

Motivating Persons at Risk for Diabetes to Improve Physical Activity and Healthy Eating: A Pilot Motivational Interview Intervention

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Background

- Diabetes is one of the leading causes of disease burden and disability in the U.S.
- Diabetes has more than doubled from 5.8 million in 1980 to 20.6 million in 2005.
- Diabetes can be prevented or delayed with improvements in physical activity and dietary behaviors.



Background

- People have difficulty changing their behaviors.
- Many behavior change interventions have not been focused on individual decision-making and strategies to meet individual needs.

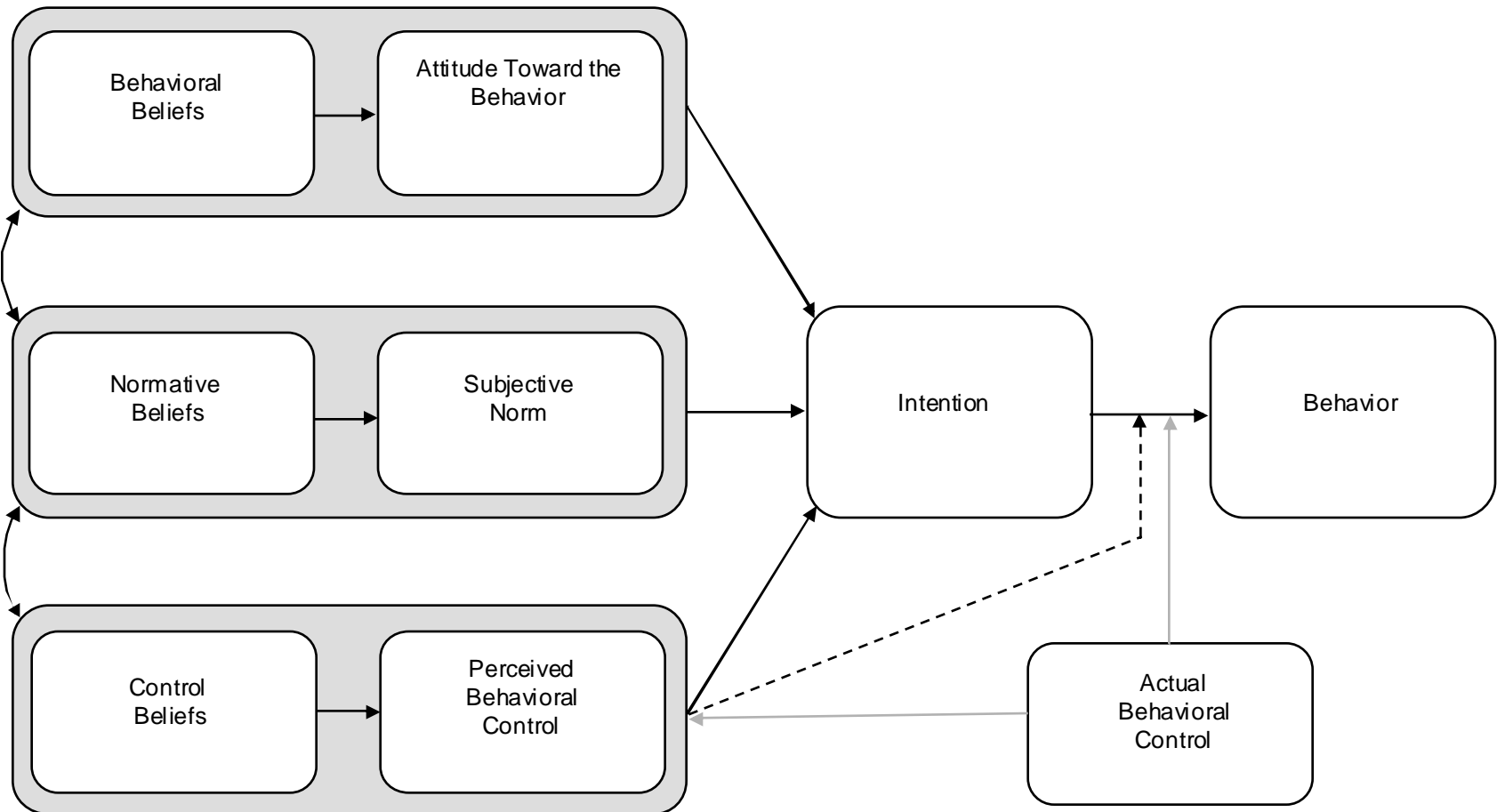


Purpose of the Study

- To assess the feasibility of a motivational interview intervention to promote physical activity and healthy eating of adults at risk for diabetes.

Conceptual Framework

Theory of Planned Behavior (Ajzen, 2006)





Essential Elements of Behavior Change

- Motivation
- Self-efficacy
- Readiness to change



Motivational Interviewing

- Client-centered counseling style
- Helps people help themselves by emphasizing intrinsic motivation.
- Behavior change originates internally rather than being imposed externally.
- Increases the importance of behavior change from the client's perspective



5 Principles of Motivational Interviewing

- Express empathy.
- Develop the discrepancy between individual goals and current behavior.
- Roll with resistance rather than opposing it.
- Support self-efficacy for change.
