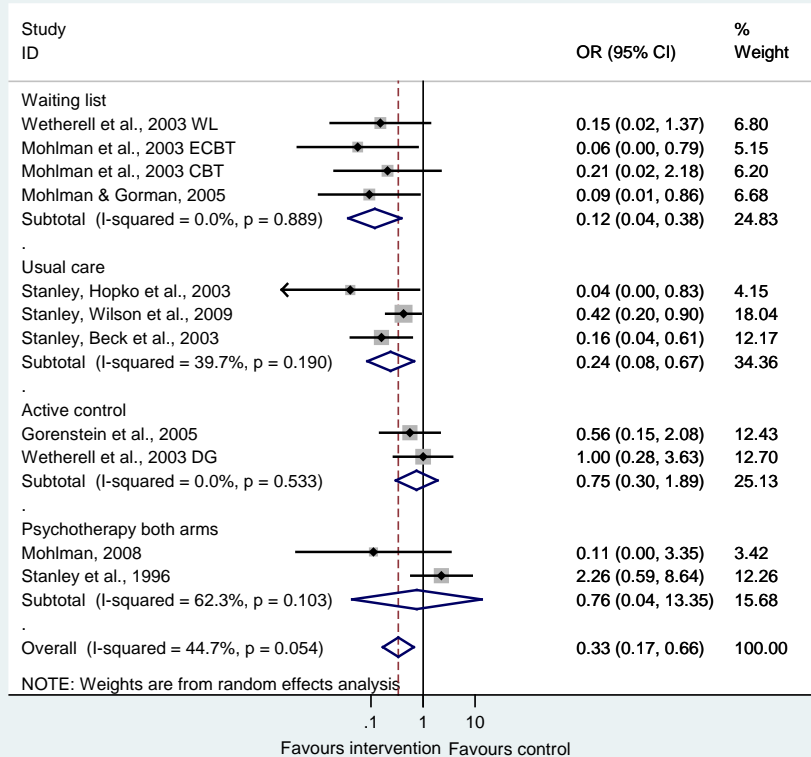
IQAD

Development Phase

- Pilot data
 - People with dementia living at home (N = 14)
 - Mean age 78.2 years; MMSE 21.2; BADL 18.5
 - Mean IQAD 20.6 SD 5.4 range 10-28
 - People with dementia living in a nursing home (N = 14)
 - Mean age 87.0 years; MMSE 9.2; BADL 29.6
 - Mean IQAD 23.9 SD 5.5 range 11-33

Large scale field-testing in the Memory Clinic setting is underway; A pilot RCT of a behavioural intervention based on behavioural activation is also underway with DCRC funding.

