



Measuring Mindfulness Skills and Chronic Disease Outcomes in Four Diverse Populations at a Community-based Health Center

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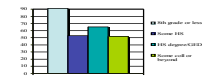
RESEARCH PARTICIPANTS: CARING HEALTH CENTER (CHC) SPRINGFIELD, MA

Study Sample Design (N = 291)

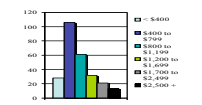
	White	African American	Vietnamese	Latino
Diabetes	13	20	36	49
Hypertension	27	44	51	51
Total	40	64	87	100

- Conducted epidemiological baseline surveys and qualitative interviews with patients from 4 ethnic groups at a federally qualified community health center

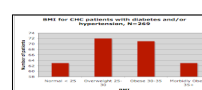
Education:



Monthly Household Income:

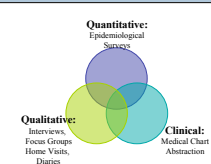


Body Mass Index:



Median Age: 56 yrs; Min/Max: 25 / 85 yrs
Disability: 60% consider themselves disabled

MULTI-METHOD, COMMUNITY-BASED RESEARCH



KENTUCKY INVENTORY OF MINDFULNESS SKILLS (KIMS)

Definition Of Mindfulness:

Mindfulness is the practice of focusing one's attention and being able to describe internal and external stimuli occurring in the present moment in a nonjudgmental way. (Kabat-Zinn, 1994; Baer et al, 2004)

KIMS:

Chose the KIMS (Baer et al, 2004) because it was designed to measure mindfulness with people with no training in meditation

- Used 12 of the 39 items representing the four factors of mindfulness (Observe, Describe, Act with Awareness, Accept without Judgment)

- 2 items from each factor with the strongest factor loading
- Additional 4 items from the observe category

PSYCHOMETRIC FINDINGS

Internal consistency:

- Adequate internal consistency: Observe ($\alpha=.76$), Aware ($\alpha=.65$), Accept ($\alpha=.72$)
- Inadequate internal consistency: Describe ($\alpha=.09$)

Scale Intercorrelations:

- Similar pattern to that obtained by Baer et al (2004), except:
 - No correlation between Observe & Describe;
 - Positive correlation between Observe & Accept.

Exploratory Factor Analysis:

- Unlike Baer et al (2004), our data yielded a three-factor solution accounting for 53.01% of the variance.
- The (Describe) items did not yield a separate factor and, if anything, loaded on the (Accept) factor.

CITATIONS

Baer, R.A., Smith, G.T., Allen, K.B. (2004). Assessment of Mindfulness by Self-Report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11(1), 19-36.
Kabat-Zinn, J. (2003). *Jackie's way at work: The transformation of Obama practice in society*. In C. Warren & B. Rindler-Schjerve (Eds.), *The psychology of mindfulness: Foundations, research, and new directions* (pp. 227-249). North Beach, MA: World

MINDFULNESS BY ETHNICITY: QUANTITATIVE FINDINGS

Mindfulness by Ethnicity

	White (n=40)	African American (n=64)	Vietnamese (n=87)	Latino (n=100)	F(3,287)	Sig.
Observe	20.45 (10)	22.33 (10)	15.03 (46)	18.26 (41)	23.91	.0001
Describe	6.90	7.11	6.39	7.31	3.17	.03
Aware	5.83	6.41	5.74	6.62	2.34	.08
Accept	7.30	6.45	7.21	6.96	1.57	.25

NOTE: Means with unlike subscripts differ at $p < .05$

- Significant differences in mindfulness scores across ethnic groups were obtained on the (Observe) and (Describe) dimensions.

- The pattern of means suggests that Vietnamese had the lowest scores.

Correlations between mindfulness, health literacy, adherence, and health status:

- All 4 dimensions of mindfulness significantly associated with self-reported Health Status.
- Describe, Aware, and Accept: On these 3 dimensions, the more "mindful" one is, the better their physical and mental health are overall.
- Observe:
 - On this dimension, the more "mindful" one is, the poorer their physical and mental health are overall.
- Evidence of positive association:
 - mindfulness and health literacy;
 - mindfulness and adherence.

ACKNOWLEDGMENTS

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QUALITATIVE FINDINGS: EVIDENCE OF MINDFULNESS PRACTICES IN DIVERSE POPULATIONS

Focus group and in-depth interviews with Latino, African American and Vietnamese patients indicate mindfulness practices, as defined by the KIMS four factors, particularly associated with self-care management.