- Avoid argumentation.

Methods



Methods

- Pre- Posttest design
- Convenience sample ($n=14$)
- 6 month study
- 7 individual motivational interview sessions
- Measures at baseline, 2, 4, & 6 months

Intervention Materials

- *Small Steps Big Rewards. Prevent Type 2 Diabetes* (National Diabetes Education Program, CDC, 2004).



- Education session at baseline
- Pedometers with instructions

Inclusion Criteria

- ≥ 1 risks on the ADA Diabetes Risk Test
- No physical problem prohibiting moderate physical activity or reduced fat and carb diet
- English speaking and reading
- Not planning to move away in next 6 months
- ≥ 21 years old

Measures

- Behavioral, normative, & control beliefs scales for physical activity (Blue et al., 2007)
- Behavioral, normative, & control beliefs scales for healthy eating (Blue et al., 2006)
- Self-efficacy for physical activity and healthy eating scales (Linde et al., 2006)

Measures (continued)

- 7-day physical activity recall (Blair et al., 1985)
- Pedometer step count (steps/week)
- Food Behavior Checklist (Kristal et al., 1990)
- Height/weight (Body Mass Index)

Analysis

- Restructured variables to cases (missing data)
- Repeated-measures, analysis of variance to analyze change ($\alpha .05$)
- Qualitative data to assess usefulness of the intervention and ways to improve it.

Results



Sample

- $n=12$ (85.7%) @ 6 months
- $n=7$ (58.3%) African American,
 $n=5$ (41.7%) White
- $n=8$ (66.7%) female
- $n=9$ (75.0%) college graduate,
 $n=3$ (25.0) trade/technical graduate

