



# Amigas Latinas Motivando el Alma (ALMA): An Intervention to Reduce Mental Health Disparities in Latina Immigrants

India J. Ornelas, PhD, MPH  
Interim Chair and Professor  
Health Systems and Population Health  
[iornelas@uw.edu](mailto:iornelas@uw.edu) | @profe\_ornelas

**W**  
**SCHOOL OF PUBLIC HEALTH**  
UNIVERSITY *of* WASHINGTON

# Background

- Latina immigrants experience immigration related stressors that increase their risk for depression and anxiety.
- COVID-19 has added further stress.
- Latina immigrants face many barriers to mental health care.
- Social networks and social support can serve as important resources for Latina immigrants.
- Need for culturally-grounded community-based interventions to promote mental health of Latina immigrants.

# Immigration Related Stressors

- Fear for safety during migration
- Political environment at the time contributed to a lack of a sense of safety
- Immigration disrupts supportive social ties
- Legal status limits access to employment, health and social services

“Currently many of us immigrants are scared of being detained by immigration... I think the majority of us immigrants are frightened. We have to figure out where we find the strength to be tough mentally.”

“And I said goodbye to my family with great sadness, at the same time I had ...like mixed emotions. I was excited, but at the same time I left part of me.”

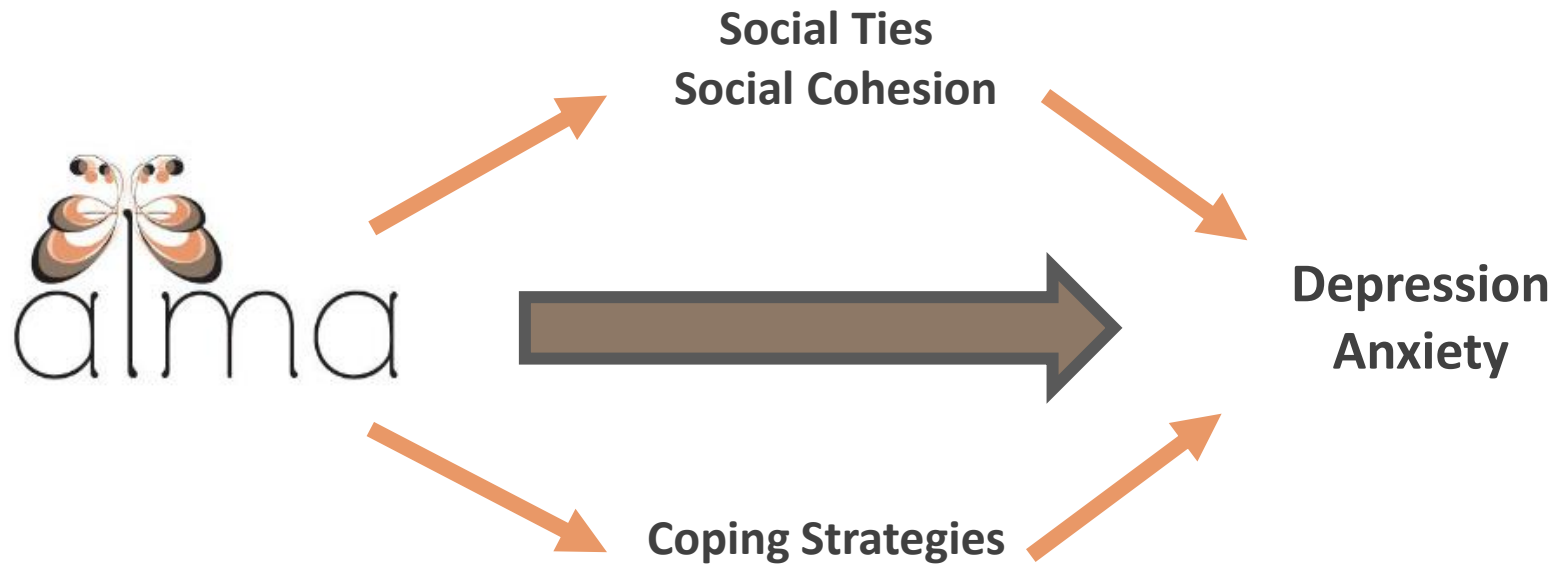
# Strategies for Coping with Stressors

- Transnational family ties provide support
- Women use social ties to access resources
- Children are a source of encouragement and support

“It was very difficult to say goodbye to my mother and siblings, I did not know when I would return. It was something very difficult, but I do not regret it because I am providing something for my children. I am here for them.”

“You meet good people that teach you a lot, there are so many things that you do not know [when you first arrive] and others will show you.”

# Amigas Latinas Motivando el Alma (ALMA) Conceptual Model





# ALMA Program Overview

- Goal is to prevent and reduce anxiety and depression symptoms
- 8 week group program, 2 hour sessions
- Encourages women to continue using existing coping strategies and teaches women new strategies they may not have been exposed to
- All sessions and communications in Spanish
- Child care, transportation and food provided
- Delivered by mental health and mindfulness professionals at community-based organizations.