Observe:

A Latino focus group member discusses noticing feelings in the body:
P1: I sometimes feel like my body is shrunken like... as if I couldn't get up to stretch out, so what I do now is that I get up, I grab my cane and I go for a walk. I go around a couple times, and in those couple of times, well, it comes back, like my circulation comes back again, and I feel good. With a couple of times around the building. With that... my muscles come back to normal. But sometimes I get up like I'm all tight from that, as if I couldn't get up to walk or anything.

Describe:

A focus group with African American participants, describes breathing in Tai Chi and its importance for the body:

P4: It's the breathing technique that that...

P3: Helps you relax

P4: That relax-that relaxes.

P3: The body and the mind.

P4: If you move your hand, you're actually (breathes out) moving and breathing at the same time-

P2: Then they'll exhale. ...

Q3: What relationship would you make between the role that breathing plays in your overall feeling?

P4: If you can't breathe, you have no oxygen, going in and out of your body. You need oxygen for your blood, you need oxygen for your brain, your nerves, every-everything needs oxygen. Just to function. We take it for granted that we breathe and we don't have a machine connected to us. So the inhale and the exhale, if you can't inhale and exhale, well, we know you gone.

Act with Awareness:

In a focus group with Vietnamese participants, one man describes focusing his attention on spirituality with movement as a means for controlling his blood pressure:

P1: He says he combines religion with physical activity. For example, he says he sweeps the floor and he also prays, saying "God please, wash my sins. Like I'm sweeping the floor, wash my sins away from my body." He says he always combines religion with physical activity. He says, when he first wakes up in the morning, he takes his blood pressure pills, then he drinks something, then he starts leaving the house, and if the sun hasn't risen, he will not go too far. He'll wait for the sun to come up and walk for an hour in the first light. Then, after he comes home, he listens to the news on the radio. He says, all of a sudden, my blood pressure is back to normal.

Accept without Judgment:

In an in-depth interview with an African American participant, she describes how she listens to her body and rests when needed:

Q: Do you think of yourself having a dialogue- do you listen to your body?

A: [Respondent enthusiastically repeats 'yes'] Yeah. Uh-huh.

Q: How does that feel?

A: Well, okay... I clean my own apartment. ... like if I'm cleaning the bathroom... And maybe my back start hurting, you know. Okay, time to get sit down now. You could fall over in the bathtub trying to shine the chrome, you know. So I'll just go and relax for a while. If your body says you got to go relax. And I listen to it. I get a little light headed, take a break. I don't take medication because I'm not a freak for medication. I'll lay down and give it a half an hour, at least. And when I do that, it usually ease right off.

QUALITATIVE FINDINGS: TESTING THE KIMS IN DIVERSE POPULATIONS

We asked participants to explain in words why they chose particular answers in the KIMS to determine their understanding of the KIMS questions.

In a Latino focus group:

Q: I pay attention to sensations like the wind in my hair or the sun on my face-

P1: Well I would say that sometimes, because the sun doesn't come out everyday, but the wind that is always out and it blows on you. "Sometimes", I would say.

P3: And more when it's cold, right? (chuckles)...

P3: Because it feels like, often when... when you are at home you don't feel the wind, nor see the sun touch your face, you know?

In response to the same questions in an African American focus group:

P4: Um, well when I wake up, generally, I know what the conditions are outside. And uh... most of the time I'll wear a cap, and as far as the sun on my face and what not... if there's sun out there and what not, I don't pay attention to it.

P3: For me I would say number 3 (Often/Often True). Because I love the heat! ... Give me the sun on my face! But the wind in my hair is not so much.

Q: And what makes you say that, the wind in your hair not so much.

P3: My hair [is] just usually pulled back.

CONCLUSIONS

KIMS as a measure of mindfulness in diverse groups:

- Evidence for the psychometric integrity with the KIMS in these populations was mixed;
- Focus group data indicate a very literal interpretation of the KIMS questions;
- These combined findings call into question the appropriateness of this instrument with these ethnic groups.

Mindfulness practices in diverse groups:

- Possible limitations of the KIMS notwithstanding, there is some evidence of both positive and negative associations between mindfulness and health;
- Qualitative data indicate that mindfulness practices are indeed associated with chronic illness self care management and stress reduction.