## **Supplementary Online Content**

Pérez-Vigil A, Fernández de la Cruz L, Brander G, et al. Association of obsessive-compulsive disorder with objective indicators of educational attainment: a nationwide register-based sibling control study. *JAMA Psychiatry*. Published online November 15, 2017. doi: 10.1001/jamapsychiatry.2017.3523

- **eTable 1.** Odds ratios (OR) and corresponding 95% confidence intervals (CI) for passing specific subjects at the end of compulsory education among individuals with lifetime obsessive-compulsive disorder (OCD), compared with unaffected individuals from the general population and full siblings, stratified by gender.
- **eTable 2.** Adjusted odds ratios (OR) and corresponding 95% confidence intervals (CI) for educational attainment among individuals with obsessive-compulsive disorder (OCD) stratified according to age of first diagnosis and excluding different groups of comorbidities.

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

**eTable 1.** Odds ratios (OR) and corresponding 95% confidence intervals (CI) for passing specific subjects at the end of compulsory education among individuals with lifetime obsessive-compulsive disorder (OCD), compared with unaffected individuals from the general population and full siblings, stratified by gender.

	Individuals	Individuals	Unadjusted		Full sibling
	with OCD	without OCD	model	Adjusted <sup>a</sup>	comparison <sup>a</sup>
	n=9,415 n (%)	n=1,224,627 n (%)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Core subjects	n (70)	n (70)			
Swedish language					
All	8,626 (94.1)	1,166,914 (96.2)	0.63 (0.58-0.69)	0.57 (0.52-0.62)	0.56 (0.46-0.68)
Females	5,278 (95.0)	576949 (97.4)	0.50 (0.45-0.57)	0.51 (0.45-0.58)	0.46 (0.31-0.67
Males	3,348 (92.6)	589,965 (94.95)	0.67 (0.59-0.76)	0.63 (0.55-0.71)	0.60 (0.41-0.85
English language		, , ,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,	
All	8,525 (92.8)	1,156,648 (95.2)	0.65 (0.60-0.71)	0.60 (0.56-0.66)	0.60 (0.51-0.72
Females	5,182 (93.2)	569147 (96.0)	0.57 (0.51-0.63)	0.56 (0.50-0.62)	0.50 (0.37-0.68
Males	3,343 (92.3)	587,501 (94.4)	0.71 (0.63-0.80)	0.66 (0.58-0.75)	0.62 (0.43-0.90
Mathematics	2,2 12 (3 2.2)	,	0171 (0100 0100)	0.00 (0.20 0.72)	0.02 (0.10 0.50
All	8,173 (89.0)	1,144,845 (94.2)	0.50 (0.47-0.53)	0.47 (0.44-0.50)	0.52 (0.45-0.60
Females	4,950 (89.0)	561064 (94.6)	0.46 (0.42-0.50)	0.45 (0.41-0.49)	0.32 (0.43-0.60
Males	3,223 (89.0)	583,781 (93.8)	0.53 (0.48-0.59)	0.50 (0.45-0.55)	0.54 (0.39-0.75
	3,223 (89.0)	363,761 (93.6)	0.55 (0.46-0.59)	0.30 (0.43-0.33)	0.54 (0.59-0.75
Additional subjects					
Arts	0.454 (02.1)	1 167 049 (06 1)	0.40 (0.44.0.70)	0.42 (0.40.0.45)	0.50 (0.45.0.00
