Self-Efficacy and the Self-as-Doer:

New Perspectives in Diabetes Self-Care Behavior Management

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Presenter Disclosures

Amanda Brouwer

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

“No relationships to disclose”
Aims of the Study

- Introduce the self-as-doer in relation to diabetes self-care behaviors

- Examine the relationship of self-as-doer and the frequency of diabetes self-care behaviors in relation to other factors found to impact diabetes self-care behaviors
Diabetes

- Significant health concern
- Diabetes is caused by a lack of or insufficient ability to produce insulin
- Controlling glycemic levels are vital for health body functioning
Diabetes

- Self-care behaviors significantly contribute to proper glycemic control
  - Diet and Nutrition Management
  - Insulin Injections/Oral Medications
  - Glucose Testing
  - Exercise

Social Cognitive Theory

- 4 Psychosocial Determinates of Health Behavior:
  - Self-efficacy
  - Outcome Expectancies
  - Barriers
  - Motivation/Goals

Bandura, 1998; Williams, Anderson, & Winett, 2005; Hertz, Unger, & Lustik; Iannotti, et al., 2006; Senecal, Nouwen, & White, 2000
Influential Factors in Self-Care Behaviors

- **Self-efficacy**
  - *Perceived ability* to carry out a task or behaviors

- **Outcome Expectancies**
  - Belief that carried out behaviors will lead to a desired outcome.

- **Self-Care Agency**
  - *The ability* to perform self-care actions

- **Social Support**
  - Family, Peers, Health Care Providers

Self-As-Doer

- **Identification with *doing* a behavior or action**
  - Cognitive link between self and action being performed
  - Active combination of the self and behavior
  - A source of motivation and persistence beyond goal commitment, reinforcement, self-concordance, habit, and expectancies

- **Rational for assessment with diabetes self-care behaviors:**
  - Diabetes is self-managed, requiring many self-generated care behaviors
  - Diabetes requires a dynamic agent, an identification
  - Self-care behaviors are not enjoyable or reinforcing

Houser-Marko & Sheldon, 2006
Hypotheses

1. Self-efficacy, outcome expectancies, social support, self-care agency, and self-as-doer will contribute significantly to the frequency of self-care behaviors.

2. Self-as-doer will account for a significant proportion of the variance in the frequency of self-care behaviors above and beyond all other self-related factors (self-efficacy and self-care agency).

3. Greater frequency of self-care behaviors will be associated with better glycemic control.
Methods

Participants
- 97 Diabetics
  - 26 males, 71 females
  - Age Range: 18 - 86 ($M = 32.24$, $SD = 16.83$)
- Type of Diabetes:
  - Type I: 85
  - Type II: 10
  - Other: 2
- Amount of time with diabetes:
  - 6 months to 50 years.

Procedure
- E-mailed Surveys
  - Insulin Pump Support E-mail
  - [www.diabetesmonitor.com](http://www.diabetesmonitor.com)
  - Personal Networking
- Mailed Surveys
  - Social Support Group and Diabetic Clients
Methods

Materials

- **Summary of Diabetes Self-Care Activities**
  - Toobert, & Glasgow, 1994
    - Summation of standardized frequencies for exercise, diet, medication and blood glucose monitoring self-care behaviors

- **Multidimensional Diabetes Questionnaire**
  - Talbot, et al., 1997
    - Self-Efficacy
    - Outcomes Expectancies
    - Social Support
      - General, Positive Reinforcing Behaviors, Misguided Behaviors

- **Appraisal of Self-Care Agency Scale**
  - Evers, 1986

- **Self-As-Doer**
  - Houser-Marko and Sheldon, 2006

- **Glycemic Control**
  - Self-report HbA1c
Self-As-Doer Measure and Examples

For the survey below I would like you to think about 6 diabetes care related goals for the next 2-3 years. Please write them on the first line/or in the space after each number (1, 2, 3, 4). Leave the second line/space (1b, 2b, etc.) blank until further instructions.

1. Try to resist sweets
   1b. Sweet Resister

2. Exercise on a daily schedule
   2b. Daily Exerciser

3. Get A1c under 7
   3b. Good A1c Getter

4. To lose the 10 pounds to better my diabetes
   4b. Weight Loser

5. Resist Chocolate 6 days a week
   5b. Chocolate Resister

6. Embrace the support I receive from outside sources
   6b. Good Support Embracer

Further Instructions:
Every personal goal contains both a verb and an object.
For example, for the goal "to get an A1c level of 7.3" the verb is get and the object is an A1c of 7.3.

I would like you to think about the verb and object in each of the diabetes care goals you have and create a special phrase using the "er" suffix. Place this in the second blank above (1b, 2b, 3b, etc.). This phrase will refer to a person who does the goal.
For example, the goal "to get an A1c of 7.3" might be rephrased "good A1c getter".
Results: Hypothesis One/Two

- **Stepwise Multiple Regression**
  - **Self-Efficacy**
    - Accounted for 25.6% of the unique variance
    - $t(71) = 6.26$, $p < .001$
  - **Self-As-Doer**
    - Accounted for an additional 3.1%
    - $\Delta R^2 = 0.031$, $\Delta F(73) = 4.71$, $p = .033$
    - $t(70) = 2.17$, $p = .033$

- **Total Variance Accounted for:** 52.4%

- All other predictors were factored out
Relationship Among Self-Efficacy, Self-As-Doer and Self-Care Behaviors

- Self-Efficacy: 25.6%
- Self-As-Doer: 3.1%
Results: Hypothesis One/Two

- **Hypothesis One**: Self-efficacy, outcome expectancies, social support, self-care agency, and self-as-doer will contribute significantly to the frequency of self-care behaviors.

