

## Supplementary Online Content

Nordsletten AE, Larsson H, Crowley JJ, Almqvist C, Lichtenstein P, Mataix-Cols D. Patterns of nonrandom mating within and across 11 major psychiatric disorders. *JAMA Psychiatry*. Published online February 24, 2016. doi:10.1001/jamapsychiatry.2015.3192.

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This supplementary material has been provided by the authors to give readers additional information about their work.

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## eMaterial

### ICD Codes

#### *Psychiatric Conditions*

Schizophrenia (SCZ)<sup>1</sup>(≥ 2 Dx coded any of the following: 295 [ICD-8 & 9]; F20, F23; F23.2; F25 [ICD-10])<sup>1</sup>, Bipolar Disorder (BIP) (≥ 2 Dx coded any of the following: 296, except 296.2 [ICD-8 & ICD-9]; F30 and F31 [ICD-10])<sup>1</sup>, Autism (ASD) (any Dx coded 299 [ICD-9]; F84.0, F84.1, F84.5 & F84.9 [ICD-10])<sup>1</sup>, Anorexia Nervosa (ANO) (any Dx coded 307.1 [ICD-9]; F50.0 [ICD-10])<sup>1</sup>, Substance Abuse (SUB) (any Dx coded 303 & 304 [ICD-8]; 303, 304, 305.1 & 305.9 [ICD-9]; F10-F19, except subsection 0.5 [ICD-10])<sup>1</sup>, Attention Deficit Hyperactivity Disorder (ADHD) (any Dx using codes 314 [ICD-9]; F90 [ICD-10])<sup>2</sup>, OCD (any Dx coded F42 [ICD-10])<sup>3</sup>, Major Depressive Disorder (MDD) (any Dx coded 296.0, 296.2 & 298 [ICD-8]; 296.2, 296.3, & 298.0 [ICD-9]; F32 & F33 [ICD-10])<sup>1</sup>, Tic Disorder (TIC) (any Dx coded 306.2 [ICD-8]; 307C [ICD-9]; F95.1, F95.2 provided F95.0 is not dx in the same year, F95.8 & F95.9, provided another tic dx is registered and F95.0 is not dx within the year, or at least two dx of F95.0 over a period longer than one year [ICD-10]), Social Phobia (SOC) (any Dx coded F40.1 [ICD-10]), Agoraphobia (AGO) (any Dx coded F40.0 [ICD-10]),<sup>4</sup> and Generalized Anxiety Disorder (GAD) (any Dx coded F41.1 [ICD-10]).<sup>4</sup>

#### *Non-Psychiatric Conditions*

Rheumatoid Arthritis (after age 16, any Dx coded 712.38, 712.39 [ICD-8]; 714A-C, 714W [ICD-9], M05-6 [ICD-10]),<sup>5,6</sup> Multiple Sclerosis (any Dx coded 340.99 [ICD-8]; 340 [ICD-9], G359 [ICD-10]),<sup>7</sup> Chron's Disease (any Dx coded 563 [ICD-8], 555A-C, X [ICD-9], K50 [ICD-10]),<sup>8,9</sup> Diabetes Type I (any Dx coded E10 [ICD-10]), Diabetes Type II (any Dx coded E11 [ICD-10]).

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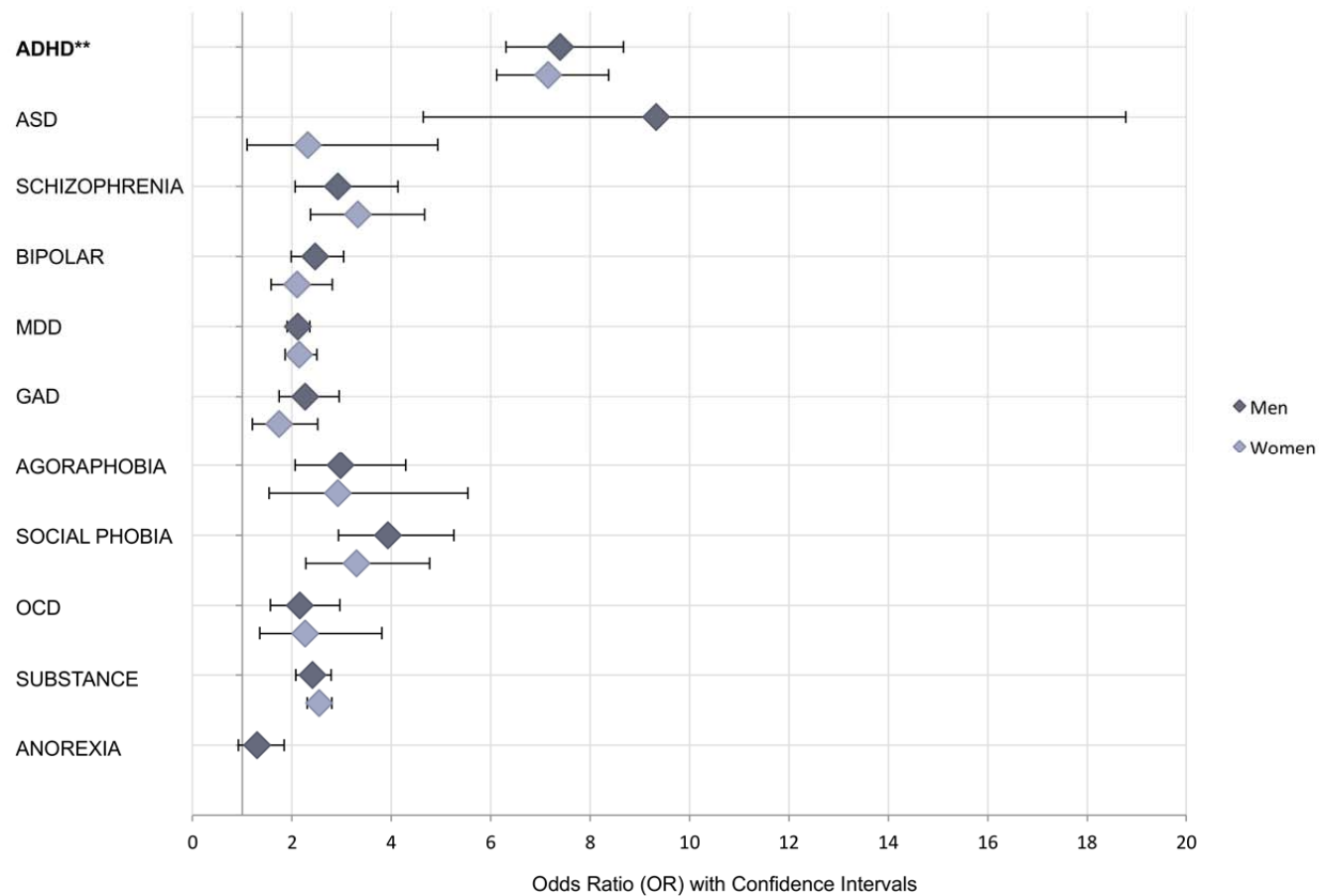
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**eTable. Proportion of Non-Psychiatric Case Probands Mated, by Diagnosis and Gender.**

