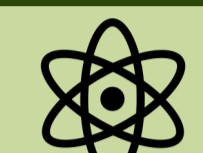# Special Education Placement of Students with Conduct Problems and Mental Health during Adulthood

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Introduction

Special education offers services, resources, and specialized assistances to <u>children with low academic performance and disruptive conduct</u> to mitigate their disadvantage and better prepare them for future employment and independent living.

Where does special education take place?

| Mainstream classroom | ⟷ | Other settings (e.g., special education classroom, specialized schools) |

Students can **transition** from one setting to another throughout compulsory education, creating various patterns of placement which can lead to unequal learning opportunities and health inequalities

Does placement in special education classroom influence the probability of receiving diagnosis of mental health and learning disorder in adulthood?

Objectives :
Investigate the link between patterns of classroom placement during compulsory education and later mental health diagnosis and learning disorder

Methods

Participants :
School-aged children (N= 302) who reached clinical cut-off of conduct problem at T1 (M age= 8.46 years)

Measures :
- **Diagnosis of learning disorder (DV)** at T12 (M age=19.49)
- **Diagnosis of mental health problems (DV)** at T12 : including depression, anxiety, ADHD, having any mental problems, and having comorbidity

Classroom Placement Groups (IV):
- No placement history (N= 127, 43% girls)
- Persistent placement (N= 36, 39% girls).
- Returning to mainstream (n= 56, 34% girls)
- Delayed placement (n= 83, 37% girls)

Control variables at T1: Sex; Low-income status (SFR); Type of family; Externalizing scores (CBCL)

Analytic strategy:
- Dichotomize the classroom placement group variable
- Chi-square tests to test preliminary associations
- Binary logistic regression to predict the probability of having a diagnosis of learning disorder/ mental health problem

Results

Table 1. Chi-square test: Associations between classroom placement groups during compulsory education and diagnosis of mental health problems and learning disorder in early adulthood

	No placement vs Others value	No placement vs Others sig	Persistent vs Others value	Persistent vs Others sig	Returning vs Others value	Returning vs Others sig	Delayed vs Others value	Delayed vs Others sig
Mental health indicators								
1. Diagnosed depression at T12	1.634	.201	.200	.654	1.524	.217	.437	.509
2. Diagnosed anxiety at T12	.086	.770	.264	.607	.017	.895	.009	.930
3. Diagnosed ADHD at T12	.042	.838	.006	.937	3.639	.056	3.702	.054
4. Diagnosed learning disorder at T12	**6.841**	**.009**	**3.262**	**.071**	.027	.869	2.348	.125
5. Any mental problem	.120	.729	.960	.327	2.277	.131	**5.589**	**.018**
6. Comorbidity	.032	.857	.420	.517	.015	.904	.118	.732

Table 2. Predicting the probability of <u>ADHD</u> for students returning to a mainstream classroom after placement in special education and students with delayed placement in special education classroom

	Model 1 sig	Model 1 OR	Model 1 95% CI low	Model 1 95% CI up	Model 2 sig	Model 2 OR	Model 2 95% CI low	Model 2 95% CI up	Model 3 sig	Model 3 OR	Model 3 95% CI low	Model 3 95% CI up
Indicators at T1												
Sex	.690	1.120	.641	1.958	.593	1.166	.664	2.048	.707	1.114	.635	1.952
Type of family	.818	.965	.712	1.308	.756	.952	.700	1.296	.981	.996	.731	1.357
SFR	.115	.917	.823	1.021	.096	.912	.818	1.017	.183	.928	.832	1.036
Externalizing score	.523	1.012	.977	1.048	.569	1.010	.975	1.047	.479	1.013	.978	1.049
Group indicator												
Returning vs Others					**.047**	2.254	1.010	5.032				
Delayed vs Others									.101	0.599	.326	1.10

Table 3. Predicting the probability of having a <u>learning disorder</u> for students with no placement history and students with persistent placement in special education classroom

	Model 1 sig	Model 1 OR	Model 1 95% CI low	Model 1 95% CI up	Model 2 sig	Model 2 OR	Model 2 95% CI low	Model 2 95% CI up	Model 3 sig	Model 3 OR	Model 3 95% CI low	Model 3 95% CI up
Indicators at T1												
Sex	.460	1.265	.678	2.359	.272	1.436	.753	2.738	.368	1.339	.710	2.526
Type of family	.934	.986	.701	1.386	.604	.910	.639	1.298	.996	1.001	.710	1.411
SFR	.859	1.011	.897	1.139	.661	.972	.858	1.102	.923	1.006	.892	1.134
Externalizing score	.198	.975	.938	1.013	.043	.959	.921	.999	.060	.962	.924	1.002
Group indicator												
No placement vs Others					**.002**	.320	.155	.663				
Persistent vs Others									**.016**	3.270	1.246	8.580

Table 4. Predicting the probability of having <u>any mental problem</u> for student with delayed placement in special education classroom

	Model 1 sig	Model 1 OR	Model 1 95% CI low	Model 1 95% CI up	Model 2 sig	Model 2 OR	Model 2 95% CI low	Model 2 95% CI up
Indicators at T1								
Sex	.084	1.733	.929	3.233	.081	1.751	.933	3.286
Type of family	.689	.935	.671	1.302	.901	.979	.696	1.376
SFR	.255	.933	.829	1.051	.399	.949	.841	1.072
Externalizing score	.931	1.002	.964	1.041	.875	1.003	.964	1.044
Group indicator								
Delayed vs Others					**.031**	.486	.252	.935

Discussion

Summary :
- Returning to a mainstream classroom after being placed in special education increased the risk of having a diagnosis of ADHD in early adulthood
- Having no placement history during compulsory education decrease the risk of having a learning disorder in adulthood, while having a persistent placement in special education increase such risk
- Children with a delayed placement were at lower risk of having any mental health disorder in comparison to other placement groups
- No significant associations were found between the classroom placement groups and later risk of depression, anxiety or having concurrent mental health problems

Conclusion:
- Patterns of placement in special education classrooms is differentially associated with mental health problems and learning disorder in early adulthood
- Having no classroom placement history or a delayed placement in special education classroom is preferable for preventing later mental health problems

Implication for policy:
- Moving towards an inclusive school culture that provide specialized services in mainstream classrooms based on and in response to student's unique needs should be reinforced
- School organizational-level policy about placement in special education classrooms should be adjusted in order to lower the risk of mental health problems

Futures studies and Limitations:
- Measure mental health by capturing positive psychological flourishing
- Investigate the mechanism explaining such association: socio-emotional skills development ?
- No information on duration and frequency of specialized services received by the students