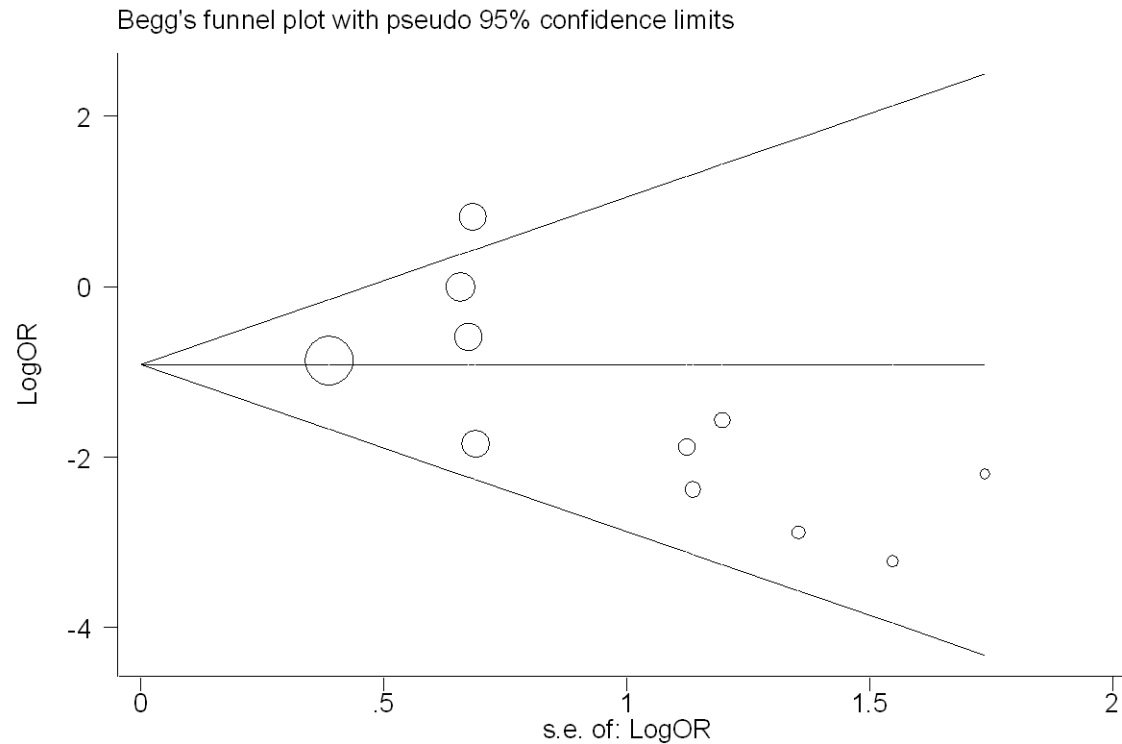
Psychological Treatment for GAD



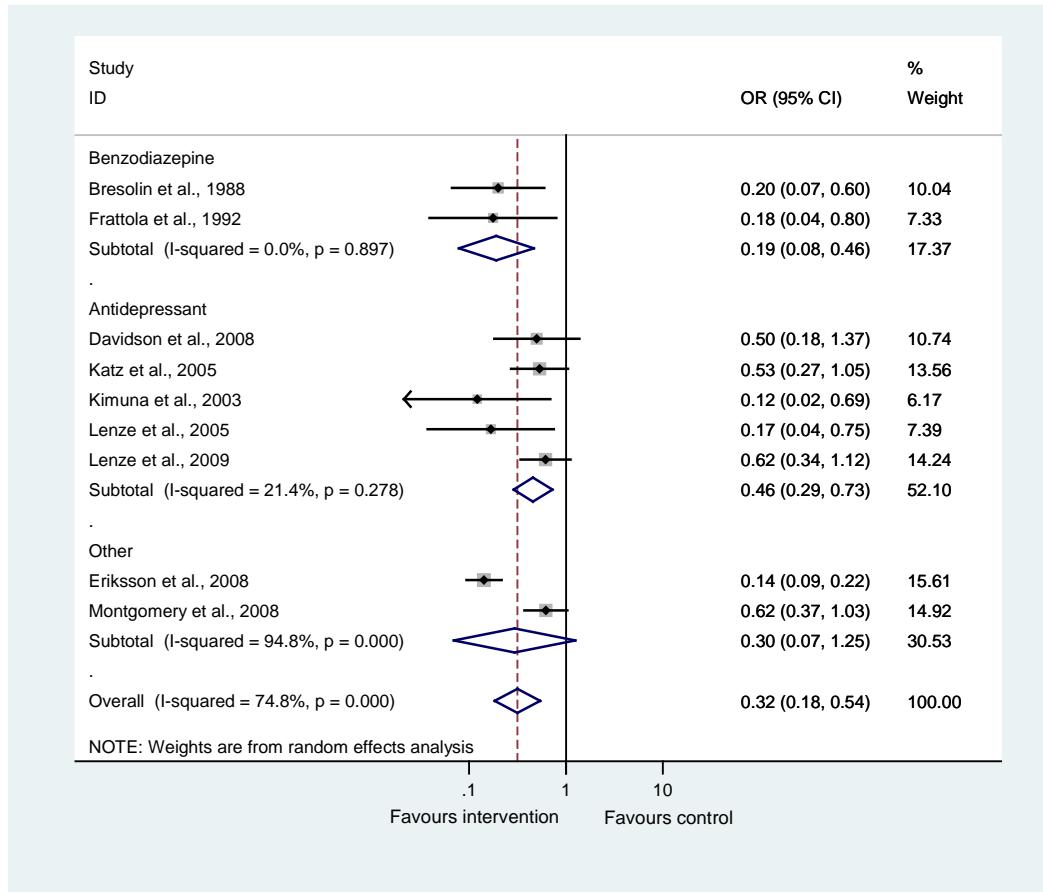
Pooled OR 0.33
(95% CI: 0.17 – 0.66)

