How do Romantic Partners Influence Diabetes Self-Management Behaviors?

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Background

- Individuals with Type 2 Diabetes (T2D) must engage daily in self-management behaviors
- Management of a chronic illness is often affected by a person’s romantic partner
- Relationship factors impact patients’ diabetes self-efficacy
Relationship Factors

Relationship Satisfaction

- The positive affect experienced in a relationship as well as the extent to which a partner fulfills the individual’s most important needs
  - Related to endocrine functioning\(^1,2\)
  - Marital quality positively related to dietary adherence, following doctor’s recommendations, and engaging in exercise\(^3\)
  - Some evidence of a relationship between marital quality and blood glucose control\(^4,5\)
Relationship Factors

Health Related Spousal Support

- Partner’s availability to provide aid to the recipient with health related stressors
  - Has been related to better health behavior and mental health among people with chronic illness
  - Related to patient self-efficacy\(^6\)
Relationship Factors

Diabetes Partner Investment

- The degree to which one’s partner has a shared responsibility and takes action to support the goal of the patient engaging in self-management behaviors
  - Related improved health outcomes following congestive heart failure\(^7,^8\)
  - Related to higher relationship quality and lower levels of depression for both patients and their partners among breast cancer patients\(^9\)
  - Not tested in a diabetes population
Current Study

- Examines how relationship factors impact patients’ diabetes self-efficacy
- **Participants (N = 52 couples)**
  - Participants were adults who have been diagnosed with type 2 diabetes and their relationship partners
  - Participants were required to be married or living with a romantic partner
Procedure

- Couples were recruited through Qualtrics survey response panels
- Participants did not have access to their partner’s answers
Measures

- **Demographic questions**: age, gender, race, ethnicity, and length of marriage
- **Medical questions**: diabetes status, date of diagnosis, and medical conditions (Charlson Comorbidty Index; Charlson et al., 1994)
Measures

- Relationship Factors (Reported from both partners)
  - Relationship Satisfaction: Satisfaction subscale from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998)
  - Health Related Partner Support: Health related support scale (adapted from Franks et al., 2006)
  - Partner Investment in Diabetes: Partner Investment in Diabetes scale (adapted from Grinberg et al., 2012)
Measures

- **Outcome Measures**
  - *Diabetes Self-Efficacy*: Self-efficacy for diabetes scale (Lorig., 2009)
  - *Diabetes self-management behaviors*: Summary of Diabetes Self-Care Activities (SDSCA) measure (Toobert, Hampson, & Glasgow 2000)
    - General Diet, Specific Diet, Exercise, Blood-Glucose Testing, and Foot Care
## Participant Demographics

<table>
<thead>
<tr>
<th></th>
<th>Couples (N = 52)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient</strong></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>( M = 50.60 ) (( SD = 10.82 ))</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>67.3%</td>
</tr>
<tr>
<td>Male</td>
<td>32.7%</td>
</tr>
<tr>
<td>Heterosexual Couples</td>
<td>90.39%</td>
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<tr>
<td>LGBT Couples</td>
<td>9.62%</td>
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<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>82.7%</td>
</tr>
<tr>
<td>Black</td>
<td>11.5%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>3.8%</td>
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<tr>
<td>Native American</td>
<td>0.0%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other</td>
<td>1.9%</td>
</tr>
<tr>
<td>Hispanic*</td>
<td>7.7%</td>
</tr>
<tr>
<td><strong>Number of comorbid medical conditions</strong></td>
<td>( M = 1.22 ) (( SD = .43 ))</td>
</tr>
<tr>
<td><strong>Length of marriage (years)</strong></td>
<td>( M = 22.03 ) (( SD = 13.64 ))</td>
</tr>
<tr>
<td><strong>Partner diagnosed with T2D</strong></td>
<td>17.3%</td>
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<tr>
<td><strong>Length since diagnosis (years)</strong></td>
<td>( M = 8.40 ) (( SD = 7.62 ))</td>
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</tbody>
</table>
## Sample Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scale Range</th>
<th>Mean (Standard Deviation)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationship Satisfaction</td>
<td>1 - 4</td>
<td>3.28 (.79)</td>
<td></td>
<td></td>
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<tr>
<td>Health Related Support</td>
<td>0 - 4</td>
<td>3.82 (1.08)</td>
<td></td>
<td></td>
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<tr>
<td>Diabetes Partner Investment</td>
<td>1 - 7</td>
<td>3.67 (1.31)</td>
<td></td>
<td></td>
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<tr>
<td>Diabetes Self-Efficacy</td>
<td>1 - 10</td>
<td>7.54 (1.86)</td>
<td></td>
<td></td>
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<tr>
<td>Testing Blood Glucose</td>
<td>0 – 7 days</td>
<td>5.90 (2.47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercising</td>
<td>0 – 7 days</td>
<td>3.50 (2.21)</td>
<td></td>
<td></td>
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<tr>
<td>General Diet</td>
<td>0 – 7 days</td>
<td>5.71 (1.98)</td>
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<tr>
<td>Specific Diet</td>
<td>0 – 7 days</td>
<td>4.95 (1.43)</td>
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<tr>
<td>Checking Feet</td>
<td>0 – 7 days</td>
<td>4.98 (2.33)</td>
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<td></td>
<td></td>
<td>Partner</td>
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<tr>
<td></td>
<td></td>
<td>3.45 (.67)</td>
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<td>3.90 (1.04)</td>
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<td>4.39 (1.46)</td>
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<td>4.98 (2.33)</td>
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Implies that dyad members are similar to one another on a given variable due to a shared or dyadic latent variable

