

# THE LANCET Psychiatry

## Supplementary appendix A

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Mayo-Wilson E, Dias S, Mavranzouli I, et al. Psychological and pharmacological interventions for social anxiety disorder in adults: a systematic review and network meta-analysis. *Lancet Psychiatry* 2014; published online Sept 26. [http://dx.doi.org/10.1016/S2215-0366\(14\)70329-3](http://dx.doi.org/10.1016/S2215-0366(14)70329-3).

## INTERVENTIONS FOR SOCIAL ANXIETY DISORDER IN ADULTS

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## INTERVENTIONS FOR SOCIAL ANXIETY DISORDER IN ADULTS

### APPENDIX 1: SEARCH STRATEGY

OID (Medline, PsycINFO, Embase)

- 1 avoidant personality disorder/ or hyperhidrosis/ or mutism/ or social phobia/
- 2 1 use emez
- 3 blushing/ or exp hyperhidrosis/ or mutism/ or phobic disorders/ or shyness/
- 4 3 use mesz, prem
- 5 avoidant personality disorder/ or elective mutism/ or social anxiety/ or social phobia/ or sweating/ or timidity/
- 6 5 use psych  
(((anxiety\$ or anxious\$ or phobia\$ or phobic\$) adj2 (performance or social\$)) or socioanxi\$ or sociophobi\$ or ((blush\$ or sweat\$ or trembl\$) adj3 (anxiety\$ or anxious\$ or chronic\$ or excessiv\$ or fear\$ or severe)) or ((interpersonal or inter personal or social\$ or socio\$) adj2 (aversion\$ or aversiv\$ or confiden\$ or difficult\$ or disorder\$ or distress\$ or fear\$)) or hyperhidrosis or hyperperspirat\$ or (hyper adj (hydrosis or perspirat\$)) or ((mute\$ or mutism) adj2 (elective\$ or selective\$)) or ((negative evaluation or speak\$) adj3 (anxiety\$ or anxious\$ or distress\$ or fear\$)) or paruresis or (((personalit\$ or phobi\$ or social\$ or socio\$) adj2 avoid\$) or avoidant disorder) or (phobi\$ adj2 neuros\$) or phobic disorder\$ or (school\$ adj2 (anxiety\$ or anxious\$ or phobi\$ or refuse or refusal)) or (shy or shyness) or specific phobia\$).ti,ab.
- 8 or/2,4,6-7
- 9 (systematic review or meta analysis).sh.
- 10 9 use emez
- 11 meta analysis.sh,pt. or "review literature as topic"/
- 12 11 use mesz, prem
- 13 (literature review or meta analysis).sh,md. or systematic review.md.
- 14 13 use psych  
(exp bibliographic database/ or (((electronic or computer\$ or online) adj database\$) or bids or cochrane
- 15 or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review\$.ti,ab,sh,pt. or systematic\$.ti,ab.)
- 16 15 use emez  
(exp databases, bibliographic/ or (((electronic or computer\$ or online) adj database\$) or bids or cochrane
- 17 or embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review\$.ti,ab,sh,pt. or systematic\$.ti,ab.)
- 18 17 use mesz, prem  
(computer searching.sh. or (((electronic or computer\$ or online) adj database\$) or bids or cochrane or
- 19 embase or index medicus or isi citation or medline or psyclit or psychlit or scisearch or science citation or (web adj2 science)).ti,ab.) and (review\$.ti,ab,pt. or systematic\$.ti,ab.)
- 20 19 use psych  
((analy\$ or assessment\$ or evidence\$ or methodol\$ or qualitativ\$ or quantitativ\$ or systematic\$) adj2
- 21 (overview\$ or review\$)).tw. or ((analy\$ or assessment\$ or evidence\$ or methodol\$ or qualitativ\$ or quantitativ\$ or systematic\$).ti. and review\$.ti,pt.) or (systematic\$ adj2 search\$).ti,ab.
- 22 (metaanal\$ or meta anal\$ or metasynthes\$ or meta synthes\$).ti,ab.
- 23 (research adj (review\$ or integration)).ti,ab.
- 24 reference list\$.ab.
- 25 bibliograph\$.ab.
- 26 published studies.ab.
- 27 relevant journals.ab.
- 28 selection criteria.ab.
- 29 (data adj (extraction or synthesis)).ab.
- 30 (handsearch\$ or ((hand or manual) adj search\$)).ti,ab.
- 31 (mantel haenszel or peto or dersimonian or der simonian).ti,ab.
- 32 (fixed effect\$ or random effect\$).ti,ab.
- 33 ((pool\$ or combined or combining) adj2 (data or trials or studies or results)).ti,ab.
- 34 or/10,12,14,16,18,20-33
- 35 exp "clinical trial (topic)"/ or exp clinical trial/ or (crossover procedure or double blind procedure or placebo\$ or randomization or random sample or single blind procedure).sh.
- 36 35 use emez
- 37 exp clinical trial/ or (cross-over studies or double-blind method or placebos or random allocation or randomization or single-blind method).sh. or (randomized controlled trials as topic/ and random\$.sh.)
- 38 37 use mesz, prem
- 39 clinical trials/ or (placebo or random sampling).sh,id.
- 40 39 use psych
- 41 (clinical adj2 trial\$).ti,ab.
- 42 (crossover or cross over).ti,ab.

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- 43 (((single\$ or doubl\$ or trebl\$ or tripl\$) adj2 blind\$) or mask\$ or dummy or singleblind\$ or doubleblind\$ or trebleblind\$ or tripleblind\$).ti,ab.
- 44 (placebo\$ or random\$).ti,ab.
- 45 (clinical trial\$ or controlled clinical trial\$ or random\$).pt. or treatment outcome\$.md.
- 46 animals/ not human\$.mp.
- 47 animal\$/ not human\$/
- 48 (animal not human).po.
- 49 (or/36,38,40-45) not (or/46-48)
- 50 8 and (or/34,49)

## CENTRAL

#1 mesh descriptor phobic disorders, this term only

#2 mesh descriptor hyperhidrosis explode all trees

#3 mesh descriptor mutism, this term only

#4 mesh descriptor blushing, this term only

#5 mesh descriptor shyness, this term only

#6 ((anxi\* or anxious\* or phobia\* or phobic\*) near/2 (performance or social\*)) or socioanxi\* or sociophobi\* or ((blush\* or sweat\* or trembl\*) near/3 (anxi\* or anxious\* or chronic\* or excessiv\* or fear\* or severe)) or ((interpersonal or "inter personal" or social\* or socio\*) near/2 (aversion\* or aversiv\* or confiden\* or difficult\* or disorder\* or distress\* or fear\*)) or hyperhidrosis or hyperperspirat\* or (hyper near/1 (hydrosis or perspirat\*)) or ((mute\* or mutism) near/2 (elective\* or selective\*)) or (("negative evaluation" or speak\*) near/3 (anxi\* or anxious\* or distress\* or fear\*)) or paruresis or ((personalit\* or phobi\* or social\* or socio\*) near/2 avoid\*) or "avoidant disorder" or (phobi\* near/2 neuros\*) or "phobic disorder\*" or (school\* near/2 (anxi\* or anxious\* or phobi\* or refuse or refusal)) or shy or shyness or "specific phobia\*":ti 805

#7 ((anxi\* or anxious\* or phobia\* or phobic\*) near/2 (performance or social\*)) or socioanxi\* or sociophobi\* or ((blush\* or sweat\* or trembl\*) near/3 (anxi\* or anxious\* or chronic\* or excessiv\* or fear\* or severe)) or ((interpersonal or "inter personal" or social\* or socio\*) near/2 (aversion\* or aversiv\* or confiden\* or difficult\* or disorder\* or distress\* or fear\*)) or hyperhidrosis or hyperperspirat\* or (hyper near/1 (hydrosis or perspirat\*)) or ((mute\* or mutism) near/2 (elective\* or selective\*)) or (("negative evaluation" or speak\*) near/3 (anxi\* or anxious\* or distress\* or fear\*)) or paruresis or ((personalit\* or phobi\* or social\* or socio\*) near/2 avoid\*) or "avoidant disorder" or (phobi\* near/2 neuros\*) or "phobic disorder\*" or (school\* near/2 (anxi\* or anxious\* or phobi\* or refuse or refusal)) or shy or shyness or "specific phobia\*":ab 1049

#8 ((anxi\* or anxious\* or phobia\* or phobic\*) near/2 (performance or social\*)) or socioanxi\* or sociophobi\* or ((blush\* or sweat\* or trembl\*) near/3 (anxi\* or anxious\* or chronic\* or excessiv\* or fear\* or severe)) or ((interpersonal or "inter personal" or social\* or socio\*) near/2 (aversion\* or aversiv\* or confiden\* or difficult\* or disorder\* or distress\* or fear\*)) or hyperhidrosis or hyperperspirat\* or (hyper near/1 (hydrosis or perspirat\*)) or ((mute\* or mutism) near/2 (elective\* or selective\*)) or (("negative evaluation" or speak\*) near/3 (anxi\* or anxious\* or distress\* or fear\*)) or paruresis or ((personalit\* or phobi\* or social\* or socio\*) near/2 avoid\*) or "avoidant disorder" or (phobi\* near/2 neuros\*) or "phobic disorder\*" or (school\* near/2 (anxi\* or anxious\* or phobi\* or refuse or refusal)) or shy or shyness or "specific phobia\*":kw

## ADDITIONAL SEARCHES

Please see: Clark DM, Pilling S, Mayo-Wilson E, *et al.* (2013). Social anxiety disorder: The NICE guideline on the recognition, assessment and treatment of social anxiety disorder. Royal College of Psychiatrists: London. (<http://www.nice.org.uk/Guidance/CG159/Documents>)

