



PURDUE
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Misdiagnosis



Further Research To Support The Idea of Misdiagnosis of Giftedness as ADHD

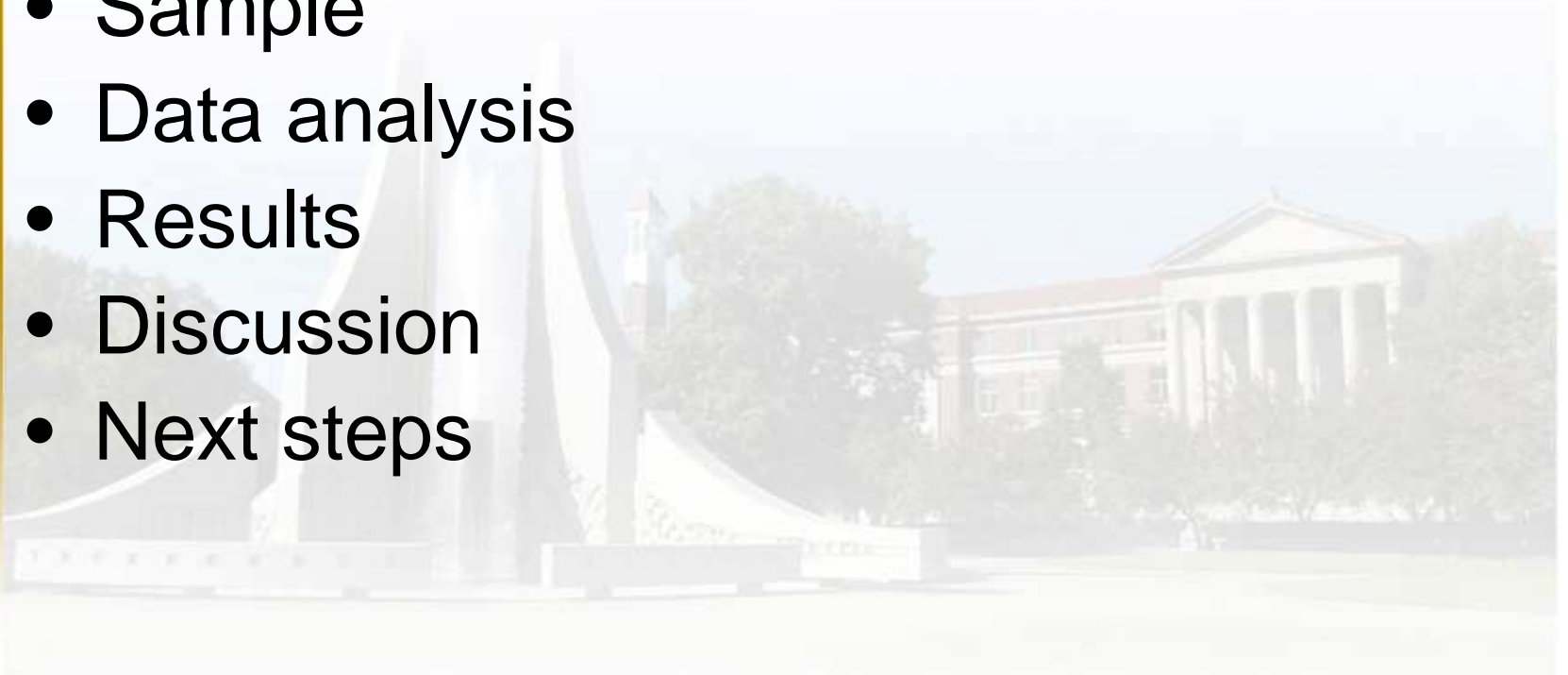
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Overview

- Background to this study
- Theoretical rationale
- Research questions
- Sample
- Data analysis
- Results
- Discussion
- Next steps



Study Background

- Identification and understanding of learning difficulties and capabilities is important in order for teachers to address students' learning needs.
- The availability of a variety of instruments provides flexibility for customizing identification procedures to the needs of students and to programs offered.
- Variety also provides opportunities for errors in diagnoses, identification, and interpretation of results.

