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Supplementary Material

Article Title: Youth Aware of Mental Health (YAM) Program With Texas Adolescents: Depression, Anxiety, and Substance Use Outcomes

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Supplementary Table 1. Student-level descriptive statistics related to Depression and Anxiety at pre- and post-intervention using original, non-imputed dataset

Variables	Pre	Post	Difference Score	
CONTINUOUS	**Mean (Standard Error)**	**Mean (Standard Error)**	**Mean (Standard Error)**	**p-value**
Depressive Severity (QIDS-A)	7.90 (0.10)	6.80 (0.13)	-0.89 (0.10)	<0.0001
Anxiety Symptoms (GAD-7)	5.99 (0.09)	5.27 (0.12)	-0.49 (0.09)	<0.0001

Abbreviations: GAD-7=Generalized Anxiety Disorder Screener; QIDS-A=Quick Inventory of Depressive Symptomatology, Adolescent version

Supplementary Table 2. Cross-classification of levels of depression/anxiety severity pre- versus post- intervention using original, non-imputed dataset

DEPRESSION SEVERITY						
		Depression Severity Pre-Test[a]				
		No Depression (n= 547)	Mild (n= 531)	Moderate (n= 269)	Severe (n= 98)	p-value*
Depression Severity Post-test	No Depression (n=691)	455	198	31	7	< 0.00001
	Mild (n = 451)	82	252	101	16	
	Moderate (n = 217)	5	71	107	34	
	Severe (n = 86)	5	10	30	41	
ANXIETY SEVERITY						
		Anxiety Severity Pre-Test[b]				
		No Anxiety (n= 904)	Mild (n= 500)	Moderate (n= 253)	Severe (n= 131)	p-value*
Anxiety Severity Post-test	No Anxiety (n = 1089)	772	251	49	17	< 0.00001
	Mild (n = 420)	114	188	94	24	
	Moderate (n = 193)	12	53	79	49	
	Severe (n = 86)	6	8	31	41	

[a] Severity based on QIDS-A. No Depression: ≤5; Mild: 6-10; Moderate: 11-15; Severe: ≥16

[b] Severity based on GAD-7. No Anxiety: ≤4; Mild: 5-9; Moderate: 10-14; Severe: ≥15

* p-value based on generalized McNemar test

Abbreviations: GAD-7=Generalized Anxiety Disorder Screener; QIDS-A=Quick Inventory of Depressive Symptomatology, Adolescent version

Supplementary Table 3. Fixed effects for the Hierarchical Linear Mixed Effects Models for QIDS difference scores (school n=29, student n=1445)

Parameters	Model 1 (unconditional)	Model 2 (Adding school-level factors)	Model 3 (Adding school-level and student-level factors)	**Final Model**: Model 4 (Student-level factors only)
Regression coefficients (fixed effects)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Intercept γ_{00} (SE)	-0.89 (0.12)***	-0.86 (0.22)**	-1.15 (0.56)	-1.16 (0.56)*
Individual-level factors				
Depressive level at baseline				
Mild vs None			-0.84 (0.21)**	-0.80 (0.21)**
Moderate vs None			-2.38 (0.26)***	-2.34 (0.26)***
Severe to Very severe vs None			-4.93 (0.38)***	-4.90 (0.38)***
Gender				
Female vs male			0.64 (0.19)**	0.64 (0.19)**
Others vs male			0.04 (0.93)	-0.01 (0.93)
Race				
Black vs White			-0.07 (0.33)	0.06 (0.33)

Asian vs White			-0.38 (0.30)	-0.25 (0.30)
Native Hawaiian or Other Pacific Islander vs White			-0.31 (1.74)	-0.26 (1.74)
American Indian or Alaska Native vs White			-0.03 (0.69)	-0.02 (0.69)
More than one race vs White			0.09 (0.38)	0.14 (0.38)
Other, Decline to state, Unknown vs White			0.12 (0.34)	0.25 (0.33)
Hispanic				
Non-Hispanic vs Hispanic			0.69 (0.31) *	0.56 (0.30)
Unknown vs Hispanic			0.93 (0.57)	0.82(0.56)
Grade				
6th, 7th, 8th grade vs 12^{th} grade			1.32 (0.92)	0.65 (0.72)
9th grade vs 12^{th} grade			0.70 (0.52)	0.52 (0.48)
10^{th} vs 12^{th} grade			0.90 (0.51)	0.77 (0.50)
11^{th} vs 12^{th} grade			0.24 (0.50)	0.22 (0.50)
School-level factors				
School Location				
Rural vs urban		-0.20 (0.48)	-0.72 (0.58)	
Suburban vs urban		-0.02 (0.37)	-0.35 (0.34)	
School Type				