Proband Dx <sup>1</sup>	Male Somatic Case Proband			Female Somatic Case Proband		
	Total N	Mated Subset		Total N	Mated Subset	
		N	%		N	%
Crohn's Disease	12731	9594	73.4	14422	11908	82.6
DM Type I	117309	90977	77.6	95425	78947	82.7
DM Type II	253894	227242	89.5	214163	192573	89.9
Multiple Sclerosis	8663	6706	77.4	17160	14109	82.2
Rheumatoid Arthritis	39127	33732	86.2	97991	83042	84.7

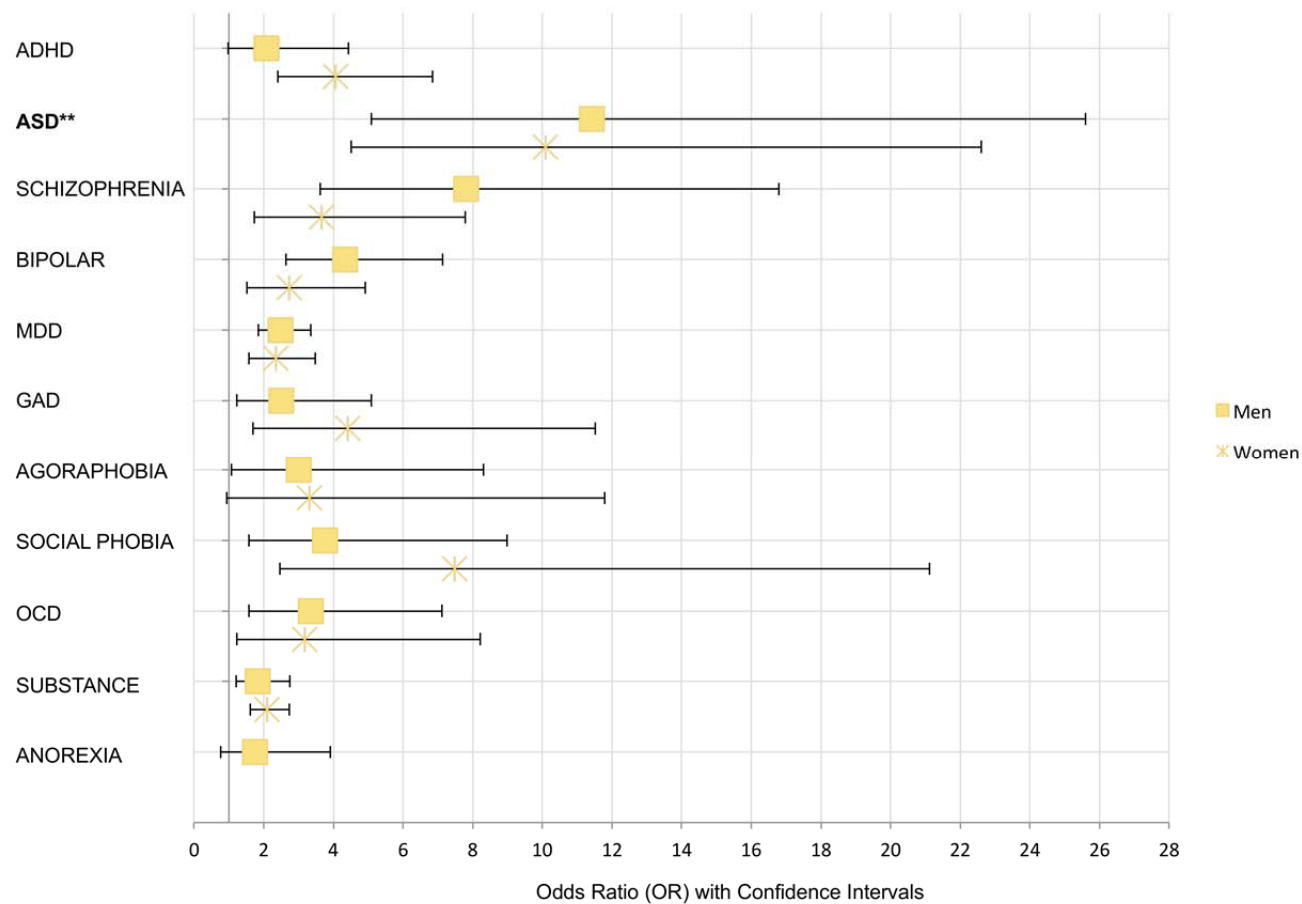
<sup>1</sup> **DM Type I** = Diabetes Mellitus Type I, **DM Type II** = Diabetes Mellitus Type II

