



FLORIDA STATE UNIVERSITY

Pesticide & Heat Stress Education for Latino Farmworkers that is Culturally Appropriate

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PESTICIDE AND HEAT STRESS EDUCATION FOR LATINO WORKERS



The PISCA Team





Presentation Goal & Aims

- Goal: Illustrate a “fruitful partnership” for protecting Latino farmworkers’ occupational health
- Aims
 - Provide a basic description of the farmworker population.
 - Outline occupational health threats to farmworkers posed by pesticide exposure and heat illness, and specific challenges to protecting Latino farmworkers
 - Describe the PISCA project: a community-academic partnership for protecting farmworker health
 - Share emerging evidence of PISCA’s effectiveness



Farmworkers, A Basic Overview

- Farmworkers are individuals involved in agricultural production including planting, cultivating, harvesting, and processing crops for sale, and caring for animals (Arcury & Quandt, 2009)
 - Migrant – individuals whose principal employment is agriculture on a seasonal basis, and who establishes a temporary home.
 - Seasonal – individuals whose principal employment is agriculture on a seasonal basis, and does not change residence

State	Adjusted MSFW Estimates	Migrant FWs	Seasonal FWs	Non-FWs In Migrant Households	Non-FWs In Seasonal Households	MSFWs & Non-FWs
California	731,745	338,798	392,947	124,508	445,897	1,302,150
Florida	194,817	120,430	74,387	44,556	43,914	283,287
N. Carolina	100,316	62,697	37,618	24,724	30,851	155,891
Texas	196,704	131,638	65,066	77,844	86,863	361,411
Washington	185,088	64,411	120,677	16,531	84,696	286,315



Farmworkers are not Farmers



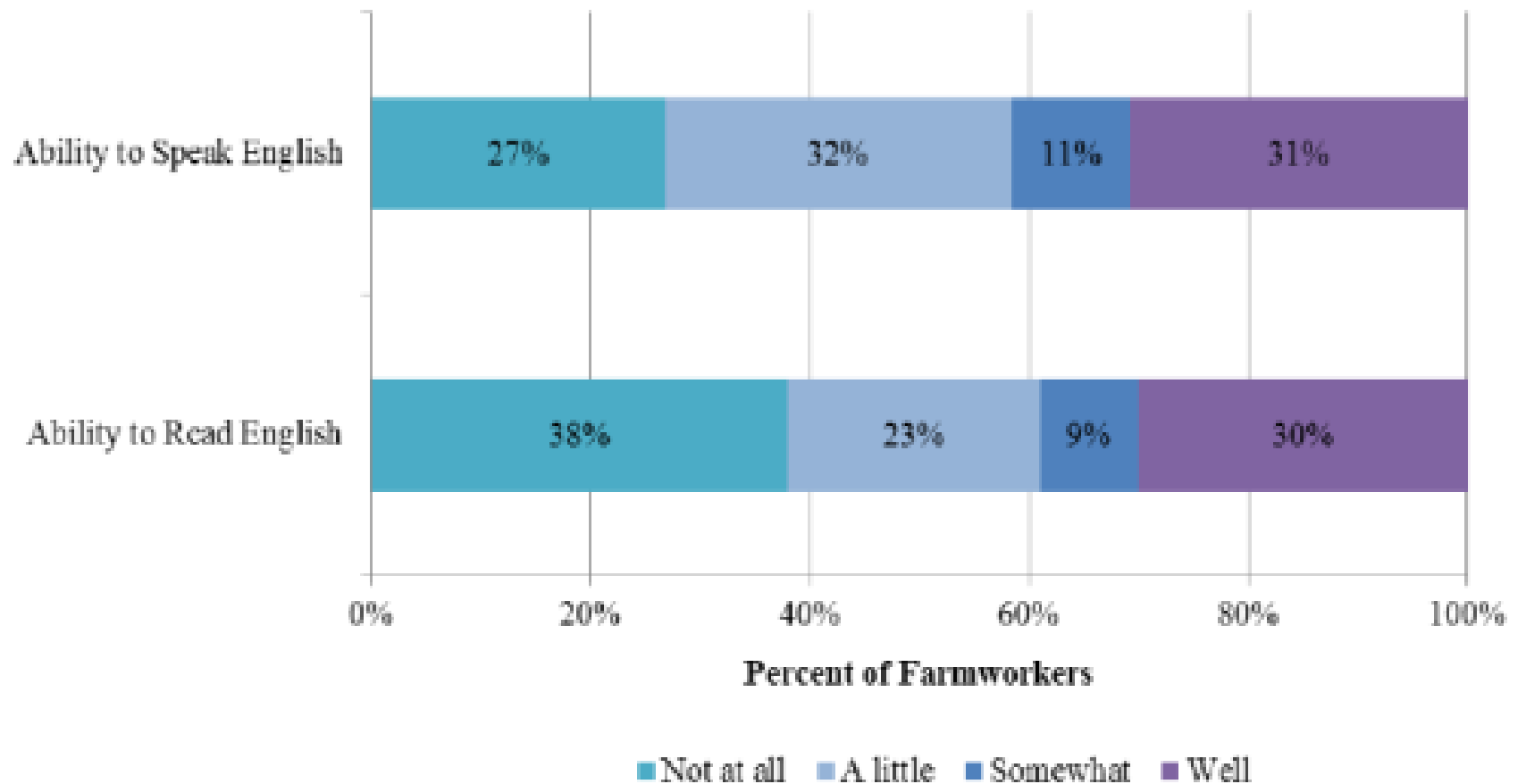
SOC=45-2092, 45-2093
Med Earning: \$10.50/hr,
\$22,00/yr



