A large, abstract orange watercolor splash on the left side of the slide, with various shades of orange and red, and some darker spots.

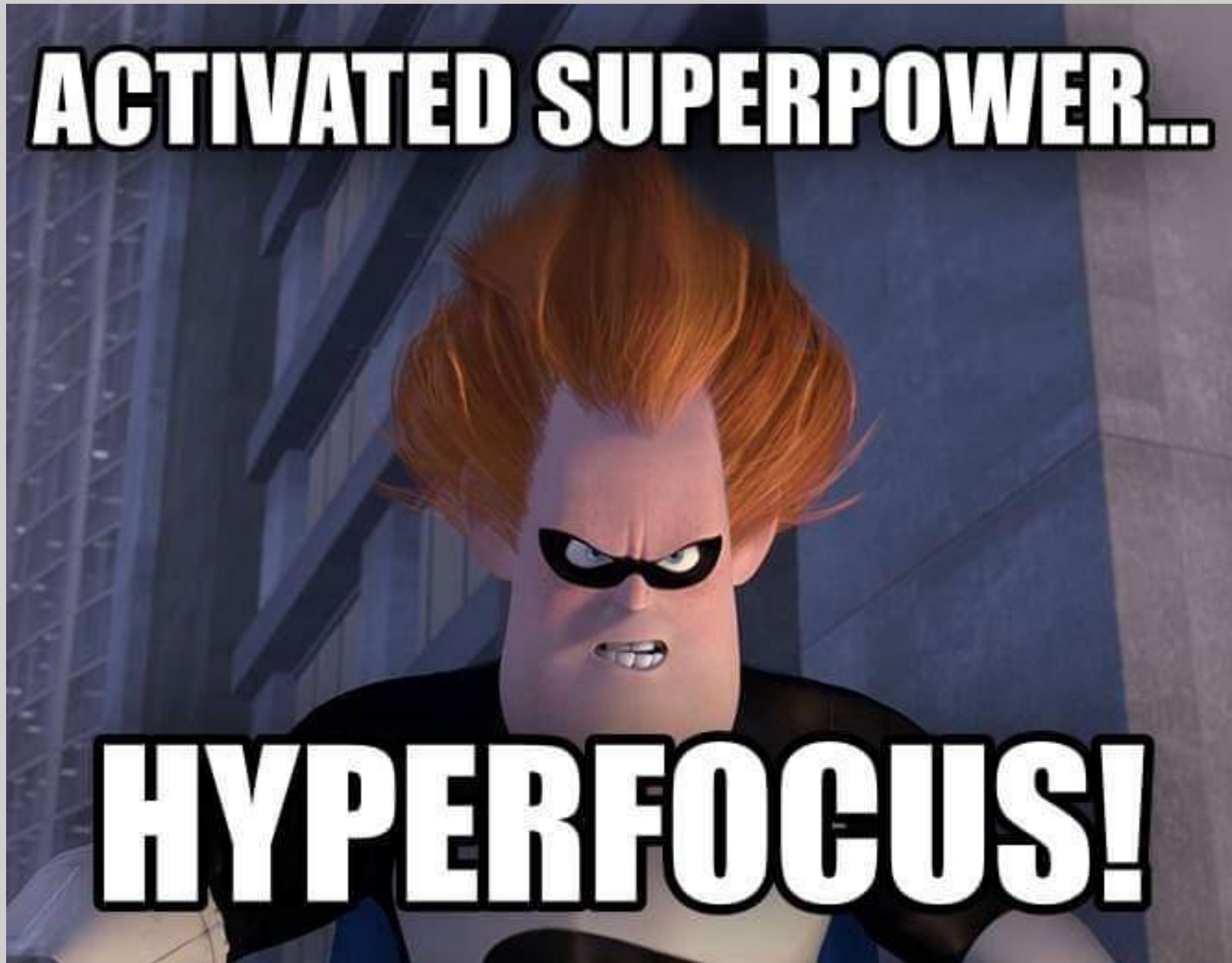
Broadening our
Perspective of
Autistic
Hyperfocus

Rachel Fricker

Doctoral Researcher

Sussex Attention Lab, School of
Psychology, University of Sussex

Supervisors: Sophie Forster and
Nicola Yuill



(CHADD -Children and Adults with ADHD)



What is Hyperfocus?