Study Background(2)

- A study investigating the overlap of items in the Conners' Rating Scale (CRS: Conners, 1997) and the Overexcitabilities Questionnaire – Two (OEQII: Falk, Lind, Miller, Piechowski, & Silverman, 1999) was done prior to this study.

Previous Study

Conners Teacher (S)	OEQ II Psychomotor Over Excitability									
	I am a competitive person	If an activity is physically exhausting, I find it satisfying	I love to be in motion	When I have a lot of energy, I want to do something really physical	I am more energetic than most people my age	The longer I have to sit still, The more restless I get	I feel like my body is constantly in motion	When I am nervous, I need to do something physical	I am the type of person who has to be active - walking, cleaning, organizing, doing something	I thrive on intense physical activity, e.g. fast games and sports
Inattentive, easily distracted						X			X	
Defiant										
Restless in the "squirmy" sense			X	X		X	X		X	
Forgets things he/she has already learned										
Disturbs other children										
Actively defies or refuses to comply with adults' requests										
Is always "on the go" or acts as if driven by a motor			X	X	X				X	X
Poor in spelling										
Cannot remain still						X	X			
Spiteful or vindictive				X		X	X			
Leaves seat in classroom or in other situations in which remaining seated is expected			X	X			X		X	
Fidgets with hands or feet or squirms in seat										
Not reading up to par										
Short attention span										
Argues with adults										
Only pays attention to things he/she is really interested in										
Has difficulty waiting his/her turn										
Lacks interest in school work										
Distractibility or attention span a problem										
Temper outbursts; explosive, unpredictable behavior										
Runs about or climbs excessively in situations where it is inappropriate			X			X				
Poor in arithmetic										
Interrupts or intrudes on others (e.g. butts into others' conversations or games)										
Has difficulty playing or engaging in leisure activities quietly		X	X	X	X					
Fails to finish things he/she starts										
Does not follow through on instructions and fails to finish schoolwork										
Excitable, impulsive							X	X	X	
Restless, always up and on the go			X	X						

ADHD

- ADHD Defined as:
 - six or more symptoms of inattention or hyperactivity or impulsivity that have persisted for a period of six months, are inconsistent with development, and affect normal social behaviors. These symptoms must be present before the age of seven and must be present in two or more settings, such as school and home. Finally, there must also be clear impairment in social, academic, or emotional functioning .

(American Psychological Association, 2000)

Overexcitabilities

- Overexcitabilities (OEs) defined as:
 - Dabrowski (1972) defined OEs as intense psychological sensory experiences resulting from neuron sensitivity.
 - He identified five intensities: psychomotor, intellectual, imaginal, sensual, and emotional.

Gifted Identification

- Many issues confound the process of student identification for gifted programming.
- Many Theories of giftedness.
- These theories are filtered through cultural, social, academic, and educational lenses (Borland, 2004) as well as interpreted by those who design gifted education programs.

Gifted identification(2)

- When the behaviors purported to indicate giftedness are similar to or even the same as those associated with other less desirable conditions such as ADHD, misdiagnosis or misinterpretation can become problematic (Gates, 2007).

Identification Methods

- It is inadvisable to base a diagnosis of any kind on one type of test or one testing instance.
- This lack of multiplicity in the identification process has resulted in under-representation of some population groups and may also contribute to the misdiagnosis of giftedness as ADHD.

Research Questions

The following research questions guided this study:

1. How are gifted and ADHD behaviors of gifted students related to those of general students as measured by the CADS-A (Conners, 1997) and OEQII (Falk et al., 1999)?
2. What is the nature and extent of the correlations among subscales of the OEQII and the CADS-A on a sample of gifted fifth and sixth grade students?
3. How might educators and clinicians use both the CADS-A (Conners, 1997) and the OEQII (Falk et al., 1999) to better understand the etiology of students' behaviors?