SOC=11-9013
Med Earning: \$31.91/hr,
\$66,360/yr



Figure 3.4: Farmworkers' Self-Reported English Speaking and Reading Ability, 2013-2014



Source: Hernandez, T., Gabbard, S. & Carroll, D. (2016). Findings from National Agricultural Workers Survey 2013-14: A demographic and employment profile of United States farmworkers. Research Report #12. Department of Labor, Employment and Training Administration, Office of Policy Development and Research. https://www.doleta.gov/agworker/pdf/NAWS_Research_Report_12_Final_508_Compliant.pdf

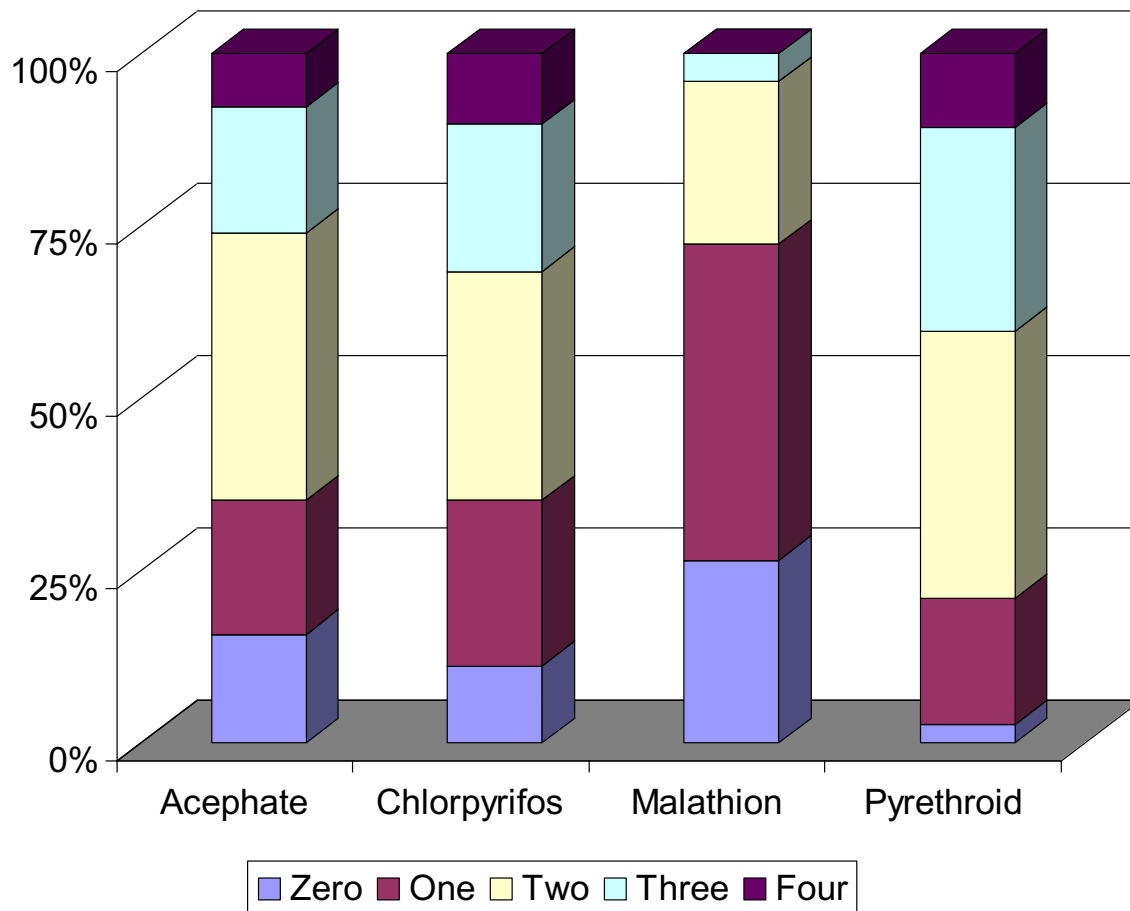


A National Profile of Farmworkers (NAWS 2009-16)

	Mean	95% Confidence Level
Age	37.70	37.17 – 38.23
Sex (Female=1)	0.28	0.26 – 0.30
Race/Ethnicity		
Latino	0.81	0.79– 0.83
White (not Latino)	0.15	0.14 – 0.17
Other Race/Ethnicity	0.04	0.03 – 0.05
Education		
< 9 years	0.61	0.59 – 0.63
10-12 years	0.28	0.26 – 0.29
> 12 years	0.11	0.10 – 0.12
Foreign Born	0.74	0.72 – 0.76



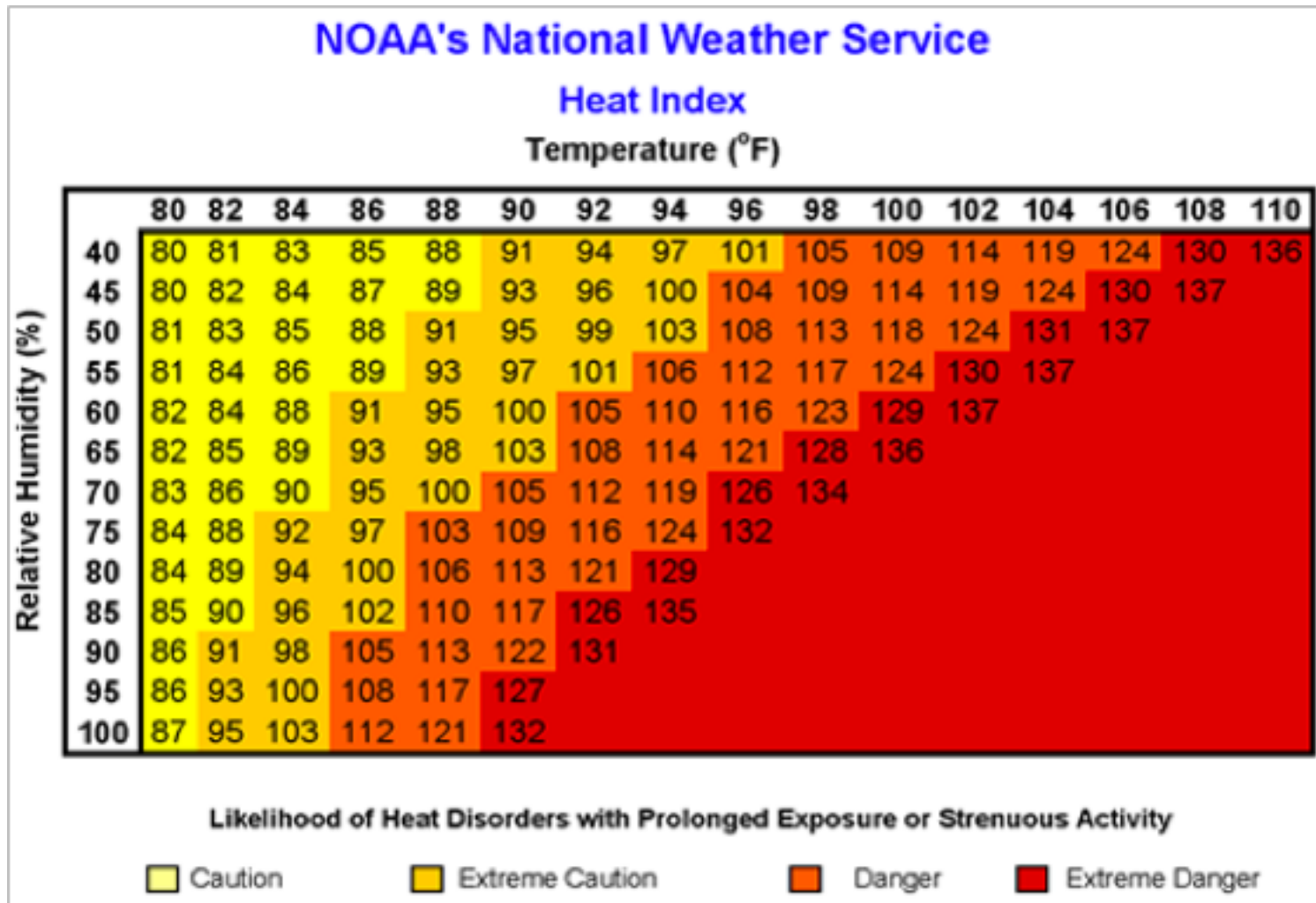
Occupational Health Threats: Chronic Pesticide Exposure