## INTERVENTIONS FOR SOCIAL ANXIETY DISORDER IN ADULTS

### APPENDIX 2: OUTCOME MEASURES INCLUDED

#### *Continuous*

Anxiety Disorders Interview Schedule (ADIS-IV): Fear and Avoidance<sup>1</sup>

Brief Social Phobia Scale<sup>2,3</sup>

Clinical Global Impression (CGI): Severity<sup>4</sup>

Fear of Negative Evaluation Scale<sup>5</sup>

Fear Questionnaire (FQ): Social Phobia<sup>6</sup>

Liebowitz Social Anxiety Scale<sup>7</sup>

Liebowitz Social Anxiety Scale –Self Report<sup>8,9</sup>

Social Avoidance and Distress Scale (SADS)<sup>5</sup>

Social Interaction Anxiety Scale (SIAS); Social Phobia Scale (SPS)<sup>10</sup>

Social Phobia Anxiety Inventory<sup>11</sup>

#### *Dichotomous*

Recovery (i.e. loss of diagnosis)

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**APPENDIX 3: CORRELATION AMONG MEASURES (CHANGE DURING TREATMENT)**

Caption: Data from consecutive referrals to Centre for Anxiety Disorder and Trauma (CADAT) in Maudsley Hospital. All treated individuals received cognitive therapy. For individual correlations, *n* ranges from 365-437)

	SPAI-SP	SPS	SIAS	FNE	BDI	BAI
LSAS	.77	.64	.70	.64	.41	.40
SPAI-SP	-	.63	.70	.70	.36	.36
SPS		-	.54	.50	.41	.40
SIAS			-	.64	.39	.32
FNE				-	.29	.26
BDI					-	.52

**ADIS:** Anxiety Disorders Interview Schedule – Severity

**SPAI-SP:** Social Phobia Anxiety Inventory – Social Phobia Subscale

**SPS:** Social Phobia Scale

**SIAS:** Social Interaction Anxiety Scale

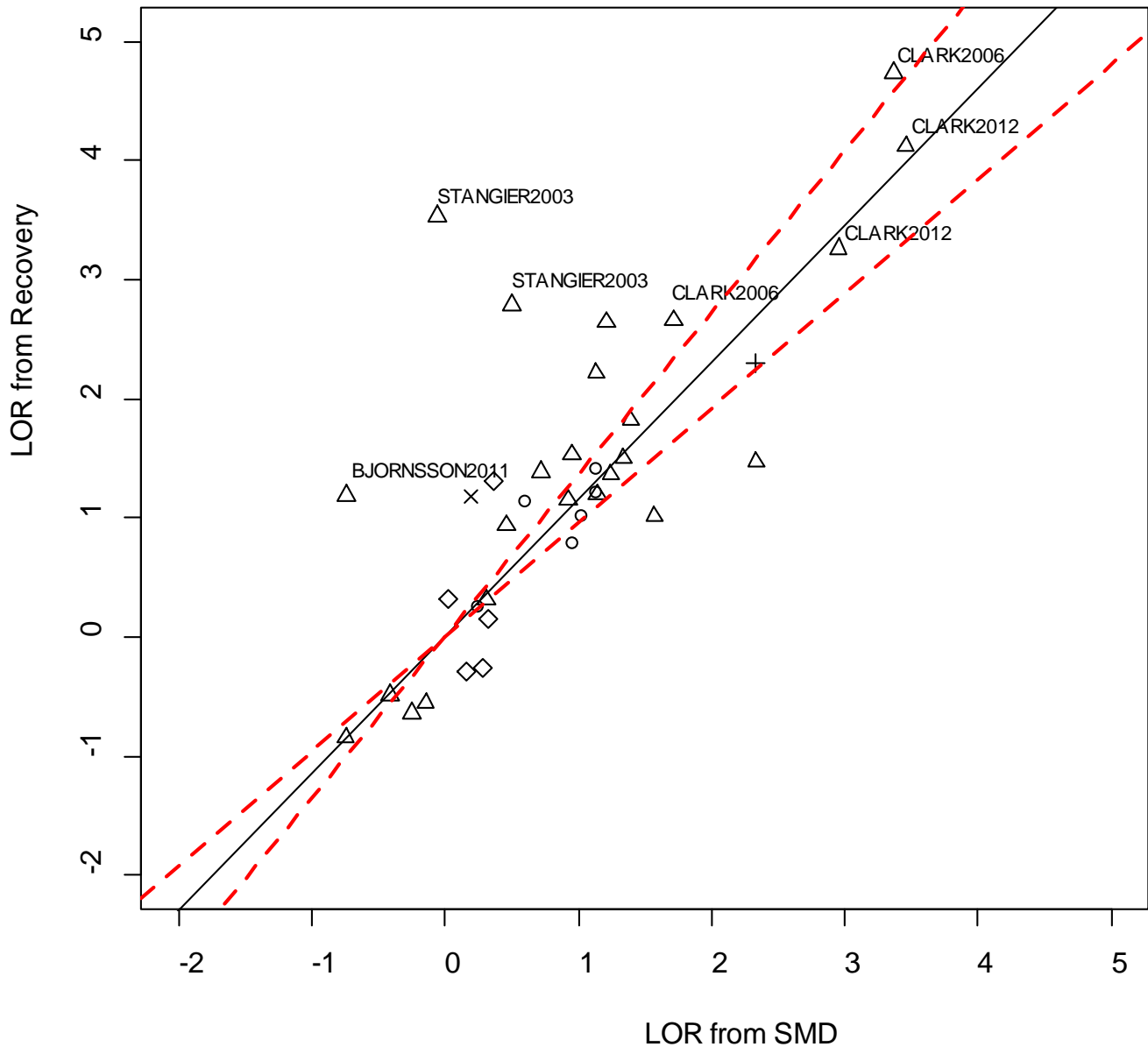
**FNE:** Fear of Negative Evaluation Scale

**BDI:** Beck Depression Inventory

**BAI:** Beck Anxiety Inventory

**APPENDIX 4: CONTINUOUS EFFECTS COMPARED WITH OBSERVED RECOVERY**

Caption: The log-odds ratio (LOR) of recovery compared with the implied LOR from the standardised mean difference (SMD).<sup>12</sup> We assumed a linear relationship between continuous outcomes and recovery, forcing the intercept at zero. The result suggests that continuous measures may underestimate loss of diagnosis (slope=1.15, 95% CrI (0.97, 1.36)). This correspondence, and its uncertainty, was used to estimate the SMD from studies reporting only recovery and vice-versa. Studies with large effects, and studies with large difference between the effect based on dichotomous or continuous data are named.



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### APPENDIX 5: WINBUGS CODE

#### *I. Priors*

The between-trials standard deviation was given a Uniform (0,5) prior.

The within-class mean treatment effects were given vague priors  $m_j \sim N(0,100^2)$  and the within-class variability parameters had priors  $1/\tau_j^2 \sim \text{Gamma}(a,b)$  with  $a=3.9$  and  $b=0.35$  chosen so that the mean of the within class standard deviation is the same as the posterior mean of the between-trial standard deviation (estimated in a previous run of the model without class effects) and the Credible interval can go from approximately half to double that mean. For treatments belonging to a class formed only of themselves, the relative treatment effects were given non-informative priors  $d_{1,k} \sim N(0,100^2)$ .



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### II. WinBUGS code

```
# Normal likelihood, identity link for trial-level data given as SMD
# Class model: Random effects model for multi-arm trials
# Includes calibration regression for Recovery
model{ # *** PROGRAM STARTS
# 2 ARM STUDIES SMD
for(i in 1:ns2) { # LOOP THROUGH 2-ARM STUDIES
  prec[i,2] <- 1/Var[i,2] # set precisions
  y[i,2] ~ dnorm(delta[i,2],prec[i,2]) # normal likelihood for 2-arm trials
#Deviance contribution for trial i
  resdev[i] <- (y[i,2]-delta[i,2])*(y[i,2]-delta[i,2])*prec[i,2]
}
# 3 ARM STUDIES SMD
for(i in 1:ns3) { # LOOP THROUGH THREE-ARM STUDIES
  for (k in 1:(na[i+ns2]-1)) { # set variance-covariance matrix
    for (j in 1:(na[i+ns2]-1)) {
      Sigma[i,j,k] <- V[i+ns2]*(1-equals(j,k)) + Var[i+ns2,k+1]*equals(j,k)
    }
  }
# Precision matrix
  Omega[i,1:(na[i+ns2]-1),1:(na[i+ns2]-1)] <- inverse(Sigma[i,,])
# multivariate normal likelihood for 3-arm trials
  y[i+ns2,2:na[i+ns2]] ~ dnmnorm(delta[i+ns2,2:na[i+ns2]],Omega[i,1:2,1:2])
# Deviance contribution for trial i
  for (k in 1:(na[i+ns2]-1)){ # multiply vector & matrix
    ydiff[i,k]<- y[i+ns2,(k+1)] - delta[i+ns2,(k+1)]
    z[i,k]<- inprod2(Omega[i,k,1:2], ydiff[i,1:2])
  }
  resdev[i+ns2]<- inprod2(ydiff[i,1:(na[i+ns2]-1)], z[i,1:(na[i+ns2]-1)])
}
# 4 ARM STUDIES SMD
for(i in 1:ns4) { # LOOP THROUGH FOUR-ARM STUDIES
  for (k in 1:(na[i+ns2+ns3]-1)) { # set variance-covariance matrix
    for (j in 1:(na[i+ns2+ns3]-1)) {
      Sigma4[i,j,k] <- V[i+ns2+ns3]*(1-equals(j,k)) + Var[i+ns2+ns3,k+1]*equals(j,k)
    }
  }
# Precision matrix
  Omega4[i,1:(na[i+ns2+ns3]-1),1:(na[i+ns2+ns3]-1)] <- inverse(Sigma4[i,,])
# multivariate normal likelihood for 4-arm trials
  y[i+ns2+ns3,2:na[i+ns2+ns3]] ~ dnmnorm(delta[i+ns2+ns3,2:na[i+ns2+ns3]],Omega4[i,1:3,1:3])
#Deviance contribution for trial i
  for (k in 1:(na[i+ns2+ns3]-1)){ # multiply vector & matrix
    ydiff4[i,k]<- y[i+ns2+ns3,(k+1)] - delta[i+ns2+ns3,(k+1)]
    z4[i,k]<- inprod2(Omega4[i,k,1:3], ydiff4[i,1:(na[i+ns2+ns3]-1)])
  }
  resdev[i+ns2+ns3]<- inprod2(ydiff4[i,1:(na[i+ns2+ns3]-1)], z4[i,1:(na[i+ns2+ns3]-1)])
}
# 5 ARM STUDIES SMD
for(i in 1:ns5) { # LOOP THROUGH FIVE-ARM STUDIES
# set variance-covariance matrix
  for (k in 1:(na[i+ns-ns5]-1)) { # set variance-covariance matrix
    for (j in 1:(na[i+ns-ns5]-1)) {
      Sigma5[i,j,k] <- V[i+ns-ns5]*(1-equals(j,k)) + Var[i+ns-ns5,k+1]*equals(j,k)
    }
  }
# Precision matrix
  Omega5[i,1:(na[i+ns-ns5]-1),1:(na[i+ns-ns5]-1)] <- inverse(Sigma5[i,,])
# multivariate normal likelihood for 5-arm trials
  y[i+ns-ns5,2:na[i+ns-ns5]] ~ dnmnorm(delta[i+ns-ns5,2:na[i+ns-ns5]],Omega5[i,1:4,1:4])
# Deviance contribution for trial i
  for (k in 1:(na[i+ns-ns5]-1)){ # multiply vector & matrix
    ydiff5[i,k]<- y[i+ns-ns5,(k+1)] - delta[i+ns-ns5,(k+1)]
    z5[i,k]<- inprod2(Omega5[i,k,1:4], ydiff5[i,1:(na[i+ns-ns5]-1)])
  }
  resdev[i+ns-ns5]<- inprod2(ydiff5[i,1:(na[i+ns-ns5]-1)], z5[i,1:(na[i+ns-ns5]-1)])
}
# ALL STUDIES WITH SMD, RE MODEL
for(i in 1:ns){ # LOOP THROUGH ALL STUDIES
  w[i,1] <- 0 # adjustment for multi-arm trials is zero for control arm
```