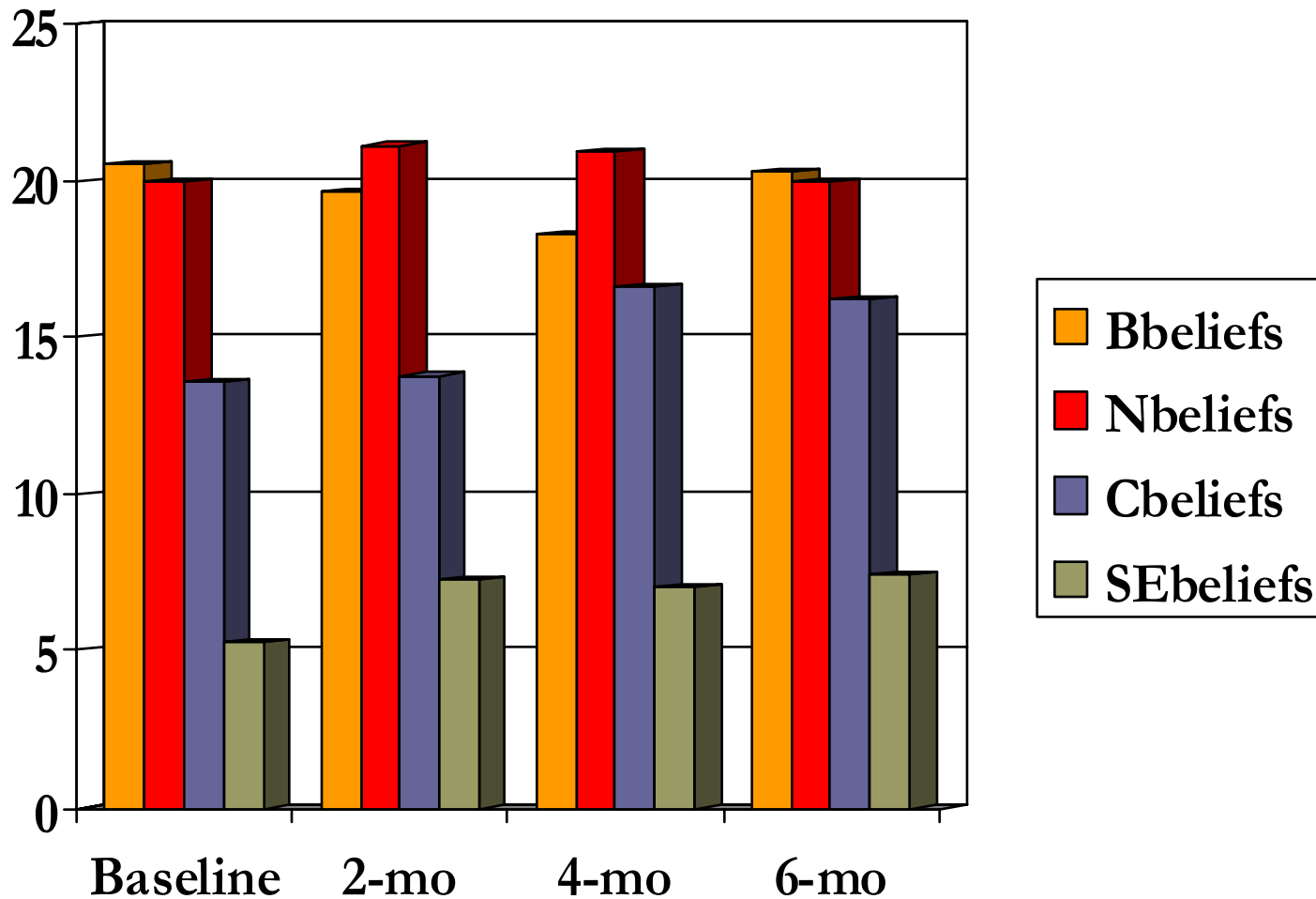
Sample (continued)

- Age = 31-40 ($n=7$)
41-50 ($n=1$)
51-60 ($n=3$)
61-70 ($n=1$)

