

Social Determinants of Health Virtual Reality Videos for DPT Students

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We have no financial relationships.



**University of Nebraska
Medical Center™**

Background



Ohio University Pilot Study (N=69)

Received funding from Medicaid/Medicare to produce videos

Pilot: Assessed 1) Cultural self-efficacy; 2) Diabetes Attitudes; and 3) Presence

- All 5 **diabetes attitude subscales** improved significantly (1) *Need for special training*, (2) *Seriousness of type 2 diabetes*, (3) *Value of tight glucose control*, (4) *Psychosocial impact of diabetes*, and (5) *Attitude toward patient autonomy*
- High scores for **presence** in cine-VR, indicating **favorable perceptions of the technology** and immersion in the 360-degree virtual environment.

(Beverly, 2021).



Video Modules



Lula Mae

- 72-year-old grandma
- Type 2 diabetes for 22 years
- Lived her whole life in rural Ohio

Dr. Brown

- Lula Mae's doctor
- Experiencing signs of burnout

Social Determinants of Health affecting Lula Mae

- Transportation barriers
- Less access to healthcare
- Limited or no insurance
- Financial barriers
- Housing issues
- Food insecurity
- Less social support

12 modules about 3-5 minutes in length

360 format



Meeting Lula Mae

Experience it for yourself!



Phone

Use your phone to
scan the QR code and
view on YouTube.

VIDEO WATCHED >

Watch video: <https://mesp.ohio.edu/training1.html>



DPT Students

63 first-
year DPT
students

- Second semester of 8-semester program
- Clinical experience disrupted
 - Opportunity for patient interaction
 - Same exposure for all students
 - Opportunity for purposeful reflection on application to future clinical practice

American Council of Academic Physical Therapy (2020)