  PARTIALLY SUPPORTED

- **Hypothesis Two**: Self-as-doer will account for a significant proportion of the variance in the frequency of self-care behaviors above and beyond all other self-related factors (self-efficacy and self-care agency).

  PARTIALLY SUPPORTED
Results: Hypothesis Three

- Greater frequency of self-care behaviors will be associated with greater glycemic control.

   SUPPORTED

- \( t(88) = 2.17, \ p = .03, \ \eta^2 = .32. \)

- Adequate Glycemic Group: \( * \ M = .16, \ SD = .53 \)

- Inadequate Glycemic Group: \( * \ M = -.10, \ SD = .55 \)

*Note: Self-care behaviors are standardized*
General Discussion

- **Self-Efficacy and Self-As-Doer:**
  - Significant predictors of the frequency of self-care behaviors in persons with diabetes
  - Suggest that developing a doer identity consistent with health care goals is beneficial for motivating self-care behaviors

- **Other Constructs Factored Out:**
  - Factors did significantly correlate with self-care behaviors
  - Self-efficacy and self-as-doer were stronger predictors in this model
Discussion

Implications for Health Care

- Increasing self-efficacy and self-as-doer more likely to increase self-care behaviors

- Implement programs which promote ability and identification as doer of behaviors.

For all whom wish to promote and maintain good health

- Self-as-doer may go beyond just diabetes self-care behaviors to be relevant for other health behaviors
Discussion

Limitations

- Participants
  - Homogenous

- Self-Report Measure

- Ceiling Effects
  - Outcome Expectancies

- Generalizability
  - More Type I than Type II

Future Research

- Self-as-doer
  - Re-test these effects
    - Larger Sample
    - More diverse population
  - How to increase identification with a behavior
  - How to implement self-as-doer into health care
  - Self-as-Doer with other self-care behaviors, not specific to diabetes
### Participant Descriptives

<table>
<thead>
<tr>
<th>Type of Diabetes</th>
<th>Type I</th>
<th>Type II</th>
<th>Other</th>
<th>Total</th>
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<tbody>
<tr>
<td>Number of Participants</td>
<td>85</td>
<td>10</td>
<td>2</td>
<td>97</td>
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<tr>
<td>Months of Diagnosis, $M (SD)$</td>
<td>212.44 (136.41)</td>
<td>80 (89.1)</td>
<td>171.5 (137.89)</td>
<td>197.94 (137.38)</td>
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<td>Medication Type:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Insulin</td>
<td>67.1%</td>
<td>0%</td>
<td>100%</td>
<td>60.8%</td>
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<tr>
<td>Insulin plus other medication</td>
<td>7.1%</td>
<td>10%</td>
<td>0%</td>
<td>7.2%</td>
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<tr>
<td>Injections</td>
<td>23.5%</td>
<td>10%</td>
<td>50%</td>
<td>22.7%</td>
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<tr>
<td>Oral Medication</td>
<td>0%</td>
<td>90%</td>
<td>50%</td>
<td>10.3%</td>
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<tr>
<td>Insulin Pump</td>
<td>71.8%</td>
<td>10%</td>
<td>50%</td>
<td>63.9%</td>
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<tr>
<td>No Medication</td>
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<td>0%</td>
<td>0%</td>
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Note. Percentages may not add up to 100% because participants were asked to check all that applied.
## Scale Descriptives

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<th>Scales</th>
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<td>Self-Care Behaviors</td>
<td>.000</td>
<td>.58</td>
<td>N/A</td>
<td>-1.87</td>
<td>1.02</td>
<td>.80</td>
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<td>Self-As-Doer</td>
<td>3.14</td>
<td>.87</td>
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<td>1</td>
<td>5</td>
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<td>Self-Efficacy (MDQ)</td>
<td>484.39</td>
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<td>4</td>
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<td>SS – General (MDQ)</td>
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<td>SS – Positive Reinforcing (MDQ)</td>
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<td>SS – Misguided (MDQ)</td>
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<td>Self-Care Agency</td>
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## Stepwise Regression

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<th>sp²</th>
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Note. Step 1 ΔR² = .51***, Step 2 ΔR² = .03*
p < .05. **p < .01; ***p < .001.
Predictor Correlations with Self-Care Behaviors

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<td>2. Self-Efficacy</td>
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<td>3. Self-As-Doer</td>
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<td>.52***</td>
<td>.49***</td>
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<td>4. Self-Care Agency</td>
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<td>.60***</td>
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<td>.33**</td>
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<td>.38***</td>
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<td>.002</td>
<td>.25*</td>
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* p < or = to .05, ** p < or = .01, *** p < or = to .001
References

References cont.