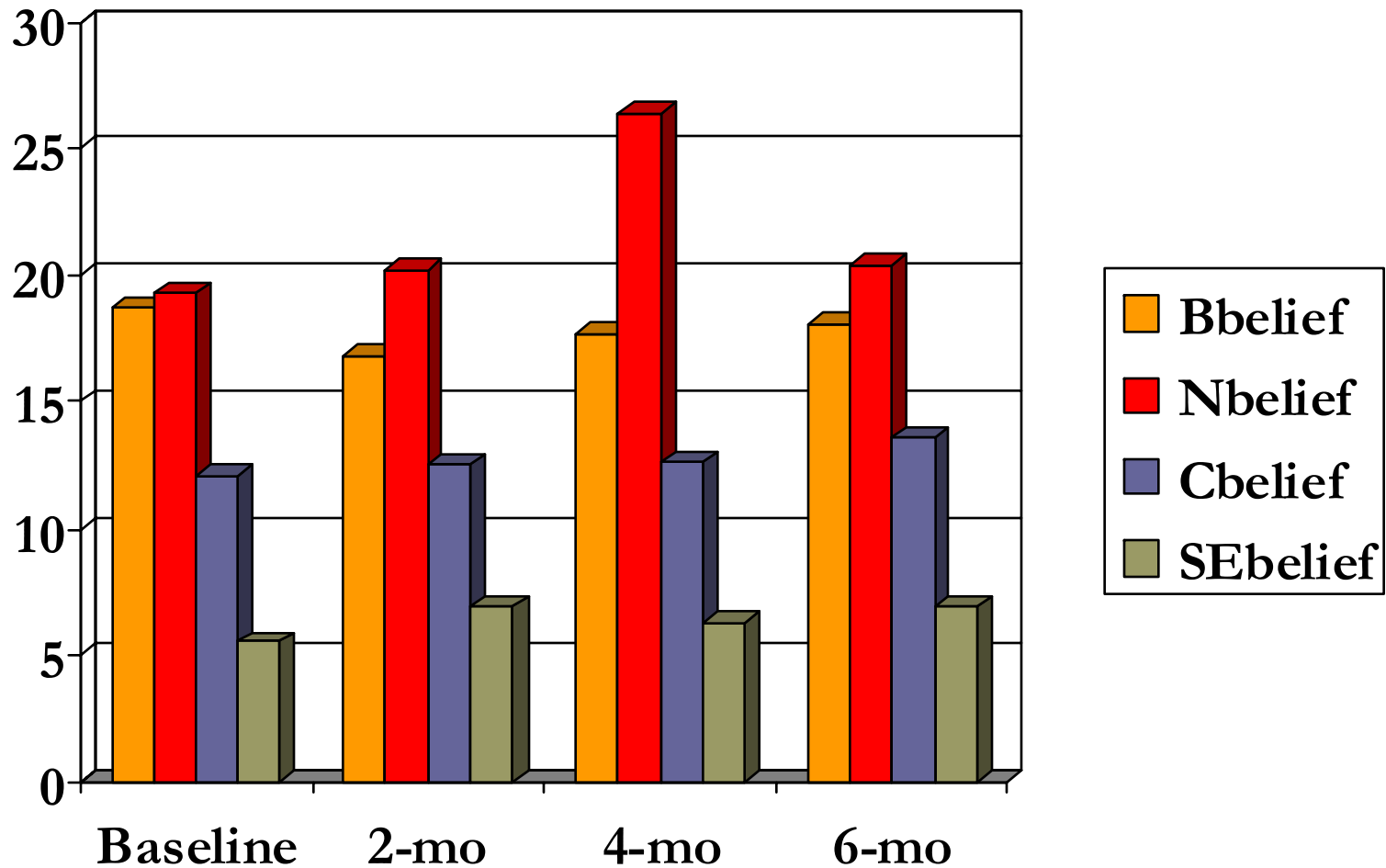
- Income = \$20,000-38,999 ($n=1$)
\$40,000-49,999 ($n=4$)
\$ 50,000-59,999 ($n=2$)
 \geq \$ 60,000 ($n=4$)