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```

delta[i,1] <- 0 # treatment effect is zero for control arm
for (k in 2:na[i]) { # LOOP THROUGH ARMS
# trial-specific LOR distributions
delta[i,k] ~ dnorm(md[i,k],taud[i,k])
# mean of random effects distributions, with multi-arm trial correction
md[i,k] <- d[t[i,k]] - d[t[i,1]] + sw[i,k]
# precision of random effects distributions (with multi-arm trial correction)
taud[i,k] <- tau *2*(k-1)/k
# adjustment, multi-arm RCTs
w[i,k] <- (delta[i,k] - d[t[i,k]] + d[t[i,1]])
# cumulative adjustment for multi-arm trials
sw[i,k] <- sum(w[i,1:k-1])/(k-1)
}
}
totresdev <- sum(resdev[]) # Total Residual Deviance
#
d[1] <- 0 # treatment effect (SMD) is zero for reference treatment
# own class treatments with zero variance
d[2] ~ dnorm(0, .0001) # vague prior for treatment effects (SMD)
d[3] ~ dnorm(0, .0001) # vague prior for treatment effects (SMD)
d[29] ~ dnorm(0, .0001) # vague prior for treatment effects (SMD)
# own class treatments borrowing variance
d[4] ~ dnorm(m[D[4]], prec2[5]) # variance from class E=5
d[12] ~ dnorm(m[D[12]], prec2[9]) # variance from class I=9
# Class model (informative prior for within-class precision)
for (k in 5:11){
d[k] ~ dnorm(m[D[k]], prec2[D[k]]) # treatment effects from Class (SMD)
}
for (k in 13:28){
d[k] ~ dnorm(m[D[k]], prec2[D[k]]) # treatment effects from Class (SMD)
}
for (k in 30:nt){
d[k] ~ dnorm(m[D[k]], prec2[D[k]]) # treatment effects from Class (SMD)
}
m[1] <- 0
m[2] <- d[2] # no class effect
m[3] <- d[3] # no class effect
m[14] <- d[29] # no class effect
for (k in 4:13){
m[k] ~ dnorm(0, .0001) # prior for mean class effect
prec2[k] ~ dgamma(a,b) # prior for class precision
sd2[k] <- pow(prec2[k], -0.5)
}
for (k in 15:nc){
m[k] ~ dnorm(0, .0001) # prior for mean class effect
prec2[k] ~ dgamma(a,b) # prior for class precision
sd2[k] <- pow(prec2[k], -0.5)
}
}
#
sd ~ dunif(0,5) # vague prior for between-trial SD
tau <- pow(sd,-2) # between-trial precision = (1/between-trial variance)
#
# REGRESSION FOR RECOVERY
for (j in 1:nR){ # LOOP THROUGH STUDIES REPORTING RECOVERY
lambda[j,1] <- 0 # treatment effect is zero for control arm
mu[j] ~ dnorm(0,.0001) # vague priors for all trial baselines
for (k in 1:naR[j]) { # LOOP THROUGH ARMS
r[j,k] ~ dbin(p[j,k],n[j,k]) # binomial likelihood for recovery data
logit(p[j,k]) <- mu[j] + lambda[j,k] # model for linear predictor
rhat[j,k] <- p[j,k] * n[j,k] # expected value of the numerators
#Deviance contribution
devR[j,k] <- 2 * (r[j,k] * (log(r[j,k])-log(rhat[j,k]))
+ (n[j,k]-r[j,k]) * (log(n[j,k]-r[j,k]) - log(n[j,k]-rhat[j,k]))) }
for (k in 2:naR[j]) { # LOOP THROUGH ARMS
# regression equation: LOR(Rec) = beta * LOR(SMD)
lambda[j,k] <- beta * (-3.1416/sqrt(3)) * delta[C[j],k]
}
}
# summed residual deviance contribution for this trial
resdevR[j] <- sum(devR[j,1:naR[j]])
}
totresdevR <- sum(resdevR[]) #Total Residual Deviance Recovery

```

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```

beta ~ dnorm(0,.0001)
# get confidence bound for beta for plotting
for (j in 1:1001){
  X[j] <- -1 + (j-1)*0.005
  Y[j] <- beta * X[j]
}
#
for (k in 1:nc) {
  mCal[k] <- (-3.1416/sqrt(3)) * beta * m[k]
# rank classes
rkClass[k] <- rank(m[,k]) # Smallest is best (i.e. rank 1)
bestClass[k] <- equals(rkClass[k],1)
}
for (k in 1:nt) {
  g[k] <- (-3.1416/sqrt(3)) * d[k] # Transform SMD to LOR (change sign)
  gCal[k] <- beta * g[k] # Transform SMD to LOR (change sign): Calibrated
# rank all treatments on SMD
rk[k] <- rank(d[,k]) # Smallest is best (i.e. rank 1)
best[k] <- equals(rk[k],1)
for (h in 1:nt) { prob[h,k] <- equals(rk[k],h) }
# rank all treatments on LOR (calibrated)
rk.g[k] <- nt+1-rank(gCal[,k]) # Largest is best (i.e. rank 1)
best.g[k] <- equals(rk.g[k],1)
for (h in 1:nt) { prob.g[h,k] <- equals(rk.g[k],h) }
}
for (c in 1:(nt-1)) { # for each treatment
  for (k in (c+1):nt) {
    diff[c,k] <- d[k] - d[c] # pairwise SMDs
    lor[c,k] <- g[k] - g[c] # pairwise LORs
    or[c,k] <- exp(g[k] - g[c]) # Paiwise ORs
    lorCal[c,k] <- gCal[k] - gCal[c] # pairwise LORs (calibrated)
    orCal[c,k] <- exp(gCal[k] - gCal[c]) # Paiwise ORs (calibrated)
    rr[c,k] <- RR[k]/RR[c]
  }
}
for (c in 1:(nc-1)) { # for each class
  for (k in (c+1):nc) {
    diffClass[c,k] <- m[k] - m[c] # class v class SMDs
    lorClass[c,k] <- mCal[k] - mCal[c] # class v class LORs (calibrated)
    orClass[c,k] <- exp(mCal[k] - mCal[c]) # class v class ORs (calibrated)
    rrClass[c,k] <- RRC[k]/RRC[c] # RR for class
  }
}
# Provide estimates of treatment effects T[k] on the natural scale
# Given a Mean Effect, meanA, for 'standard' treatment A,
# with precision (1/variance) precA
A ~ dnorm(meanA,precA)
for (k in 1:nt) {
  logit(T[k]) <- A + gCal[k] # prob recovery for each treatment
  RR[k] <- T[k]/T[1] # relative risk for each treatment
}
for (k in 1:nc) {
  logit(TClass[k]) <- A + mCal[k] # prob recovery for each class
  RRC[k] <- TClass[k]/TClass[1] # relative risk for each class
}
} # *** PROGRAM ENDS

```

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II. Sample WinBUGS data

# NOTE place multi-arm trials at the end: 3-arms, then 4-arms, then 5 arms  
 # 3 sets of data to load

# ns= number of studies reporting SMD;  
 # ns2,3,4,5= number of studies with 2,3,4 and 5 arms  
 # nt=number of treatments; nc = number of classes  
 # D = vector of treatment classes  
 # V is matrix with covariances for multi-arm trials  
 # nR = number of studies reporting Recovery (for calibration)  
 # C is vector of study ID for SMD <=> Recovery  
 # a, b = parameters of Gamma prior for within-class precision

list(ns=101, ns2=66, ns3=26, ns4=7, ns5=2, nt=41, nc=17,  
 D=c(1, 2, 3, 4, 5, 5, 6, 6, 7, 7, 7, 8, 9, 9, 9, 9, 9, 10, 10, 11, 11, 12, 12, 13, 13, 13, 14, 15, 15, 15, 16, 16, 16, 16, 17, 17, 17, 17, 17),  
 nR= 24, meanA=-2.629, precA=0.81, a=3.9, b=0.35)

# Recovery Data

naR[]	r[,1]	r[,2]	r[,3]	r[,4]	n[,1]	n[,2]	n[,3]	n[,4]	C[]	#	ID	
2	12	46	NA	NA	102	102	NA	NA	3	#	1	ANDERSSON2012
2	0	17	NA	NA	21	31	NA	NA	4	#	2	BERGER2009
2	6	13	NA	NA	32	30	NA	NA	9	#	3	ANDERSSON2006
...												
3	1	14	19	NA	27	28	27	NA	80	#	17	CLARK2012
3	5	6	12	NA	20	20	20	NA	82	#	18	CLARK2003
3	19	42	55	NA	146	144	144	NA	85	#	19	ALLGULANDER2004
3	6	9	19	NA	58	66	71	NA	90	#	20	RAPEE2009
3	15	16	13	NA	27	27	27	NA	91	#	21	BERGER2011
4	3	11	13	11	52	56	59	57	93	#	22	RAPEE2007
4	3	7	7	19	39	45	40	42	97	#	23	BLANCO2010
4	16	11	12	10	29	28	29	29	99	#	24	FURMARK2009b