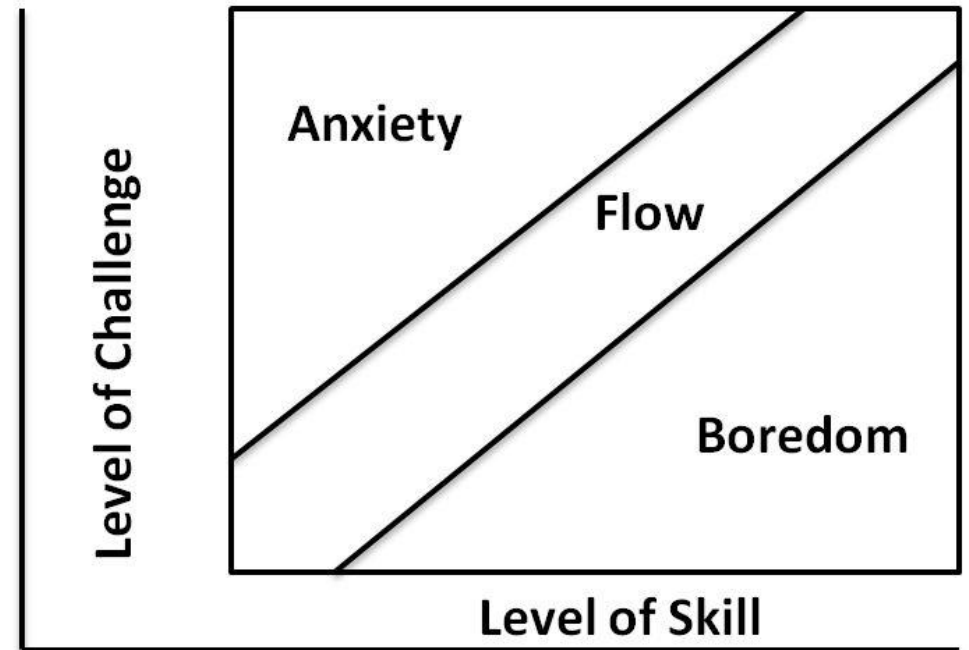
- Intense state of concentration/focus
 - Reduced awareness of external stimuli
 - The task being enjoyable or salient
 - Improved task performance
- (Ashinoff & Abu-Akel, 2019)