Source: Arcury et al., 2009

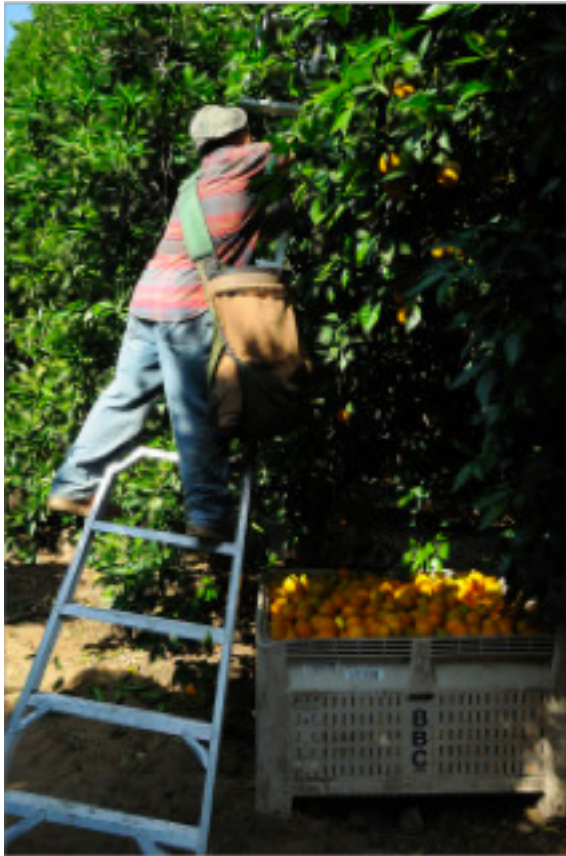


Occupational Health Threats: Extreme Heat & Humidity





Occupational health threats: Ergonomically Demanding Tasks





Other Threats to Farmworkers' Health



- Limited & Low-Quality Housing
- Low wages
 - 30% of farmworker households
 - 60% of farmworker households with children
 - 52% of farmworker households required public assistance
- 40% farmworkers receive little or no effective safety training
 - 80% of farmworkers receive pesticide training (NAWS data).
 - 25% understood some or none of the training information



PESTICIDE AND HEAT STRESS EDUCATION FOR LATINO WORKERS

- Develop culturally- and contextually appropriate occupational safety training targeting pesticide exposure and health illness
- Determine the effectiveness of curricula in promoting advocated behaviors for minimizing pesticide exposure and heat illness
- Determine the comparative effectiveness of "professional" and *promotora*-based delivery of curricula



Design Features: Community-Advocate-Academic Partnership



The Farmworker Association
of Florida, Inc.