END

# Symptoms of SA Data

na[]	t[,1]	t[,2]	t[,3]	t[,4]	t[,5]	y[,2]	Var[,2]	y[,3]	Var[,3]	y[,4]	Var[,4]	y[,5]	Var[,5]	V[]
2	1	6	NA	NA	NA	-0.916254782		0.101294737		NA	NA	NA	NA	NA
	#	NA	#	1	BOWLER2012									
2	1	7	NA	NA	NA	-0.956381011		0.151840971		NA	NA	NA	NA	NA
	NA	NA	#	2	ABRAMOWITZ2009									
2	1	8	NA	NA	NA	-0.768207456		0.015673733		NA	NA	NA	NA	NA
	NA	NA	#	3	ANDERSSON2012									
2	1	8	NA	NA	NA	-0.748858081		0.063047078		NA	NA	NA	NA	NA
	NA	NA	#	4	BERGER2009									
...														
3	1	5	7	NA	NA	-0.527617361		0.132720853		-0.58287419		0.122467826		NA
	NA	NA	NA	0.071428571	#	67	CHUNG2008							
3	1	5	8	NA	NA	-0.667164493		0.039020537		-0.625564669		0.038909081		NA
	NA	NA	NA	0.025	#	68	FURMARK2009a							
3	1	6	8	NA	NA	-0.41624354		0.051117555		-0.990528783		0.052775936		NA
	NA	NA	NA	0.028571429	#	69	TITOV2008c							
...														
4	3	24	24	24	NA	-0.494649276		0.151436384		0.069457394		0.143952076		-
	0.33273846	0.144903181	NA	NA	NA	0.076923077		#	98	SMITS2006				
4	5	7	8	8	NA	0.136746976		0.053544459		0.080320801		0.052579209		-
	0.411722844	0.05291421	NA	NA	NA	NA	0.034482759	#	99	FURMARK2009b				
5	2	15	15	15	18	-0.304880876		0.01006318		-0.569978222		0.010179183		-
	0.386028735	0.010013582	-0.449313527	0.010003406	0.006060606	#	100	LADER2004						
5	2	16	30	30	37	-0.671526072		0.026136869		-0.497003859		0.025200991		-
	0.614339904	0.025542189	-0.531314484	0.025378379	0.017467249	#	101	DAVIDSON2004b						

END

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**APPENDIX 6: CHARACTERISTICS OF EXCLUDED STUDIES, AND REFERENCES**

<b>STUDY ID</b>	<b>REASON FOR EXCLUSION</b>
Alden 1989 <sup>13</sup>	No usable data (paper reports means and SDs, but does not report group size for any outcomes).
Allsopp 1984 <sup>14</sup>	No usable data (medication for mixed population; N=33 with agoraphobia or social phobia).
Amir 2009 <sup>15</sup>	Not an eligible intervention (cognitive bias modification).
Amir 2012 <sup>16</sup>	Not an eligible intervention (cognitive bias modification).
Atmaca 2002 <sup>17</sup>	Population differed in severity from all included studies. Baseline LSAS approximately 122 (rather than approximately 78).
Barnett 2002 <sup>18</sup>	Not an eligible intervention (olanzapine).
Beard 2011 <sup>19</sup>	Not an eligible intervention (cognitive bias modification).
Boettcher 2011 <sup>20</sup>	Not an eligible intervention (cognitive bias modification).
Botella 2010 <sup>21</sup>	Not an eligible intervention (intervention for public speaking anxiety only).
Butler 1984 <sup>22</sup>	No usable data (outcomes not reported in a format that can be extracted for meta-analysis).
Carlbring 2012 <sup>23</sup>	Not an eligible intervention (cognitive bias modification).
Carlbring ongoing <sup>24</sup>	Ongoing study of internet-based CBT compared with attention training.
Cassin 2011 <sup>25</sup>	Not an eligible intervention (not a bona fide therapy, outcomes measured immediately after intervention).
Clark 1991 <sup>26</sup>	Not an eligible intervention (buspirone).
Clark ongoing <sup>27</sup>	Ongoing study of internet-based cognitive therapy, face-to-face cognitive therapy, and waitlist.
Craske 2011 <sup>28</sup>	Interventions not connected (preference-based treatment versus treatment-as-usual).
Davidson 2002 <sup>29</sup>	Could not locate full report. Unclear if this is related to a RCT of venlafaxine.
D'El Rey 2007 <sup>30</sup>	The reported data are implausible (significant at the level $p=0.000002$ with 30 participants) and could not be verified.
De Oliviera 2012 <sup>31</sup>	Interventions not connected (two unique forms of psychotherapy).
Donahue 2009 <sup>32</sup>	Not an eligible intervention (single dose of quetiapine).
Dogaheh 2011 <sup>33</sup>	No usable data (study compares group and individual CBT, but only the Brief Fear of Negative Evaluation Scale is reported as a measure of social anxiety).
Fahlen 1995 <sup>34</sup>	Not an eligible intervention (brofaromine).
Furmark 2005 <sup>35</sup>	Not an eligible intervention (NK1A).
Emmelkamp 1985 <sup>36</sup>	No usable data (paper reports means but not SDs; we did not impute SDs to connect Rational Emotive Therapy and Self-Instructional Training to the network).
Hayes 2006 <sup>37</sup>	No usable data (intervention for social anxiety and comorbid alcohol misuse; no social anxiety outcomes reported).
Heeren 2012 <sup>38</sup>	Not an eligible intervention (cognitive bias modification).

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Heideman 2008 <sup>39</sup>	No usable data (intervention for social anxiety and comorbid alcohol misuse; no social anxiety outcomes reported).
Hofmann 2004 <sup>40</sup>	No usable data (compares two types of group therapy with waitlist; paper reports mediation analyses, but not main effects for each intervention).
Johnston 2011 <sup>41</sup>	No usable data (outcomes collapsed across social anxiety and other diagnostic groups).
Katzenick 1995 <sup>42</sup>	No usable data (outcomes reported only after crossover).
Kobak 2005 <sup>43</sup>	Not an eligible intervention (St John's Wort).
Krylov 1996 <sup>44</sup>	Could not locate full report (compares alprazolam and buspirone).
Lee 1997 <sup>45</sup>	Could not locate full report (compares alprazolam and buspirone).
Lott 1997 <sup>46</sup>	Not an eligible intervention (short-term study of a beta-blocker).
Marks 2004 <sup>47</sup>	No usable data (computerised therapy for mixed population; disaggregated data not available).
Mersch 1995 <sup>48</sup>	No usable data (waitlist group were assigned after the first phase of the study; data from two treatments merged for comparison with waitlist).
Mortberg 2006 <sup>49</sup>	No usable data (reports F-tests only for significant interactions, so these were not extracted).
Muehlbacher 2005 <sup>50</sup>	The reported data are implausible. The journal and the authors were unable to verify details upon request.
Mulkens 2001 <sup>51</sup>	Not an eligible intervention (intervention for fear of blushing only).
Neubauer 2013 <sup>52</sup>	Not an eligible intervention (cognitive bias modification).
Norton 2012 <sup>53</sup>	No usable data. Although primary diagnosis was not related to improvement with a transdiagnostic intervention (n=12) or a diagnosis-specific intervention (n=13), change on the measure of social anxiety non-significantly favoured the specific intervention.
Norwegian University of Science and Technology 2011 <sup>54</sup>	Could not locate full report (compares paroxetine, cognitive therapy, paroxetine with cognitive therapy, and pill placebo).
Noyes 1997 <sup>55</sup>	No usable data (includes figures, but raw scores not given).
Ontiveros 2008 <sup>56</sup>	Assigned in groups of 10, but method of assignment not reported and not clear from personal correspondence (unclear if random).
Peng 2003 <sup>57</sup>	Could not locate full report. Unclear if this is a RCT.
Pollack 2013 <sup>58</sup>	Not an eligible intervention (second-line treatment for sertraline non-responders).
Randall 2001 <sup>59</sup>	No usable data (paroxetine for social anxiety and comorbid alcohol misuse; no social anxiety outcomes reported).
Ravindran 2009 <sup>60</sup>	Not an eligible intervention (atamoxetine).
Schmidt 2009 <sup>61</sup>	Not an eligible intervention (cognitive bias modification).
Schneider 2005 <sup>62</sup>	No usable data (computerised therapy for mixed population; disaggregated data not available for 24 participants with primary social anxiety disorder).
Shaw 1979 <sup>63</sup>	No usable data (desensitization, flooding, and social skills training; 30 participants with social phobia).
Solyom 1981 <sup>64</sup>	No usable data (medication for mixed population; disaggregated data not available for 40 participants with agoraphobia or social phobia).
Taylor 1997 <sup>65</sup>	Not an eligible intervention (compared exposure with or without cognitive restructuring, but explicitly <i>not</i> as restructuring is used in clinical practice).

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Tejedor 1996 <sup>66</sup>	Could not locate full report (rational emotive therapy, behavioural procedures, and waitlist).
Taylor 2010 <sup>67</sup>	Not an eligible intervention (compared two forms of exposure in a laboratory-based interaction to explore mediators of change).
Turner 1994 <sup>68</sup>	Not an eligible intervention (short-term study of a beta-blocker).
Tyrer 1973 <sup>69</sup>	No usable data (medication for mixed population; disaggregated data not available for 15 participants with social anxiety disorder).
Vaishnavi 2007 <sup>70</sup>	Not an eligible intervention (quetiapine).
Van Ameringen 2007 <sup>71</sup>	Not an eligible intervention (nefazodone).
Van Ameringen ongoing <sup>72</sup>	Ongoing study of sertraline and placebo.
Van-Vliet 1992 <sup>73</sup>	Not an eligible intervention (brofaromine).
Van-Vliet 1997 <sup>74</sup>	Not an eligible intervention (buspirone).
Versiani 1997 <sup>75</sup>	Not an eligible intervention (bromazepam).
Yang 1999 <sup>76</sup>	Could not locate full report (compares systematic desensitization with or without therapist accompaniment).
Yoshinaga ongoing <sup>77</sup>	Ongoing study of CBT for sertraline non-responders.
Zhang 2000 <sup>78</sup>	Not an eligible intervention (Taoist cognitive psychotherapy).
Zhang 2003 <sup>79</sup>	Could not locate full report (compares paroxetine and alprazolam).