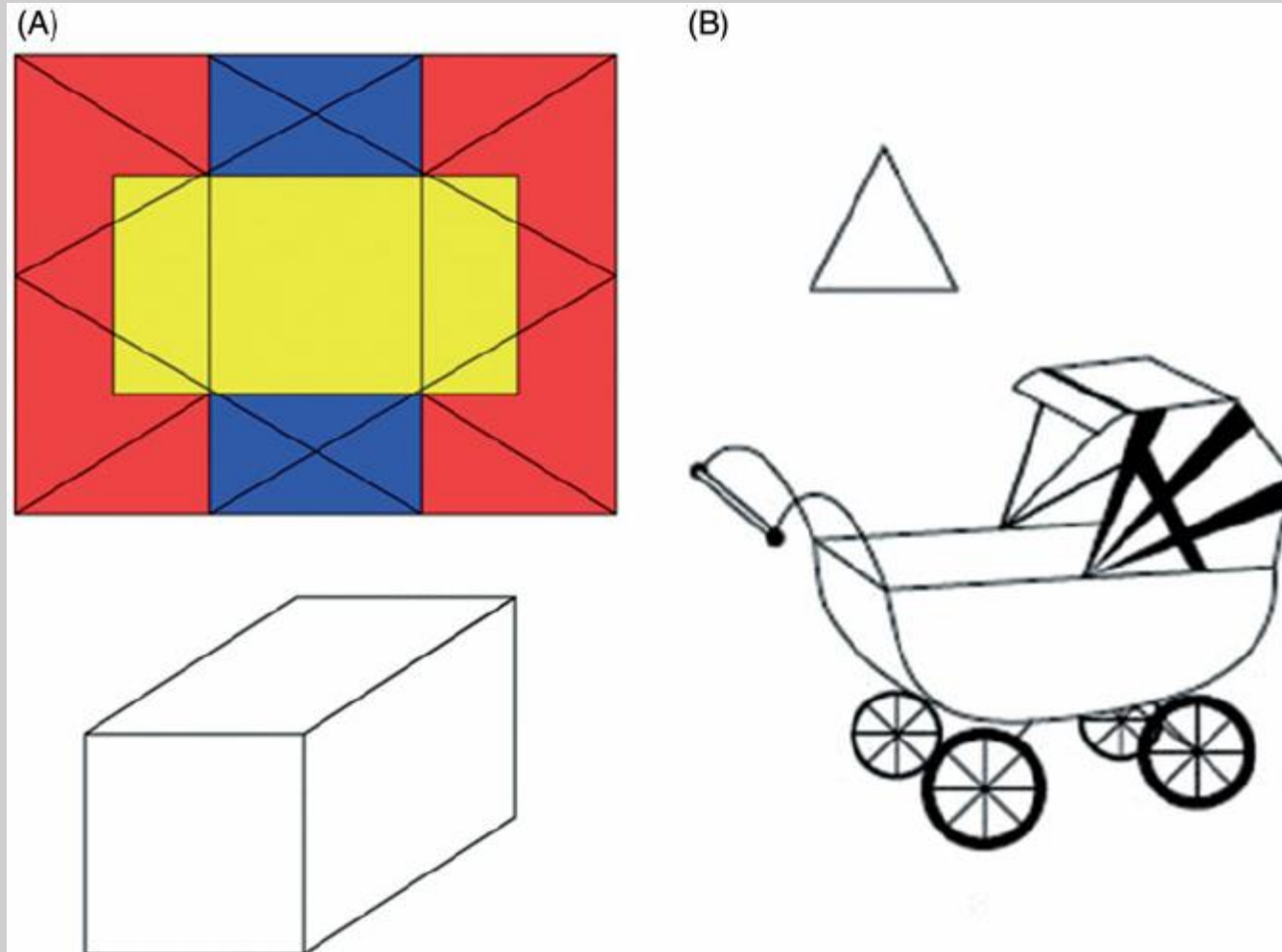
Population trait

- Flow –optimal state of being (Milhay Cskikszenmihalyi, 1990)

Autistic restricted and repetitive behaviours are argued to frequently have characteristics of the 'flow state' (McDonnell & Milton, 2014)



Does task performance relate to improved attention to details?



Shah & Frith, 1983;
Jolliffe & Baron Cohen,
1997

how my brain works.



"at each moment I must choose to focus on one thing or the other, and once I've focused on one thing, then the other disappears"
(<https://aspectsofaspergers.wordpress.com>)

What about task disengagement?

Monotropism (Murray, Lesser & Lawson, 2005)

- Attention as a limited resource
- Attention tunnel –naturally focused but difficult to reorient
- As opposed to a polytropic experience of dividing attention between multiple salience – such as through communication

Intense world model (Markram & Markram, 2010)

- hyper-reactivity and hyper-plasticity of local neural microcircuits
- 'enhanced sustained attention to topics of interest,' and difficulty disengaging or shifting attention

Preregistered Hypotheses

- Autistic traits predict reported hyperfocus experiences
- This effect will not be *fully* mediated by ADHD symptoms