Mean Beliefs about Physical Activity

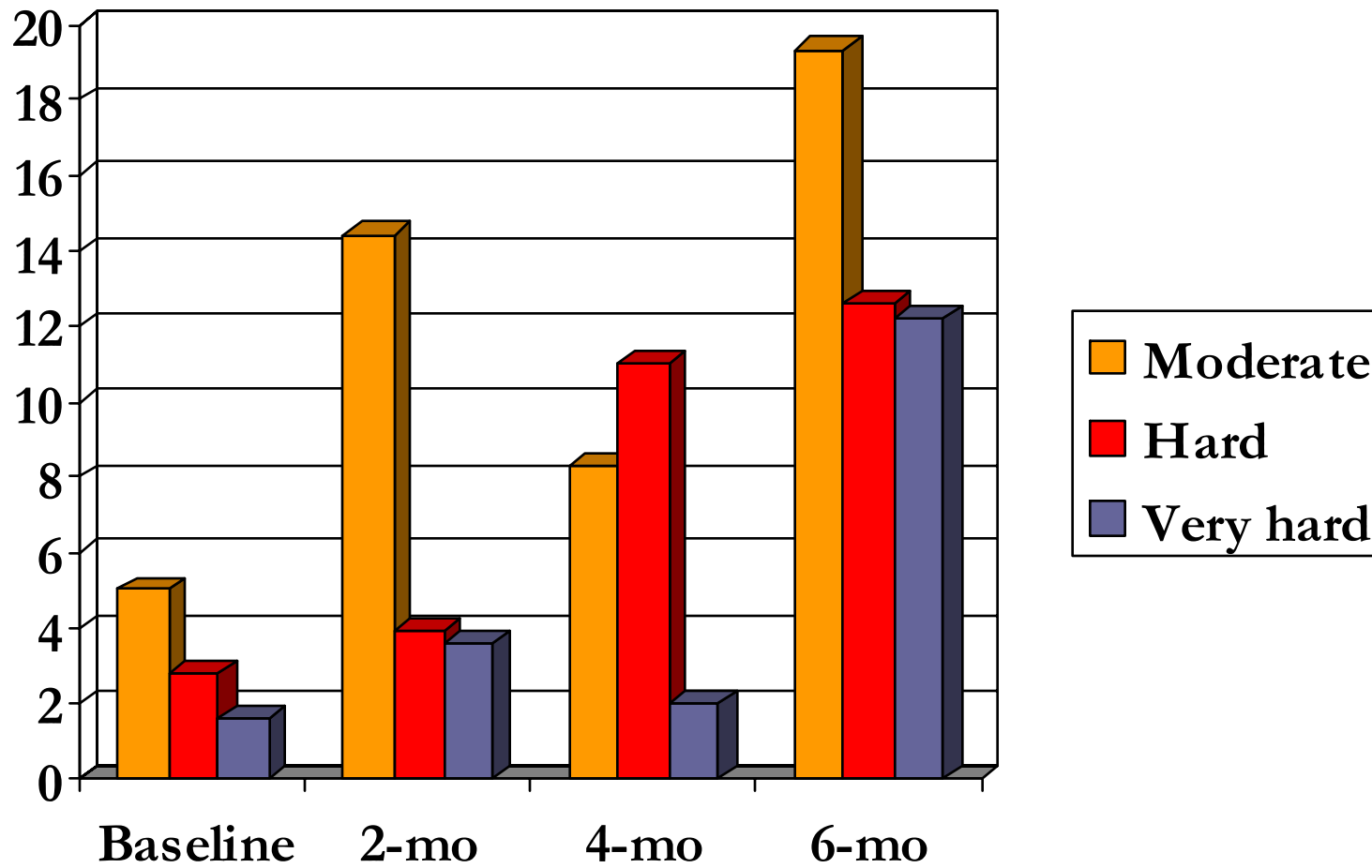
(higher scores are more positive beliefs)



