Social Comparison, Social Support, and Social Problem Solving among Individuals with Prediabetes

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Background

- Individuals diagnosed with ***prediabetes*** are at a high risk for the onset of type 2 diabetes and consequent health problems.[1]
- Those diagnosed with prediabetes who modify their health behaviors (e.g., diet quality, aerobic exercise) can prevent the onset of diabetes,[2] though ***challenges such as depression and illness distress*** may impede health behavior change.[3]
- In addition, ***social perceptions*** may play meaningful roles in the physical and emotional functioning of individuals with prediabetes. In particular, the tendency to compare oneself with others (i.e., ***social comparison orientation***) and ***perceived social support*** are known to influence health behavior change and health outcomes in illnesses such as cancer and type 2 diabetes.[4-6]
- Social problem solving has been studied frequently in diabetes, but fewer studies have assessed its role in prediabetes.[7] Understanding the role of perceiving challenges as overwhelming problems (i.e., ***negative problem orientation***) may allow clinicians to overcome psychosocial barriers to healthy behavior change.

Study Aims

- To characterize ***social comparison, social support, and social problem solving*** (problem orientation) among individuals with prediabetes, and
- To examine relations between these ***social perceptions and prediabetes outcomes***:
  1) Distress about the illness,
  2) Health-related quality of life (HRQOL),
  3) Depressive symptoms,
  4) Aerobic physical activity, and
  5) Motivation for illness self-care.

Method

- Adults who reported a previous diagnosis of prediabetes by a physician were recruited via web and print advertisements.
- Interested individuals were directed to a web-based survey. Respondents received $5 to the Amazon store (www.amazon.com) as compensation.
- Participants (n = 142, 46% female, M_{Age} = 41, M_{BMI} = 28.9 kg/m^2) completed a demographics questionnaire and self-report measures of social comparison,[8] social support,[9] negative problem orientation,[7] illness distress,[10] HRQOL,[11] depressive symptoms,[12] physical activity, and motivation for self-care.

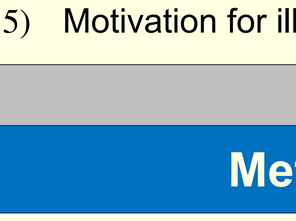

Table 1. Descriptive Statistics for Variables of Interest

	Mean (SD)	Possible Range
Social Comparison	42.23 (5.68)	11 - 66
Social Support Total	70.92 (7.37)	0 - 100
Negative Problem Orientation	35.35 (10.76)	12 - 60
Illness Distress	47.89 (18.54)	0 - 80
Physical HRQOL	62.04 (18.23)	0 - 100
Emotional HRQOL	55.09 (11.18)	0 - 100
Depressive Symptoms	31.14 (9.11)	0 - 60
Aerobic Physical Activity	154.53 (118.26) minutes per week	0 - 600
Motivation for Illness Self-Care	15.36 (5.22)	0 – 20

