Social Support Moderates the Relationship between Depressive Symptoms and Self-Care in Adults with Type 1 Diabetes but not Type 2 Diabetes in Rural Southeastern Ohio

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Background

- Diabetes is one of the most significant health problems in the United States, affecting approximately 10.5% of the national population and 19.9% of adults in rural southeastern Ohio.
- People with diabetes experience high rates of depression, which can decrease performance of diabetes self-care and lead to higher A1C values.
- In rural southeastern Ohio, comorbid depression is especially high amongst people with diabetes, with one in three adults reporting clinically significant depressive symptoms.
- Social support may buffer the negative effects of depression and improve clinical outcomes.
- The purpose of this study was to assess the moderating effect of social support in the relationship between depression and diabetes self-care in adults with type 1 (T1D) and type 2 diabetes (T2D) in rural southeastern Ohio.

Methods

- We conducted a cross-sectional survey study with adults with T1D and T2D in rural southeastern Ohio.
- Surveys were distributed electronically in Qualtrics and via mailed packets to adults with T1D and T2D, aged 18 years and older who were able to read and speak English, and living in southeastern Ohio.
- Participants completed the following measures:
  - Patient Health Questionnaire-9 (PHQ-9)
  - Self-Care Inventory-R (SCI-R)
  - Medical Outcomes Study (MOS) Social Support Survey
- We conducted hierarchical multiple regression models using SPSS version 26.0.
- To avoid multicollinearity with the interaction terms, self-efficacy and coping styles variables were centered.

Conclusions

- ***Social support had a buffering effect in the relationship between depressive symptoms and diabetes self-care in adults with type 1 diabetes but not type 2 diabetes.***
- ***Social support may protect against depressive symptoms in adults with type 1 diabetes.***

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Results

- 325 adults (age=41.6±19.2 years, 62.2% female, 86.5% White; 59.7% T2D, A1C=7.5±1.6%) participated.
- Mean scores for depressive symptoms (t=0.343, p=0.222), social support (t=1.917, p=0.056), and self-care behaviors (t=1.710, p=0.088) did not differ by type of diabetes.
- The interaction between T1D depressive symptoms and social support was significant ($R^2\Delta$=0.04, p=0.025); the interaction between T2D depressive symptoms and social support was not significant ($R^2\Delta$=0.01, p=0.121).

Table 1. Summary of Hierarchical Regression Analysis Examining the Moderating Role of Social Support in the Relationship between Depression and Diabetes Self-Care in Adults with Type 1 Diabetes (n=104)

	b	*p*	R^2
Age	-.010	.935	.17
Gender	.070	.984	
Depressive symptoms	-.264	.364	
Social support	.221	.005	
Depressive symptoms*Social support	-.032	.025	

Table 2. Summary of Hierarchical Regression Analysis Examining the Moderating Role of Social Support in the Relationship between Depression and Diabetes Self-Care in Adults with Type 2 Diabetes (n=181)

	b	*p*	R^2
Age	.206	.008	.16
Gender	-1.493	.553	
Depressive symptoms	-.147	.550	
Social support	.205	<.001	
Depressive symptoms*Social support	-.011	.121	

Future Directions

- Research utilizing a longitudinal design to test the buffering hypothesis of social support in the relationship between depression and self-care over time is needed.
- Research examining different types of social support is needed.