



Pensando en mi salud (Thinking about my health): Health literacy and patient-reported outcomes in a community-based participatory research project

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Background and Research Question

Much is still unknown about the links between health literacy and health outcomes in Spanish-speaking adults.

Community-academic partnerships to advance research:

- Both interpersonal and operational collaborative processes are important in community-academic partnerships (Drahota et al., 2016):
 - Trust and respect among partners
 - Communication
 - Shared vision, goals and/or mission
 - Time commitment
- Northwestern University Center for Community Health Principles of Engagement:
 - Collaboration, Respect, Equity, Transparency, Impact

This first phase of our community-academic research partnership (Universidad Popular - Northwestern University):

- evaluated the feasibility and acceptability of multimedia administration of health literacy and patient-reported outcome (PRO) questionnaires in a community setting
- examined relationships between participant characteristics, health literacy and PROs

Methods

Community and academic investigators jointly designed, implemented and analyzed the project, with input from a Community Advisory Board.

Adult clients of Universidad Popular used a touchscreen tablet to self-administer multimedia (text, audio, images) questionnaires in Spanish:

- Health Literacy: Health LiTT (Health Literacy Assessment Using Talking Touchscreen Technology)
 - Health Status (PROMIS Global Health)
 - Medical decision-making preference
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- A semi-structured interview assessed the user experience in terms of understandability, usability, acceptability and burden.
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- Health LiTT scores were dichotomized as low (inadequate health literacy, <55) vs. high (adequate, ≥55). Participant characteristics and outcomes were compared across Health LiTT groups using chi-square or Fisher's exact tests, and t-tests.



En general, diría que su salud es:

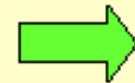
Excelente

Muy buena

Buena

Pasable

Mala



Medicamentos para el Sr. Beta

| Medicamento | Fecha de comienzo | Fecha final | Instrucciones |
|----------------------------------|-------------------|-------------|--|
| Hanebrex: pastillas de 200 mg | 27 de ago. | 26 de sept. | 1 pastilla diaria |
| Yostatin: pastillas de 250 mg | 8 de mar. | Ninguna | 1 pastilla dos veces al día |
| Nandozol: 90 mcg por inhalación | 8 de mar. | Ninguna | 1 a 2 inhalaciones por la boca cada 4 a 6 horas, según sea necesario |
| Cellacillin: pastillas de 250 mg | 22 de abr. | 29 de abr. | 2 pastillas el primer día y luego 1 pastilla diaria de ahí en adelante |



Observe los Medicamentos para el Sr. Beta. ¿Cuántas pastillas de Cellacillin debe tomar el tercer día?

