

A Comparison of Students’ Perceptions of Stress in Parallel Problem-Based and Lecture-Based Curricula

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Introduction

What is stress?

Research asserts that stress is the mental state that results from an inability to cope (Burton 2004)

Why focus on stress?

- *Persistent stress can lead to serious psychological problems* such as interpersonal difficulties, depression, anxiety, and even suicide (Shapiro 2000)
- *Several studies have found up to a third of medical students experience stress-related problems*

The importance of this study comes from:

A review of the extant literature suggests there is **no** systematic inquiry of the effects of stress experienced by students in LBL and PBL curricula in **PA** education

Methods

Data: The provided data 155 observations, (101 LBL and 53 PBL students)

Tools: The analyses for this study were completed using SAS, specifically version 9.4.

Design: Quasi-experimental design was selected

Instrument: A simple 5-item measure with visual analog scale. This asked students “...Please indicate with an “X” on the (5) scales what you believe to be your current level of stress in relation to following factors: Family obligations, finances, school work, relocation, and overall. Note: 0 = totally free of stress, 10 = extremely highly stressed.”

Procedure:

Model 1

$$y = \beta_0 + \beta_1(Curricula) + \varepsilon$$

Model 2

$$y = \beta_0 + \beta_1(Curricula) + \beta_2(Family) + \beta_3(Financial) + \beta_4(Environment) + \varepsilon$$

Model 3

$$y = \beta_0 + \beta_1(Curricula) + \beta_2(Family) + \beta_3(Financial) + \beta_4(Environment) + \beta_5(Previous\ point) + \varepsilon$$

