

DECREASING RISK FOR THE DEVELOPMENT OF EATING DISORDERS IN YOUNG PEOPLE

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TALK MAP

- UNDERSTANDING THE PHENOTYPE
- THE ENVIRONMENT MATTERS
- HOW CAN PARENTS HELP THEIR CHILD DEVELOP RESILIENCE?



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UNDERSTANDING THE PHENOTYPE

WAVE 1: 699 females twins aged 12 to 14

WAVE 2: 669 twins aged 13 to 17

WAVE 3: 499 twins aged 15 to 19



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The same is true of disordered eating

Genetic influences and non-shared environmental influences increase over adolescence, but shared environmental influences decreases.

While non-shared environmental sources active at ages 12-15 continued to contribute at 16-19 years, new sources of both additive genetic and non-shared environmental risk were introduced at ages 16-19.

Fairweather-Schmidt AK, Wade TD. (2015). Changes in genetic and environmental influences on disordered eating between early and late adolescence: A longitudinal twin study. *Psychological Medicine*, 45, 3249-3258.

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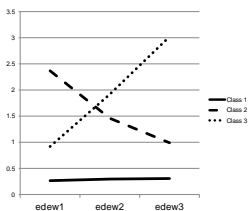
Genome-wide association study identifies eight risk loci and implicates metabo-psychiatric origins for anorexia nervosa Hunna J. Watson et al.*

(2019). Anorexia Nervosa Genome-wide Association Study Identifies Eight Loci and Implicates Metabo-Psychiatric Origins. *Nature Genetics*, 51, 1207-1214.

Characterized primarily by a low body-mass index, anorexia nervosa is a complex and serious illness affecting 0.3–4% of women and 0.3% of men with twin-based heritability estimates of 50–60%. Mortality rates are higher than those in other psychiatric disorders, and outcomes are unacceptably poor. Here we combine data from the Anorexia Nervosa Genetics Initiative (ANGI) and the Eating Disorders Working Group of the Psychiatric Genomics Consortium (PGC-ED) and conduct a genome-wide association study of 16,992 cases of anorexia nervosa and 55,525 controls, identifying eight significant loci. The genetic architecture of anorexia nervosa mirrors its clinical presentation, showing significant genetic correlations with psychiatric disorders, physical activity, and metabolic (including glycaemic), lipid and anthropometric traits, independent of the effects of common variants associated with body-mass index. These results further encourage a reconceptualization of anorexia nervosa as a metabo-psychiatric disorder. Elucidating the metabolic component is a critical direction for future research and paying attention to both psychiatric and metabolic components may be key to improving outcomes.

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What increases risk?

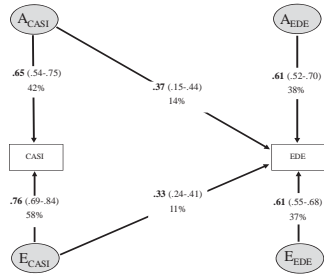


VARIABLE	OR class 1 vs class 3
Sensitivity to punishment	2.64 (1.21-5.74)
Ineffectiveness	2.42 (1.52-3.87)
Body dissatisfaction	1.99 (1.33-2.98)
Perceived pressure to be thin	2.84 (1.37-5.89)
Internalization of the thin ideal	3.19 (1.89-5.39)

Fairweather-Schmidt AK, Wade TD. (2016). Characterizing and predicting trajectories of disordered eating over adolescence. *Journal of Abnormal Psychology*, 125, 369-380.

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Fairweather-Schmidt K, Wade TD. (2020). Does common genetic architecture and environmental risk factors underpin the anxiety-disordered eating relationship? Findings from an adolescent twin cohort. *International Journal of Eating Disorders*, 53, 52-60:55

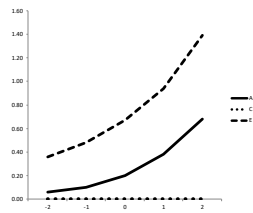


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Weight-related peer teasing represents a particularly powerful trigger for disordered eating

As levels of peer teasing increased, both genetic and environmental influences on disordered eating strengthened; however, genetic sources increased proportionally more than environmental sources.

Fairweather-Schmidt AK, Wade TD. (2017). Does peer-teasing moderate genetic and environmental risk for disordered eating? *British Journal of Psychiatry*, 210, 350-355.



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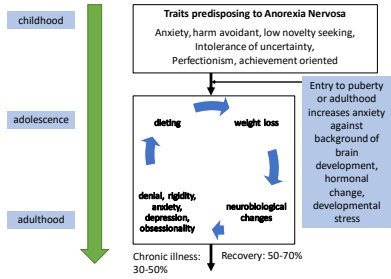
Social media: an avenue to weight dissatisfaction

Cross-sectional Wilksch SM, O'Shea, A., Ho P, Byrne, SM, Wade TD. (2020). The relationship between social media use and disordered eating in young adolescents. *International Journal of Eating Disorders*, 53, 96-106.