# ALMA In-Person Curriculum

## **Session 1: Arriving, Connecting, Introduction to Program**

Intros to each other, the program, mental health & coping, guided body relaxation

## **Session 2: Telling Our Stories of Migration**

Migration story-telling, singing, mindfulness of the breath meditation, movement

## **Session 3: Stress and Life here in Seattle/Washington**

Tree of stressors, sponge activity, mindful and compassion movement

## **Session 4: Interconnectedness and Support**

Centering practice, mindful eating, web of interconnectedness

## **Session 5: Homecoming—to Mindfulness, to Ourselves, to Each Other**

Emotion identification, emotion embodiment practice, mental health resources

## **Session 6: Working with Challenging Emotions**

Mindfulness of challenging emotions, self-compassion letters, affirmations

## **Session 7: ALMA in our Daily Lives**

Review of practices, loved ones' dichos, ALMA soul collage

## **Session 8: Celebration, Graduation, Staying Connected to Self & Others**

Gratitude circle, potluck, mindful movement











Estar atenta en tu cuerpo  
Body Awareness



Estar atenta en tu respiración  
Mindfulness of the Breath Meditation



Estar atenta en comer  
Mindful Eating



Háblate con amor y cariño  
Loving self-talk

# Offering ALMA Online

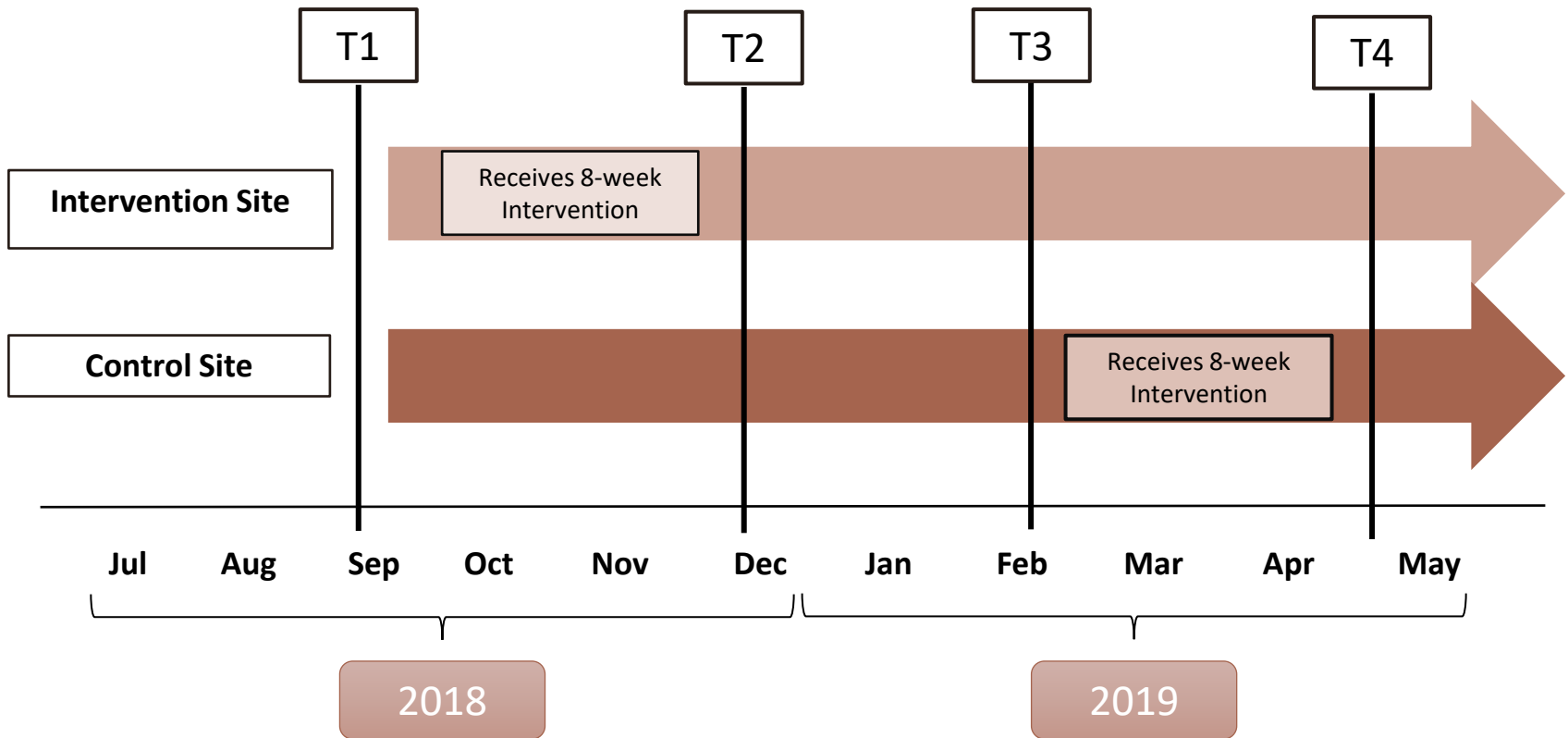
---

- Provided participants materials prior to the session (ALMA Tote Bag)
- Provided reimbursements for childcare and food
- Adjusted orientation to offer different levels of Zoom training
- Encouraged those that are familiar with the Zoom chat to share their feelings, thoughts and ideas
- Asked everyone to turn on their cameras to help build connection and community
- Used breakout rooms (for the migration story circles)