**Figure 1. Odds ratios for psychiatric disorders in spouses of ADHD probands, restricted case samples**



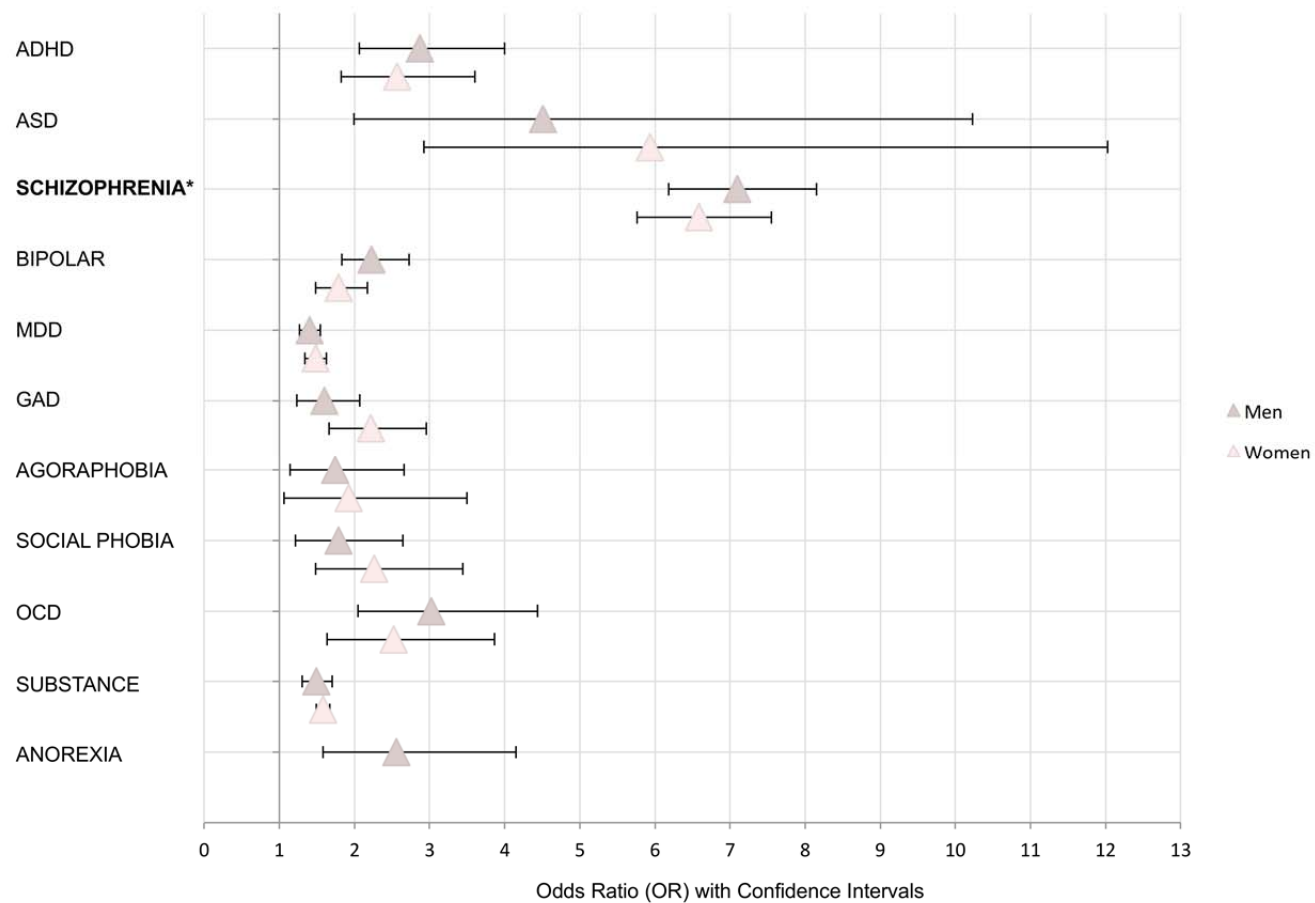
\*\* ADHD is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the ADHD index (e.g., the odds of Autism in the partners of males with ADHD, relative to their matched controls, is  $\approx 9.3$ ; the odds of Autism in the partners of females with ADHD, relative to their matched controls, is  $\approx 2.3$ )

**Figure 2. Odds ratios for psychiatric disorders in spouses of ASD probands, restricted case samples**



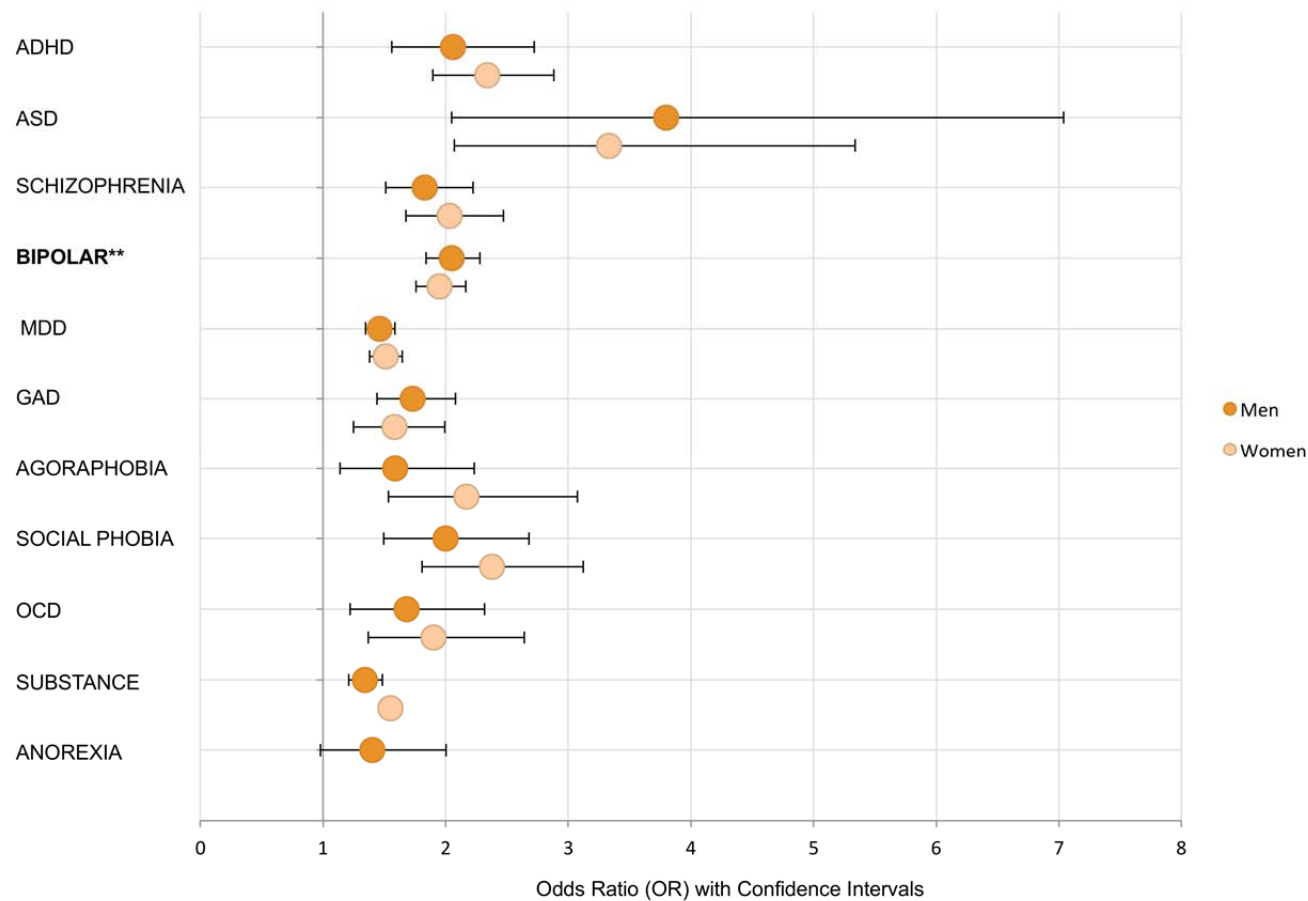
\*\* ASD is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the ASD index (e.g., the odds of ADHD in the partners of males with ASD, relative to their matched controls, is  $\approx 2.1$ ; the odds of ADHD in the partners of females with Autism, relative to their matched controls, is  $\approx 4.1$ )