Figure 1. Correlations between Social Perceptions and Prediabetes Outcomes

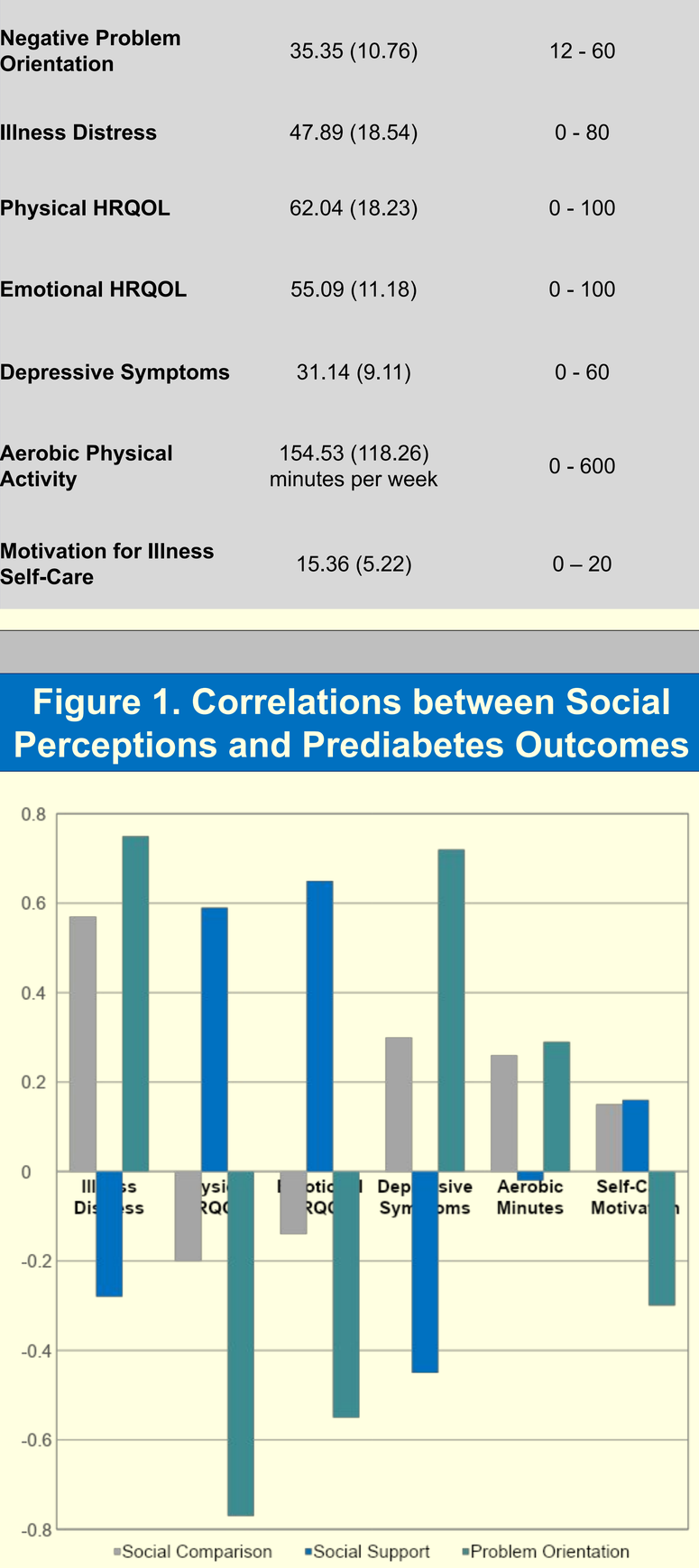

Table 2. Prediction Models for Social Perceptions and Prediabetes Outcomes

	Social Comparison Orientation	Social Support	Negative Problem Orientation
	B (SE)	*B (SE)*	*B (SE)*
Illness Distress	0.81 (0.24)**	0.02 (0.20)	1.17 (1.15)***
Physical HRQOL	0.47 (0.21)*	0.51 (0.16)**	-1.37 (0.13)***
Emotional HRQOL	0.01 (0.16)	0.67 (0.13)***	-0.44 (0.10)***
Depressive Symptoms	-0.11 (0.13)	-0.10 (0.10)	0.66 (0.08)***
Aerobic Minutes	2.93 (2.60)	1.68 (2.24)	4.04 (2.25)
Self-Care Motivation	0.49 (0.10)***	-0.20 (0.08)**	-0.36 (0.06)***

*Note: HRQOL = health-related quality of life; *p < 0.05; **p < 0.01; ***p < 0.001.*

Results

Physical and Emotional Functioning in Prediabetes

- As shown in Table 1, participants with prediabetes reported considerable distress about their health and emotional functioning. In particular, participants reported severe depressive symptoms (clinical threshold = 16).
- Reported social comparison orientation was noticeably higher in the present sample than in healthy samples.[8]
- Participants on average reported a moderate tendency to problems from a negative orientation.
- Participants also reported meaningful levels of social support, however.

Relations between Social Perceptions and Prediabetes Outcomes

- Social comparison, social support, and negative problem orientation all were meaningfully associated with diabetes distress, HRQOL, and depressive symptoms (*p*s < 0.05; see Figure 1).
- Minutes of aerobic physical activity per week was positively associated with *social comparison* (*r*s = 0.27-0.48, *p*s < 0.05), but was not related to social support (*p*s > 0.35). Conversely, motivation for self-care was positively associated with *social support*, but was not related to social comparison.
- Negative problem orientation was <u>*positively*</u> associated with minutes of aerobic activity (*r* = 0.29), but was <u>*negatively*</u> associated with motivation for illness self-care (*r* = -0.29, *p*s < 0.02).
- Although all three domains of social perception predicted physical HRQOL, only negative problem orientation predicted depressive symptoms (with all three domains in one model; see Table 2).

Conclusions

- Consistent with previous work in patient samples, ***social comparison and social support*** were strongly associated with most illness-relevant outcomes in prediabetes.
- Of note, ***negative problem orientation*** was the ***strongest predictor of prediabetes outcomes***, and independently predicted outcomes when social comparison and social support were controlled.
- This is the first study to identify ***negative problem orientation as a key aspect of prediabetes***. If replicated in large samples, findings indicate that attention to problem orientation in clinical care could improve outcomes and reduce the onset of type 2 diabetes.

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