# ALMA – Wave 1 Example Timeline

**T1:** Baseline Survey

**T2 – T4:** Follow-Up Surveys



# Recruitment and Data Collection

- Latina immigrants recruited from two community organizations in King County, WA
- Data collected in-person or by phone
- Survey measures listed below

## Primary Outcomes:

- Depression (PHQ-9)
- Anxiety (GAD-7)

## Secondary Outcomes:

- PTSD
- Mental Health Care Utilization

## Stress Measures:

- Perceived Stress
- Immigration Stressors
- Discrimination
- Trauma

## Social Support:

- Social Support
- Social Isolation
- Social Ties

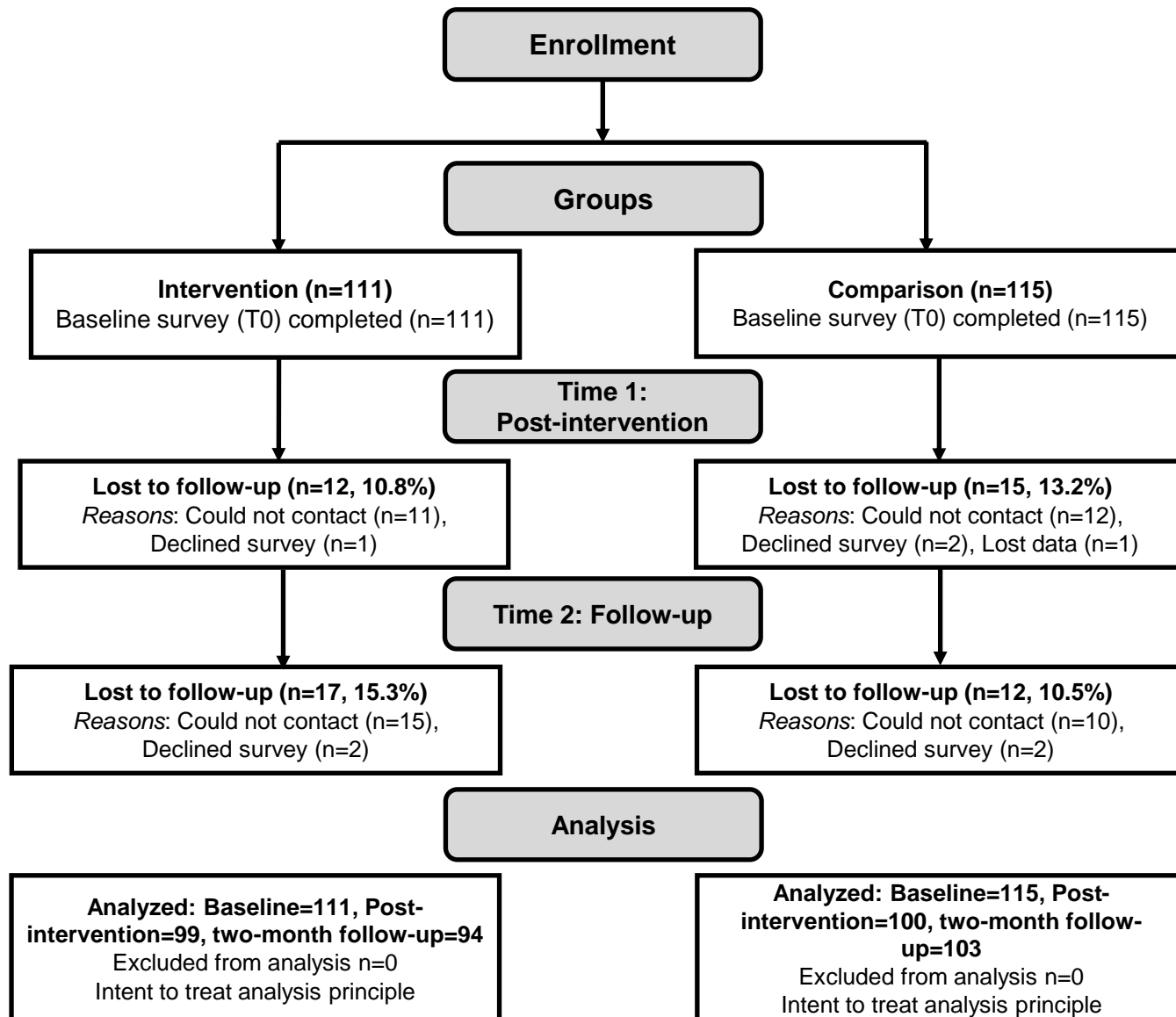
## Coping Measures:

- Coping Strategies
- Coping Activities
- Resilience

## Mindfulness Measures:

- Multidimensional Assessment of Interoceptive Awareness (MAIA)
- Freiburg Mindfulness Inventory
- Self-Compassion