Funnel Plot

Assessment of systematic bias



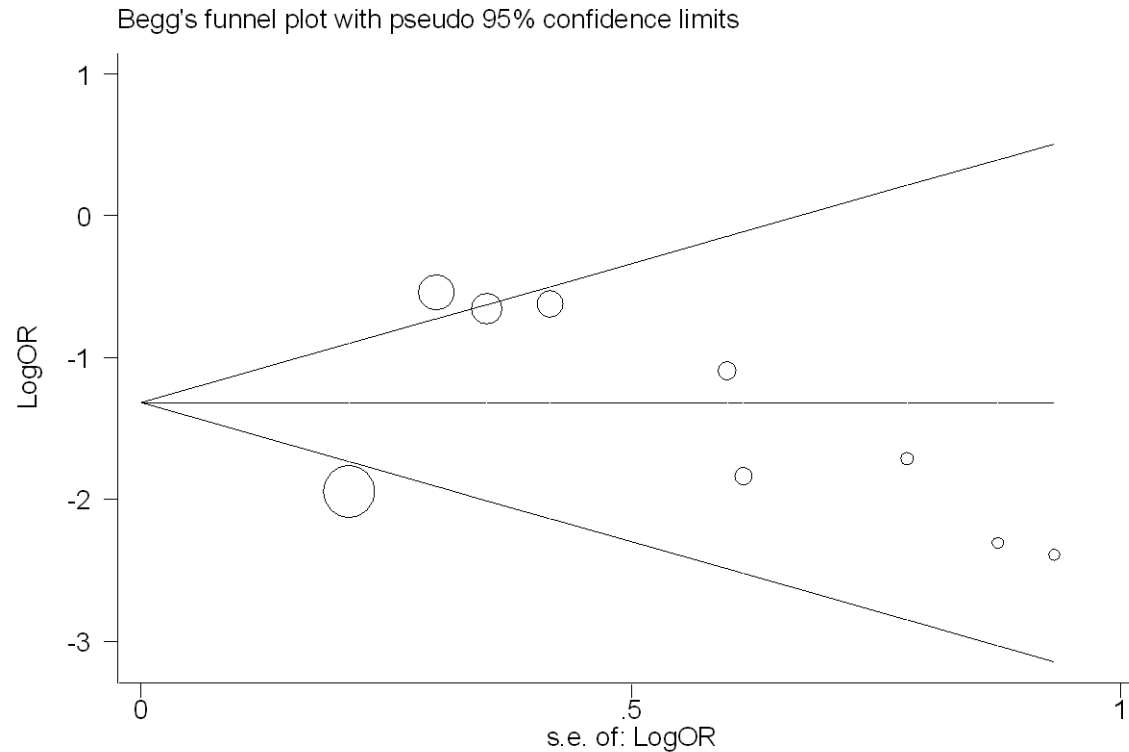
Drug Treatment for GAD



Pooled OR = 0.32
(95% CI: 0.18 – 0.54)