- Takes into consideration both partners’ perceptions
- Considers the couple to be the unit of analysis
Model to be tested

- Patient Report
- Partner Report
- Patient Report
- Partner Report
- Patient Report
- Partner Report

Relationship Satisfaction

- Health Related Support
- Partner Report
- Patient Report
- Partner Report

Patient Diabetes Self-Efficacy

- Testing Blood Glucose
- Exercising
- General Diet
- Special Diet
- Checking Feet
Results: Standardized factor loadings

- **Relationship Satisfaction**
  - Patient Report: .94**
  - Partner Report: .73**

- **Health Related Support**
  - Patient Report: .85**
  - Partner Report: .69**

- **Partner Investment in Diabetes**
  - Patient Report: .85**
  - Partner Report: .77**

**p < .001  *p < .05**
Effects of Relationship Factors on Patient Diabetes Self-Efficacy

- Patient Report: .94** to Relationship Satisfaction
- Partner Report: .73** to Relationship Satisfaction
- Patient Report: .85** to Health Related Support
- Partner Report: .69** to Health Related Support
- Patient Report: .85** to Partner Investment in Diabetes
- Partner Report: .77** to Partner Investment in Diabetes
- Relationship Satisfaction: .19** to Patient Diabetes Self-Efficacy
- Health Related Support: .24** to Patient Diabetes Self-Efficacy
- Partner Investment in Diabetes: .28** to Patient Diabetes Self-Efficacy

- $R^2 = .41$

**$p < .001$  *$p < .05$
Effects of Relationship Factors on Patient Self-Management Behaviors

**Effects on Patient Diabetes Self-Efficacy**

Patient Report
- Relationship Satisfaction: .94**
- Health Related Support: .85**
- Partner Investment in Diabetes: .85**

Partner Report
- Relationship Satisfaction: .73**
- Health Related Support: .69**
- Partner Investment in Diabetes: .77**

Patient Report
- Relationship Satisfaction: .19**
- Health Related Support: .24**
- Partner Investment in Diabetes: .28**

Partner Report
- Relationship Satisfaction: .31*
- Health Related Support: .31*
- Partner Investment in Diabetes: .51*

Patient Report
- Relationship Satisfaction: .31*
- Health Related Support: .24**
- Partner Investment in Diabetes: .28**

Partner Report
- Relationship Satisfaction: .19**
- Health Related Support: .24**
- Partner Investment in Diabetes: .28**

**Results**

- Testing Blood Glucose: R² = .09
- Exercising: R² = .09
- General Diet: R² = .26
- Special Diet: R² = .06
- Checking Feet: R² = .02

**Statistical Significance**

- **p < .001  *p < .05  X² (41) = 48.878, p = .1861  CFI = .948 RMSEA = .070 SRMR = .069**
Discussion

- Diabetes self-efficacy is related to increased diabetes self-management behaviors
  - Consistent with previous research
  - Diet recommendations pertaining to “specific diet” may be out of date
  - Foot care may not be viewed an important self-management behavior

- Relationship factors as reported by both partners are related to patient self-efficacy
  - Important to consider relationship partners
Discussion

Limitations

- Cross-Sectional design
- Self-report measures
- Online sample

Future Directions

- Health related spousal control
- Couples-based diabetes management interventions
Future Directions

- **Targeting physical activity**
- **Collaborative implementation intentions (CII)**
  - Joint regulatory strategies that involve a couple planning when and where they will perform a specific behavior
- **Experimental design** (randomized at couple level)
  - 3 conditions: Collaborative IIs, Individual IIs and control
- Measures from both partners
- Accelerometers from patients
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References


Thank You!

Healthy Couples Lab