# Flow diagram of participant enrollment, participation, and retention





# Demographic Characteristics of ALMA Participants (n=226)

Demographic	N or mean	% or SD
Age	40	0.7
Years in the US	15	0.5
<b>Country of birth</b>		
Mexico	168	74%
Other	58	26%
<b>Language</b>		
Monolingual Spanish	133	59%
More Spanish than English	58	26%
Bilingual Spanish/English	28	12%
Mostly English	7	3%
<b>Education</b>		
Less than high school	76	34%
High school diploma	95	42%
More than high school diploma	55	24%
<b>Immigration status</b>		
Citizen or current visa/permission	61	27%
Entry and/or stay without permission	132	58%
Prefer not to or did not answer	33	15%
Mean monthly income in US dollars (SD)	\$2417	98.4

<b>Total</b>		
Mental Health Outcome	N	(%)
<b>Depression Symptom Severity</b>		
None (0-4)	89	39%
Mild (5-9)	80	35%
Moderate (10-14)	35	16%
Moderate to Severe (15-27)	22	10%
<b>Anxiety Symptom Severity</b>		
None (0-4)	76	34%
Mild (5-9)	92	41%
Moderate (10-14)	40	18%
Severe (15-21)	18	8%

# Participant Satisfaction

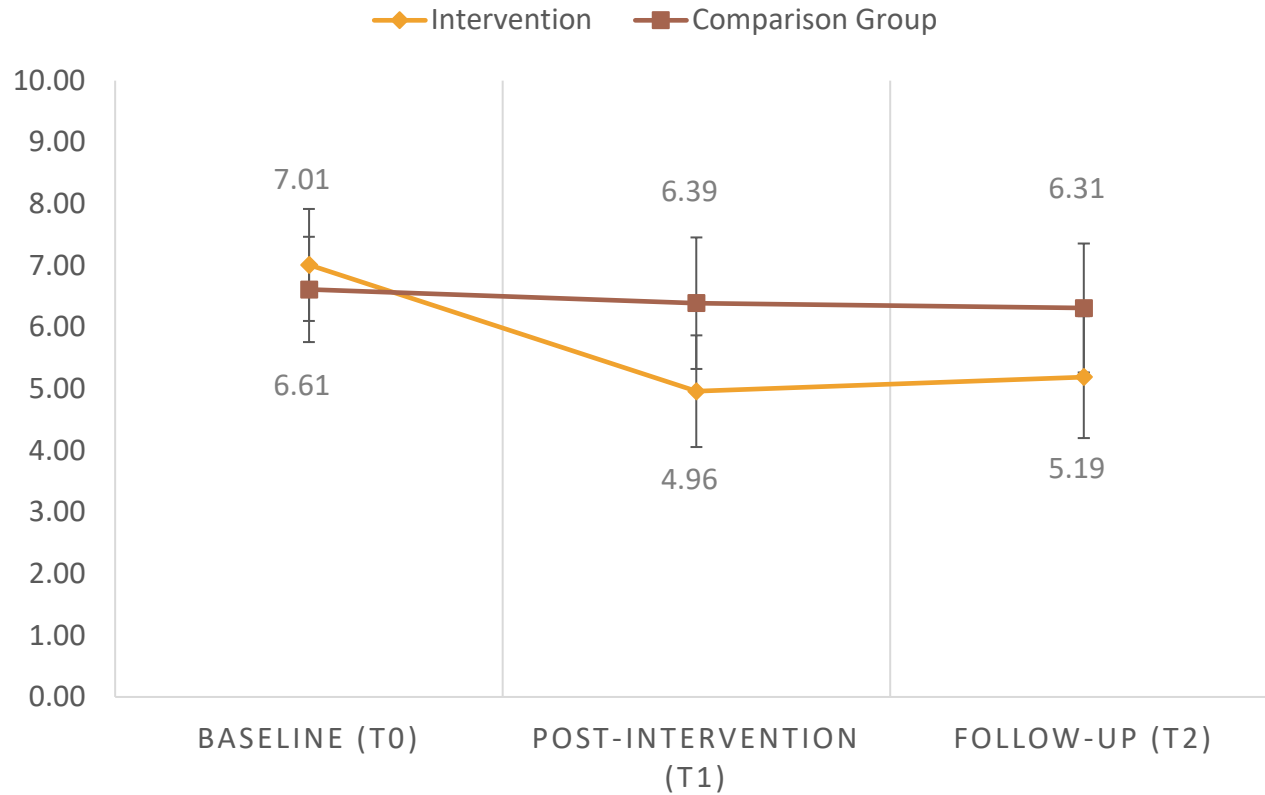
	In-person	Online
I would recommend this program to my friends, family, or other women.	5.0	4.8
I enjoyed the ALMA program.	4.9	4.8
ALMA helped me find new strategies to reduce the stress in my life.	4.7	4.7
ALMA helped me reduce my stress.	4.7	4.8
ALMA helped me recognize difficult emotions.	4.8	4.7
ALMA helped me in having self-compassion.	4.8	4.7
ALMA helped me feel less alone.	4.7	4.7
ALMA helped me relax.	4.8	4.7
ALMA helped me by teaching me how to relax.	4.8	4.8
I thought the information shared was relevant for women like me.	4.8	4.8
The information I received in the program helped me improve my mental health.	4.7	4.7
I am interacting with people I met in ALMA outside of the program.	3.4	2.8
The connections I have with other people improved due to ALMA.	4.1	3.9