Funnel Plot

Assessment of systematic bias



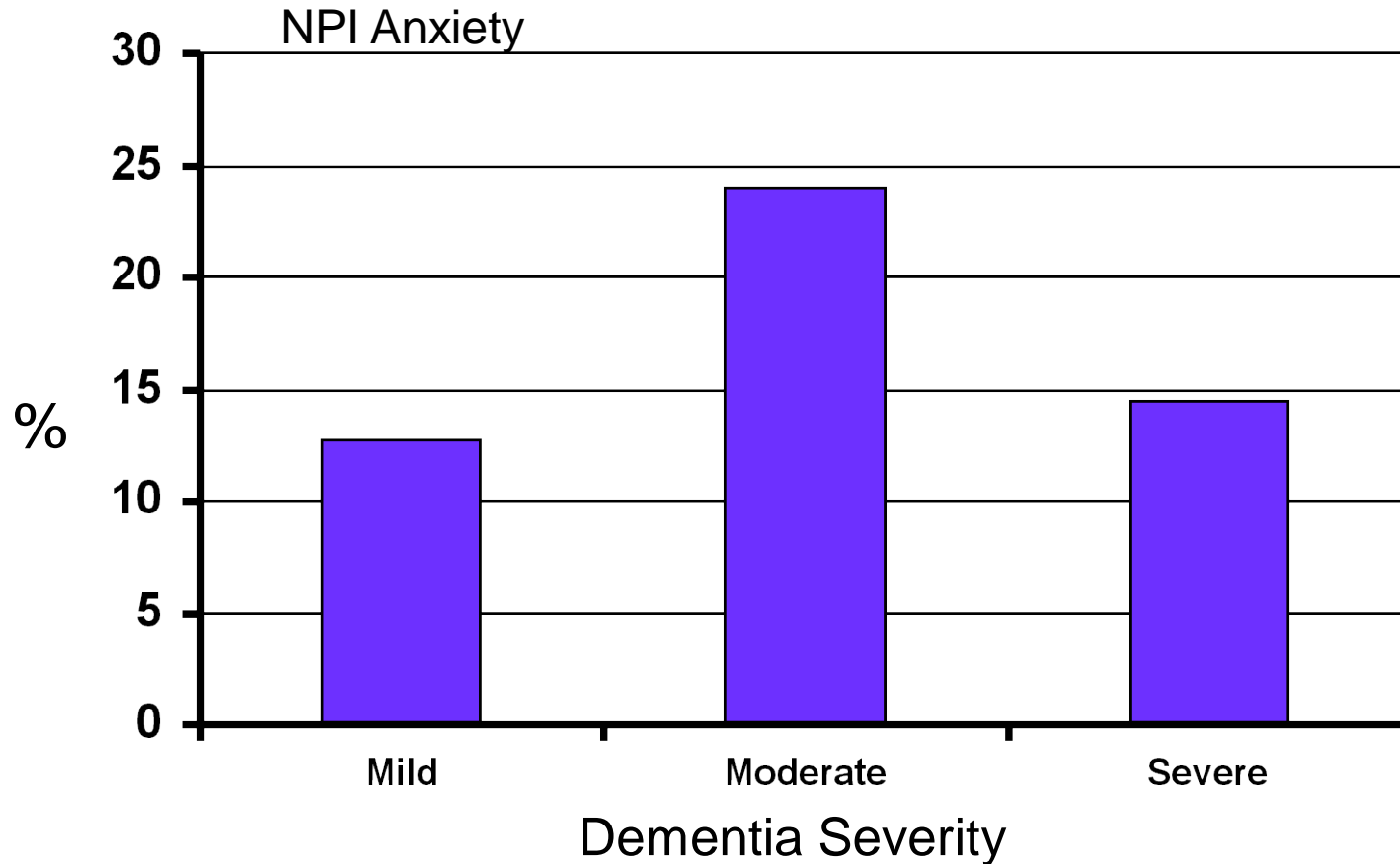
Gonçalves & Byrne. (2012) *Journal of Anxiety Disorders* Jan 26(1): 1-11.

Anxiety & Cognitive Impairment

- Anxiety symptoms & anxiety disorders decline sharply in prevalence after the age of 50 years
- Anxiety symptoms & anxiety disorders rise sharply in prevalence in the context of cognitive impairment

Anxiety in Dementia

Prevalence in Cache County Study (Utah)