**eFigure 3. Odds ratios for psychiatric disorders in spouses of SCZ probands, restricted case samples**



\*\* *Schizophrenia* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the SCZ index (e.g., the odds of ASD in the partners of males with SCZ, relative to their matched controls, is  $\approx 4.5$ ; the odds of ASD in the partners of females with SCZ, relative to their matched controls, is  $\approx 5.9$ )

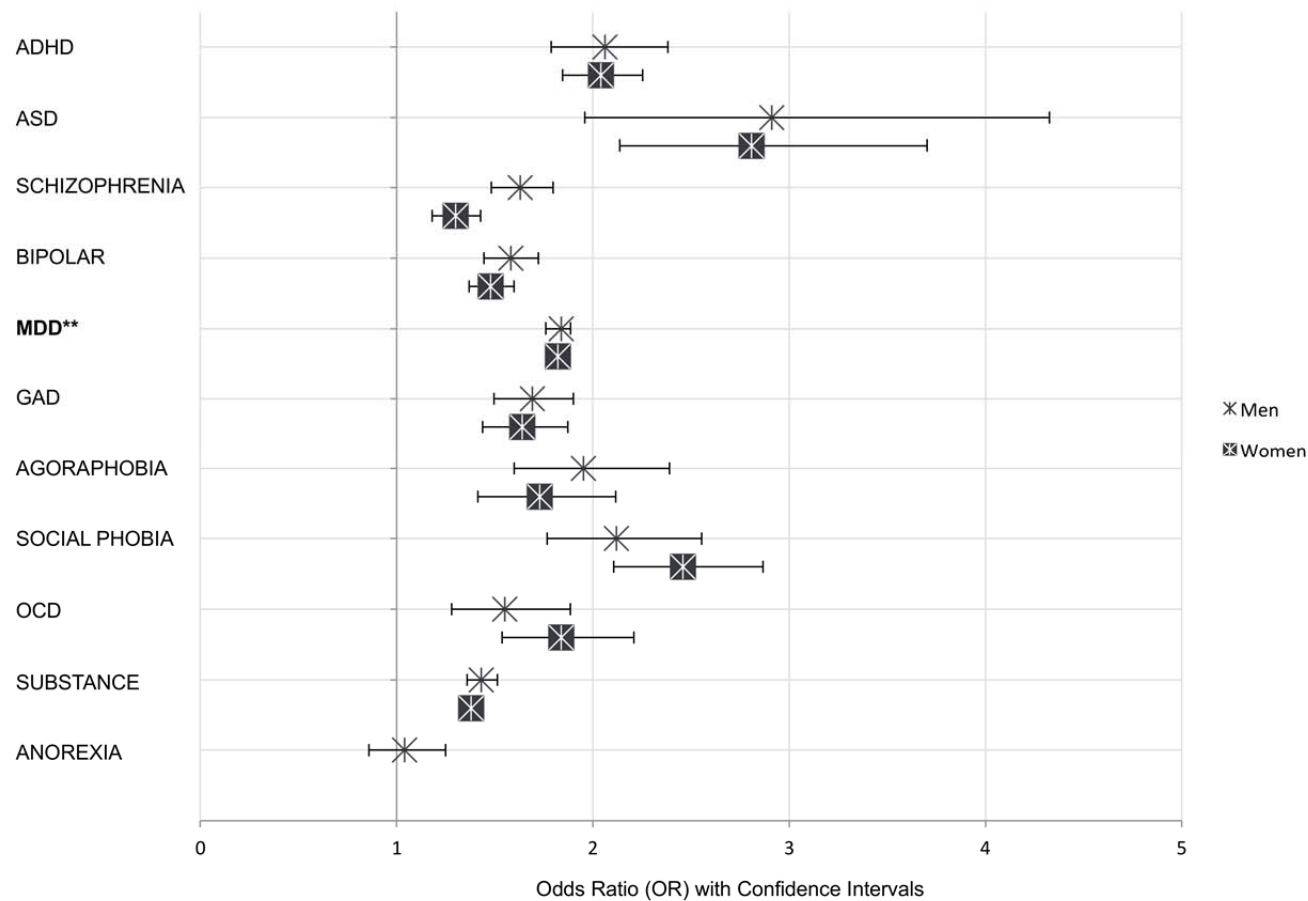
**eFigure 4. Odds ratios for psychiatric disorders in spouses of BIP probands, restricted case samples**



\*\* *Bipolar* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the BIP index (e.g., the odds of ASD in the partners of males with BIP, relative to their matched controls, is  $\approx 3.8$ ; the odds of ASD in the partners of females with BIP, relative to their matched controls, is  $\approx 3.3$ )