Private vs Public		-0.05(0.48)	-0.50 (0.47)	
Charter vs Public		-0.02 (0.34)	0.12 (0.39)	
Variance components (random effects)				
Residual	13.28 (0.50)***	13.28 (0.50)***	11.63 (0.44)***	11.67 (0.44)***
Intercept	0.12 (0.11)	0.19 (0.15)	0.13 (0.12)	0.12 (0.12)
Model summary				
AIC	7853.3	7853.6	7616.7	7622.8

* p<0.05; ** p<0.001; *** p<0.0001

REML estimation with unstructured covariance with QIDS difference score as the outcome. Model 1: unconditional model with random intercept; Model 2: school-level predictors added to Model 1 (with random intercept); Model 3: full model, student-level predictors added to Model 2 (with random intercept); Model 4: final model, adjusted according to post-estimation results, dropping school-level predictors (with random intercept).

Supplementary Table 4. Fixed effects for the Hierarchical Linear Mixed Effects Models for GAD difference scores (school n=29, student n=1788)

Parameters	Model 1 (unconditional)	Model 2 (Adding school-level factors)	Model 3 (Adding school-level and student-level factors)	**Final Model** Model 4 (Adding student-level factors only)
Regression coefficients (fixed effects)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Intercept γ_{00} (SE)	-0.49 (0.11) **	-0.30 (0.16)	-0.29(0.52)	-0.39 (0.51)
Individual-level factors				
Anxiety level at baseline				
Mild vs None			-1.65 (0.21)***	-1.64 (0.21)***
Moderate vs None			-3.13 (0.27)***	-3.11 (0.27)***
Severe to Very severe vs None			-5.87 (0.35)***	-5.86 (0.35)***
Gender				
Female vs male			0.74 (0.19)**	0.73 (0.19)**
Others vs male			1.14 (0.93)	1.12 (0.93)
Race				

Black vs White			-0.63 (0.32)	-0.63 (0.31)*
Asian vs White			0.29 (0.29)	0.33 (0.29)
Native Hawaiian or Other Pacific Islander vs White			-1.26 (1.86)	-1.33 (1.86)
American Indian or Alaska Native vs White			0.43 (0.68)	0.41 (0.68)
More than one race vs White			0.47 (0.36)	0.49 (0.35)
Other, Decline to state, Unknown vs White			0.44 (0.33)	0.43 (0.33)
Hispanic				
Non-Hispanic vs Hispanic			0.49 (0.30)	0.51 (0.29)
Unknown vs Hispanic			0.62 (0.55)	0.63 (0.55)
Grade				
6th, 7th, 8th grade vs 12^{th} grade			0.69 (0.94)	0.26 (0.75)
9th grade vs 12^{th} grade			0.51 (0.48)	0.23 (0.43)
10^{th} vs 12^{th} grade			0.83 (0.48)	0.67 (0.46)

11th vs 12th grade			0.32 (0.43)	0.34 (0.43)
School-level factors				
School Location				
Rural vs urban		-0.24 (0.35)	-0.51 (0.54)	
Suburban vs urban		-0.24 (0.26)	-0.34 (0.40)	
School Type				
Private vs Public		0.32 (0.43)	-0.22 (0.52)	
Charter vs Public		-0.56 (0.26)*	-0.47 (0.42)	
Variance components (random effects)				
Residual	16.06(0.54)***	16.07 (0.54)***	13.36 (0.45)***	13.36 (0.45)***
Intercept	0.05 (0.09)	0.02 (0.08)	0.25 (0.17)	0.21 (0.14)
Model summary				
AIC	10048.9	10045.5	9680.7	9683.3

* p<0.05; ** p<0.001; *** p<0.0001

REML estimation with unstructured covariance with GAD difference score as the outcome. Model 1: unconditional model with random intercept; Model 2: school-level predictors added to Model 1 (with random intercept); Model 3: full model, student-level predictors added to Model 2 (with random intercept); Model 4:

final model, adjusted according to post-estimation results, dropping school-level predictors (with random intercept).