

FAMILY HISTORY OF NEURODEVELOPMENTAL AND MENTAL HEALTH PROBLEMS IN CHILDREN WITH FUNCTIONAL TICS AND TOURETTE'S SYNDROME

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BACKGROUND

- Parental influence on child's mental health/ neurodevelopmental problems can be passive or active (Bolhuis et al., 2021)
- Vulnerability factors for functional symptoms includes history of anxiety disorders and/or neurodevelopmental disorders (Han et al., 2022).
- We are interested in the influence of genetic loading in young people with functional tics compared to classic tics

Classic tics/Tourette's syndrome	Functional tics
Male > female 4:1	Female > male 9:1
Age of onset 4-6 y/o	Age of onset 13.7 y/o
Onset usually gradual, occurring at a young age and decreasing	Sudden and later onset
Tic severity often responds to tic medication/ behavioural therapy	Often do not respond to common drugs prescribed for classic tics
Rarely remit suddenly	Often remit suddenly
Waxing and waning pattern	Associated with increased stress/recent events

Buts et al. (2021), Demartini et al. (2014) and Ganos et al. (2016)

CURRENT RESEARCH ON FAMILY HISTORY OF PSYCHOLOGICAL DISORDERS

ADHD	ASD
Tend to have small effect sizes & increase risk of other psychopathology (Thapar et al., 2012)	63.1% with ASD had a parent with history of mental health and/ or neurological disorder vs 45.4% without (Xie et al., 2019)
OCD	Tourette's Syndrome
• Approximate four- to tenfold OCD risk increase of first-degree relatives (Stewart et al., 2012)	Heritability of mild and severe tic phenotypes were estimated to be moderate (0.25 - 0.37) (Zilhão et al., 2016)
• Heritability of 47% (Mataix-Cols et al., 2013)	

Anxiety

Genetic studies propose strong genetic contribution to anxiety disorders; heritability of 30-67% (Domsche and Deckert, 2012)

Depression

Study on adolescents found family history in 30.2% of patients (van Dijk et al., 2021)

METHODS AND DEMOGRAPHIC INFORMATION

8-17 years old	Functional tic group N=62	Tourette's syndrome group N=62
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- Referral letter and initial assessment of case studies used to determine family history and diagnoses
- Family history used as proxy for genetic loading

Functional tic group	Tourette's syndrome group
<ul style="list-style-type: none"> Mean age 14.3 y/o (SD=2) Males 12.9%, females 87.1% and other 11.3% White British 66.1%, not specified 17.7%, and other ethnic backgrounds 16.2% 	<ul style="list-style-type: none"> Mean age 11.5 y/o (SD=2.6) Males 73% and females 27% White British 50.8%, not specified 36.5%, and other ethnic backgrounds 12.7%

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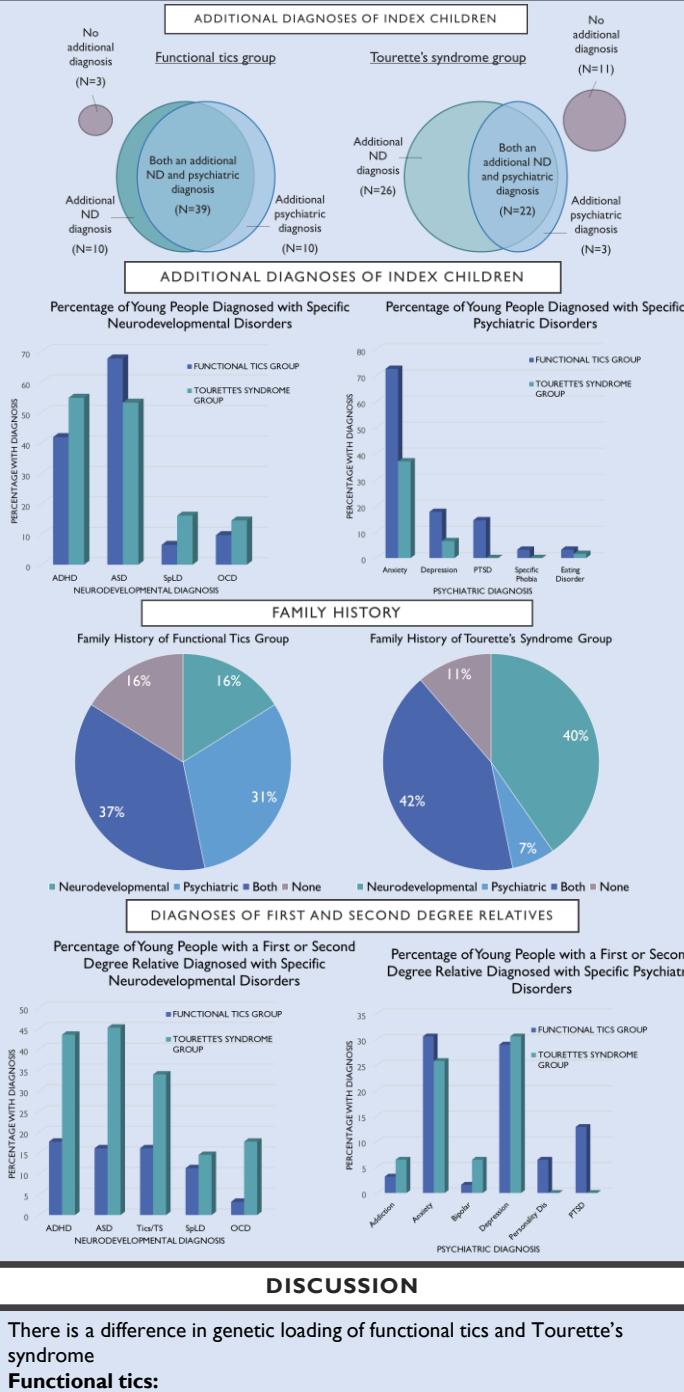
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RESULTS



DISCUSSION

There is a difference in genetic loading of functional tics and Tourette's syndrome

Functional tics:

- Marker for neurodevelopmental and psychiatric problems
- Associated with more psychiatric comorbidities

Tourette's syndrome:

- Associated with more neurodevelopmental comorbidities

Limitations:

- Unable to investigate environmental influence and link between parent & child diagnosis, particularly anxiety (Crosby et al., 2012)
- Limited sample size
- Would like to explore in the future with larger (international) sample

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