Sample

- Purposive sample of 5th through 12th grade students ranging in age from 10 to 18 years (n=71)
- Participants attended a residential summer program for gifted students at a university in the Midwest.
- This group of students was chosen because they were already identified as gifted and none of them were diagnosed with ADHD.
- Forty-three students were male.
- Ethnic backgrounds: 51% white, non-Hispanic, 27% Asian, 8% African American, 5% Hispanic, 2% Native American, and 7% other.

Instruments

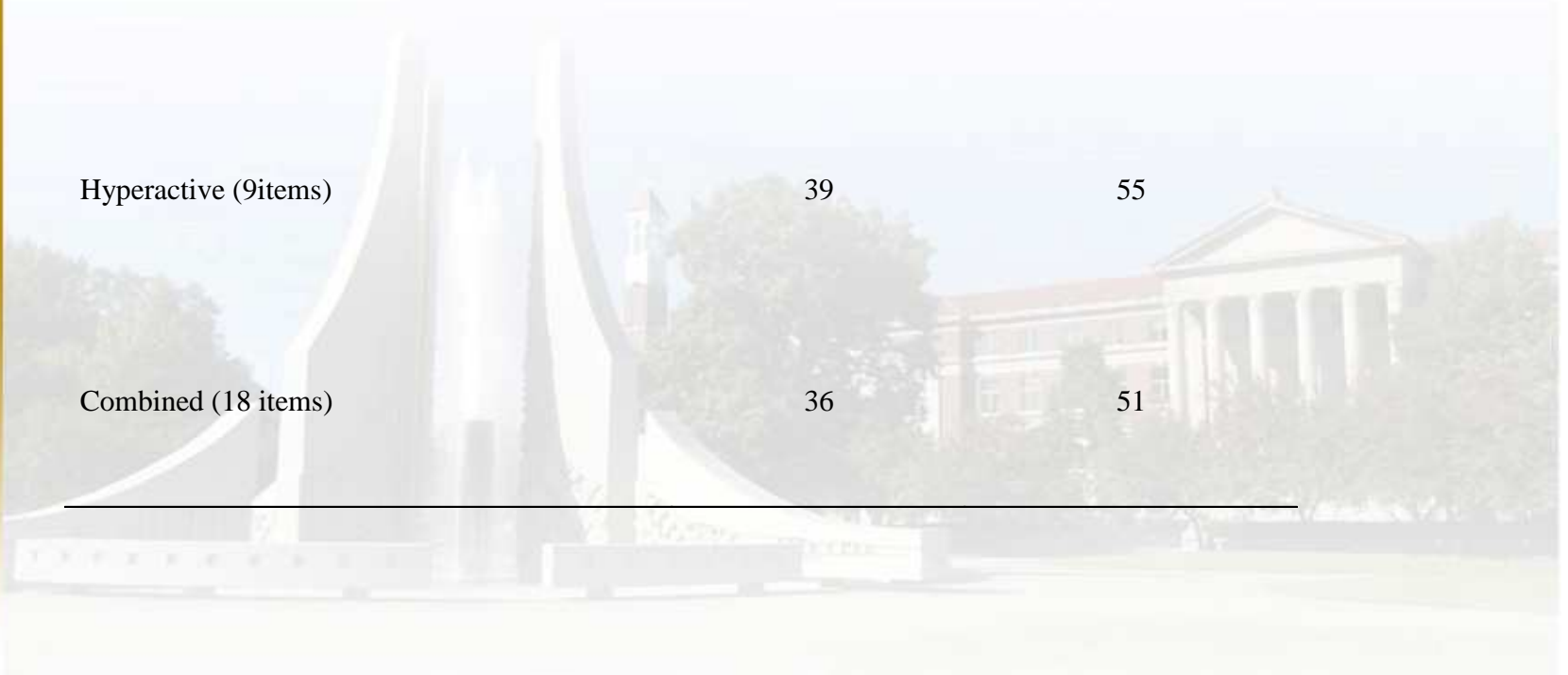
- **Conners' ADHD/DSM-IV Short Form – Adolescent (CADS-A)**
- **Overexcitabilities Questionnaire – Two (OEQII)**