All	8,454 (92.1)	1,167,048 (96.1)	0.48 (0.44-0.52)	0.43 (0.40-0.47)	0.56 (0.47-0.66
Females	5,168 (93.0)	576,169 (97.2)	0.38 (0.34-0.42)	0.38 (0.34-0.43)	0.61 (0.45-0.81
Males	3,286 (90.7)	590,879 (95.0)	0.52 (0.46-0.58)	0.49 (0.44-0.55)	0.62 (0.45-0.87
Biology					
All	6,389 (85.6)	930,711 (92.5)	0.48 (0.45-0.51)	0.43 (0.40-0.46)	0.46 (0.39-0.54
Females	3,951 (86.3)	461,546 (94.1)	0.39 (0.36-0.43)	0.38 (0.35-0.42)	0.53 (0.40-0.70
Males	2,438 (84.6)	469,165 (91.0)	0.54 (0.49-0.60)	0.50 (0.45-0.56)	0.46 (0.33-0.64
Chemistry					
All	6,095 (81.7)	912,009 (90.7)	0.46 (0.43-0.49)	0.42 (0.39-0.44)	0.50 (0.43-0.57
Females	3,750 (81.9)	451,248 (92.0)	0.39 (0.36-0.42)	0.38 (0.35-0.41)	0.56 (0.44-0.71
Males	2,345 (81.4)	460,761 (89.4)	0.52 (0.47-0.57)	0.47 (0.43-0.52)	0.41 (0.30-0.57
Geography					
All	5,516 (87.5)	782,701 (93.4)	0.49 (0.46-0.53)	0.45 (0.42-0.49)	0.52 (0.43-0.63
Females	3,383 (87.5)	385,440 (94.5)	0.41 (0.37-0.45)	0.39 (0.36-0.44)	0.50 (0.36-0.70
Males	2,133 (87.5)	397,261 (92.4)	0.58 (0.51-0.65)	0.54 (0.48-0.61)	0.69 (0.47-1.00
Handcraft textile/wood					
All	8,384 (91.3)	1,173,369 (96.6)	0.37 (0.34-0.40)	0.35 (0.32-0.38)	0.49 (0.42-0.58
Females	5,086 (91.5)	574892 (97.0)	0.33 (0.23-0.36)	0.33 (0.30-0.36)	0.63 (0.48-0.84
Males	3,298 (91.0)	598,477 (96.2)	0.40 (0.36-0.45)	0.38 (0.34-0.43)	0.41 (0.28-0.59
History				` '	`
All	5,521 (87.6)	781,234 (93.3)	0.51 (0.47-0.55)	0.48 (0.44-0.52)	0.52 (0.43-0.62
Females	3,369 (87.1)	383,424 (94.0)	0.43 (0.39-0.48)	0.42 (0.38-0.47)	0.59 (0.43-0.80
Males	2,152 (88.3)	397,810 (92.5)	0.61 (0.54-0.69)	0.57 (0.50-0.65)	0.53 (0.34-0.80
Home and consumer studies	2,102 (00.0)	057,010 (52.0)	0.01 (0.01 0.05)	0127 (0120 0102)	0.00 (0.01 0.00
All	6,430 (89.9)	929,888 (95.8)	0.39 (0.36-0.43)	0.36 (0.34-0.39)	0.44 (0.37-0.54
Females	3,904 (90.8)	458,128 (96.6)	0.34 (0.31-0.38)	0.34 (0.31-0.38)	0.39 (0.27-0.55
Males	2,526 (88.7)	471,760 (95.0)	0.42 (0.37-0.47)	0.39 (0.35-0.44)	0.46 (0.31-0.70
Knowledge of society	2,525 (66.7)	171,700 (25.0)	V-12 (V-0-1-V-11)	3107 (0100-01 <b>-11</b> )	0.40 (0.51-0.70
All	5,558 (88.2)	783,476 (93.5)	0.52 (0.48-0.56)	0.48 (0.44-0.52)	0.54 (0.45-0.65
Au Females	3,414 (88.3)	385,512 (94.5)	0.52 (0.48-0.50)	0.43 (0.39-0.47)	0.54 (0.45-0.05
Males	2,144 (88.0)	397,964 (92.6)	0.59 (0.52-0.66)	0.45 (0.39-0.47)	0.57 (0.38-0.85
	2,177 (00.0)	371,704 (72.0)	0.37 (0.34-0.00)	0.33 (0.40-0.02)	0.57 (0.50-0.05
Music	9 275 (00 1)	1 150 550 (05 4)	0.44 (0.41.0.40)	0.41 (0.20 0.44)	0.44 (0.27.0.52
All	8,275 (90.1)	1,158,558 (95.4)	0.44 (0.41-0.48)	0.41 (0.38-0.44)	0.44 (0.37-0.52
Females	5,030 (90.5)	570,596 (96.3)	0.37 (0.34-0.40)	0.37 (0.33-0.40)	0.48 (0.36-0.64