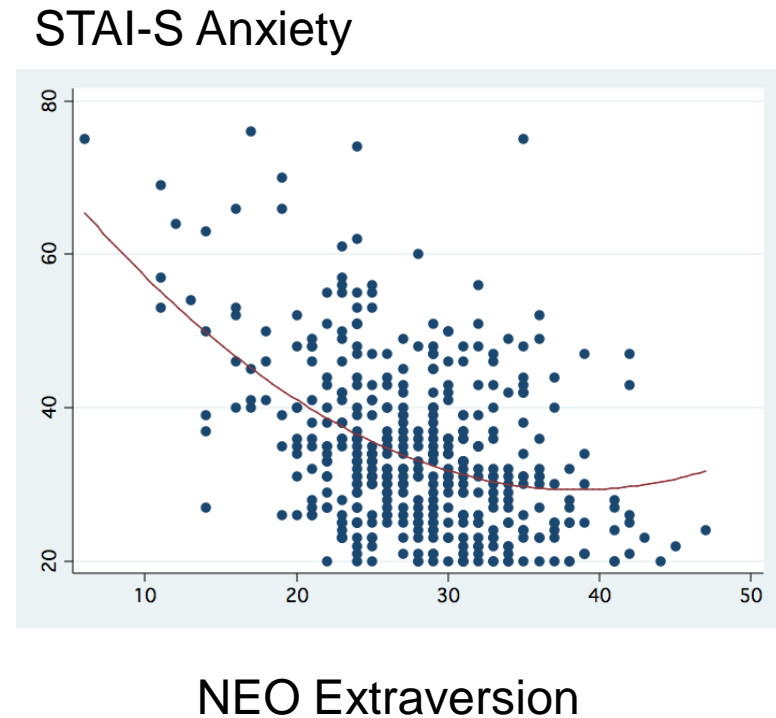
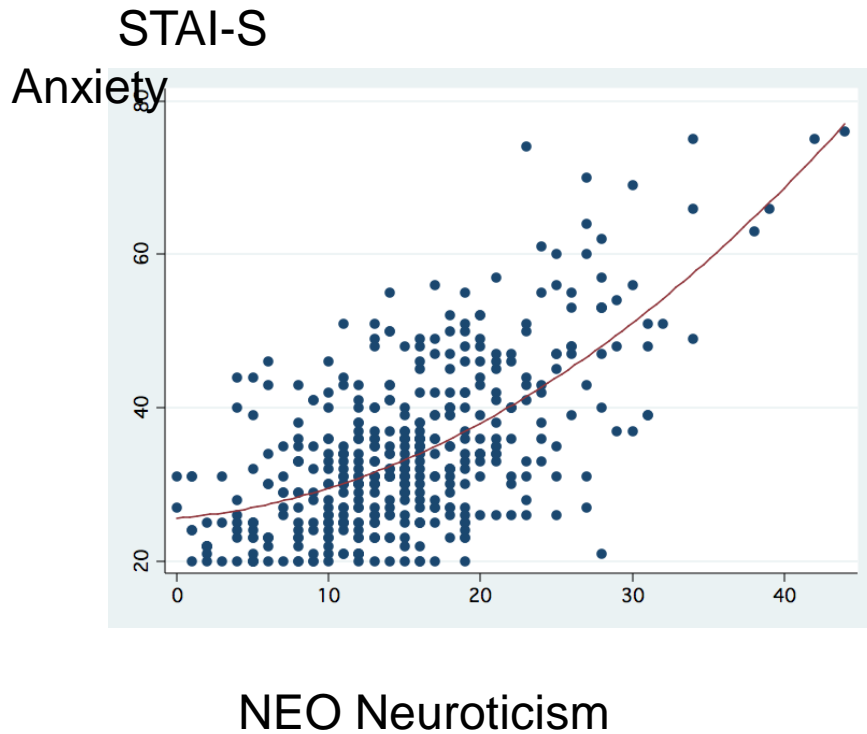
Normal Older People

- Personality function is relatively stable over the adult lifespan (after the age of 30 years)
- Older people score lower on Neuroticism, Extraversion & Openness in comparison with younger adults
- Older people score higher on Agreeableness & Conscientiousness in comparison with younger adults

(Baltimore Longitudinal Study on Ageing, McCrae & Costa, 1988; Berkeley Older Generation Study, Field & Millsapp, 1991; Terracino et al. *Psychology & Aging* 20(3): 493-506, 2005)