1

2

3

4

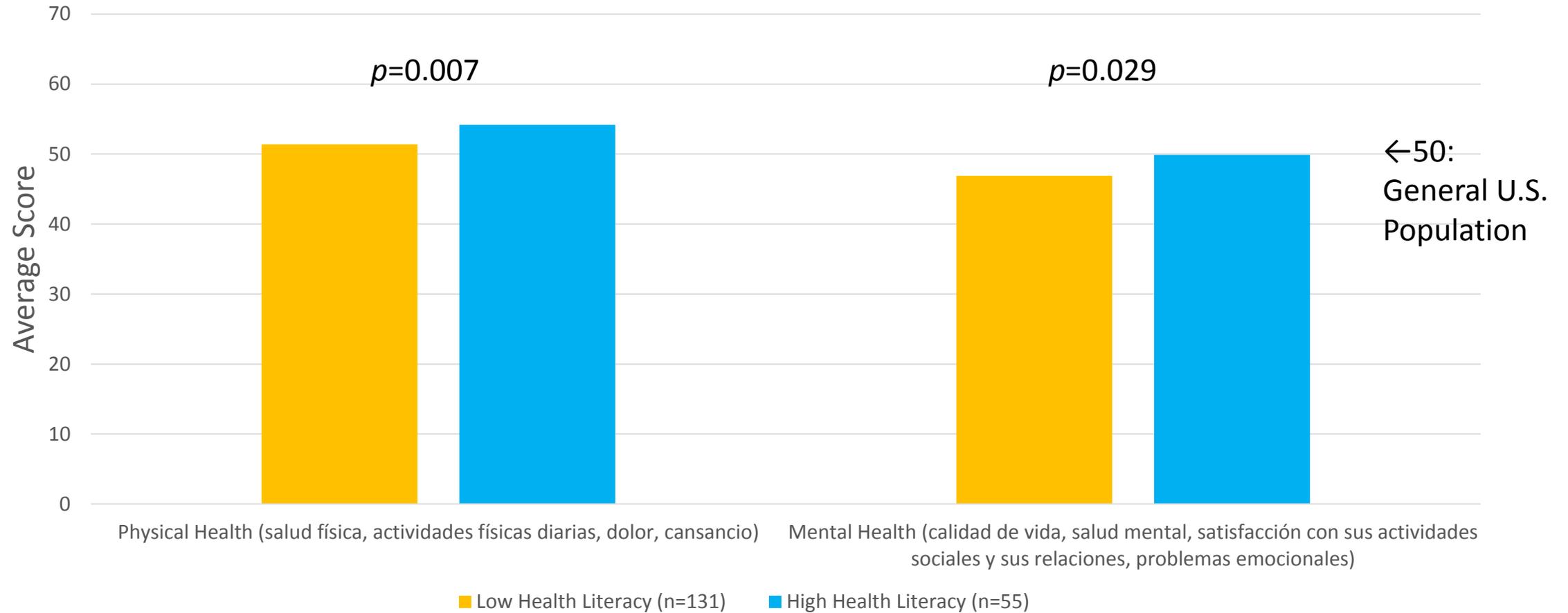
Sociodemographic Characteristics

| | Low Health LiTT (<i>n</i> =131) | High Health LiTT (<i>n</i> =55) | <i>p</i> -value |
|--|-------------------------------------|-------------------------------------|-----------------|
| Age in years, mean (SD) | 42.4 (13.5) | 40.6 (12.7) | 0.414 |
| Female | 69 (53%) | 18 (33%) | 0.013 |
| Highest Education | | | |
| Less than HS | 78 (61%) | 30 (57%) | 0.792 |
| HS/GED | 35 (27%) | 15 (28%) | |
| More than HS | 15 (12%) | 8 (15%) | |
| Ever used a computer before? (desktop, laptop, tablet, mobile device) | | | |
| Never | 10 (8%) | 0 | 0.175 |
| Not in past 12 months | 3 (2%) | 0 | |
| 1 to 3 times per month | 23 (18%) | 8 (15%) | |
| 1 to 4 days per week | 31 (24%) | 15 (29%) | |
| 5 to 7 days per week | 60 (47%) | 29 (56%) | |