DPT Students

We needed at least 34 students to participate

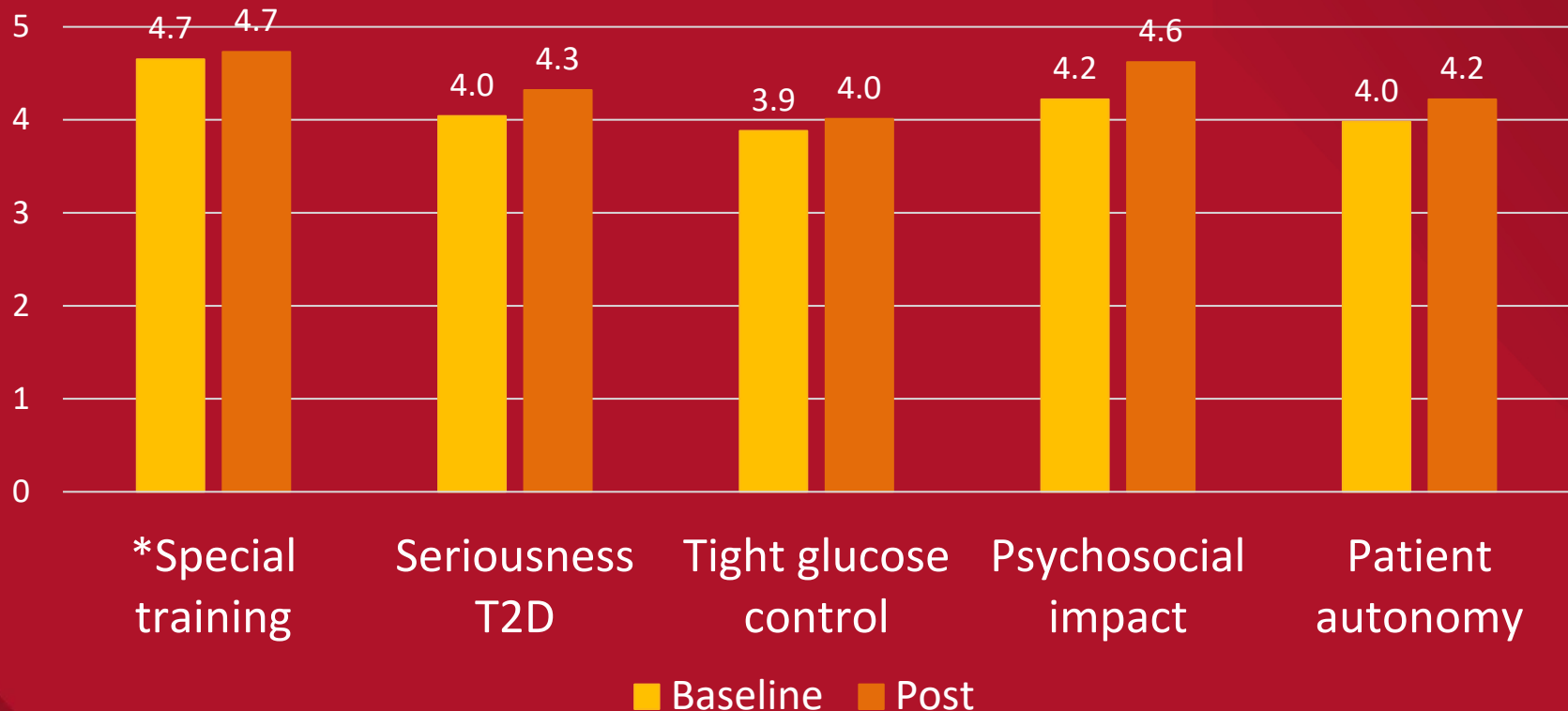


Demographics

	BL to Post	Post to 6-weeks
Women	60%	56%
White	78%	82%
Omaha Campus	82%	80%
Family/friend with diabetes	53%	56%