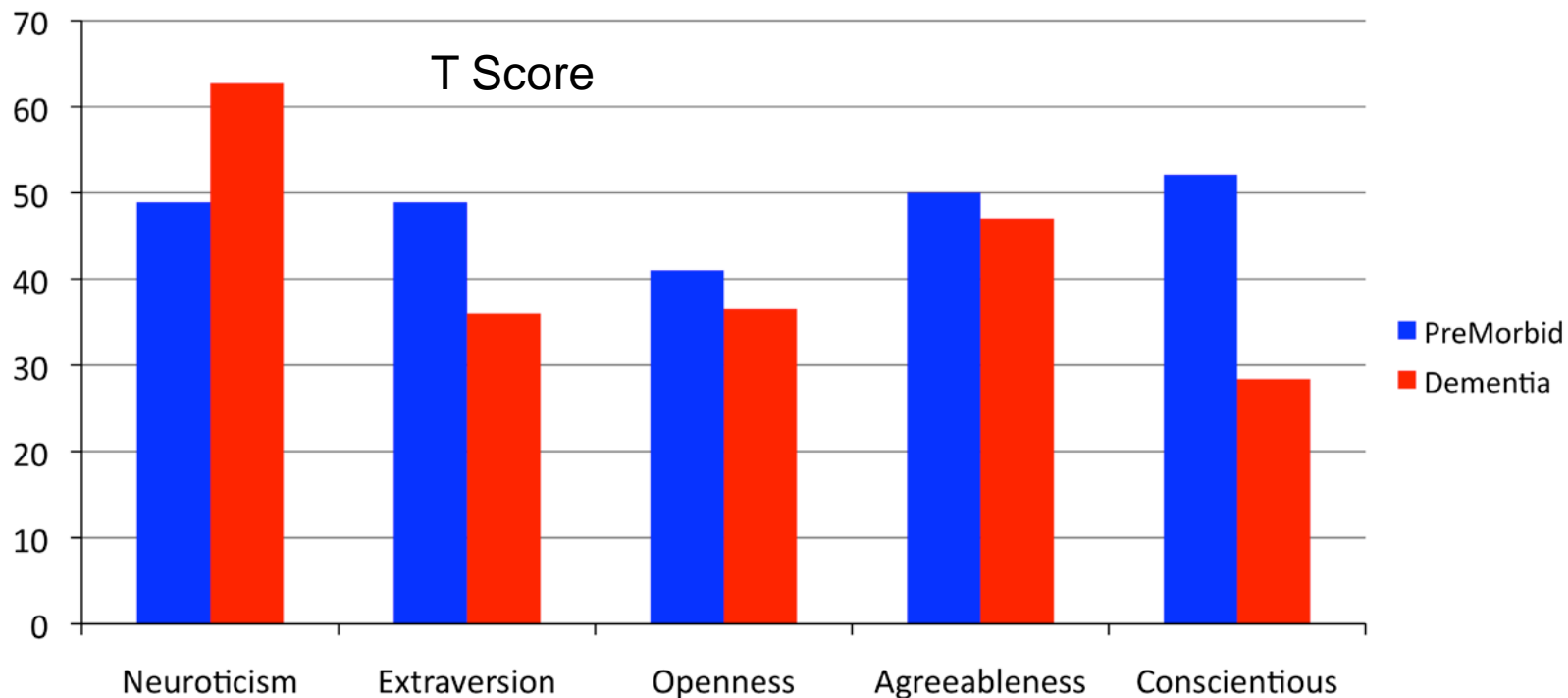
Neuroticism & Extraversion

Relationship to Anxiety



Personality Change in Dementia

NEO Five-Factor Model



9 informant-based studies; N = 291; T scores (mean 50; SD 10)

Robins Wahlin & Byrne (2011) *International Journal of Geriatric Psychiatry* 26: 1019-1029.