Longitudinal de Valle M, Gallego-García M, Wade TD. Social media, body image, and the question of causation: Meta-analysis of experimental and longitudinal evidence. *Body Image*. doi: 10.1016/j.bodyim.2021.10.001

- 996 adolescents (n = 534 girls; M age=13.08)
- Disordered eating behaviors reported by 51.7% of girls, 45.0% of boys; strict exercise and meal skipping (for weight purposes) the most common
- 75.4% of girls and 69.9% of boys had at least one SM account; more accounts were associated with higher levels of disordered eating
- Greater daily time spent using Instagram associated with significantly higher levels of disordered eating and behaviours for girls
- Social media appearance-ideal images in experimental settings had a moderate negative effect on body image
 - Hedges' g = -0.46, 95% CI: -0.64 to -0.27
- Social media use also had a small, negative correlation with body image longitudinally
 - r = -0.17, 95% CI: -0.22 to -0.11

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The environment matters

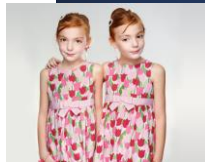
A trait does not mean a life sentence – harmful traits can be decreased and managed

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Environment can be very influential

Across numerous twin studies, genetic influences account for 52% of the estimated median variance contributing to eating disorder aetiology

Culbert, Racine, & Klump, 2015



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The dynamic interplay between genes and the environment

Harry unrapped his chocolate frog and picked up the card. It showed a man's face. He wore half-moon glasses, had a long crooked nose, and flowing white hair, beard, and mustache. Underneath the picture was the name Albus Dumbledore... Harry saw, to his astonishment, that Dumbledore's face had disappeared.

"He's gone!"
"Well, you can't expect him to hang around all day," said Ron. "He'll be back."
"... But in, you know, the Muggle world, people just stay put in photos."
"Do they? What, they don't move at all?" Ron rounded around. "Word?"
Rowling, 1997, p. 103

Genetic influences are not static like subjects in Muggle photos. Instead, they are like subjects in wizard photos - they transact or interplay with each other, sometimes strongly present, other times asleep or even absent.



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Epigenetics underlines importance of environment to modify genetic action

The environment can cause heritable changes in expression of genetic action that does not involve changes to the underlying DNA sequence; a change in phenotype without a change in genotype

Possible epigenetic triggers
Adverse life events
Change in dietary intake – restriction or overconsumption
Puberty

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HOW CAN PARENTS HELP THEIR CHILD DEVELOP RESILIENCE?

EATING TOGETHER AND PROBLEM SOLVING OVER THE MEAL

EARLY INTERVENTION FOR ANXIETY

MANAGING SOCIAL MEDIA

MANAGING EXPECTATIONS – FROM SELF AND OTHERS



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Perfectionism

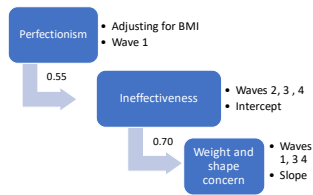
Make a supreme effort to root out self-love from your heart and to plant in its place this holy self-hatred. This is the royal road by which we turn our backs on mediocrity, and which leads us without fail to the summit of perfection.

Saint Catherine of Sienna, 1347-1380



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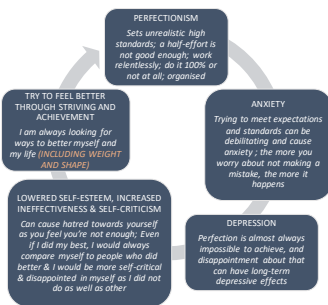
Perfectionism predicts growth of weight and shape concern in children aged 13 years over a 12-month period



Wade TD, Wilkisch SM, Paxton SJ, Byrne SM, Austin SB. (2015). How perfectionism and ineffectiveness influence growth of eating disorder risk in young adolescent girls. *Behavior Research and Therapy*, 66, 56-63.

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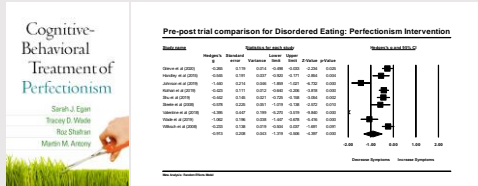
Model informed by youth with lived experience



Wade TD, Egan, SJ, Witeklnski M, O'Brien A, Fitzallen G, Shafran R. (2021). A realist synthesis of websites containing content on perfectionism: Are the descriptions and advice empirically supported? *BMC Psychology*, 9, 19

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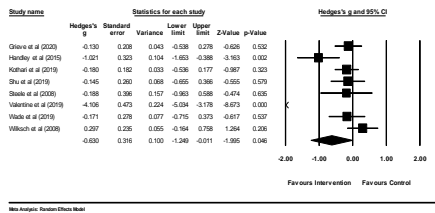
Cognitive behaviour therapy is associated with a reliable decrease in perfectionism, anxiety, depression, and disordered eating



Robinson K, Wade TD. (2021). Perfectionism interventions targeting disordered eating: A systematic review and meta-analysis. *International Journal of Eating Disorders*, 54, 473-487

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Post-trial comparison for Disordered Eating: Perfectionism Intervention vs Control Condition



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Delivered in classroom settings (mean age 14), those who received the intervention had significantly lower perfectionism, self-criticism and depression/anxiety than controls at 6-month follow-up.