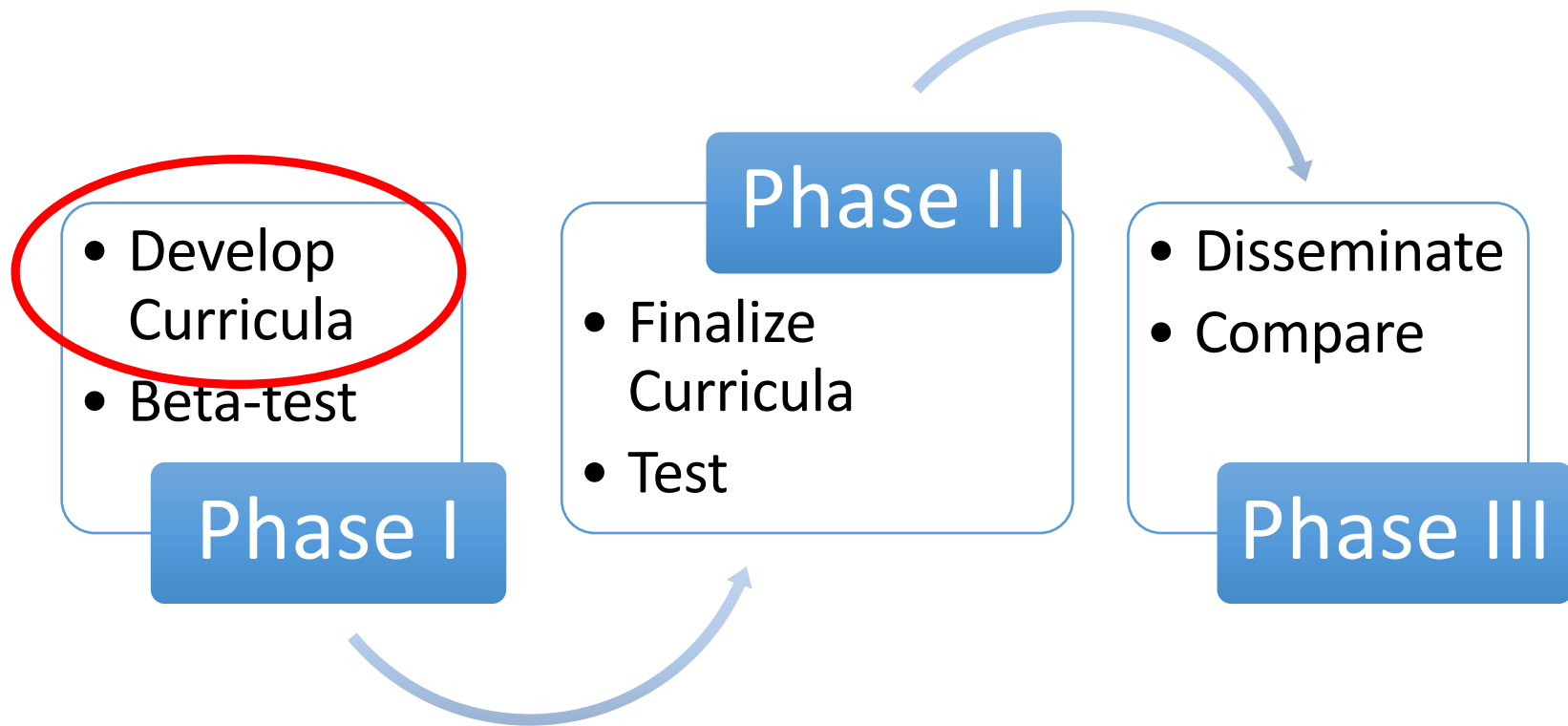
**Southeastern
& Coastal Center**
for Agricultural Safety and Health