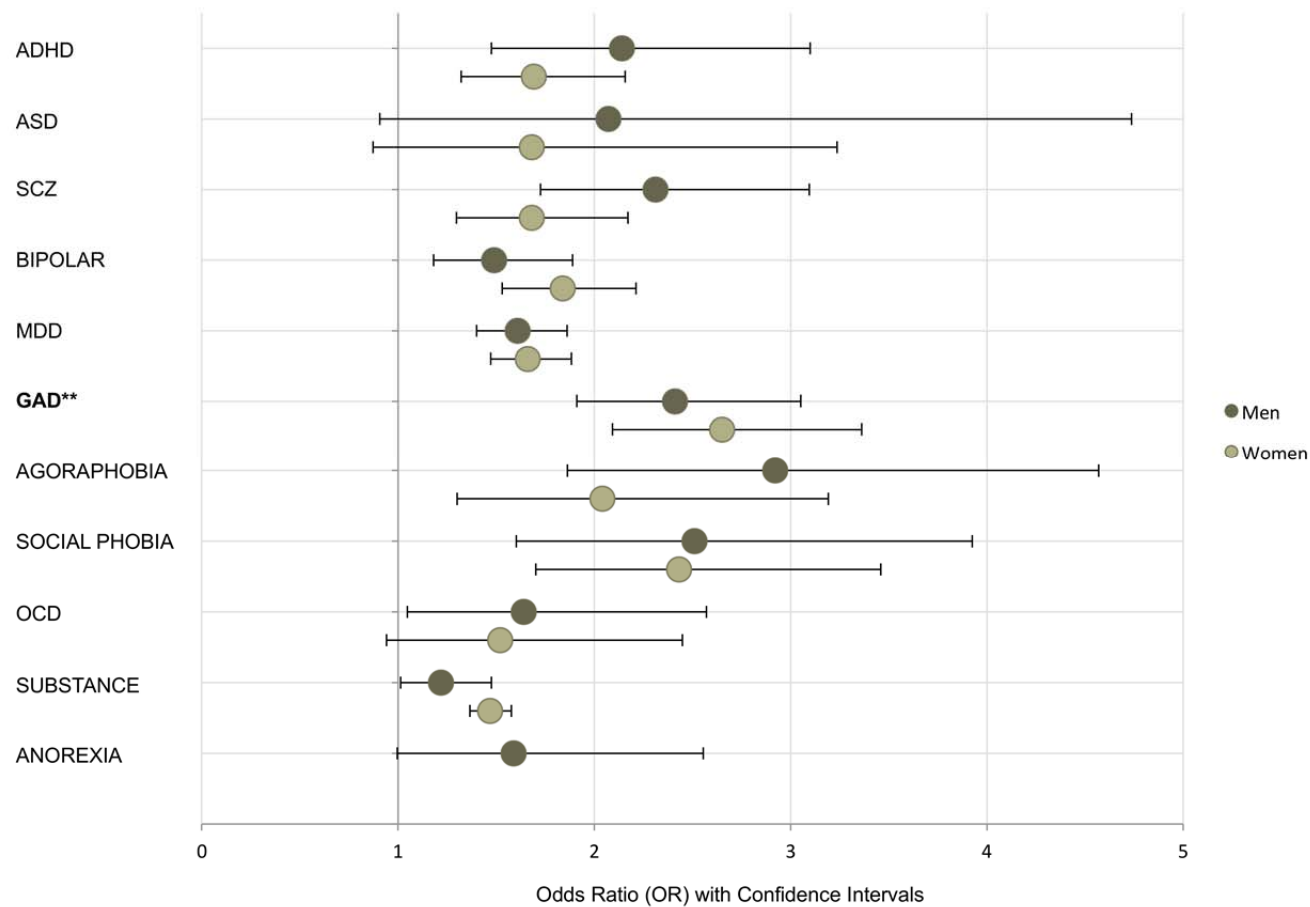


**eFigure 5. Odds ratios for psychiatric disorders in spouses of MDD probands, restricted case samples**



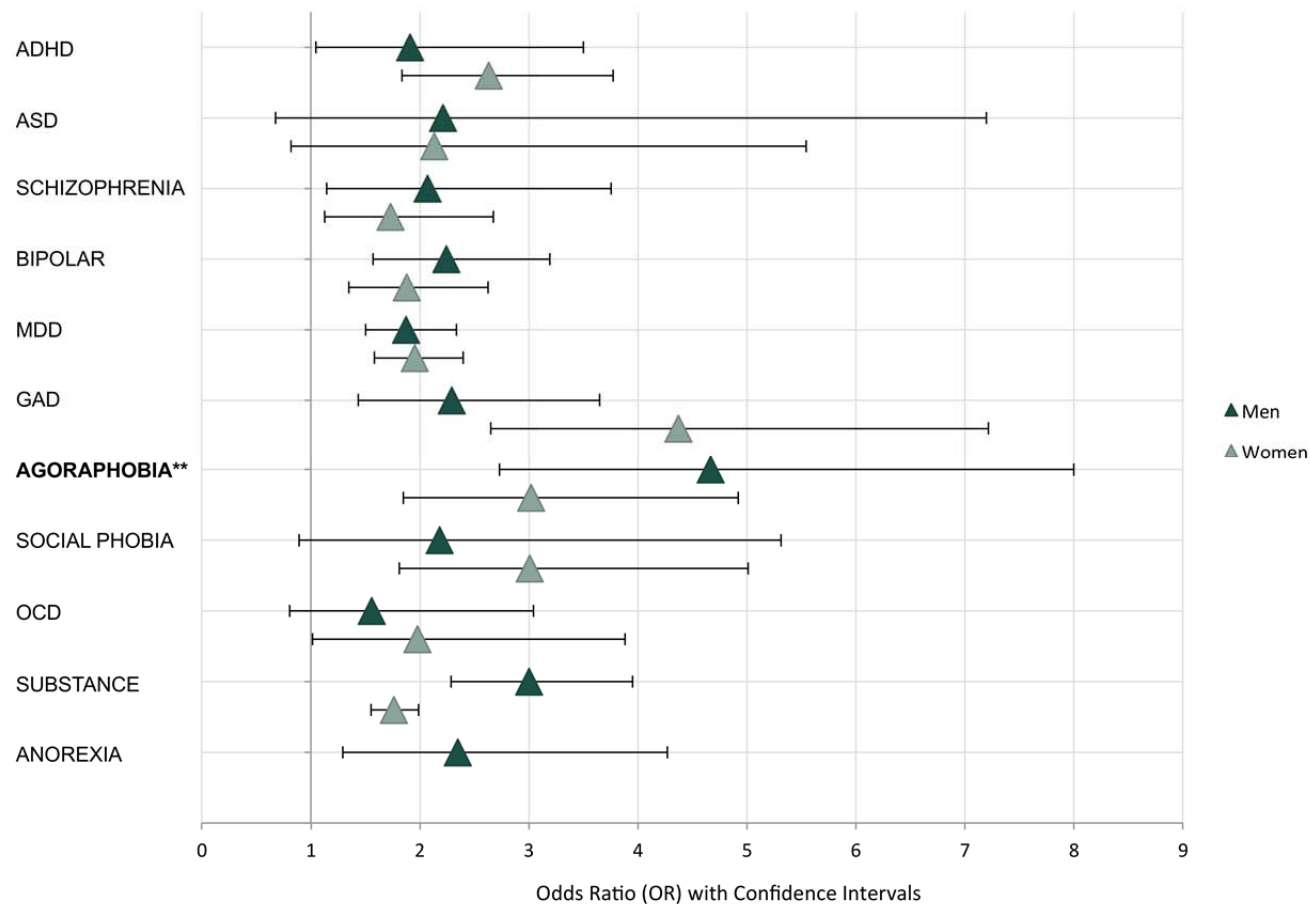
\*\* MDD is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the MDD index (e.g., the odds of ASD in the partners of males with MDD, relative to their matched controls, is  $\approx 2.9$ ; the odds of ASD in the partners of females with MDD, relative to their matched controls, is  $\approx 2.8$ )