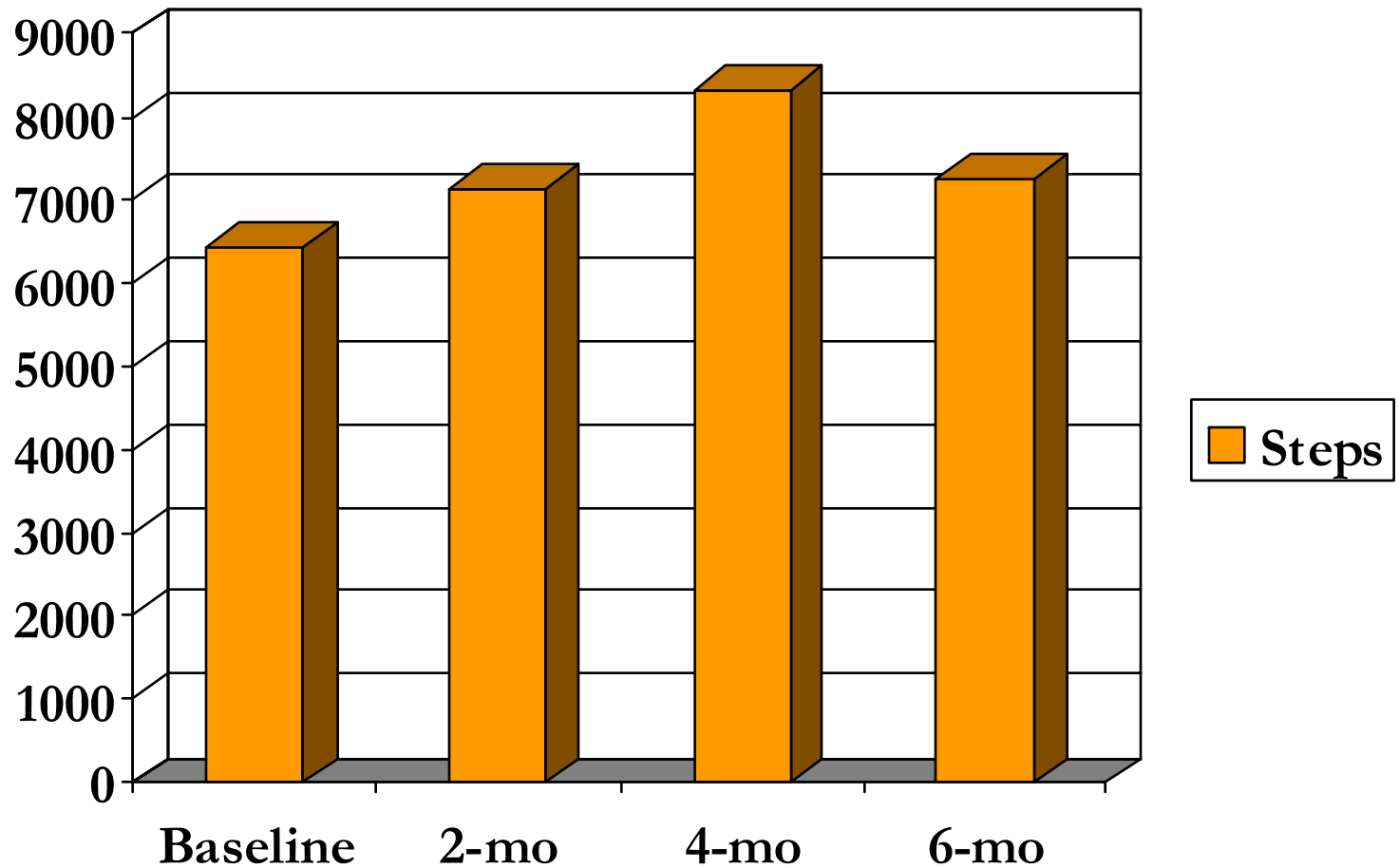
Mean Beliefs about Healthy Eating (higher scores are more positive beliefs)