Diabetes Attitudes Sub Scales



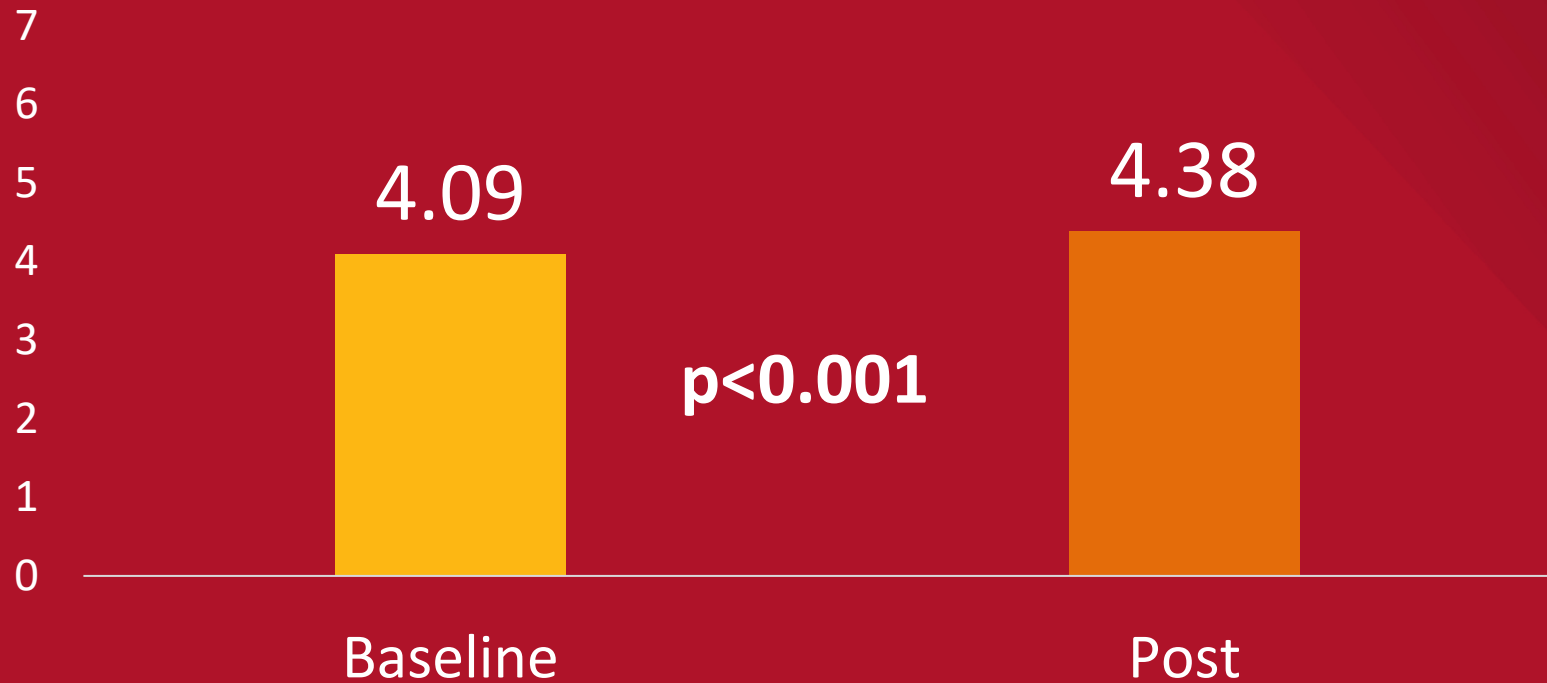
Likert Scale of 1-5

*Ceiling effect

5-point scale 1=strongly disagree to 5=strongly agree



Jefferson Empathy Scale Baseline and Post (n=60)



20 questions with 1=strongly disagree to 7=strongly agree



Presence Measure n=60

Sub Scale	Mean
Involvement (6Q)	5.41
Sensory Fidelity (4Q)	5.17
Adaptation/Immersion (5Q)	5.08
Interface Quality (2Q)	5.18

17 questions

Response on a 7-point scale



One more time!?