## Model Estimates for Depression and Anxiety for Full Sample\*

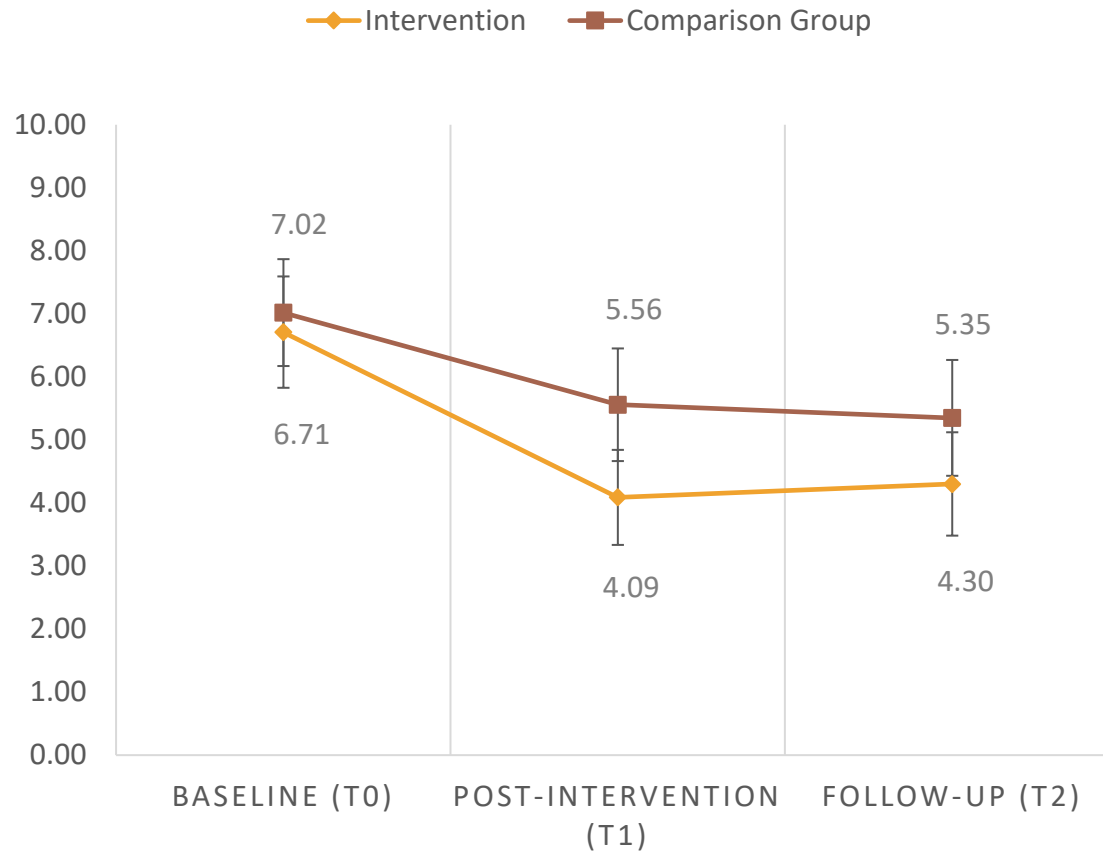
Repeated measures model effects	Depression		Anxiety	
	Coefficient	p value	Coefficient	p value
Intervention main effect	0.40	p=0.54	-0.31	p=0.63
Time main effect (T1 post-intervention)	-0.23	p=0.65	-1.45	p=0.003
Time main effect (T2 follow-up)	-0.30	p=0.48	-1.66	p=<.0001
Intervention by Time interaction (T1)	-1.82	p=0.01	-1.17	p=0.07
Intervention by Time interaction (T2)	-1.52	p=0.01	-0.74	p=0.22
Model-based least squared means	Depression		Anxiety	
	Intervention	Comparison	Intervention	Comparison
<b>Baseline (T0)</b>				
Mean	7.01	6.61	6.71	7.02
95% CI	6.10, 7.92	5.76, 7.47	5.83, 7.60	6.17, 7.86
<b>Post Intervention (T1)</b>				
Mean	4.96	6.39	4.09	5.56
95% CI	4.06, 5.87	5.32, 7.45	3.34, 4.84	4.67, 6.46
<b>Follow-up (T2)</b>				
Mean	5.19	6.31	4.30	5.35
95% CI	4.20, 6.18	5.27, 7.36	3.48, 5.12	4.43, 6.27

