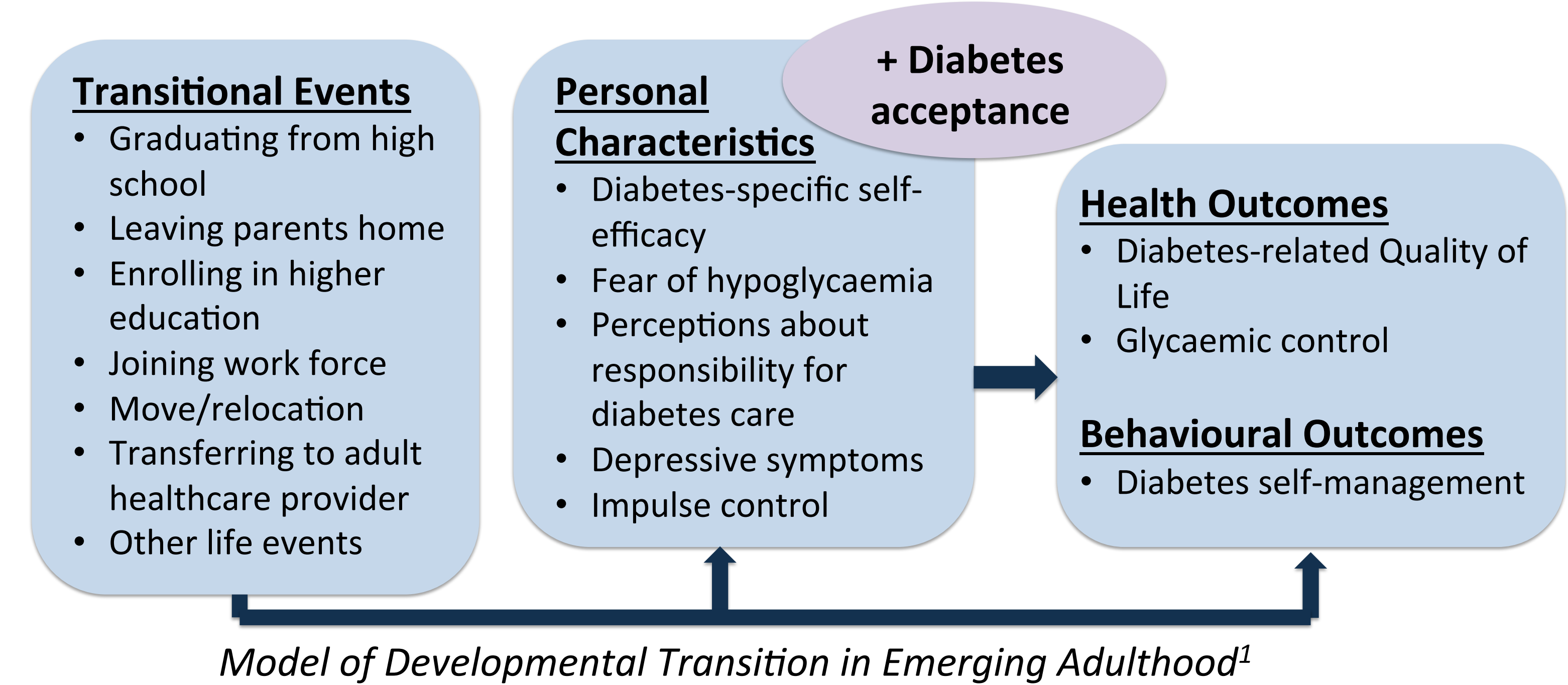


Diabetes acceptance & personal characteristics: Impact on health & behaviour outcomes in emerging adults with type 1 diabetes

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INTRODUCTION

Objectives: Personal characteristics have been hypothesized to be key predictors of health and behavioural outcomes during emerging adulthood in youths aged 16 to 25 with type 1 diabetes¹. Diabetes acceptance is the extent to which the physical and mental burden of diabetes and its psychosocial impact are integrated into an individual's life². This study aims to test the utility of incorporating diabetes acceptance into this model of transition in type 1 diabetes.