Nehmy T, Wade TD. (2015). Reducing the onset of negative affect in adolescents: Evaluation of a perfectionism program in a universal prevention setting. *Behaviour Research and Therapy*, 67, 55-63.

Successfully delivered as an internet intervention, reducing depression and anxiety in university students.

Wade TD, Kay E, de Valle MK, Egan SJ, Andersson G, Carlbring P, Shafran R. (2019). Internet-based cognitive behaviour therapy for perfectionism: More is better but no need to be prescriptive. *Clinical Psychology*, 23, 159-205.

Internet treatment for perfectionism results in significant reductions in disordered eating, anxiety and depression and prevention of depressive symptoms in youth aged 14-19 years.

Shu CY, Watson HJ, Anderson RA, Wade TD, Kane RT, Egan SJ. (2019). A randomized controlled trial of unguided internet cognitive behaviour therapy for perfectionism in adolescents: Impact on risk for eating disorders. *Behaviour Research and Therapy*, 120, 103432.

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How do we change perfectionism?

The first step is differentiate it from achievement, the second is to soften the ambivalence about changing perfectionism: exploring perceived advantages and disadvantages

Beliefs that maintain perfectionism

- Perfectionism leads to success, working hard, organisation
- Self-criticism is a way to beat more and better performance out of oneself and to prevent mediocrity

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Psycho-education about high standards versus perfectionism

The Perfectionist

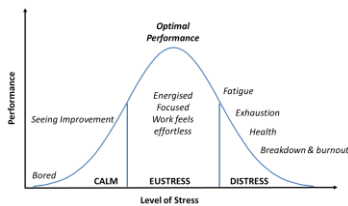
- Tend to be pushed toward their goals by a fear of not reaching them
- Set their initial goals out of reach
- Beat themselves up much more and negative feelings persist when their high expectations go unmet
- Much more afraid to fail than most people
- Take constructive criticism defensively
- Self-critical – believe that beating themselves up will get better results
- Worry so much about doing something imperfectly that they become immobilized and fail to do anything

The High Achiever

- Tend to be pulled toward their goals by a desire to achieve them
- Set their goals high, enjoying going a little further once goals are reached
- Bounce back fairly easily from disappointment, get back on the bike more quickly
- Don't enjoy failure but see it as a way to get better
- See criticism as valuable information to help their future performance
- More likely to exhibit self-compassion
- More likely to approach valued goals

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Yerkes-Dodson Law



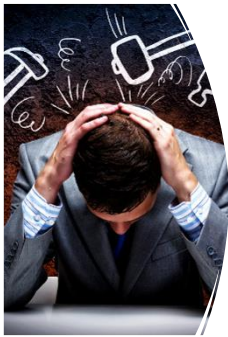
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Normalising mistakes and failure and understanding their benefit

Kintsugi: traditional Japanese art uses a precious metal – liquid gold, liquid silver or lacquer dusted with powdered gold – to bring together the pieces of a broken pottery item and at the same time enhance the breaks



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The truth about self-criticism

Associations of self-criticism (e.g., "I tend to be very critical of myself") and self-oriented perfectionism (e.g., "I must work to my full potential at all times") with goal pursuit across (i) university students, (ii) musicians, and (iii) obese people trying to decrease their weight.

A consistent pattern of negative association between self-criticism and goal progress i.e., a higher level of self-criticism is associated with lower levels of progress towards valued goals.

High standards that are well integrated into the sense of self and devoid of harsh, self-critical, evaluative concerns produce better performance.

Powers, Koestner, Zuroff, Milyavskaya & Gorin (2011)

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The functionality of self-compassion

Based on Paul Gilbert's work

Required to balance drive and anxiety so we can get back on the bike as soon as possible when we fall off and get on with our lives



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Opposing beliefs tested in behavioural experiments

"Alice laughed. 'There's no use trying,' she said. 'One can't believe impossible things.'

'I daresay you haven't had much practice,' said the Queen. 'When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast.'



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Conclusion

Tackling perfectionistic beliefs is indicated as a powerful way to decrease risk for eating disorders in young people



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Acknowledgements

- NHMRC funding for the twin research
- The many colleagues who have worked with me over the years with a shared aim of doing high quality, informative and useful research that improves the lives of people with disordered eating
- People with lived experience who keep encouraging me to find solutions that work



QUESTIONS



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