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A Three-Phase Strategy





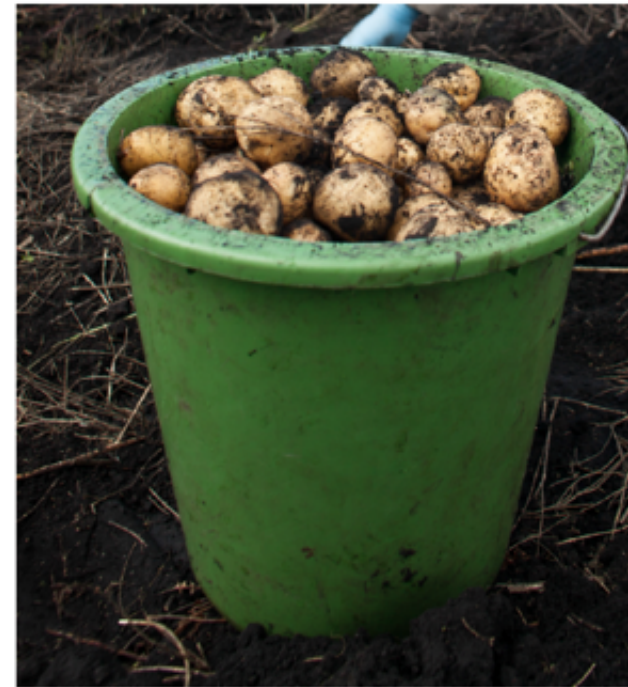
Cultural Relevance: Examples





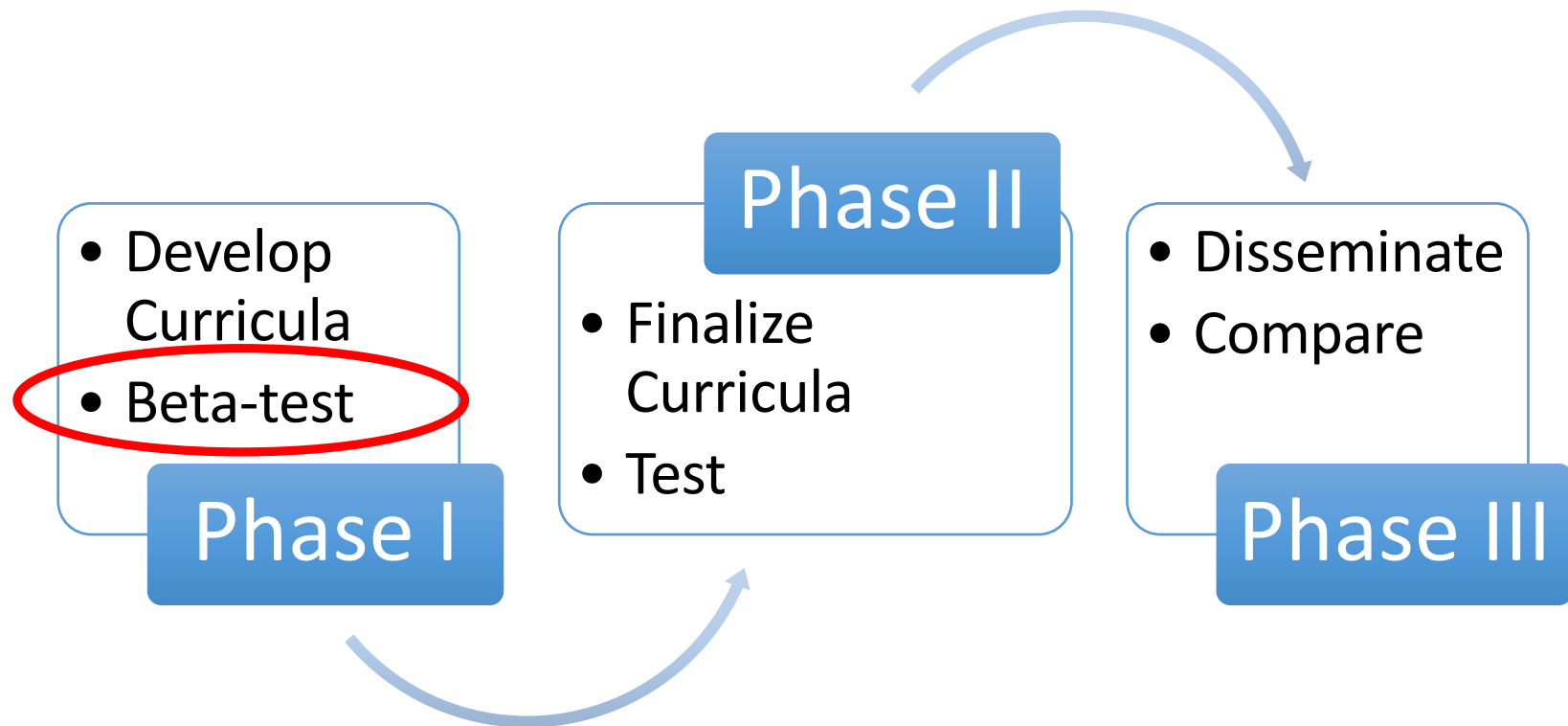
Contextual Relevance: Examples

The Reality on the Field





A Three-Phase Strategy