AIM OF THE STUDY:
To investigate whether diabetes acceptance is associated with and can be used as a predictor of impact on health and behaviour outcomes

METHODS

Participants included 175 young adults (155 women, 20 men) aged 16 to 25 years old ($M = 21.9$) with a diagnosis of T1D recruited from online diabetes support groups.

Relationships between variables were analysed using Pearson's Correlation Coefficient. Multiple linear regression analysis was used to explore the predictive value of personal characteristics and diabetes acceptance on health and behavioural outcomes.

MATERIALS:

- **Demographic variables:** age, sex, ethnicity, education
- **Diabetes variables:** age of diagnosis, treatment type, glycaemic control (HbA_{1c}), diabetes complications, hospitalisations due to diabetes, overall perception of health

Personal characteristics measures:

- Acceptance and Action Diabetes Questionnaire (AADQ)²: measure of diabetes acceptance
- Diabetes Distress Scale (DDS)³: measure of emotional distress related to diabetes
- Centre for Epidemiologic Studies Depression Scale (CESD-R)⁴: measure of depression
- Diabetes Self-Management Questionnaire (DSMQ)⁵: measure of diabetes self-care
- Diabetes Empowerment Scale (DES-SF)⁶: measure of diabetes-related self-efficacy
- Hypoglycaemia Fear Survey (HFS)⁷: measure of fear-related worry and behaviours
- Self-regulation Questionnaire (SSRQ-IC)⁸: measure of impulse control
- Diabetes Quality of Life (DQOL)⁹: measure of diabetes-related quality of life

RESULTS

Greater diabetes acceptance was associated with greater self-management ($r = -.565$) (Figure 1). Greater diabetes acceptance was associated with better glycaemic control ($r = .457$) (Figure 2). Stepwise (for demographic variables) and hierarchical (for other predictor variables) regression analysis showed that diabetes acceptance and diabetes distress significantly contributed to explain impact on glycaemic control ($\Delta R^2 = .264$). Diabetes acceptance and diabetes distress also contributed to explain impact on self-management ($\Delta R^2 = 0.437$). Impulse control, worry about hypoglycaemia, and diabetes distress contributed to explain impact on diabetes-related quality of life ($\Delta R^2 = 0.646$).

Table 1. Multiple regression analysis models

STEP	PREDICTORS	ΔR^2	TOTAL R^2	β
GLYCAEMIC CONTROL				
1.	Education	.035*		-.111
2.	Diabetes distress	.158*		.205*
	Depression			-.049
	Self-efficacy			-.051
	Fear of hypoglycaemia			.062
	Impulse control			-.019
3.	Diabetes acceptance	.077**	.264**	.331**
SELF-MANAGEMENT				
1.	Education	.035*		.048
2.	Diabetes distress	.312**		-.312**
	Depression			-.090
	Self-efficacy			.012
	Fear of hypoglycaemia			.188*
	Impulse control			-.093
3.	Diabetes acceptance	.090**	.437**	-.358**
QUALITY OF LIFE				
1.	Education	.019*		.019
2.	Diabetes distress	.618**		-.535**
	Depression			-.052
	Self-efficacy			.011
	Fear of hypoglycaemia			-.239**
	Impulse control			-.097*
3.	Diabetes acceptance	.003	.646	-.068

Figure 1. Correlation between Diabetes Acceptance and Self-management (behaviour outcome)