\*Adjusted for age, education, and language spoken

## Mean depression scores for intervention and comparison groups at all three timepoints, n=226

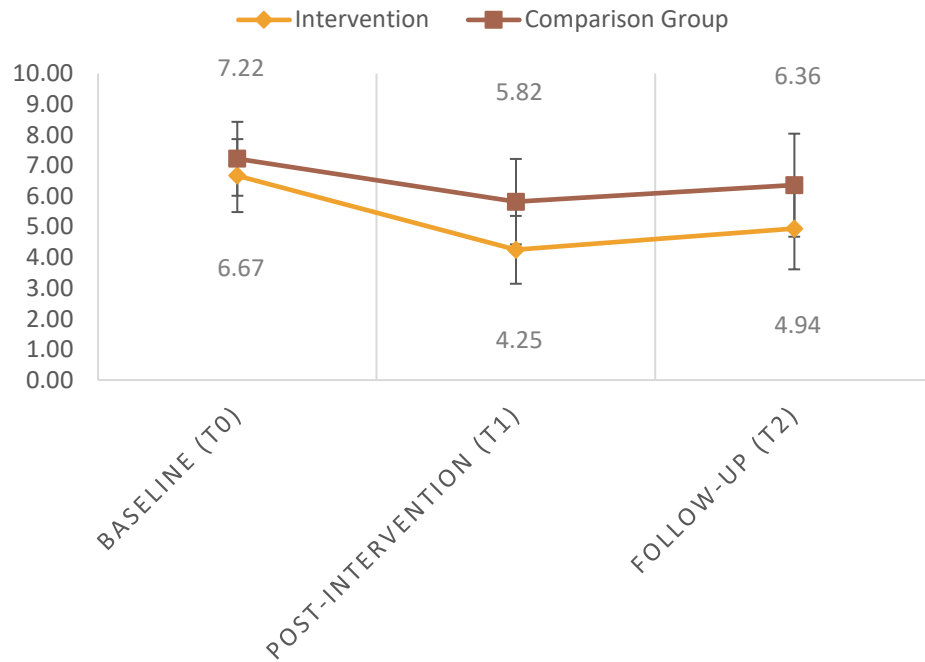


## Mean anxiety scores for intervention and comparison groups at all three time points, n=226

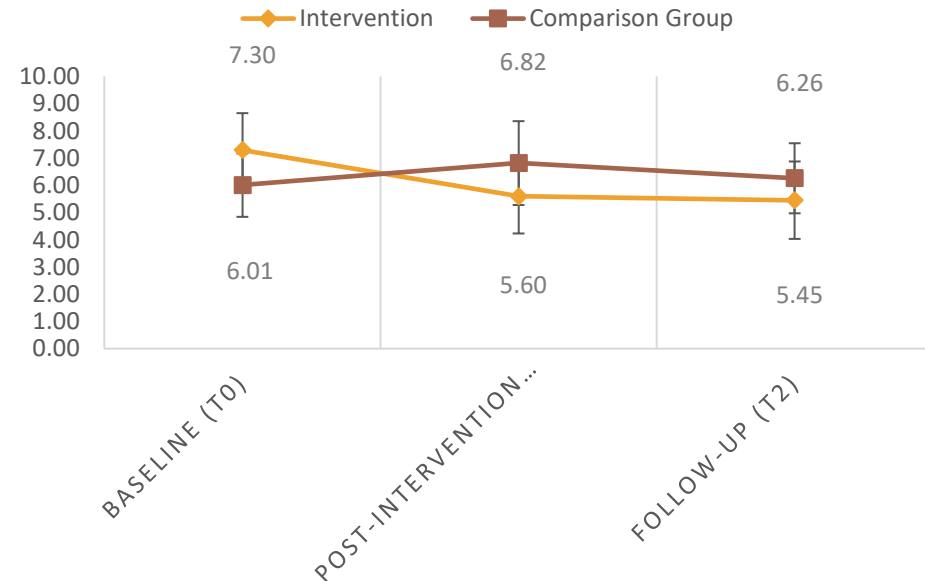