Males	3,245 (89.6)	587,962 (94.5)	0.50 (0.45-0.56)	0.47 (0.42-0.52)	0.44 (0.31-0.61)
Physics					
All	6,141 (82.3)	917,154 (91.2)	0.45 (0.42-0.48)	0.41 (0.39-	0.48 (0.41-0.55)
Females	3,749 (81.9)	451,285 (92.0)	0.39 (0.36-0.42)	0.38 (0.35-0.41)	0.53 (0.41-0.68)
Males	2,392 (83.0)	465,869 (90.4)	0.52 (0.47-0.57)	0.48 (0.43-0.53)	0.37 (0.26-0.52)
Religion					
All	5,577 (88.5)	782,800 (93.5)	0.54 (0.45-0.58)	0.49 (0.50-0.53)	0.56 (0.46-0.68)
Females	3,442 (89.0)	387,111 (94.9)	0.43 (0.39-0.48)	0.43 (0.38-0.47)	0.57 (0.42-0.79)
Males	2,135 (87.6)	395,689 (92.1)	0.61 (0.54-0.69)	0.57 (0.50-0.64)	0.79 (0.54-1.18)
Sports and health					
All	7,630 (83.1)	1,131,457 (93.1)	0.36 (0.34-0.38)	0.36 (0.34-0.38)	0.42 (0.37-0.48)
Females	4,494 (80.8)	547,160 (92.3)	0.35 (0.33-0.38)	0.34 (0.32-0.37)	0.45 (0.36-0.56)
Males	3,136 (86.6)	584,297 (93.9)	0.42 (0.38-0.46)	0.39 (0.35-0.43)	0.49 (0.36-0.68)
Technology					
All	8,048 (87.6)	1,150,707 (94.7)	0.40 (0.37-0.42)	0.38 (0.36-0.40)	0.44 (0.38-0.51)
Females	4,869 (87.6)	562,933 (95.0)	0.37 (0.34-0.41)	0.37 (0.34-0.40)	0.54 (0.42-0.68)
Males	3,179 (87.7)	587,774 (94.5)	0.42 (0.38-0.46)	0.39 (0.36-0.44)	0.38 (0.28-0.52)

<sup>&</sup>lt;sup>a</sup>Adjusted by sex, year of birth, maternal age, paternal age, and parity. Sex was not included as a covariate in the stratification by sex.

Abbreviations: CI confidence interval; OCD obsessive-compulsive disorder; OR odds ratio.

Note: Statistically significant findings are highlighted in bold.

**eTable 2.** Adjusted odds ratios (OR) and corresponding 95% confidence intervals (CI) for educational attainment among individuals with obsessive-compulsive disorder (OCD) stratified according to age of first diagnosis and excluding different groups of comorbidities.