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APPENDIX 7: CHARACTERISTICS OF INCLUDED STUDIES, AND REFERENCES

Study	Country	Funding	Severity	Age	Sex	Med	Rand	Post	Interventions	Unpublished data
Abramowitz 2009 <sup>80</sup>	USA	Mayo Clinic and Mayo Foundation	NR; 56/NR	43	76	57	21	21	Self-help with support (book) Waitlist	Methods (Unable to provide outcomes)
Alden 2011 <sup>81</sup>	CAN	Social Sciences and Humanities Council of Canada	NR; 54/31	34	41	38	56	50	Group CBT Waitlist	NA
Allgulander 1999 <sup>82-84</sup>	SWE	Novo Nodisk	75; NR	39	NR	0	96	92	Paroxetine Pill placebo	Outcomes
Allgulander 2004 <sup>85</sup>	Many	Wyeth	85; NR	39	53	NR	436	389	Venlafaxine Paroxetine Pill placebo	Outcomes
Andersson 2006 <sup>86</sup>	SWE	Swedish Research Council; Soderstrom-Konigska Foundation	68; 45/34	37	52	22	64	62	Exposure in vivo Waitlist	NA
Andersson 2012 <sup>87</sup>	SWE	Swedish Research Council	67; 49/38	38	60	14	204	204	Self-help with support (internet) Waitlist	NA
Andrews 2011 <sup>88</sup>	AUS	NA	NR; 56/43	32	41	NR	37	25	Group CBT Self-help with support (internet)	NA
Asakura 2007 <sup>89</sup>	JPN	Solvay; Meiji Seika Kaisha	88; NR	39	32	NR	273	265	Fluvoxamine Pill placebo	Methods and outcomes
Baldwin 1999 <sup>90-92</sup>	Many	SmithKline Beecham	87	36	54	0	290	290	Paroxetine Pill placebo	Study summary
Berger 2009 <sup>93</sup>	SWZ	Swiss National Science Foundation	71; 45/35	29	56	NR	52	52	Self-help with support (internet) Waitlist	Methods
Berger 2011 <sup>94</sup>	SWE; SWZ	Swiss National Science Foundation	83; 50/35	37	53	7	81	81	Self-help with support (internet) Self-help without support (internet)	NA
Bjornsson 2011 <sup>95</sup>	USA	NA	78; NR	20	47	0	45	45	Group CBT Psychological placebo	NA
Blanco 2010 <sup>96</sup>	USA	NIMH (USA)	74; 41/34	32	41	0	166	128	Group CBT (Heimberg) + Phenelzine Group CBT (Heimberg) Phenelzine Pill placebo	NA
Blomhoff 2001 <sup>97</sup>	NOR; SWE	Pfizer	NR; NR	40	60	NR	387	354	Sertraline Pill placebo	NA
Borgeat 2009 <sup>98</sup>	SWZ	NA	77;	40	53	NR	30	27	Group CBT	NA



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			NR						Exposure in vivo	
Bowler 2012 <sup>99</sup>	GBR	Wellcome Trust; Medial Research Council	NR	23	68	NR	63	42	Self-help with support (internet) Waitlist	NA
Burrows 1997 <sup>100</sup>	Many	Hoffmann-La Roche	81; NR	36	43	0	NR	578	Moclobemide Pill placebo	NA
Carlbring 2007 <sup>101-104</sup>	Sweden	Swedish Research Council; Soderstrom-Konigska Foundation	70; 42/37	33	62	NR	60	57	Self-help with support (internet) Waitlist	Methods
Chung 2008 <sup>105</sup>	KOR	Korea Science and Engineering Foundation	NR; 53/46	26	40	NR	45	38	Self-help with support (book) Self-help without support (book) Waitlist	NA
Clark 2003 <sup>106, 107</sup>	GBR	Wellcome Trust	75; 45/33	33	52	0	60	60	Cognitive therapy Fluoxetine Pill placebo	NA
Clark 2006 <sup>108, 109</sup>	GBR	Wellcome Trust	77; 47/32	32	44	28	62	62	Cognitive therapy Exposure in vivo Waitlist	NA
Clark 2012 <sup>110</sup>	GBR	NA	82; 51/38	33	NR	28	82	82	Cognitive therapy Waitlist	Methods and outcomes
Cottraux 2000 <sup>111</sup>	FRA	French Ministry of Health	77; NR	34	59	0	57	55	Individual CBT Supportive therapy	NA
Davidson 1993 <sup>112, 113</sup>	USA	NA	78; NR	37	43	0	75	70	Clonazepam Pill placebo	NA
Davidson 2004a <sup>114-116</sup>	USA	Solvay	90; NR	37	36	0	279	247	Fluvoxamine Pill placebo	Methods and outcomes
Davidson 2004b <sup>117, 118</sup>	USA	NIMH (USA)	80; NR	37	46	0	295	295	Group CBT + Fluoxetine Group CBT Fluoxetine Pill placebo	NA
Emmelkamp 2006 <sup>119</sup>	NED	GGz Groningen; Mental Health Research Foundation	NR; NR	34	52	NR	62	56	Individual CBT Psychodynamic psychotherapy Waitlist	NA
Feltner 2011 <sup>120</sup>	USA	Pfizer	90; NR	35	41	0	329	164	Pregabalin Pill placebo	NA
Furmark 2002 <sup>121</sup>	SWE	Swedish Council for Research in Humanities and Social Sciences;	NR; 34/29	35	44	0	18	18	Group CBT Citalopram Waitlist	Methods and outcomes

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		Bank of Sweden Tercentenary Foundation; Swedish Brain Foundation								
Furmark 2005 <sup>122</sup>	SWE	GlaxoSmithKline	70; 49/34	32	53	NR	36	36	Citalopram Pill placebo	Methods and outcomes
Furmark 2009a <sup>104, 123, 124</sup>	SWE	Swedish Research Council. Authors receive royalties.	70; 49/37	36	68	67	120	120	Self-help with support (internet) Self-help without support (book) Waitlist	NA
Furmark 2009b <sup>104, 123, 124</sup>	SWE	Swedish Research Council. Authors receive royalties.	73; 50/39	35	68	14	115	115	Self-help with support (internet) Self-help with support (book) Self-help without support (book)	NA
Gelernter 1991 <sup>125, 126</sup>	USA	NIMH (USA)	NR; NR	37	63	0	65	57	Group CBT (Heimberg) Phenelzine Alprazolam Pill placebo	NA
Goldin 2012 <sup>127</sup>	USA	NIMH (USA)	83; NR	33	46	0	75	75	Individual CBT (Hope) Waitlist	Methods
Gruber 2001 <sup>128</sup>	GER; USA	Deutscher Akademischer Austauschdienst (German Academic Exchange Service)	NR; NR/30	42	52	17	54	46	Group CBT (Heimberg) Waitlist	NA
GSK 2006 <sup>129</sup>	JPN	GlaxoSmithKline	81; NR	37	52	NR	400	395	Paroxetine Paroxetine Pill placebo	Study summary
Hedman 2011 <sup>124, 130, 131</sup>	Sweden	Stockholm County Council; Bror Gadelius Fund	70; 48/33	35	36	25	126	126	Group CBT (Heimberg) Self-help with support (internet)	NA
Heimberg 1990 <sup>132, 133</sup>	USA	NIMH (USA)	NR	30	45	NR	49	40	Group CBT (Heimberg) Psychological placebo	Methods
Heimberg 1998 <sup>134-136</sup>	USA	NIMH (USA)	60; 45/29	35	50	0	133	107	Group CBT (Heimberg) Phenelzine Pill placebo Psychological placebo	Methods and outcomes
Herbert 2004 <sup>137</sup>	USA	NIMH (USA)	NR	34	44	NR	34	34	Individual CBT Individual CBT	NA
Herbert 2005 <sup>138</sup>	USA	NIMH (USA)	NR	34	57	23	65	65	Group CBT (Heimberg)	NA

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Hope 1995 <sup>139</sup>	USA	Internal funding	NR	34	50	30	40	33	Group CBT (Heimberg) Exposure in vivo Waitlist	NA
Jazaieri 2012 <sup>140</sup>	USA	NIMH (USA)	87; 45/NR	34	52	0	56	42	Mindfulness stress reduction Exercise promotion	NA
Kasper 2005 <sup>141, 142</sup>	Many	Lundbeck	95; NR	38	45	0	358	353	Escitalopram Pill placebo	Methods and outcomes
Knijnik 2004 <sup>143</sup>	BRA	NA	85; NR	32	30	NR	40	30	Psychodynamic psychotherapy Psychological placebo	NA
Knijnik 2008 <sup>144</sup>	BRA	Roche; NIH	92; NR	33	61	0	59	57	Psychodynamic + Clonazepam Clonazepam	NA
Kobak 2002 <sup>145</sup>	USA	Eli Lilly	82; NR	39	58	NR	60	60	Fluoxetine Pill placebo	Study summary
Koszycki 2007 <sup>146</sup>	CAN	Internal funding	NR; 45/34	38	53	28	53	53	Group CBT (Heimberg) Mindfulness stress reduction	NA
Lader 2004 <sup>147, 148</sup>	Many	Lundbeck	94; NR/NR	37	53	0	839	820	Paroxetine Escitalopram Pill placebo	Methods and outcomes
Ledley 2009 <sup>149</sup>	USA	NA	68; 43/33	35	58	26	38	34	Individual CBT (Hope) Waitlist	NA
Leichsenring 2013 <sup>150</sup>	GER	German Federal Ministry of Education and Research	72; NR	35	55	0	514	495	C&W CT shortened sessions Psychodynamic psychotherapy Waitlist	Outcomes
Lepola 2004 <sup>151</sup>	Many	GlaxoSmithKline	78; NR	39	50	0	375	370	Paroxetine Pill placebo	Study summary
Liebowitz 1990 <sup>152-154</sup>	USA	NIMH (USA)	NR; NR	34	31	0	85	74	Phenelzine Atenolol Pill placebo	NA
Liebowitz 2002 <sup>155-157</sup>	CAN; USA	SmithKline Beecham	77; NR	37	41	NR	384	360	Paroxetine Paroxetine Pill placebo	Study summary
Liebowitz 2003 <sup>157-159</sup>	USA	Pfizer	93; NR	35	40	0	415	401	Sertraline Pill placebo	NA
Liebowitz 2005a <sup>160, 161</sup>	USA	Wyeth	89; NR	35	45	NR	280	271	Venlafaxine Pill placebo	NA
Liebowitz 2005b <sup>162</sup>	USA	Wyeth	86; NR	36	46	0	440	413	Venlafaxine Paroxetine	NA