# Mean depression scores for in-person and online intervention and comparison groups at all three time points

## In-person (n=107)

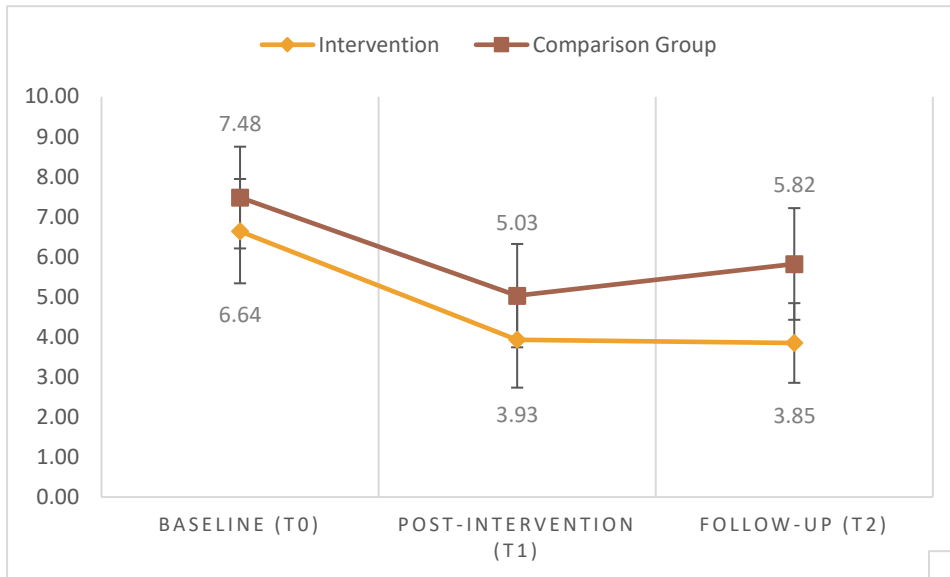


## Online (n=119)

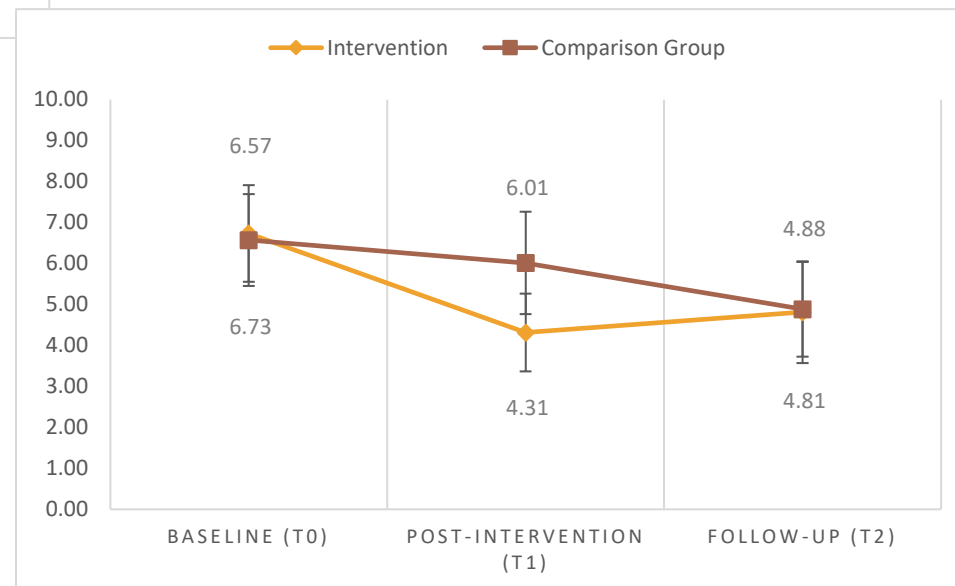


# Mean anxiety scores for in-person and online intervention and comparison groups at all three time points

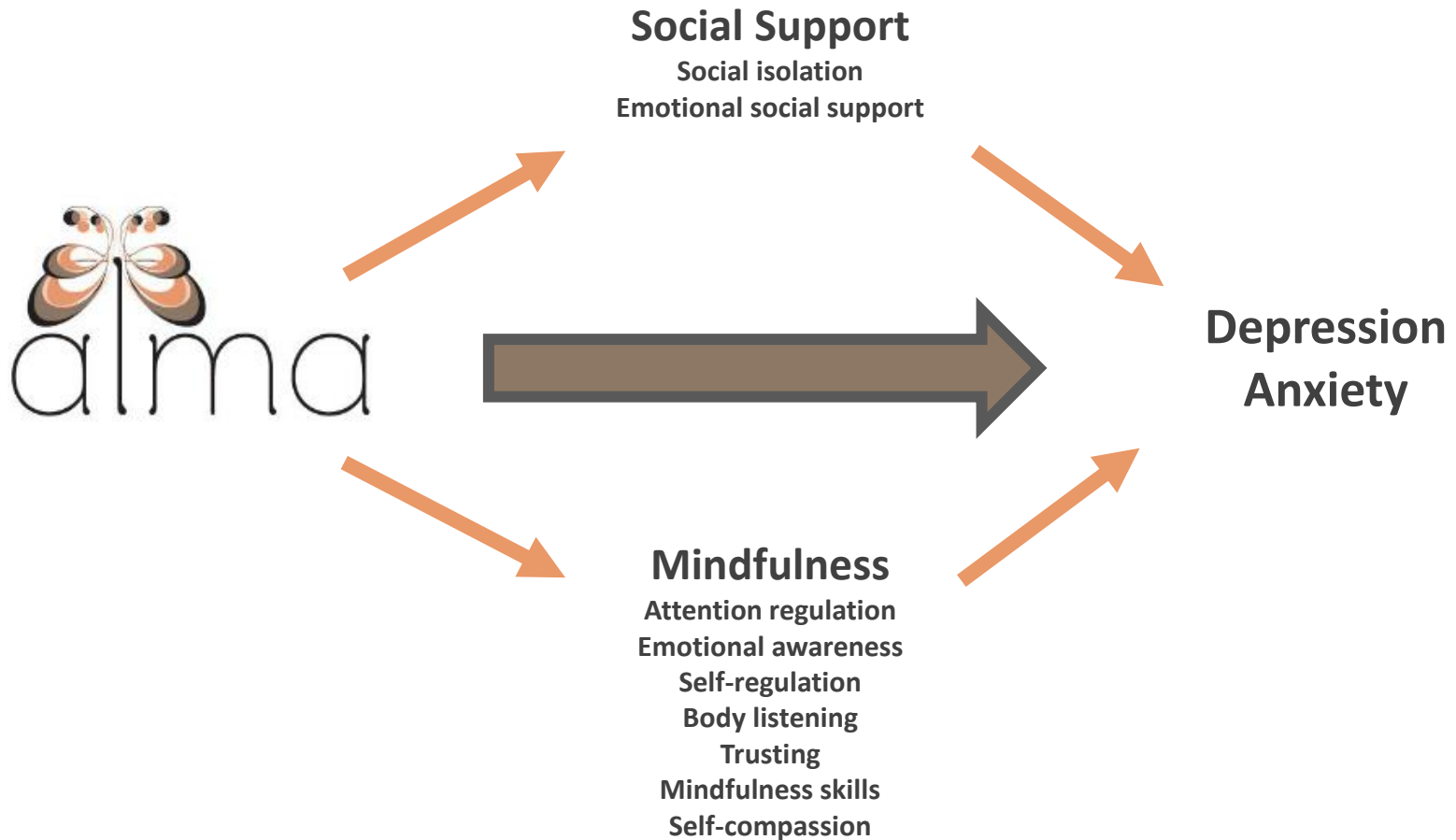
## In-person (n=107)