- Task switching difficulty predicts hyperfocus experiences
- This effect will not be *fully* mediated by ADHD symptoms

- Attention to details predicts hyperfocus experiences
- This effect will not be mediated by ADHD symptoms

Adult Hyperfocus Questionnaire (Hupfeld, Abagis & Shah, 2019)

- Developed to measure hyperfocus experiences of people with ADHD
- 4 subscales –dispositional, screen time, hobbies, school
- Each subscale contains 12 items people are asked to mark how often they have experienced in the past year

“In general, when I am busy doing something I enjoy or something that I am very focused on, I forget to attend to my personal needs (e.g. I forget to sleep or eat or I wait until the last minute to go to the bathroom).”

- 6 point likert scale from ‘Never’ to ‘Daily’

Broad autism phenotype questionnaire (BAPQ) (Hurley, et al, 2007)

- 36 questions -Asked to rate items on how you generally have been as an adult within relationships outside of immediate family or long term romantic partner
- 3 subscales: aloof personality, rigid personality, pragmatic language
 - “*I feel disconnected or 'out of sync' in conversations with others*”
 - “*I have to warm myself up to the idea of visiting an unfamiliar place*”
- Six-point likert scale, from very rarely (1) to very often (6)
- 15 items reverse scored
- Best incremental validity in comparison with other trait measures (Ingersoll, et al, 2011)

Autism Spectrum Quotient (AQ) (Baron-Cohen, et al, 2001)

- 50 items and 15 items are reverse scored
- 5 subscales: imagination, communication, **attention to detail**, **attention-switching** and social skill.

“I tend to notice details that others do not.”

“I find it easy to do more than one thing at once.”

- Items are scored 0 or 1 on a 4-point likert scale. Answers of ‘definitely agree’ or ‘slightly agree’ scoring 1, whereas answers ‘definitely disagree’ and ‘slightly disagree’ score 0

Adult Self Report Scale of ADHD symptoms (ASRS 1.1) (Kessler, et al, 2005)

- Measures current adult ADHD symptoms asking participants to rate items over the past 6 months
 - 18 items that reflect the diagnostic criteria for ADHD in the DSM IV TR
- “ How often do you have problems remembering appointments or obligations?”
- Scoring 1 or 0 ‘never’ ‘rarely’ ‘sometimes’ ‘often’ or ‘very often’
 - Specificity of scoring method 98.3%