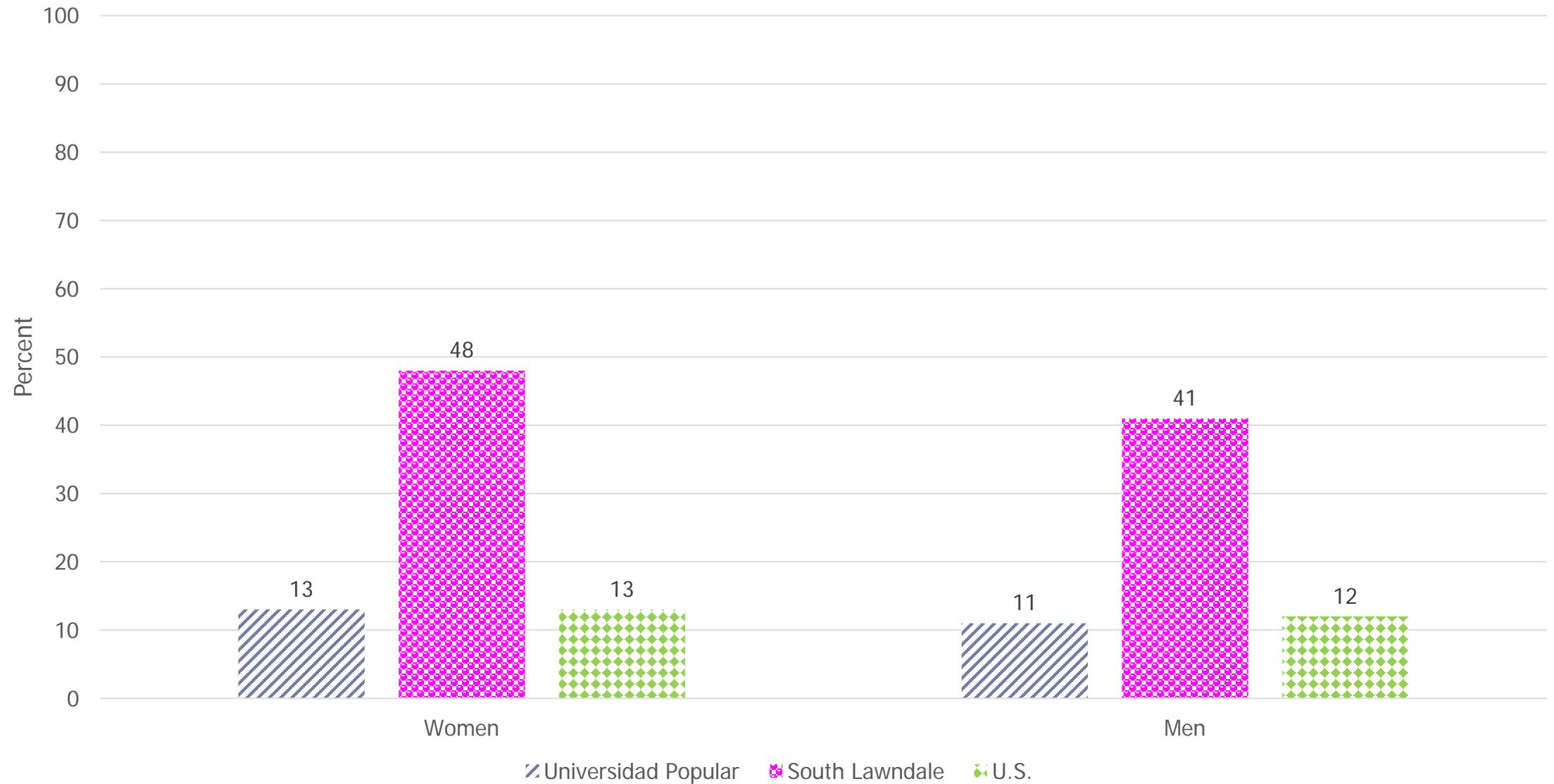
Health Literacy and Health Status

| | Low Health LiTT (<i>n</i> =131) | High Health LiTT (<i>n</i> =55) | <i>p</i> -value |
|-----------------------------------|-------------------------------------|-------------------------------------|-----------------|
| Health LiTT T-score, mean (SD) | 47.3 (5.9) | 59.0 (2.9) | <0.001 |
| Overall Health | | | |
| Excellent | 23 (18%) | 10 (18%) | 0.010 |
| Very good | 24 (19%) | 24 (44%) | |
| Good | 61 (49%) | 17 (31%) | |
| Fair | 16 (13%) | 4 (7%) | |
| Poor | 1 (1%) | 0 | |

Average Health Scores, by Health Literacy Group



Percent With Poor or Fair Health



Preferencias de control

Seleccione la opción que describa mejor su preferencia.

| | | | | |
|---|---|---|--|---|
|  |  |  |  |  |
| <p>Prefiero tomar decisiones acerca del cuidado de mi salud.</p> | <p>Prefiero tomar decisiones acerca del cuidado de mi salud después de tener muy en cuenta la opinión de mi médico.</p> | <p>Prefiero que mi médico y yo compartamos la responsabilidad de tomar decisiones acerca del cuidado de mi salud.</p> | <p>Prefiero que mi médico tome las decisiones acerca del cuidado de mi salud, pero que tenga muy en cuenta mi opinión.</p> | <p>Prefiero dejarle las decisiones acerca del cuidado de mi salud a mi médico.</p> |

Low Health LiTT: 8%
High Health LiTT: 8%

8%
24%

58%
43%

19%
22%

6%
4%

$p=0.097$

Evaluation of the Technology and the Study

| | Low Health LiTT (n=131) | High Health LiTT (n=55) | p-value |
|---|----------------------------|----------------------------|---------|
| No difficulty using La Pantalla Parlanchina | 119 (93%) | 52 (96%) | 0.511 |
| Overall rating of screen design, including colors and layout | | | |
| Excellent | 44 (35%) | 18 (34%) | 0.600 |
| Very good | 54 (42%) | 25 (47%) | |
| Good | 27 (21%) | 8 (15%) | |
| Fair | 2 (2%) | 2 (4%) | |
| Poor | 0 | 0 | |
| Study participation experience | | | |
| A lot better than expected | 50 (39%) | 13 (25%) | 0.144 |
| A little better than expected | 59 (46%) | 29 (55%) | |
| About the same as expected | 18 (14%) | 11 (21%) | |
| A little worse/a lot worse | 0 | 0 | |

Summary and Implications: Health Literacy and Health Status

- Spanish-speaking community members with high health literacy reported better overall health, better physical health and better mental health compared to those with low health literacy.
- Those with low health literacy tended to report more interest in shared decision-making with their doctors, compared to high health literacy.
 - This finding could be useful for interventions to improve patient-physician communication and disease self-management for people with diverse health literacy skills.
- Regardless of prior computer experience or health literacy level, 94% of participants reported no difficulty using La Pantalla ParlanChina.
 - Multimedia adaptations enable expansion of eligibility criteria for self-administration of questionnaires in patient-reported outcomes research.

Summary and Implications: Community-Academic Partnerships

- Our partnership advanced understanding, exchange and action for strategies and plans to better understand health literacy and health outcomes in Spanish-speaking Latino community members.
- We demonstrated bi-directional long-term impact:
 - the academic partners learned important strategies to implement community-based participatory research
 - the community partners acquired additional skills needed to collect and analyze data, to disseminate findings to stakeholders, and to incorporate health literacy into all innovative programming and delivery of services
- We submitted an R01 proposal to the NIH:
 - to strengthen our partnership in a strategic and collaborative way
 - to produce interventions better targeted to underserved populations
 - to develop a sustainable community program to improve health literacy and health outcomes
 - to develop partnerships with other community-based organizations