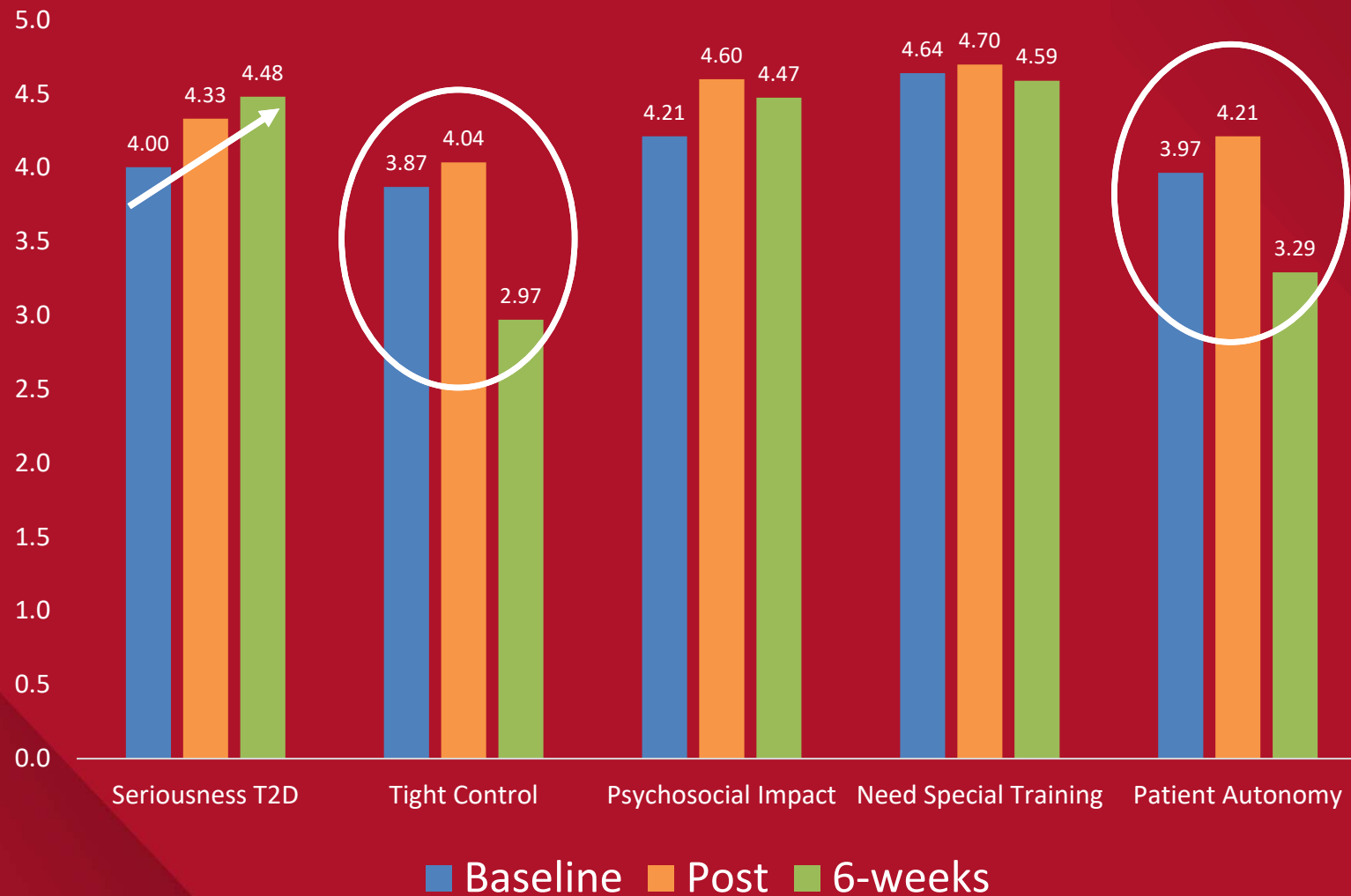
6-week assessment

2 main scales

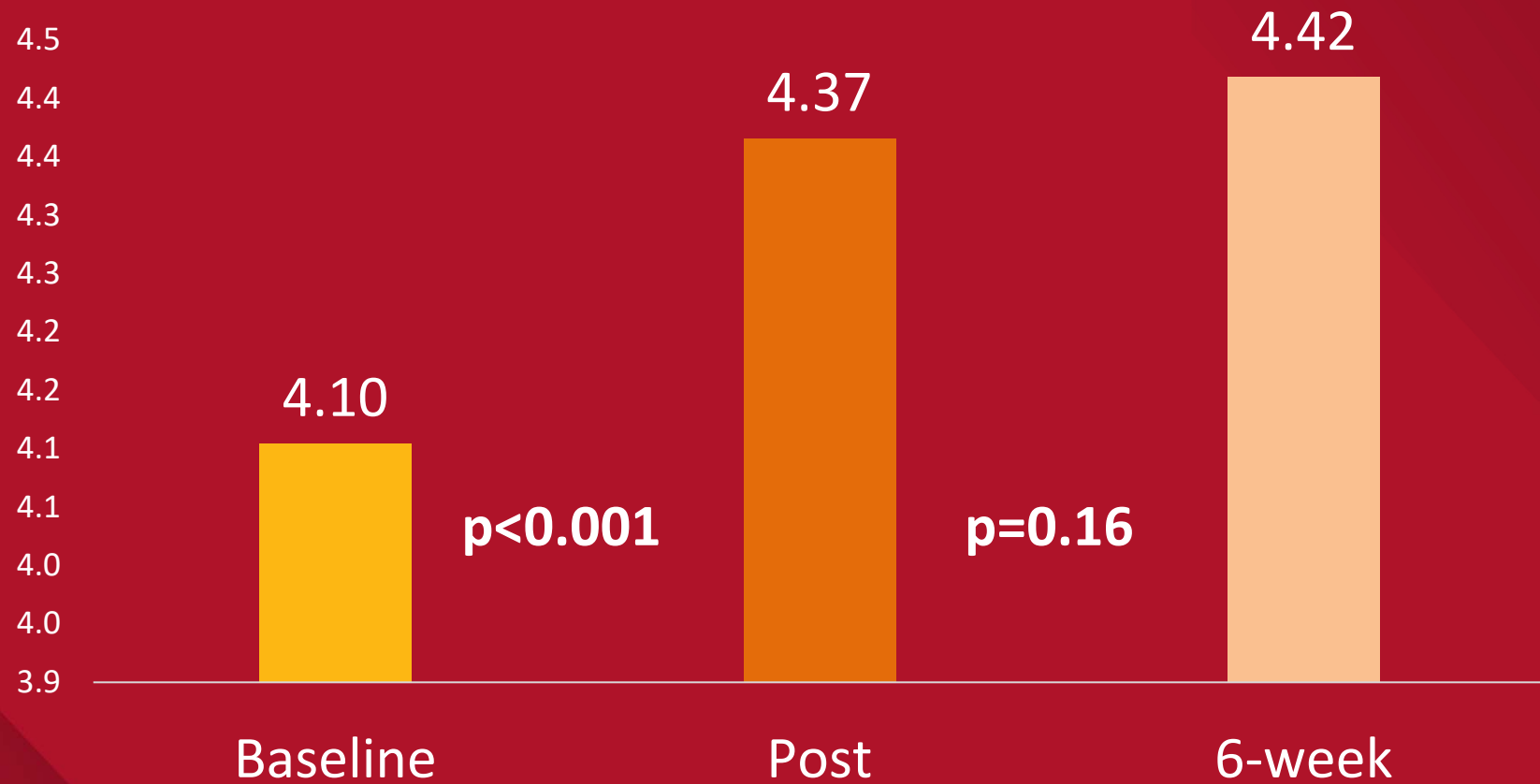
- Diabetes Attitude Scale
- Jefferson Empathy Scale