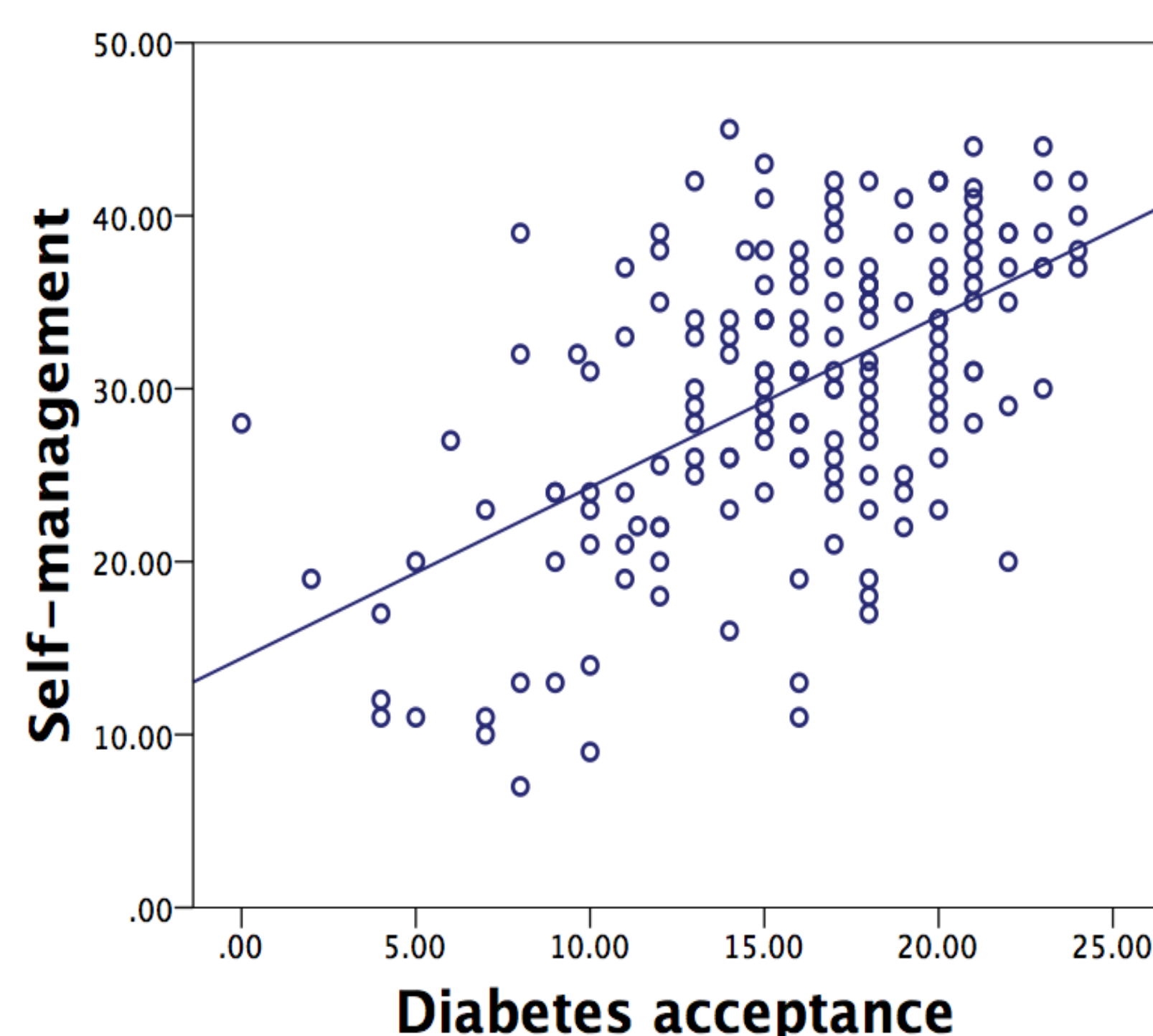
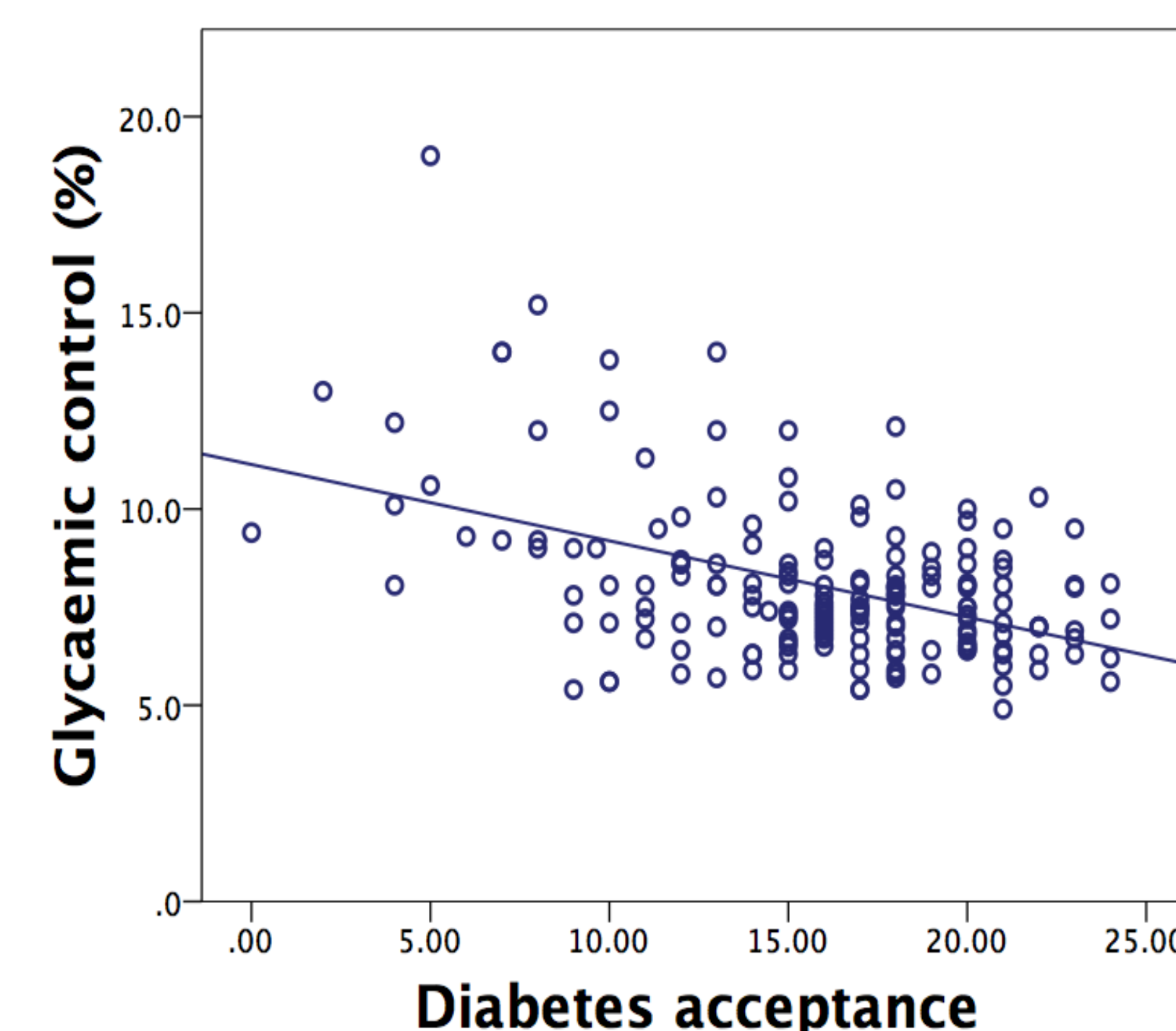


Figure 2. Correlation between Diabetes Acceptance and Glycaemic Control (health outcome)

- Lower HbA_{1c} % = better glycaemic control



CONCLUSIONS

- Greater acceptance of diabetes is related to better glycaemic control and diabetes self-management
- Other personal characteristics such as diabetes distress and fear of hypoglycaemia have an effect on quality of life
- Diabetes acceptance interventions may improve health and behaviour outcomes in emerging adults with type 1 diabetes

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