	Excluding ADHD <sup>a</sup>	Excluding other neuropsychiatric disorders <sup>a,b</sup>	Excluding psychotic disorders <sup>a</sup>	Excluding anxiety disorders <sup>a,c</sup>	Excluding affective disorders <sup>a</sup>	Excluding substance use disorders <sup>a</sup>	Excluding other psychiatric disorders <sup>a</sup>
OCD diagnosed before age 18							
Compulsory education,			OR (95% CI)				
eligibility to access upper secondary school			OK (9570 CI)				
Vocational program	0.49 (0.43-0.56)	0.47 (0.41-0.53)	0.38 (0.35-0.43)	0.44 (0.37-0.51)	0.43 (0.37-0.49)	0.39 (0.35-0.43)	0.38 (0.34-0.42)
Academic program	0.52 (0.47-0.57)	0.51 (0.47-0.57)	0.46 (0.42-0.50)	0.55 (0.50-0.62)	0.52 (0.46-0.58)	0.48 (0.44-0.52)	0.46 (0.42-0.51)
Post-compulsory education			OR (95% CI)				
Finishing upper secondary school	0.52 (0.48-0.56)	0.54 (0.50-0.58)	0.47 (0.44-0.51)	0.53 (0.48-0.58)	0.52 (0.48-0.57)	0.48 (0.45-0.52)	0.48 (0.44-0.51)
Starting a university degree	0.68 (0.61-0.75)	0.68 (0.61-0.76)	0.60 (0.54-0.66)	0.62 (0.54-0.70)	0.63 (0.55-0.71)	0.62 (0.56-0.68)	0.58 (0.52-0.65)
Finishing a university degree	0.50 (0.40-0.62)	0.51 (0.40-0.64)	0.45 (0.36-0.55)	0.46 (0.35-0.62)	0.46 (0.35-0.60)	0.45 (0.37-0.57)	0.43 (0.34-0.55)
Finishing post-graduate education	-	-	-	-	-	-	-
OCD diagnosed at or after age 18							
Compulsory education,			OD (050) GN				
eligibility to access upper secondary school			OR (95% CI)				
Vocational program	0.59 (0.55-0.64)	0.57 (0.53-0.62)	0.52 (0.49-0.56)	0.61 (0.54-0.69)	0.53 (0.48-0.59)	0.54 (0.50-0.58)	0.50 (0.46-0.54)
Academic program	0.76 (0.71-0.80)	0.73 (0.69-0.78)	0.69 (0.65-0.73)	0.82 (0.75-0.90)	0.72 (0.66-0.77)	0.72 (0.68-0.77)	0.67 (0.64-0.72)
Post-compulsory education			OR (95% CI)				
	0.49 (0.46 0.50)	0.46 (0.44.0.40)	0.44 (0.42 0.46)	0.61 (0.56.0.65)	0.50 (0.47.0.52)	0.47 (0.44 0.40)	0.42 (0.41 0.45)
Finishing upper secondary school	0.48 (0.46-0.50)	0.46 (0.44-0.49)	0.44 (0.42-0.46)	0.61 (0.56-0.65)	0.50 (0.47-0.53)	0.47 (0.44-0.49)	0.43 (0.41-0.45)
Starting a university degree	0.85 (0.81-0.89)	0.83 (0.79-0.87)	0.79 (0.75-0.82)	0.95 (0.89-1.02)	0.86 (0.81-0.91)	0.83 (0.80-0.87)	0.77 (0.73-0.81)
Finishing a university degree	0.68 (0.64-0.72)	0.66 (0.62-0.70)	0.64 (0.60-0.68)	0.77 (0.71-0.85)	0.71 (0.65-0.77)	0.68 (0.64-0.72)	0.63 (0.59-0.67)
Finishing post-graduate education	0.58 (0.39-0.86)	0.57 (0.38-0.85)	0.57 (0.38-0.84)	0.67 (0.39-1.16)	0.67 (0.41-1.09)	0.60 (0.40-0.89)	0.55 (0.37-0.83)

<sup>&</sup>lt;sup>a</sup>Adjusted by sex, year of birth, maternal age, paternal age and parity. Sex was not included as a covariate in the stratification by sex.

Abbreviations: ADHD attention-deficit/hyperactivity disorder; CI confidence interval; OR odds ratio.

Note: Statistically significant findings are highlighted in bold.

<sup>&</sup>lt;sup>b</sup>Includes pervasive developmental disorders, Tourette's and chronic tic disorders, and learning disabilities.

<sup>&</sup>lt;sup>c</sup>Includes dissociative, somatoform, other neurotic, and eating disorders.