Main Personality Change Findings



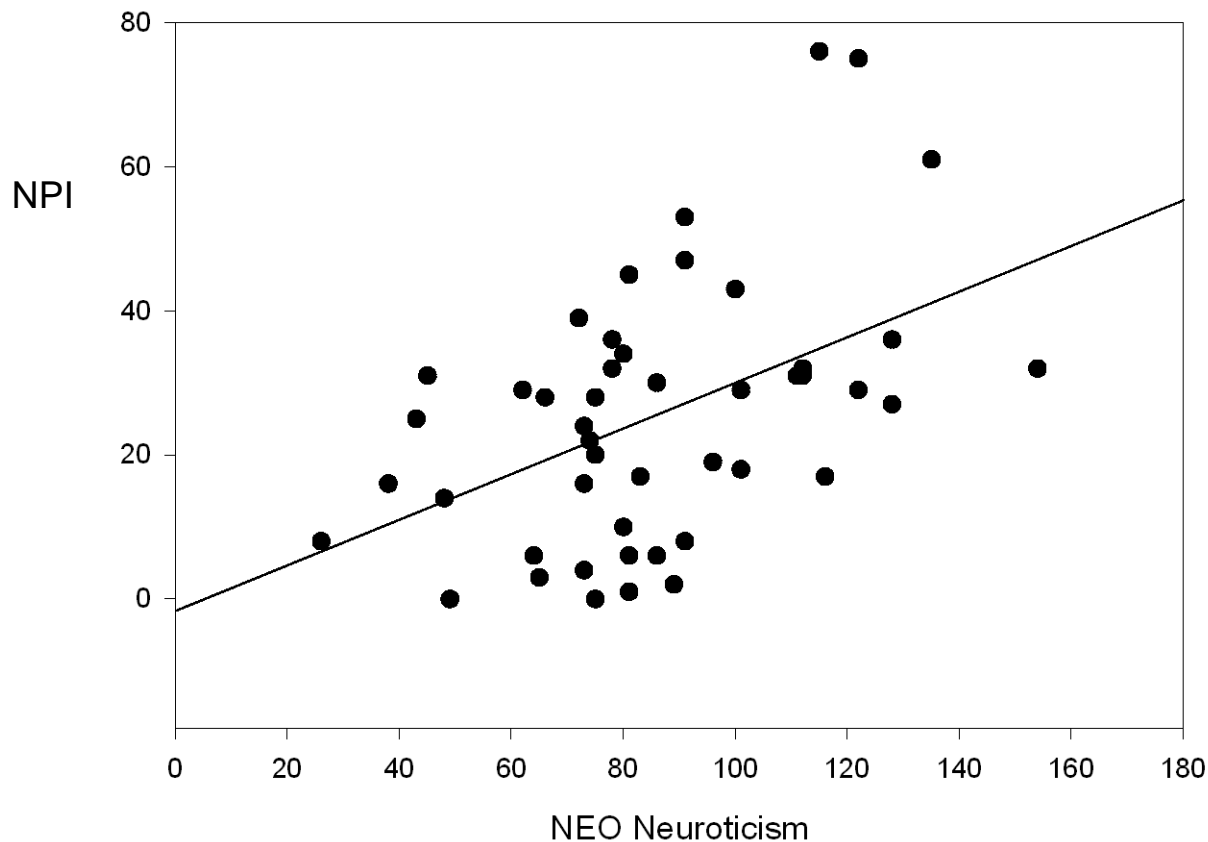
N: neuroticism; E: extraversion; O: openness; A: agreeableness; C: conscientiousness

Green: change in same direction as in normal ageing; Orange: change in opposite direction to normal ageing;

Robins Wahlin & Byrne *International Journal of Geriatric Psychiatry* 26: 1019-1029, 2011

Neuroticism & BPSD

NEO Neuroticism vs NPI Total Score



N = 47

DSM-IV dementia

Mean age 75.3 yrs

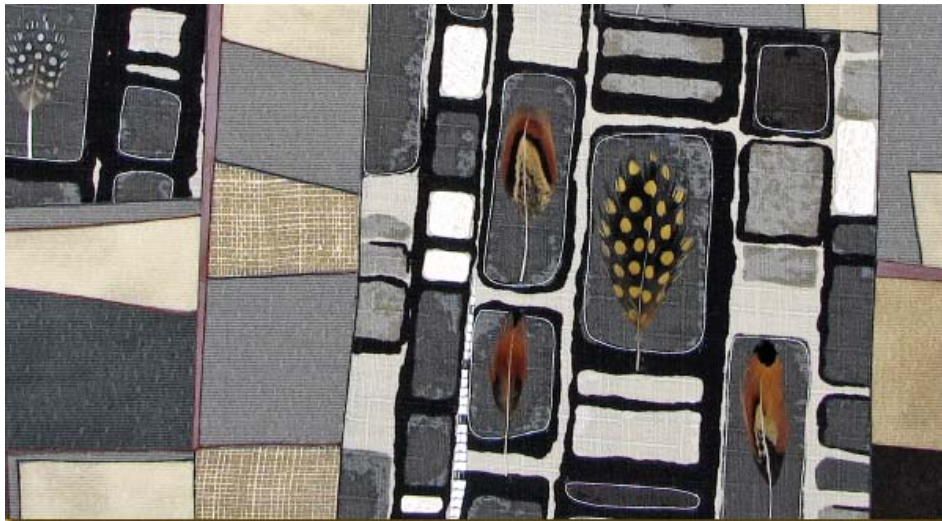
26 M; 21 F

MMSE 21.8

*Premorbid personality
on the NEO-PI*

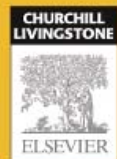
*BPSD on the
Neuropsychiatric
Inventory (NPI)*

Slack & Byrne (unpublished data)



COMMUNITY MENTAL HEALTH for OLDER PEOPLE

Gerard Byrne
Christine Neville



Chapter 23
The older person
with anxiety

Also available as an
e-book.

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