Participants

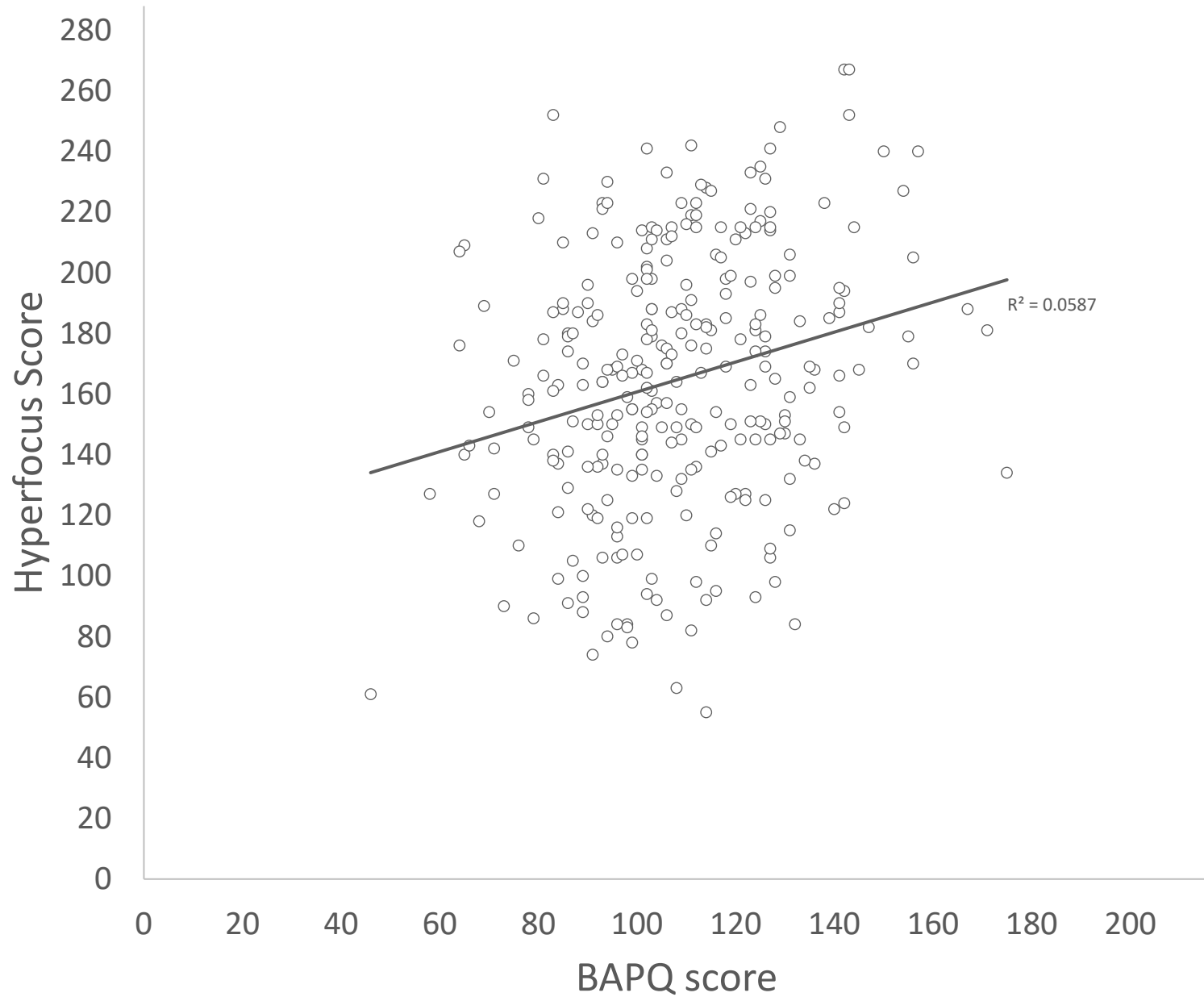
341 students gave consent – 41 did not complete the study and a further 9 were excluded due to *extremely* fast completion times