Results

Table 1. *Scores ≥ 6 on CADS-A Subscales for Study Participants*

CADS-A Subscale	Number	Percentage
Inattentive (9 items)	40	56
Hyperactive (9 items)	39	55
Combined (18 items)	36	51



Results(2)

Table 2. Scores on OEQII – Overexcitability for Study Participants and Normative Sample

OEQII Overexcitability	Gifted Sample			Normative Sample		
	Number	Mean Subscale Score	Standard Deviation	Number	Mean Subscale Score	Standard Deviation
Psychomotor	71	3.04	0.95	875	3.35	0.79
Sensual	71	2.77	0.98	876	3.28	0.87
Imaginational	71	2.61	1.01	876	2.86	0.83
Intellectual	71	3.55	0.803	872	3.5	0.79
Emotional	71	2.87	0.83	879	3.72	0.77

Results(3)

Table 2. Scores on OEQII Subscales for Sample that Scored ≥ 6 on CADS-A Hyperactive Subscale

OEQ Subscale	<i>n</i> =39	
	Mean Score	Standard Deviation
Psychomotor	3.43	0.82
Sensual	2.92	1.03
Imaginational	2.88	1.01
Intellectual	3.72	0.76
Emotional	2.92	0.82

Results(4)

		OEQII - Psychomotor OE Items									
		Q2 I am a competitive person	Q7 If an activity is physically exhausting, I find it satisfying	Q10 I love to be in motion	Q15 When I have a lot of energy, I want to do something really physical	Q18 I am more energetic than most people my age	Q21 The longer that I have to sit still, the more restless I get	Q29 I feel like my body is constantly in motion	Q39 When I am nervous, I need to do something physical	Q42 I am the type of person who has to be active - walking, cleaning, organizing, doing something	Q50 I thrive on intense physical activity, e.g. fast games and sports
CADS-A Hyperactive Subscale Items	B10 I fidget (with hands or feet) or squirm in my seat	.126	.039	.217	.170	.274	.510	.365	.115	.274	.081
	B11 I leave my seat when I am not supposed to (e.g. in school)	.104	-.023	.138	.085	.012	.170	.106	.068	-.002	.073
	B12 I am restless or overactive	.156	.262	.329	.239	.330	.048	.400	.295	.118	.154
	B13 I have trouble playing or doing leisure activities quietly	.200	.087	.169	.159	.279	.412	.338	.052	.202	.190
	B14 I am always on the go	.255	.319	.361	.358	.336	.277	.267	.201	.353	.434
	B15 I talk too much	.197	.128	.144	.241	.329	.361	.471	.275	.346	.138
	B16 I give answers to questions before the questions have been completed	.295	.102	.279	.299	.287	.338	.474	.263	.305	.252
	B17 I have trouble waiting in line or taking turns with others	.178	.013	.189	.094	.154	.417	.175	.081	.038	.059
	B18 I interrupt others when they are working or playing	.055	.103	.243	.235	.162	.085	.178	.012	.147	.166

Figure 1. Item-level correlations for the CADS-A hyperactive subscale and the psychomotor OE.