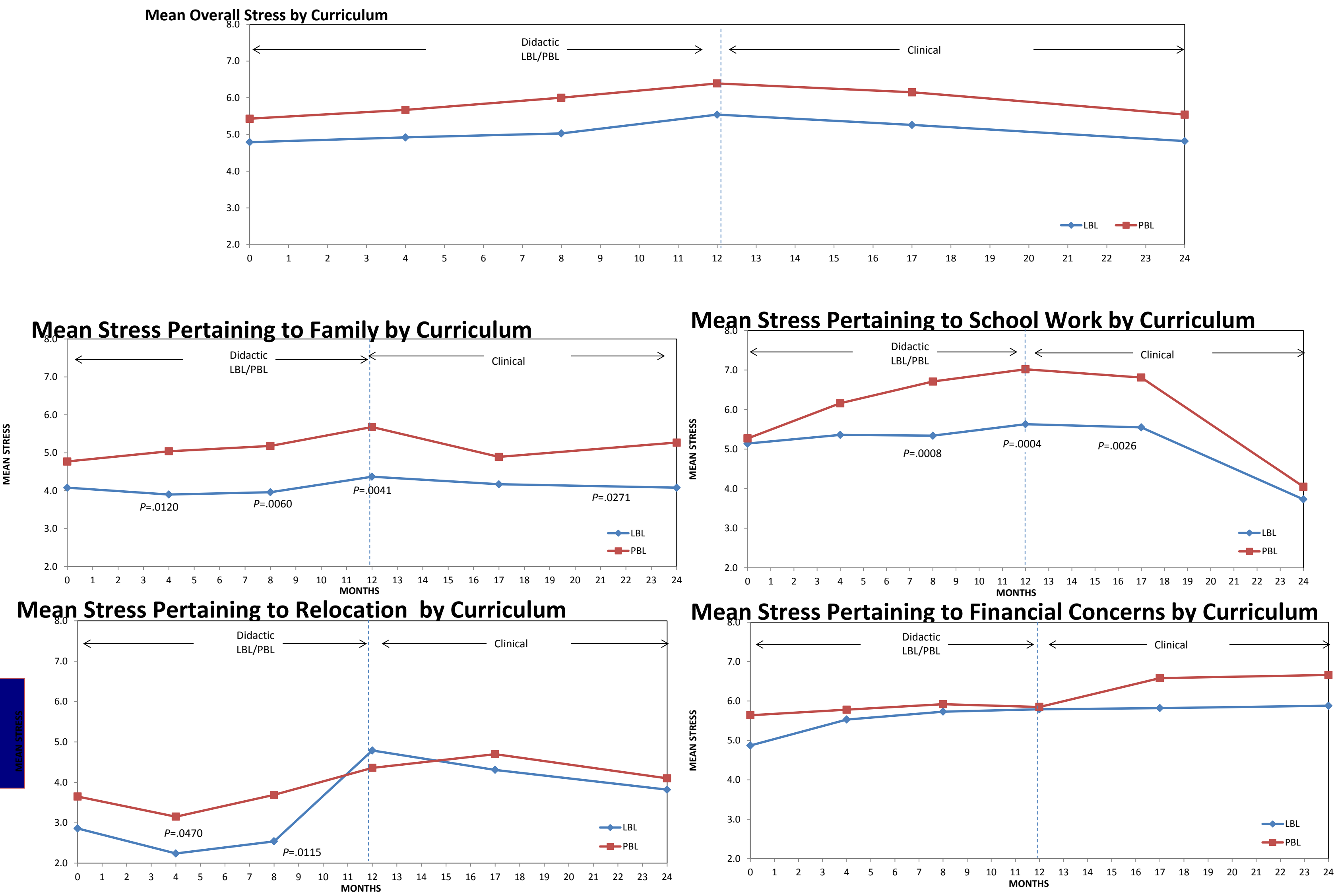
Time 1 Intercorrelations

	Fam	Sch	Fin	Env
Fam	1.00			
Sch	0.1386	1.00		
Fin	0.3467	0.3407	1.00	
Env	0.2279	0.5033	0.2838	1.00

School-related stress serial correlations

	Sch1	Sch2	Sch3	Sch4	Sch5	Sch6
1	1.00					
2	0.364	1.00				
3	0.198	0.660	1.00			
4	0.105	0.458	0.565	1.00		
5	0.184	0.384	0.450	0.489	1.00	
6	0.026	0.370	0.304	0.433	0.445	1.00

Results



Effect	Parameter Estimate	Type 2 Partial Corr ²	t-value	P-value
Stress at Time 0				
Model 1 (R ² = 0.0007)				
Curriculum	0.136	0.0006	0.32	0.7525
Stress at Time 4				
Model 1 (R ² = 0.0224)				
Curriculum	0.792	0.0223	1.87	0.0631

School Stress at 12 months into the Program				
Effect	Parameter Estimate	Type 2 Partial Corr ²	t-value	P-value
Model 1 (R ² = 0.0799)				
Curriculum	1.394	0.0798	3.62	0.0004
Model 2 (R ² = 0.2670)				
Curriculum	1.419	0.0950	3.94	0.0001
Family Stress 12	0.023	0.0007	0.33	0.7428
Financial Stress 12	0.294	0.0994	4.04	<.0001
Environment 12	0.165	0.0451	2.64	0.0091
Model 3 (R ² = 0.4279)				
School at 8 months	0.440	0.2195	6.43	<.0001
Curriculum	0.843	0.4216	2.54	0.0120
Family Stress 12	-0.034	0.0020	-0.55	0.5857
Financial Stress 12	0.252	0.0933	3.89	0.0002
Relocation 12	0.093	0.0183	1.66	0.0998

Results

School Stress at 17 months into the Program

Effect	Parameter Estimate	Type 2 Partial Corr ²	t-value	P-value
Model 1 (R ² = 0.0662)				
Curriculum	1.294	0.0661	3.26	0.0014
Model 2 (R ² = 0.3062)				
Curriculum	0.880	0.0408	2.50	0.0134
Family Stress 17	0.170	0.0408	2.50	0.0135
Financial Stress 17	0.213	0.0567	2.97	0.0034
Relocation 17	0.223	0.0815	3.61	0.0004
Model 3 (R ² = 0.4043)				
School at 12 months	0.346	0.1414	4.90	<.0001
Curriculum	0.482	0.0138	1.43	0.1542
Family Stress 17	0.141	0.0324	2.21	0.0285
Financial Stress 17	0.166	0.0396	2.46	0.0152
Relocation 17	0.190	0.0686	3.28	0.0013

Finding

Starting at T4 containing through T12 illustrated in T12 there is a difference Mean School related stress after controlling for other current stress (Fam, Env, Fin) and for previous stress (School stress lag)

At T17 and 24 the School stress difference in current, but Not observed after controlling for other current stress (Fam, Env, Fin) and for previous stress (School stress lag)

Conclusion

Students’ reported overall stress steadily increased through the didactic first year followed by a decline through the clinical second year, with statistically significant curricular related increase then decrease for students in PBL

During the didactic year the higher levels of school related stress reported by students in PBL remained after controlling for current levels of related stress (family, environment, financial) as well as previous amounts of reported stress in the previous assessment.