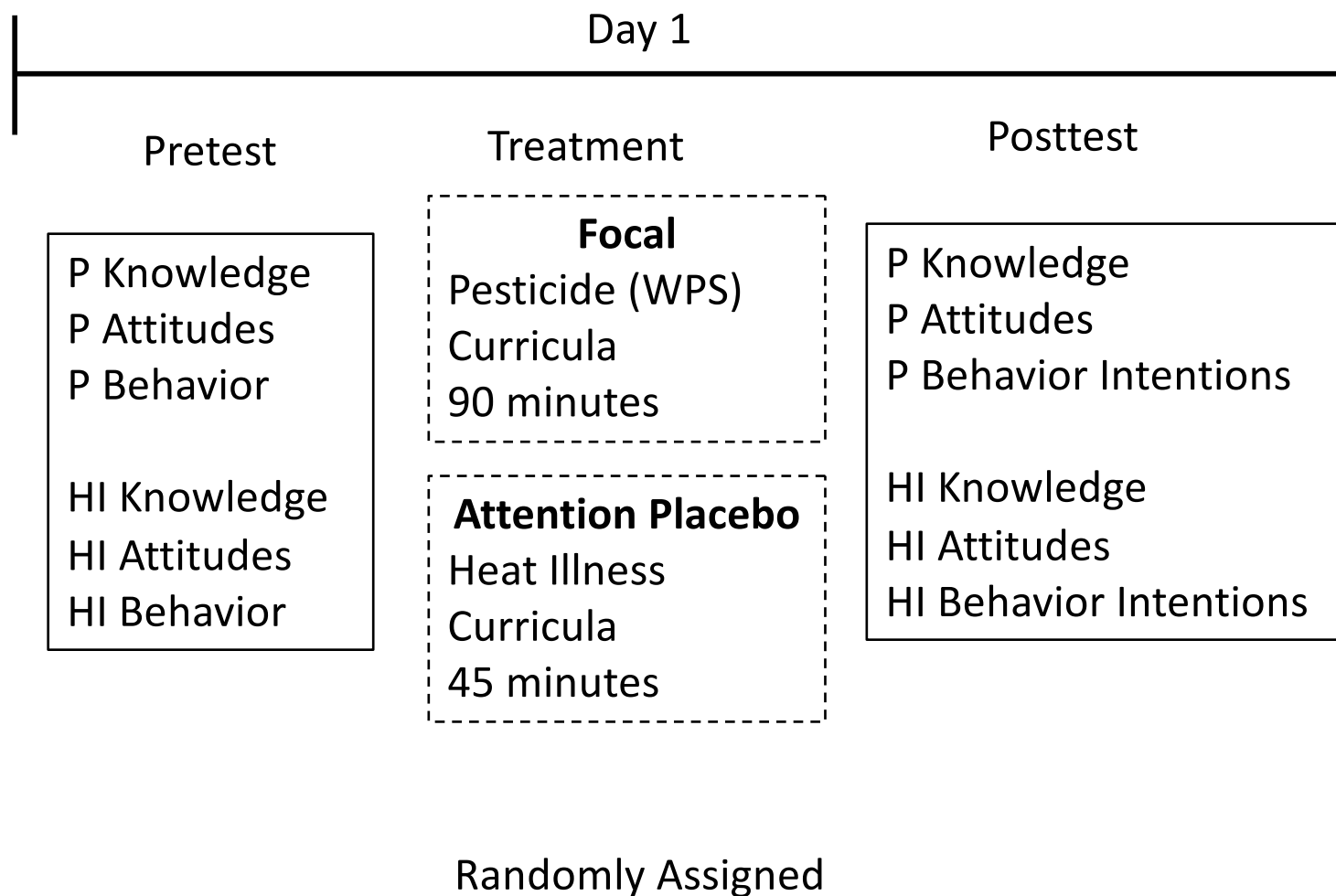


Phase I Beta-test Sample (N=127)

	N	%
Age		
≤25	31	28.7
26-35	45	42.7
>35	32	29.6
Sex (Female=1)	40	31.5
Education		
< 6 years	44	34.5
7-9 years	51	40.2
> 9 years	32	25.3
Migrant (Yes=1)*	83	65.4
< 3 years in US agriculture (Yes=1)*	59	46.5