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									Pill placebo	
Lipsitz 2008 <sup>163</sup>	USA	NIMH (USA)	66; 44/29	35	43	NR	70	52	Interpersonal psychotherapy Supportive therapy	NA
Matick 1988 <sup>164</sup>	AUS	Australian Government	NR	37	53	NR	51	44	Group CBT Exposure in vivo	NA
Matick 1989 <sup>165</sup>	AUS	Australian Government	NR; 35/37	42	53	NR	43	37	Group CBT Exposure in vivo Waitlist	NA
McEvoy 2009 <sup>166</sup>	AUS	NA	NR; 57/38	31	37	56	75	60	Group CBT	NA
Morgan 1999 <sup>167</sup>	AUS	NA	NR; 54/42	32	47	47	36	30	Group CBT	Methods and outcomes
Mortberg 2007 <sup>168-170</sup>	SWE	Boethius Foundation; Soderstrom-Konigska Foundation; The Organon Foundation; Stockholm County Council	75; 48/37	35	63	NR	100	100	C&W CT shortened sessions Group CBT	NA
Munjack 1990 <sup>171</sup>	USA	Roche	97; NR	33	75	0	23	20	Clonazepam Waitlist	NA
Oosterbaan 2001 <sup>172</sup>	NED	Hoffmann-La Roche	68; NR	37	42	0	82	67	Individual CBT Moclobemide Pill placebo	NA
Otto 2000 <sup>173</sup>	USA	Roche	68; 45/30	40	40	0	45	45	Group CBT (Heimberg) Clonazepam	NA
Pande 1999 <sup>174</sup>	USA	Parke-Davis (now Pfizer)	85; NR	36	43	0	69	69	Gabapentin Pill placebo	Methods
Pande 2004 <sup>175,176</sup>	USA	Parke-Davis (now Pfizer)	79; NR	38	42	0	135	135	Pregabalin Pill placebo	Methods
Pfizer 2007 <sup>177</sup>	Many	Pfizer	93; NR	37	45	NR	374	296	Paroxetine Pregabalin Pill placebo	Study summary
Piet 2010 <sup>178</sup>	DEN	NA	65; 46/35	22	69	0	26	26	Group CBT Mindfulness cognitive therapy	NA
Prasko 2003 <sup>179-183</sup>	CZE	MSMT CR 1M0517	93; NR	28	52	NR	81	66	Individual CBT + Moclobemide Individual CBT + Pill placebo Moclobemide	NA
Rapee 2007 <sup>184</sup>	AUS	NA	NR;	36	51	32	224	224	Group CBT	Methods

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			54/37						Group CBT Self-help without support (book) Waitlist	
Rapee 2009 <sup>185</sup>	AUS	National Health and Medical Research Council of Australia	NR; 54/35	34	52	27	195	183	Group Enhanced CBT Group CBT Psychological placebo	NA
Rickels 2004 <sup>186</sup>	USA	NA	89; NR	41	43	0	276	261	Venlafaxine Pill placebo	NA
Robillard 2010 <sup>187</sup>	CAN	NA	78; NR/34	35	71	NR	45	45	Individual CBT Waitlist	NA
Salaberria 1998 <sup>188</sup>	ESP	Internal funding	NR	31	48	NR	71	56	Group CBT Exposure in vivo Waitlist	Methods
Schneier 1998 <sup>189,190</sup>	USA	NIMH (USA)	79; NR	35	40	0	77	77	Moclobemide Pill placebo	NA
Schutters 2010 <sup>191</sup>	NED	Organon	71; NR	39	57	0	60	60	Mirtazapine Pill placebo	Methods and outcomes
Seedat 2004 <sup>192</sup>	USA	GlaxoSmithKline	95; NR	31	21	0	28	28	Paroxetine + Clonazepam Paroxetine	NA
Smits 2006 <sup>193</sup>	USA	Society for a Science of Clinical Psychology	73; NR	22	57	NR	77	68	Exposure in vivo Psychological placebo	NA
Stangier 2003 <sup>194</sup>	GER	NA	NR; 43/31	39	49	5	95	65	C&W CT shortened sessions Group CBT Waitlist	Outcomes
Stangier 2011 <sup>195</sup>	GER	German Research Foundation; Wellcome Trust; NIHR	67; NR	36	56	0	117	111	C&W CT shortened sessions Interpersonal psychotherapy Waitlist	NA
Stein 1998 <sup>92, 196</sup>	CAN; USA	SmithKline Beecham	81; NR	36	53	0	187	182	Paroxetine Pill placebo	Study summary
Stein 1999 <sup>197</sup>	USA	Pharmacia; Upjohn	NR	39	36	0	92	86	Fluvoxamine Pill placebo	Methods and outcomes
Stein 2002 <sup>198</sup>	ZA	Hoffmann-La Roche	76; NR	34	47	0	390	377	Moclobemide Pill placebo	NA
Stein 2005 <sup>199</sup>	USA	Wyeth	89; NR	37	42	0	395	364	Venlafaxine Pill placebo	NA
Stravynski 2000 <sup>200</sup>	CAN	NA	NR	38	58	NR	68	60	Exposure in vivo Social skills training	NA

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Tauscher 2010 <sup>201</sup>	USA	Eli Lilly	NR	NR	NR	NR	189	126	Paroxetine Pill placebo	NA
Titov 2008a <sup>202-204</sup>	AUS	Internal funding	NR; 54/35	38	59	30	105	99	Self-help with support (internet) Waitlist	Methods
Titov 2008b <sup>202, 204, 205</sup>	AUS	Internal funding	NR; 57/35	37	63	26	88	81	Self-help with support (internet) Waitlist	Methods
Titov 2008c <sup>204, 206</sup>	AUS	NA	NR; 53/34	38	61	22	98	95	Self-help with support (internet) Self-help without support (internet) Waitlist	Methods
Titov 2009a <sup>207</sup>	AUS	NA	NR; 54/36	39	56	28	85	82	Self-help with support (internet)	NA
Titov 2009b <sup>208</sup>	AUS	NA	NR; 54/34	41	52	22	163	163	Self-help with support (internet) Self-help without support (internet)	NA
Titov 2010 <sup>209</sup>	AUS	NA	NR; 53/34	44	47	16	113	108	Self-help without support (internet)	NA
Van-Ameringen 2001 <sup>210-214</sup>	CAN	Pfizer	NR	36	44	0	204	203	Sertraline Pill placebo	NA
Van-Vliet 1994 <sup>215, 216</sup>	NED	NA	70; NR	35	57	0	30	28	Fluvoxamine Pill placebo	NA
Versiani 1992 <sup>217</sup>	BRA	NA	NR; NR/66	NR	NR	0	78	78	Phenelzine Moclobemide Pill placebo	NA
Westenberg 2004 <sup>116, 218, 219</sup>	Many	Solvay	95; NR	38	52	0	300	294	Fluvoxamine Pill placebo	NA
Willutzki 2004 <sup>220-222</sup>	GER	German Research Foundation	NR; 45/36	38	44	NR	83	69	Individual CBT Individual CBT	NA
Wong 2006 <sup>223</sup>	CHI	Internal funding	74; NR	35	41	100	34	34	Group CBT (Heimberg) Waitlist	NA
Zhang 2005 <sup>224</sup>	USA	UCB Pharma	88; NR	38	53	0	19	16	Levetiracetam Pill placebo	NA

**Country:** Countries from which participants were recruited.

**Funding:** External sources of funding acknowledged.

**Severity:** Baseline scores on the Liebowitz Social Anxiety Scale (LSAS); and the Social Interaction Anxiety Scale (SIAS)/ Social Phobia Scale (SPS)

**Age:** Mean years of age.

**Sex:** Percentage of participants enrolled who were female.

**Med:** Percentage of participants taking medication (e.g. SSRI or benzodiazepine) at baseline. Participants were normally on a stable dose and agreed not to change their dose during the trial.

**Rand:** Number of participants randomised.

**Post:** Number of participants who completed assessment at post-treatment.

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**Interventions:** Name of all interventions assessed. Studies with more than one example of an intervention contributed to estimates of within-group variance.

**Unpublished data:** Type of unpublished data obtained from authors or manufacturers.

**NA:** Not applicable

**NR:** Not reported

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**APPENDIX 8: BASELINE CHARACTERISTICS BY COMPARISON**

Caption: For each comparison, the number of trials and participants and baseline characteristics are provided.