**Figure 6. Odds ratios for psychiatric disorders in spouses of GAD probands, restricted case samples**



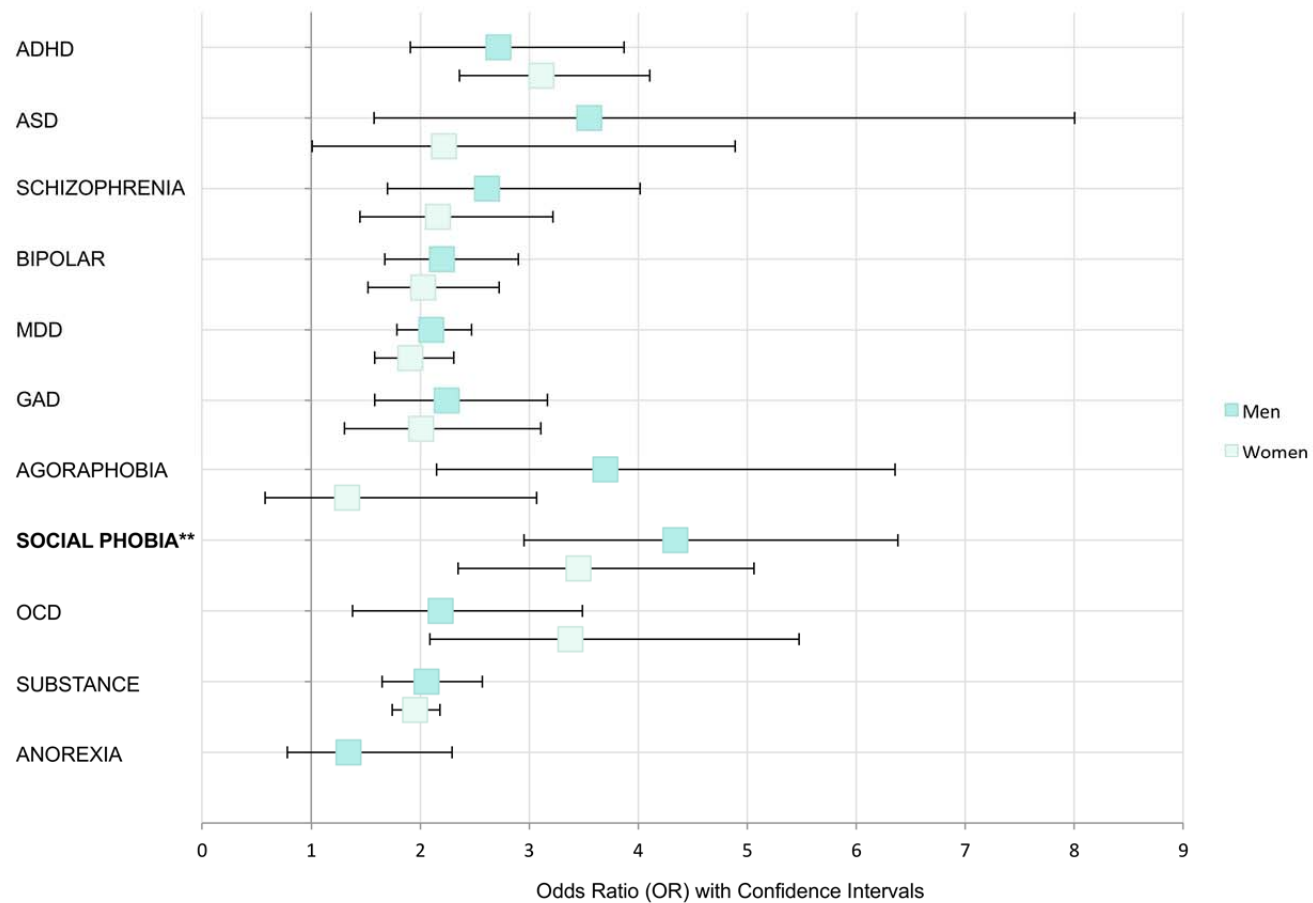
\*\* GAD is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the GAD index (e.g., the odds of ASD in the partners of males with GAD, relative to their matched controls, is  $\approx 2.0$ ; the odds of ASD in the partners of females with GAD, relative to their matched controls, is  $\approx 1.7$ )

**Figure 7. Odds ratios for psychiatric disorders in spouses of AGO probands, restricted case samples**



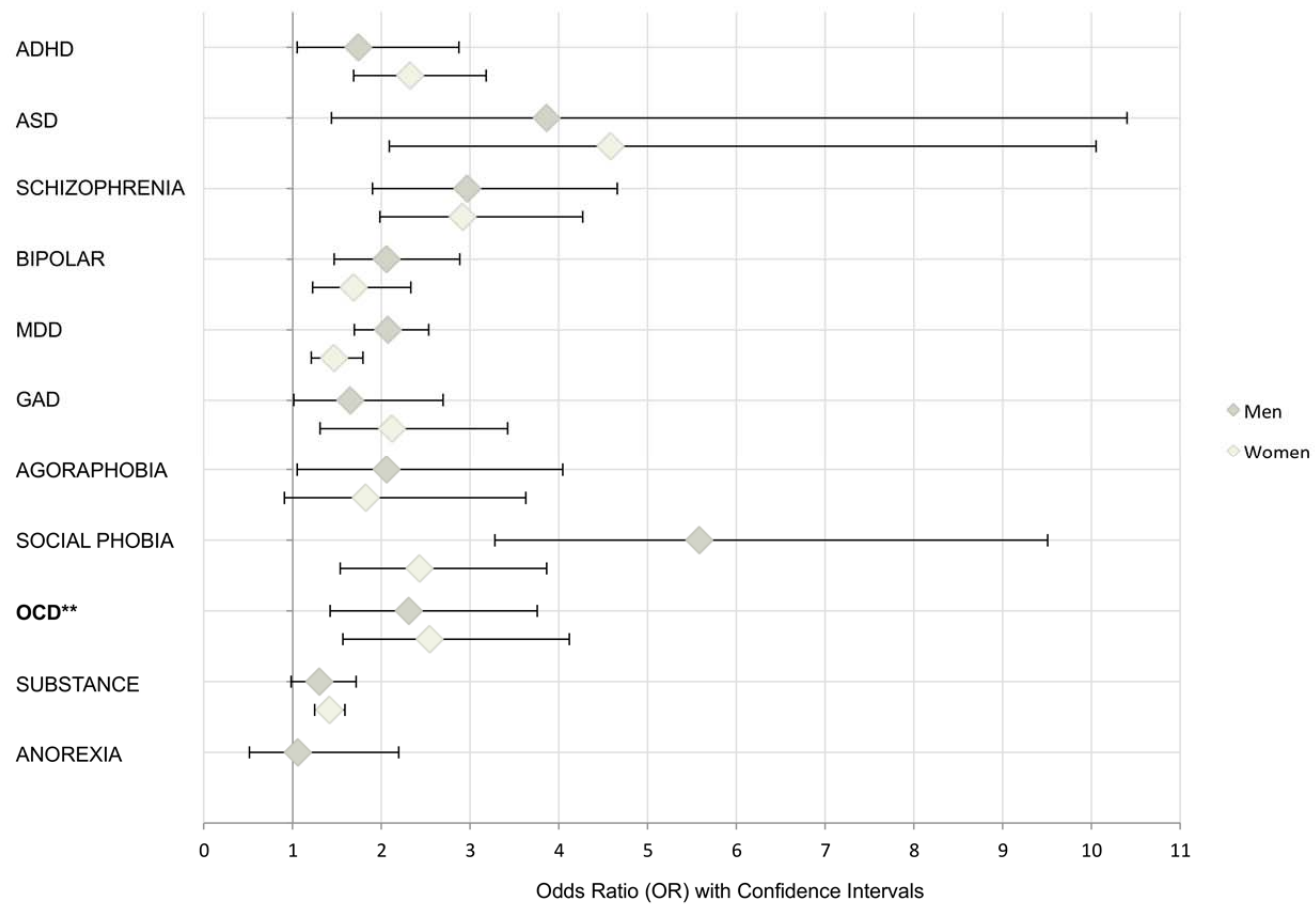
\*\* *Agoraphobia* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the AGO index (e.g., the odds of ASD in the partners of males with AGO, relative to their matched controls, is  $\approx 2.2$ ; the odds of ASD in the partners of females with AGO, relative to their matched controls, is  $\approx 2.1$ )