Differences in DAS-3 at Baseline, Post, and 6-weeks



JES at Baseline, Post, and 6-weeks



Classroom Discussion

Provider Burnout

Patient-Provider Relationship

Student emotional response

Student connection through stories

Patient Barriers: Social Determinants of Health

Patient Barriers: Lack of Family Support



Provider Burnout



*“he **didn't even give her a chance to speak** like just kind of took out his burn out”*

“I don't think he rarely even let her finish her sentences”

*“I felt like at that point he was just being **condescending**”*



Patient-Provider Relationship



*“Maybe she doesn't want to go to the doctor because of **how she was treated** last time. She doesn't want to be reprimanded again and **treated like a child**, you know.”*

“I could just feel my blood pressure rising. I could just I just felt like holy buckets! You know, it's like why on Earth would this woman go to her doctor's appointment?”



Emotional Response

*“I was like everyone kind of **really frustrated** with all of her kids at first.”*

*“I was very **emotionally invested** in this and I think I was in tears in the first 5 minutes.”*

*“I mean it would it just I was **pretty angry** at that point.”*



Student stories

Students told stories about **family members** and their poor relationship with health care providers

Students related to the **social determinants of health** through their own stories

Students discussed their **own feelings of burnout** by telling their stories

One student told a story about **learning to eat healthy food** as a teenager (orange)



Patient Barriers: SHD

“the distance inhibited her ability to **access proper medical care.**”

“so just being in that area usually the economic problem and then also like **education**, like the **literacy** could be a little bit lower ...”

“We have stroke survivors out here in rural Nebraska that **travel** anywhere between 100 and 300 miles. You know, and you think about that.”

“if you **don't feel safe** in your neighborhood, are you going to go out for a walk or are you going to go out for a run?”

“thinking about that and someone that does have **food insecurity**, they're trying to get foods that can carry them through a week or two weeks or a month or something.”



Patient Barriers: Lack of Family Support

*“Everybody said the family will help and obviously **the family was not helping** as much as they thought they were.”*

*“We **can't just assume that family members will take care of our patients** for us once they leave the clinic.”*

*“I felt like her daughters especially were like **taking advantage of her**, asking her for money all the time. Assuming that she's going to watch all of the kids and. Not ask for help and she's able to do all that and I was shocked.”*

*“I know that that was a really **surprising aspect** to me because, you know, for us **we helped our parents.**”*



Summary

- Attitudes toward diabetes improved from BL to post; two domains decreased at 6-weeks
- Empathy increased and remained high
- Provided rich classroom discussion
- Advantages:
 - Experience is flexible
 - Students can engage in multiple aspects of a patient's life
 - Shared experience among students



References

Beverly, E. A., Love, C., Love, M., Williams, E., & Bowditch, J. (2021). Using Virtual Reality to Improve Health Care Providers' Cultural Self-Efficacy and Diabetes Attitudes: Pilot Questionnaire Study. *JMIR Diabetes*, 6(1), e23708.

American Council of Academic Physical Therapy (2020) Guidance on Participation in Clinical Education Experiences in Physical Therapy Education.