Intervention 1	Intervention 2	Trials	Participants	Duration	Age	Sex	Med
PSYP	PILL	1	133	12	35	50	0
ACV	PILL	5	185	11	37	45	0
BZD	PILL	2	70	11	37	53	0
BZD	WAIT	1	23	8	33	75	0
MAOI	BZD	1	65	12	37	63	0
MAOI	PILL	9	135	11	35	45	0
MAOI	PSYP	1	133	12	35	50	0
NSSA	PILL	1	60	12	39	57	0
SSRI	ACV	1	374	11	37	45	NR
SSRI	PILL	27	287	14	37	48	0
SSRI	WAIT	1	18	9	35	44	0
EXPO	PSYP	1	77	1	22	57	NR
EXPO	WAIT	4	52	10	36	50	27
GCBT	BZD	2	55	12	39	52	0
GCBT	EXPO	5	47	8	37	51	30
GCBT	MAOI	3	121	12	35	51	0
GCBT	OTHR	2	40	8	30	61	14
GCBT	PILL	4	165	13	35	50	0
GCBT	PSYP	4	106	11	30	49	9
GCBT	SHNS	1	224	12	36	51	32
GCBT	SHWS	2	82	12	34	39	25
GCBT	SSRI	2	157	12	36	45	0
GCBT	WAIT	9	71	15	37	48	32
ICBT	GCBT	2	98	23	37	56	5
ICBT	EXPO	1	62	14	32	44	28
ICBT	MAOI	2	82	21	33	47	0
ICBT	OTHR	2	87	16	35	58	0
ICBT	OTHR	2	288	20	35	54	0
ICBT	PILL	2	71	16	35	47	0
ICBT	SSRI	1	60	16	33	52	0
ICBT	WAIT	9	121	20	35	8	12
OTHR	EXER	1	56	8	34	52	0
OTHR	WAIT	1	117	20	36	56	0
PDPT	PSYP	1	40	12	32	30	NR
PDPT	WAIT	2	288	20	35	54	0
SHNS	WAIT	5	106	12	41	55	46
SHWS	SHNS	6	104	9	36	57	26
SHWS	WAIT	9	88	9	35	61	36
COMB	BZD	1	59	12	33	61	0
COMB	GCBT	2	231	13	35	44	0
COMB	ICBT	1	81	26	28	52	NR
COMB	MAOI	2	124	19	30	47	0
COMB	PILL	2	231	13	35	44	0
COMB	SSRI	2	162	12	34	34	0

**Duration:** Length of treatment (in weeks); **Age:** Mean years of age; **Sex:** Percentage of participants enrolled who were female.

**Med:** Percentage of participants taking medication (e.g. SSRI or benzodiazepine) at baseline.



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**APPENDIX 9: RISK OF BIAS FOR EACH STUDY**

Caption: For each domain, studies were rated as having a high (-), low (+), or unclear (?) risk of bias using the Cochrane Risk of Bias tool.

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)
Abramowitz 2009	+	+	-	+	+	?
Alden 2011	?	?	-	+	+	?
Allgulander 1999	+	+	+	+	-	+
Allgulander 2004	+	+	+	+	+	+
Andersson 2006	+	+	-	-	+	?
Andersson 2012	+	+	-	+	+	+
Andrews 2011	+	+	-	+	-	+
Asakura 2007	+	+	+	+	+	+
Baldwin 1999	+	+	+	+	+	?
Berger 2009	+	+	-	+	+	+
Berger 2011	+	+	-	-	+	?
Bjornsson 2011	?	?	-	+	-	?
Blanco 2010	+	+	-	+	-	?
Blomhoff 2001	+	+	-	?	+	+
Borgeat 2009	?	?	-	+	+	?
Bowler 2012	?	?	-	+	-	?
Burrows 1997	+	+	+	+	?	?
Carlbring 2007	+	+	-	+	+	?
Chung 2008	?	?	-	+	+	?
Clark 2003	+	+	-	+	+	+
Clark 2006	+	+	-	+	+	+
Clark 2012	+	+	-	+	+	+
Cottraux 2000	+	+	-	+	+	?
Davidson 1993	+	+	+	+	+	?
Davidson 2004a	+	+	+	+	+	+
Davidson 2004b	+	+	-	+	-	-
Emmelkamp 2006	?	?	-	+	+	?
Feltner 2011	+	+	+	+	-	?
Furmark 2002	+	?	-	-	+	-
Furmark 2005	+	+	+	+	+	-

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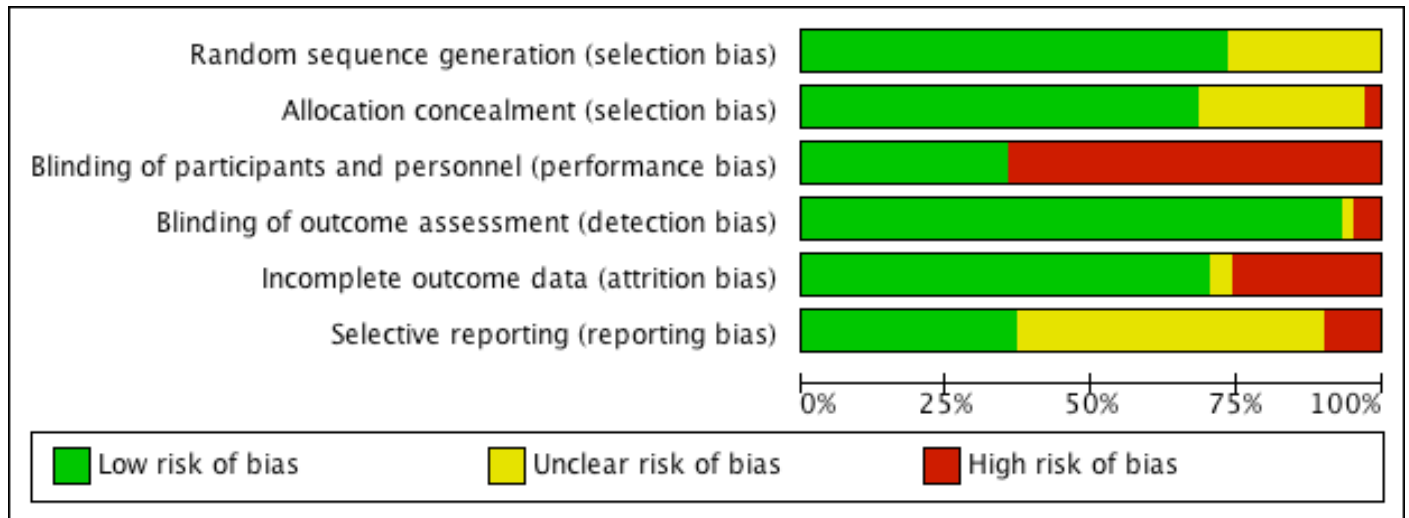
Furmark 2009a	+	+	-	+	+	+
Furmark 2009b	+	+	-	+	+	+
Gelernter 1991	?	?	-	+	+	-
Goldin 2012	+	+	-	+	+	+
Gruber 2001	?	?	-	+	-	?
GSK 2006	+	+	+	+	+	+
Hedman 2011	+	+	-	+	+	+
Heimberg 1990	+	?	-	+	+	+
Heimberg 1998	+	+	-	+	+	+
Herbert 2004	?	?	-	+	-	?
Herbert 2005	?	?	-	+	+	?
Hope 1995	?	?	-	+	+	?
Jazaieri 2012	+	+	-	+	-	?
Kasper 2005	+	+	+	+	+	+
Knijnik 2004	?	?	-	+	+	?
Knijnik 2008	+	+	-	+	+	?
Kobak 2002	+	+	+	+	+	+
Koszycki 2007	+	+	-	+	+	?
Lader 2004	+	+	+	+	+	+
Ledley 2009	?	?	-	+	+	?
Leichsenring 2013	+	+	-	+	-	-
Lepola 2004	+	+	+	+	+	+
Liebowitz 1990	+	?	+	+	-	?
Liebowitz 2002	+	+	+	+	+	+
Liebowitz 2003	+	+	+	+	+	?
Liebowitz 2005a	?	+	+	+	+	?
Liebowitz 2005b	+	+	+	+	+	-
Lipsitz 2008	+	+	-	+	-	+
Matick 1988	?	?	-	+	+	?
Matick 1989	?	?	-	+	+	?
McEvoy 2009	+	-	-	+	+	?
Morgan 1999	?	?	-	+	-	+
Mortberg 2007	+	+	-	+	+	?
Munjack 1990	+	-	-	+	-	?
Oosterbaan 2001	?	?	-	+	?	-
Otto 2000	?	?	-	+	+	?
Pande 1999	+	+	+	+	+	?
Pande 2004	+	+	+	+	-	?
Pfizer 2007	+	+	+	+	-	+
Piet 2010	+	+	-	-	+	?
Prasko 2003	?	?	-	+	+	?
Rapee 2007	+	+	-	?	+	?
Rapee 2009	+	+	-	+	+	?
Rickels 2004	+	+	+	+	+	+

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Robillard 2010	?	?	-	+	?	?
Salaberria 1998	?	?	-	+	+	-
Schneier 1998	+	+	+	+	+	?
Schutters 2010	+	+	+	+	+	?
Seedat 2004	+	+	+	+	+	?
Smits 2006	?	?	-	+	-	?
Stangier 2003	+	-	-	+	-	+
Stangier 2011	+	+	-	+	+	?
Stein 1998	+	+	+	+	+	+
Stein 1999	+	+	+	+	-	+
Stein 2002	+	+	+	+	+	+
Stein 2005	+	+	+	+	-	-
Stravynski 2000	?	?	-	-	+	?
Tauscher 2010	?	?	+	+	-	-
Titov 2008a	+	+	-	+	+	+
Titov 2008b	+	+	-	+	+	+
Titov 2008c	+	+	-	+	+	+
Titov 2009a	+	+	-	+	+	+
Titov 2009b	+	+	-	+	+	+
Titov 2010	+	+	-	+	+	+
Van-Ameringen 2001	+	+	+	+	+	?
van-Vliet 1994	?	?	+	+	?	?
Versiani 1992	+	+	+	+	-	?
Westenberg 2004	+	+	+	+	+	?
Willutzki 2004	?	?	-	+	-	?
Wong 2006	+	+	-	+	-	?
Zhang 2005	+	+	+	+	-	?