291 undergraduate psychology students data retained and analysed

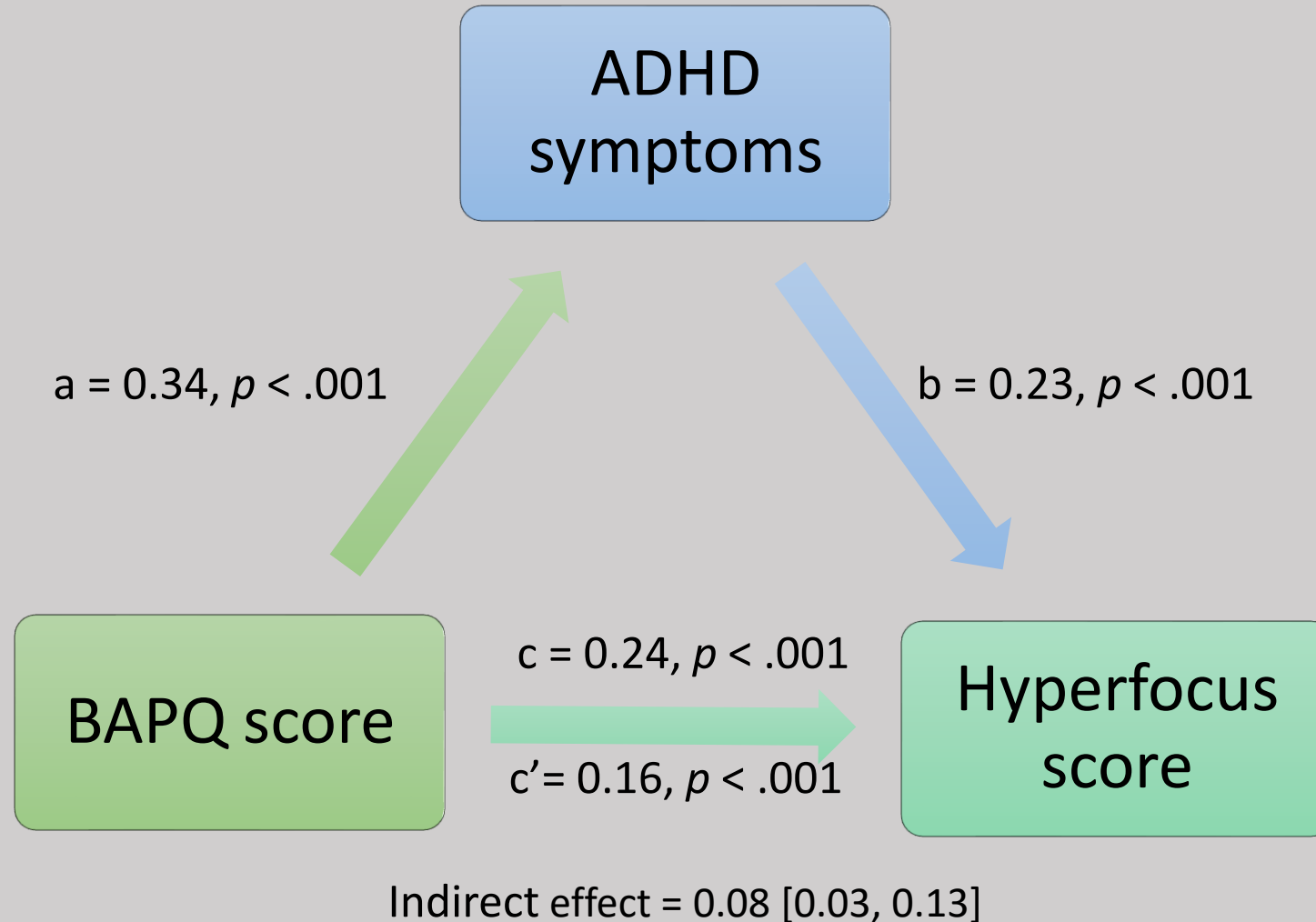
241 female, 49 male, 1 non-binary