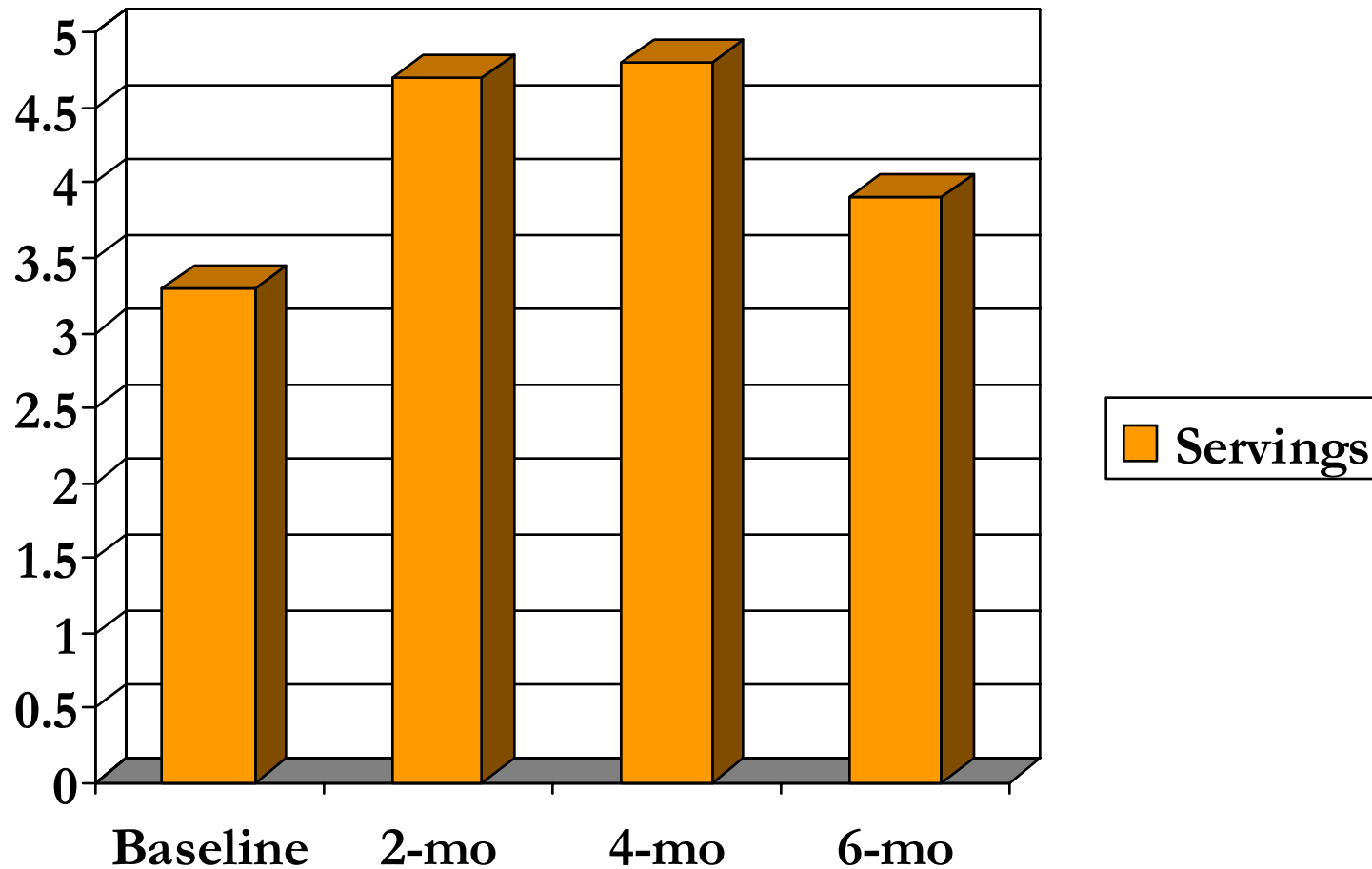
Mean Weekly Hours of Physical Activity



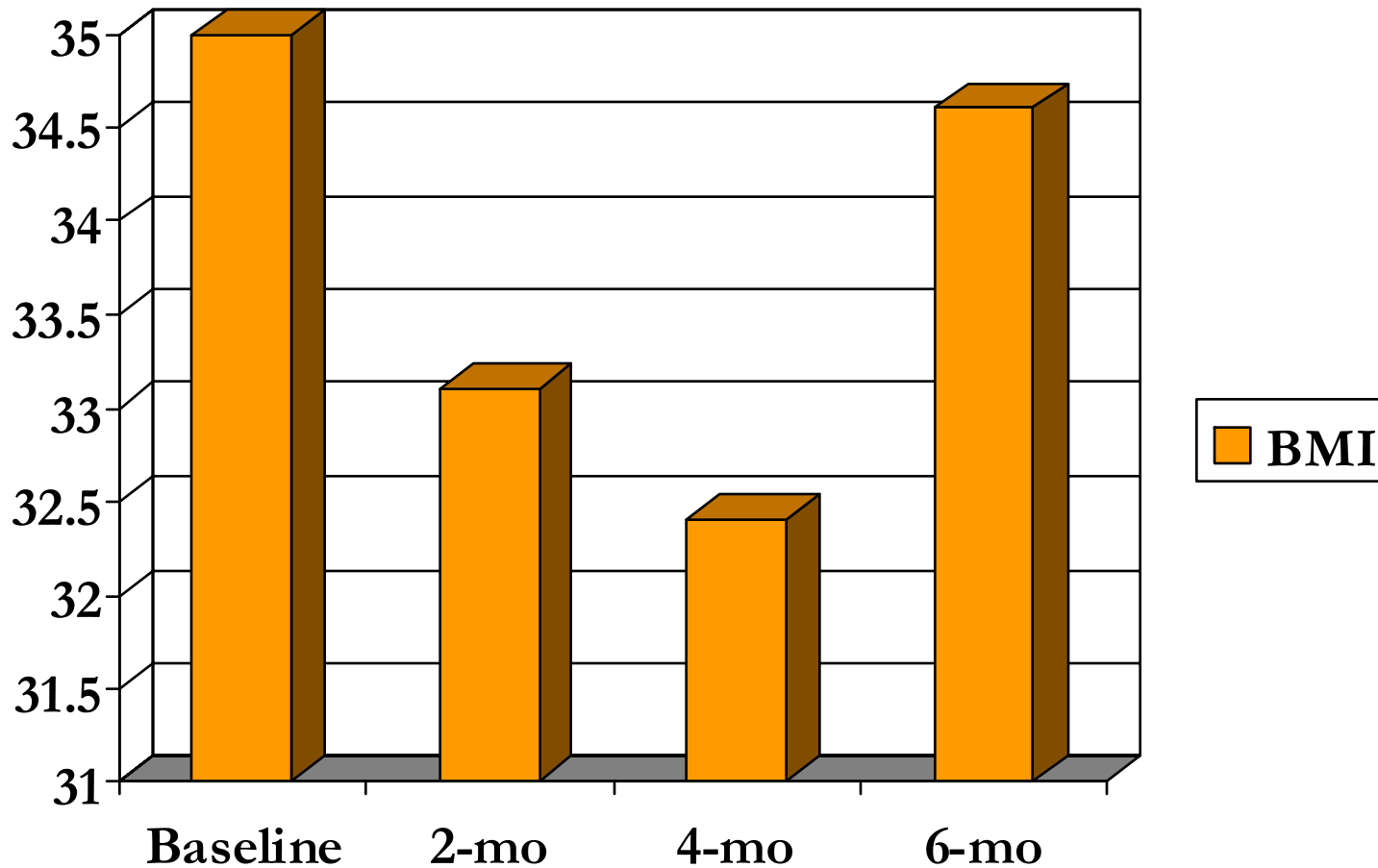
Mean Steps/week



Mean Fruits & Vegetables/Day



Mean Body Mass Index





Qualitative summary

- Motivational interviewing intervention was helpful
- Pedometer was motivating for walking
- Physical activity and dietary behaviors more difficult when sessions were decreased

Implications & Future Research

- Motivational interviewing intervention was appropriate for Blacks and Whites
- Bi-weekly sessions should be increased
- Larger sample for > power
- “Usual care” control group
- Direct intervention to belief structures



Recognition

This research was supported by a grant from Wallace, D. C. (PI) *TRIAD Project for Health Disparities*, National Center for Minority Health and Health Disparities/NIH, 5 R24 MD000529 EXPORT, October 2003-July 2006.