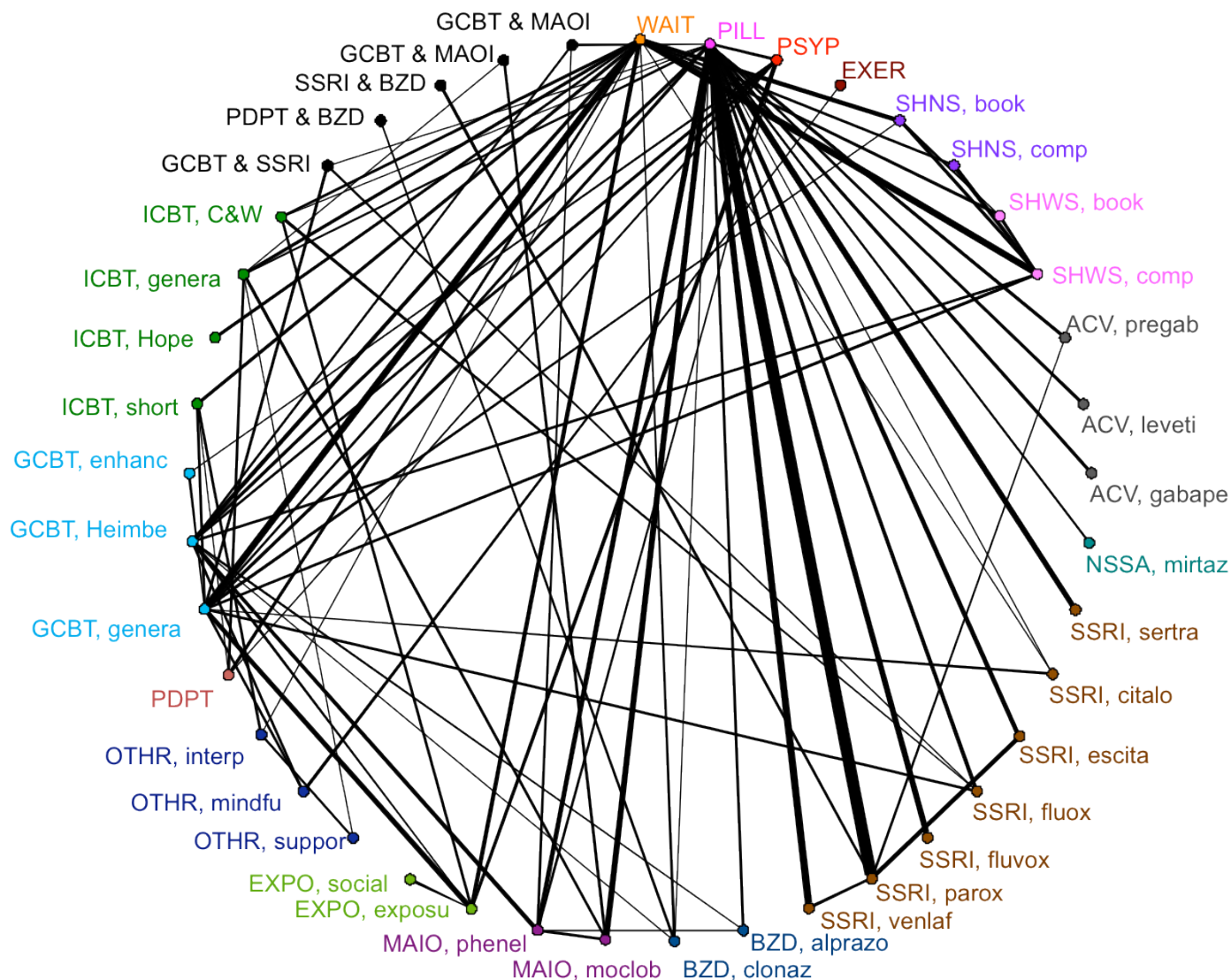
**APPENDIX 10: RISK OF BIAS SUMMARY**

Caption: Risk of bias summary using the Cochrane Risk of Bias Tool for all interventions in the network analysis.



**APPENDIX 11: NETWORK OF SPECIFIC TREATMENTS, CONTINUOUS OUTCOMES**

Caption: Network diagram representing direct comparisons of individual interventions using all available data, which are arranged by class. The width of lines represents the number of trials making each direct comparison.



**Waitlist (WAIT)**

Waitlist

**Pill placebo (PILL)**

Pill placebo

**Psychological placebo (PSYP)**

Psychological placebo

**Exercise promotion (EXER)**

Exercise promotion

**Self-help without support (SHNS)**

Self-help book no support (SHNS, book)

Self-help internet no support (SHNS, comp)

**Self-help with support (SHWS)**

Self-help book w/ support (SHWS, book)

Self-help internet w/ support (SHWS, comp)

**Anticonvulsants (ACV)**

Pregabalin (ACV, pregab)

Levetiracetam (ACV, leveti)

Gabapentin (ACV, gabape)

**Noradrenergic and specific serotonergic antidepressants (NSSA)**

Mirtazapine (NSSA, mirtaz)

**SSRIs & SNRIs (SSRI)**

Sertraline (SSRI, sertra)

Citalopram (SSRI, citalo)

Escitalopram (SSRI, escita)

Fluoxetine (SSRI, fluox)

Fluvoxamine (SSRI, fluvox)

Paroxetine (SSRI, parox)

Venlafaxine (SSRI, venlaf)

**Benzodiazepines (BZD)**

Alprazolam (BZD, alprazo)

Clonazepam (BZD, clonaz)

**Monoamine oxidase inhibitors (MAOI)**

Moclobemide (MAIO, moclob)

Phenelzine (MAIO, phenel)

**Exposure and social skills (EXPO)**

Exposure in vivo (EXPO, exposu)

Social skills training (EXPO, social)

**Other psychological therapy (OTHR)**

Supportive therapy (OTHR, suppor)

Mindfulness (OTHR, mindfu)

Interpersonal psychotherapy (OTHR, interp)

**Psychodynamic psychotherapy (PDPT)**

Psychodynamic psychotherapy

**Group CBT (GCBT)**

General, no model specified (GCBT, genera)

Heimberg model (GCBT, Heimbe)

Enhanced CBT (GCBT, enhanc)

**Individual CBT (ICBT)**

C&W CT shortened sessions (ICBT, short)

Hope, Heimberg & Turk model (ICBT, Hope)

General, no model specified (ICBT, genera)

Clark & Wells Cognitive therapy (ICBT, C&W)

**Combined (COMB)**

CBT group + Fluoxetine (GCBT & SSRI)

Psychodynamic + Clonazepam (PDPT & BZD)

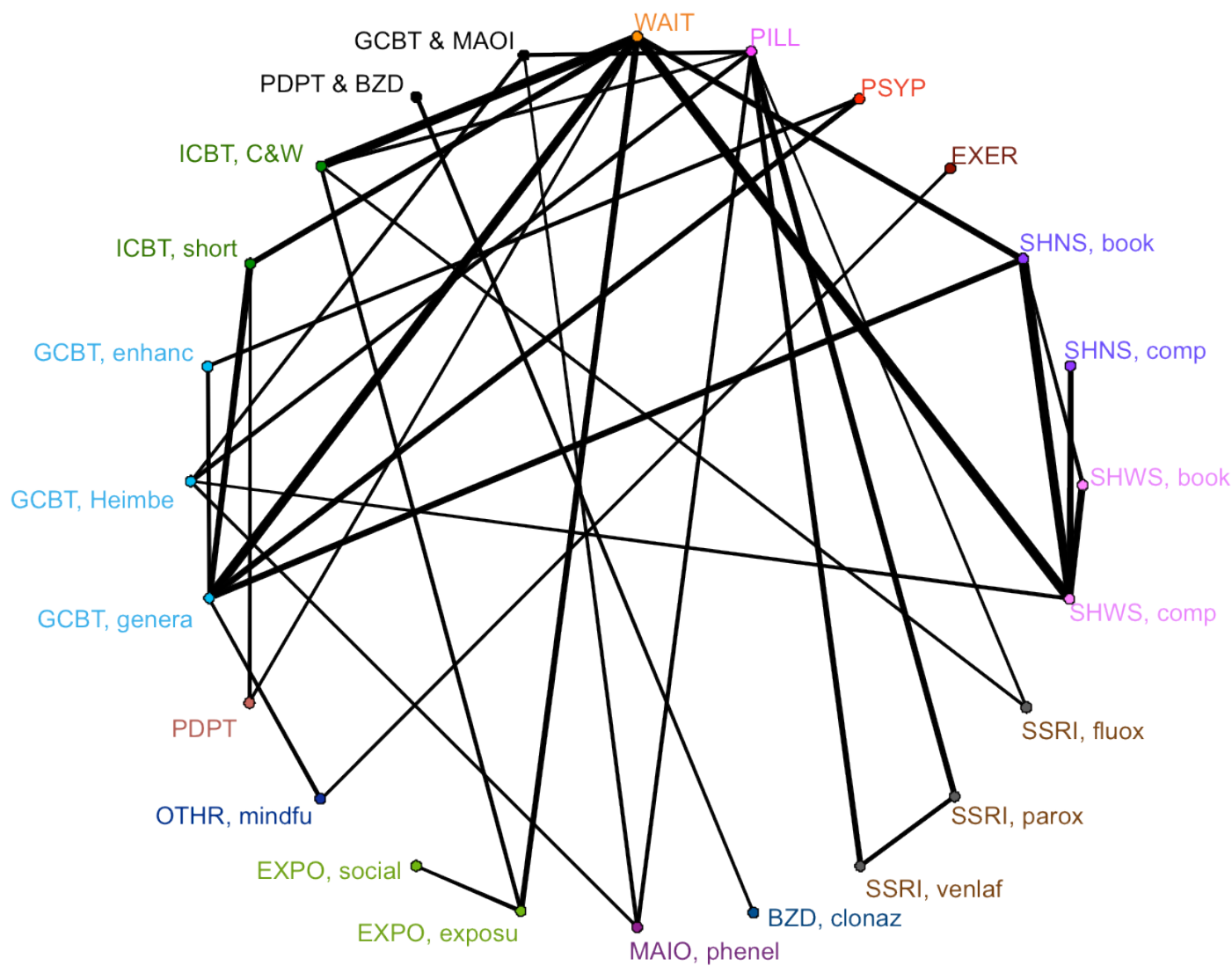
Paroxetine + Clonazepam (SSRI & BZD)

CBT group + Moclobemide (GCBT & MAOI)

CBT group Heimberg + Phenelzine (GCBT & MAOI)

**APPENDIX 12: NETWORK OF SPECIFIC TREATMENTS, RECOVERY**

Caption: Network diagram representing direct comparisons of individual interventions restricted to studies reporting recovery, which are arranged by class (as above). The width of lines represents the number of trials making each direct comparison.



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