18 - 54 years $M = 19.52$, $SE, = 0.16$

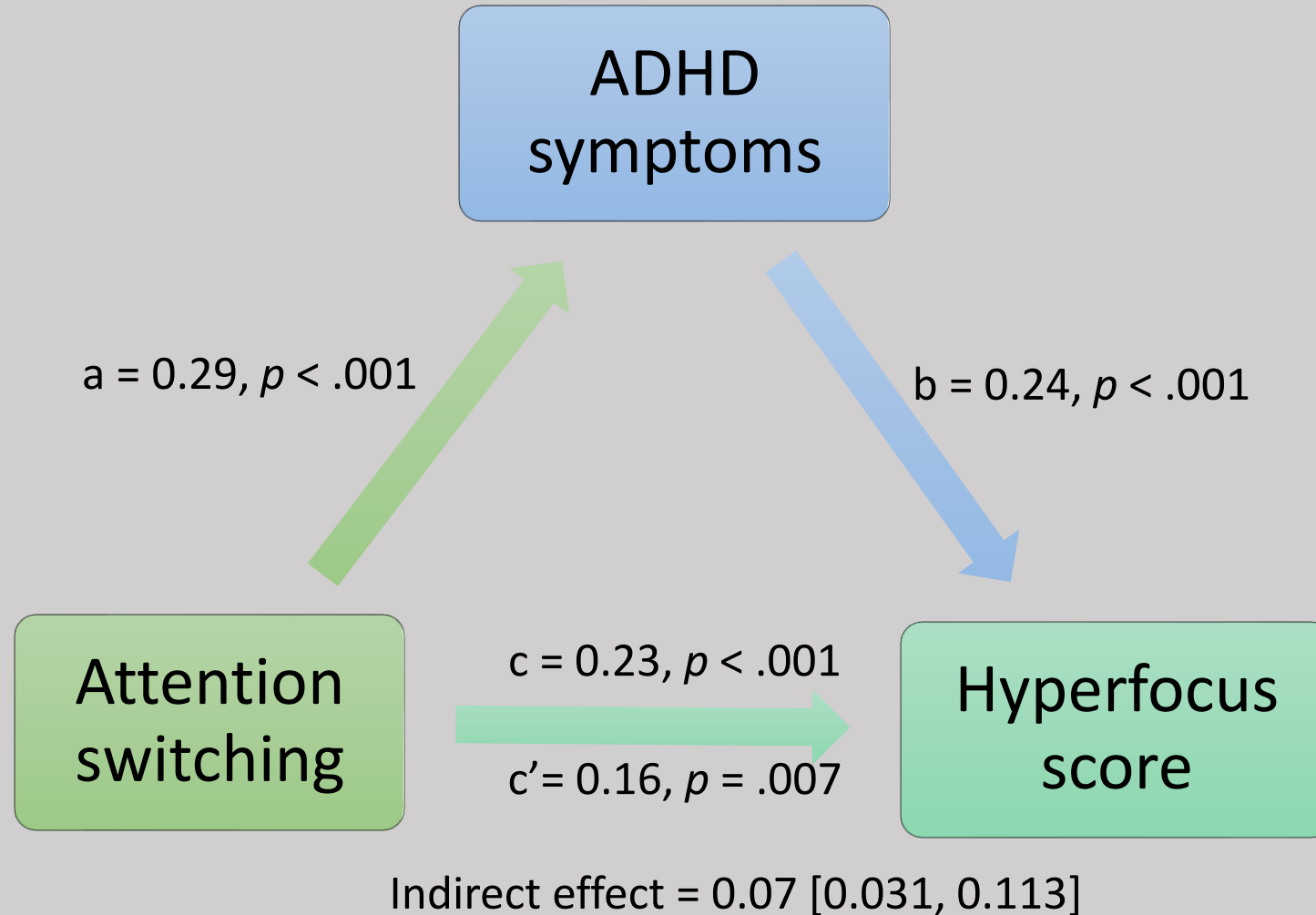
Relationship between autistic traits and hyperfocus