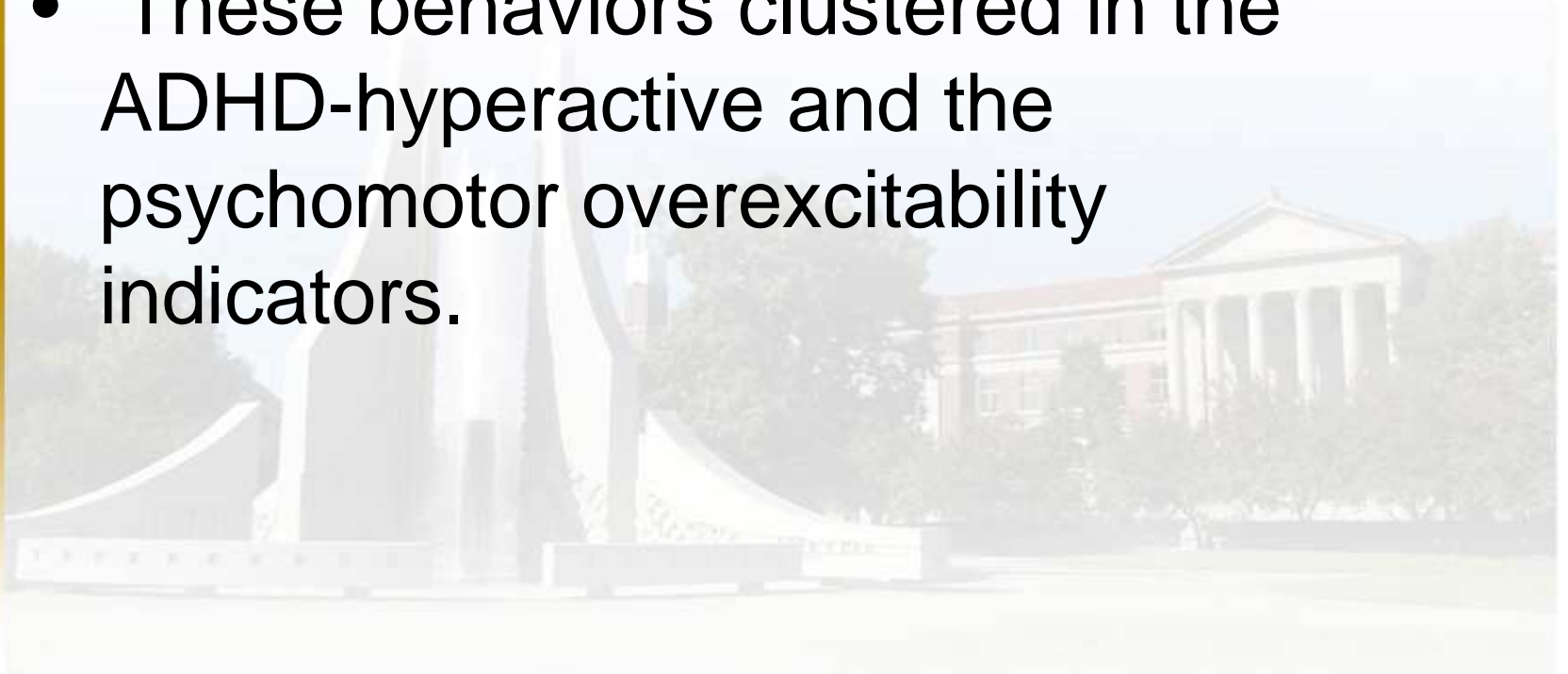
■ $p < .0001$ ■ $p < .001$ ■ $p < .05$

Discussion

- Correlations between instruments indicate that misdiagnosis may occur when the Conners' Rating Scale is used alone to diagnose ADHD.
- ADHD-like behaviors in this gifted sample were more prevalent than in the general population.
- This result furthers the understanding that a gifted population differs from the general population, with different characteristics and therefore different needs: socially, emotionally, and academically.

Discussion(2)

- The findings from this study imply that behaviors associated with both ADHD and giftedness are similar in nature.
- These behaviors clustered in the ADHD-hyperactive and the psychomotor overexcitability indicators.



Discussion(3)

- The adolescents in this study identified behaviors in themselves on both scales in a neutral environment during a summer program.
- This raises the question of how this information might be treated in a school setting if adults (parents, teachers, counselors) recorded the same information, especially on the ADHD scales.

In Conclusion

This study, although limited in its sample, offers evidence to confirm clinical and qualitative evidence and provides a basis for scaling up future research in this area to include a wider population, multiple informants, and other environments such as school and home.