**eFigure 8. Odds ratios for psychiatric disorders in spouses of SOC probands, restricted case samples**



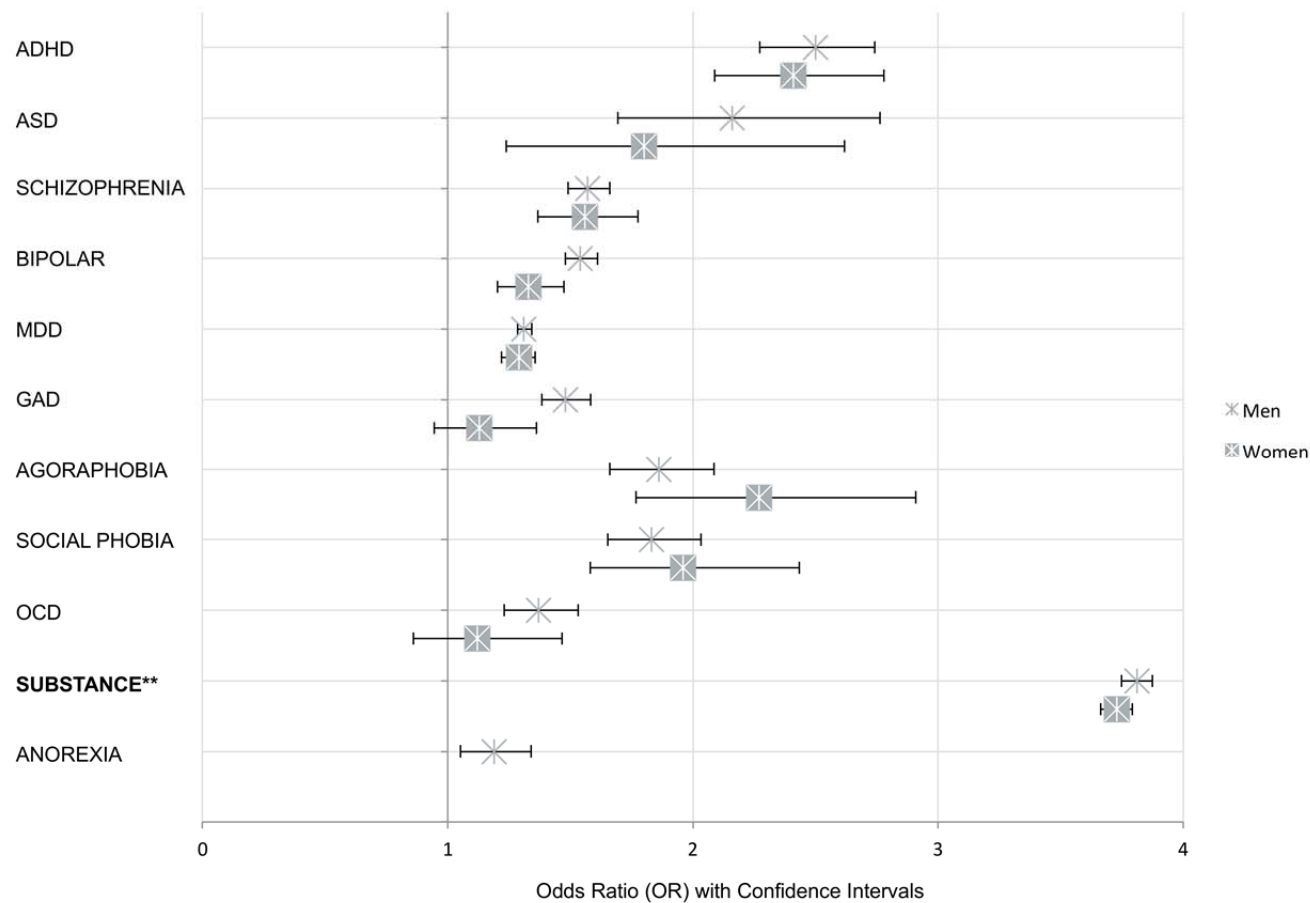
\*\* *Social Phobia* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the SOC index (e.g., the odds of ASD in the partners of males with SOC, relative to their matched controls, is  $\approx 3.6$ ; the odds of ASD in the partners of females with SOC, relative to their matched controls, is  $\approx 2.2$ )