## Online (n=119)



# Mediation Models







# Qualitative Interviews with Participants

- Random sample of 32 participants that had attended at least 75% of the sessions
- Half online, half in-person
- Half intervention, half comparison group
- 30 minute interviews via Zoom

# Interviews: Themes & Quotes

ALMA helped participants understand how they experience stress physically and how to prioritize self-care

*What impacted me the most after taking the program is being aware of my body. If I feel something in my body, I am able to identify it and use relaxation, breathing and self-compassion.*

*I am more aware of what my body feels. Before, I didn't pay as much attention to it, if I felt tired or felt ill, I went on and on. Now, I pay more attention to the things that happen to my body*

Participants were able to apply the ALMA practices in their daily lives

*I start breathing when I feel very tense. Before I did not know the importance of taking your time to breathe and how this can reduce stress.*

*I will continue to feel frustration, sadness, and depression. There are situations that stress you out, but I can remember to stop and breathe, and if I feel sad, I can sing a song, remembering those moments when we were in ALMA.*

## Participants found empathy and understanding in hearing other participants' stories

*I felt comfortable because I think we all were going through something that was stressing us out and by sharing our experiences, we helped each other and felt we were united and understood.*

*I did feel a connection because we were women, we spoke Spanish, we were moms, and we have all experienced difficult things putting ourselves last since we have work, have to be a wife, and take care of our children. ALMA felt like a safe space, where each of us could share (talk) if we wanted to.*

## They felt supported by the ALMA facilitators

*We were part of a group where all the women had a chance to participate. The facilitators gave each one of us a chance to share, one by one, verbally or using the chat. They never forgot that we were all there. They always took us all into account.*

*They made us feel like they were our sister or a friend, allowing us to open up our hearts. I loved the way they treated us during the group. I participated in other programs, but none like this, and I enjoyed it very much*

# In-person vs. Online Participation

*Even though we could still see each other online, I feel that being in person would have been better because it would allow for more communication, and it would be easier to get to know each other.*

*It was challenging because children talk to you, look for you. They do not understand why you're online. They do not allow you to fully relax as one would in-person.*

- Engagement and satisfaction was high for both versions
- Online participants appreciated the convenience, but also noted challenges of distraction and limited opportunities to connect with other participants
- Other ways to support engagement in online programs?

# Next steps: Dissemination

- Developed an ALMA leader training for community health workers within community-based organizations.
- Teams in two community organizations are currently offering ALMA to their staff and/or clients.
- Assessing mental health outcomes and fidelity.



# ALMA Team

## Staff:

Gigi Perez  
Serena Maurer  
Veronica Poveda  
Adriana Perez Solorio  
Perla Bravo  
Katrina Nelson

## Students:

Montserrat Miranda Morales  
Juan Gudino  
Francisco Rios Casas

## Co-Investigators:

Deepa Rao, UW  
Cynthia Price, UW  
Gary Chan, UW  
Gino Aisenberg, UW  
Anh Tran, Duke

## Funding:

NIMHD R01MD012230  
UW Population Health  
Initiative

## Community Partners:

El Centro de la Raza  
Casa Latina  
Puentes  
SeaMar Community Health  
Centers



# Publications

## ***“Se vale llorar y se vale reír”: Latina Immigrants’ Coping Strategies for Maintaining Mental Health in the Face of Immigration-Related Stressors***

- Rios Casas, F. et al. *Journal of Racial and Ethnic Health Disparities*.

## ***Stress, Social Support and their Relationship to Depression and Anxiety among Latina Immigrant Women***

- Ryan, D. et al. *Journal of Psychosomatic Research*.

## ***Understanding the Relationship between Social Stressors, Trauma and Somatic Symptoms among Latina Immigrant Women***

- Abarca, G. et al. *Journal of Racial and Ethnic Health Disparities*.

## ***Coping with COVID-19: The Impact of the Pandemic on Latina Immigrant Women’s Mental Health and Wellbeing***

- Ornelas, IJ, et al. *Health Education and Behavior*, 2021

## ***Amigas Latinas Motivando el ALMA (ALMA): In-person and online delivery of an intervention to promote mental health among Latina immigrant women***

- Ornelas, IJ, et al. *Journal of Integrative and Complementary Health*, 2022

## ***Promoting mental health in Latina immigrant women: Results from the Amigas Latinas Motivando el Alma intervention trial***

- Ornelas, IJ et al. *Social Science and Medicine*, 2023