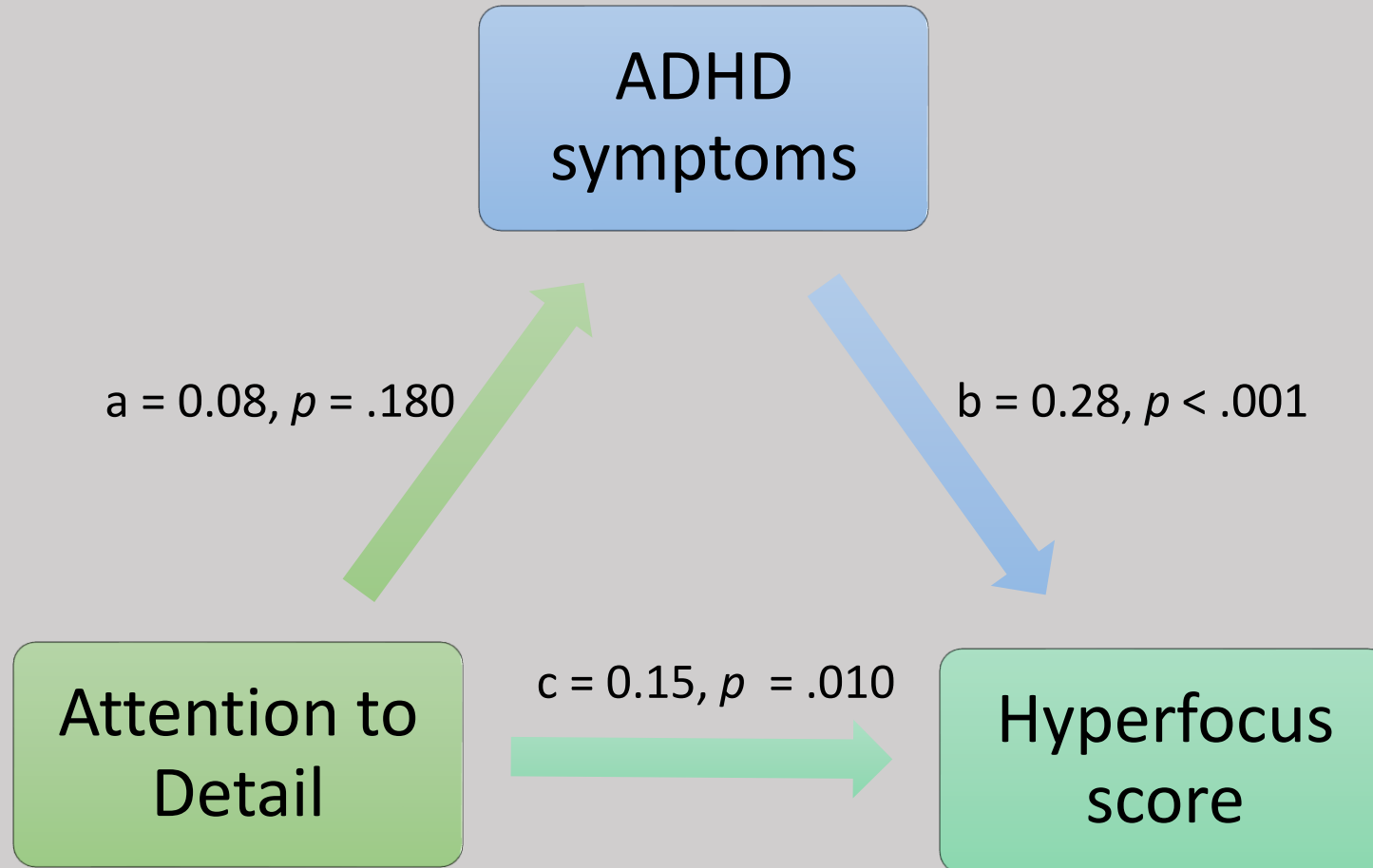
BAPQ -Significantly but not fully mediated



Attention switching significantly but not fully mediated



Attention to Detail not mediated by ADHD



Relationships with hyperfocus

	<i>r</i>	<i>p</i>
BAPQ	0.242	<0.001*
Pragmatic language	0.272	<0.001*
Rigid personality	0.173	0.003*
Aloof personality	0.143	0.015

	<i>r</i>	<i>p</i>
AQ	0.274	<0.001*
Attention switching	0.229	<0.001*
Attention to detail	0.150	0.01*
Communication	0.255	<0.001*
Social skills	0.037	0.593
Imagination	0.038	0.656

Atypical communication as a potential result?

Communication

“Other people frequently tell me that what I’ve said is impolite, even though I think it is polite.”

“When I’m talking sometimes it’s hard for other people to get a word in edgewise”

Social Skills

“I prefer to do things with others rather than on my own.”

“I find myself drawn more strongly to people than to things.”

Summary of Findings

Autistic traits and attention switching predict hyperfocus independently of ADHD

Attention to detail predicts hyperfocus but **NOT** ADHD symptoms

Unexpected finding: hyperfocus and communication

**Thanks for
listening!**



**Thank
You**

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