**Figure 9. Odds ratios for psychiatric disorders in spouses of OCD probands, restricted case samples**



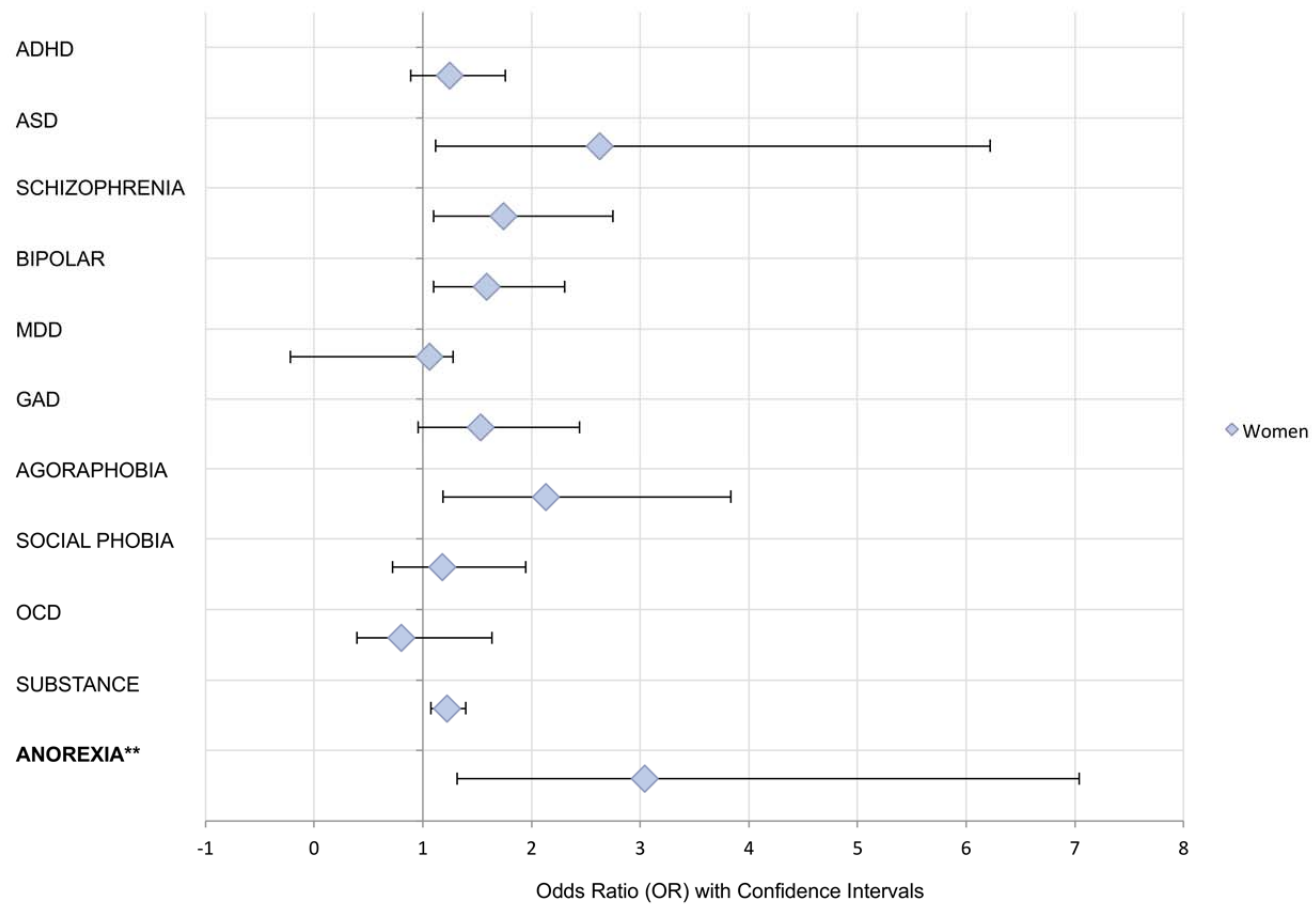
\*\* OCD is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the OCD index (e.g., the odds of ASD in the partners of males with OCD, relative to their matched controls, is  $\approx 3.9$ ; the odds of ASD in the partners of females with OCD, relative to their matched controls, is  $\approx 4.6$ )

**eFigure 10. Odds ratios for psychiatric disorders in spouses of SUB probands, restricted case samples**



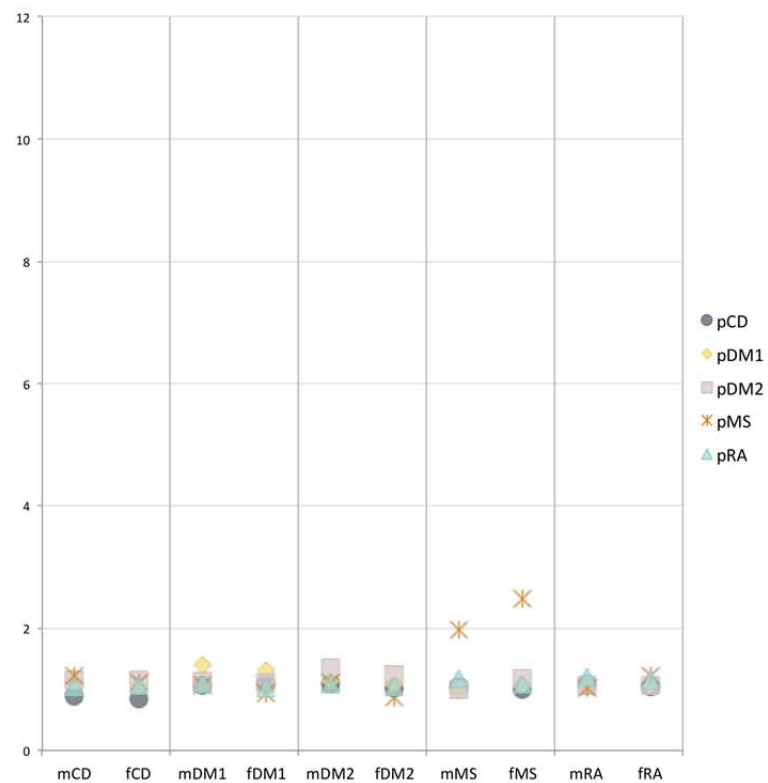
\*\* *Substance Abuse* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the SUB index (e.g., the odds of ASD in the partners of males with SUB, relative to their matched controls, is  $\approx 2.2$ ; the odds of ASD in the partners of females with SUB, relative to their matched controls, is  $\approx 1.8$ )

**eFigure 11. Odds ratios for psychiatric disorders in spouses of ANO probands, restricted case samples**



\*\* *Anorexia* is the diagnosis of the case indexes, whose gender is reflected in the color of the markers; the value of the markers indicates the risk of that row's diagnosis in the opposite sex mate of the ANO index (e.g., the odds of ASD in the partners of females with ANO, relative to their matched controls, is  $\approx 2.6$ ; odds in the partners of male indexes are unavailable due to low numbers of mated cases)

**eFigure 12. Dotplot of Odds Ratios in Somatic Proband Populations<sup>1</sup>, By Proband Gender, Restricted Case Samples**



<sup>1</sup>CD = Crohn's Disease, DM1 = Diabetes Mellitus Type I, DM2 = Diabetes Mellitus Type 2, MS = Multiple Sclerosis, RA = Rheumatoid Arthritis ; mXXX = Male proband with XXX; fXXX = Female proband with XXX; pXXX = Opposite sex partner of a proband with XXX