An Attention-Placebo Study Design



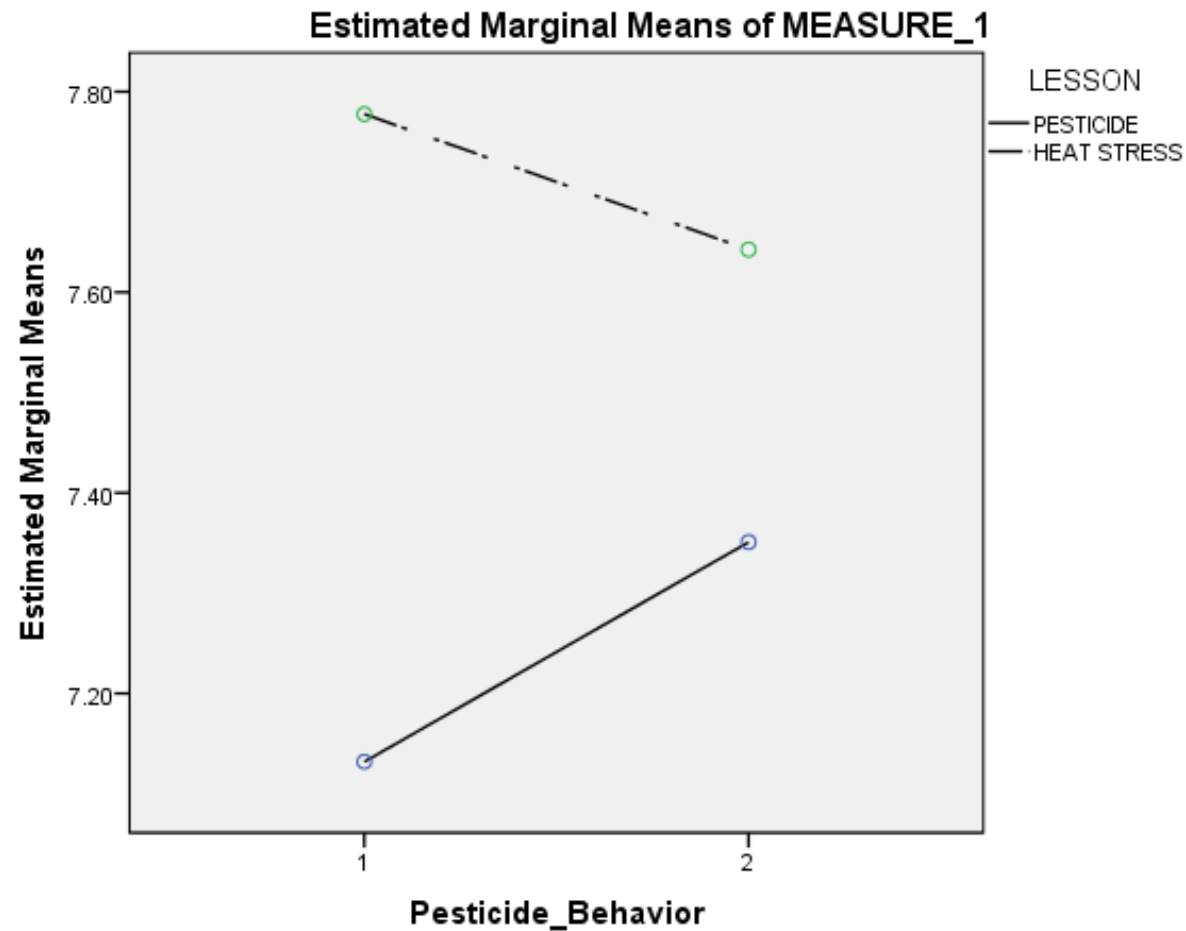


Pre- and posttest values of pesticide-related knowledge, attitudes, and behavioral intention

	WPS Curricula		Heat Illness Curricula		
	M	SD	M	SD	p-value
Pesticide Knowledge					
Pretest	51.00	15.06	50.54	13.42	.565
Posttest	59.08	13.84	54.30	14.22	.057
Pesticide Self Efficacy					
Pretest	7.42	1.86	7.81	1.82	.234
Posttest	8.20	1.86	8.16	1.90	.908
Pesticide Severity					
Pretest	0.77	0.34	0.81	0.29	.451
Posttest	0.84	0.28	0.85	0.27	.863
Pesticide Behavioral Intention					
Pretest	1.67	0.43	1.81	0.32	.043
Posttest	1.73	0.34	1.75	0.35	.741



Pesticide Results



Covariates appearing in the model are evaluated at the following values: 2. ¿Es usted hombre o mujer? = .68, 11. ¿Cuántos años lleva trabajando en la agricultura en los Estados Unidos? = 6.09

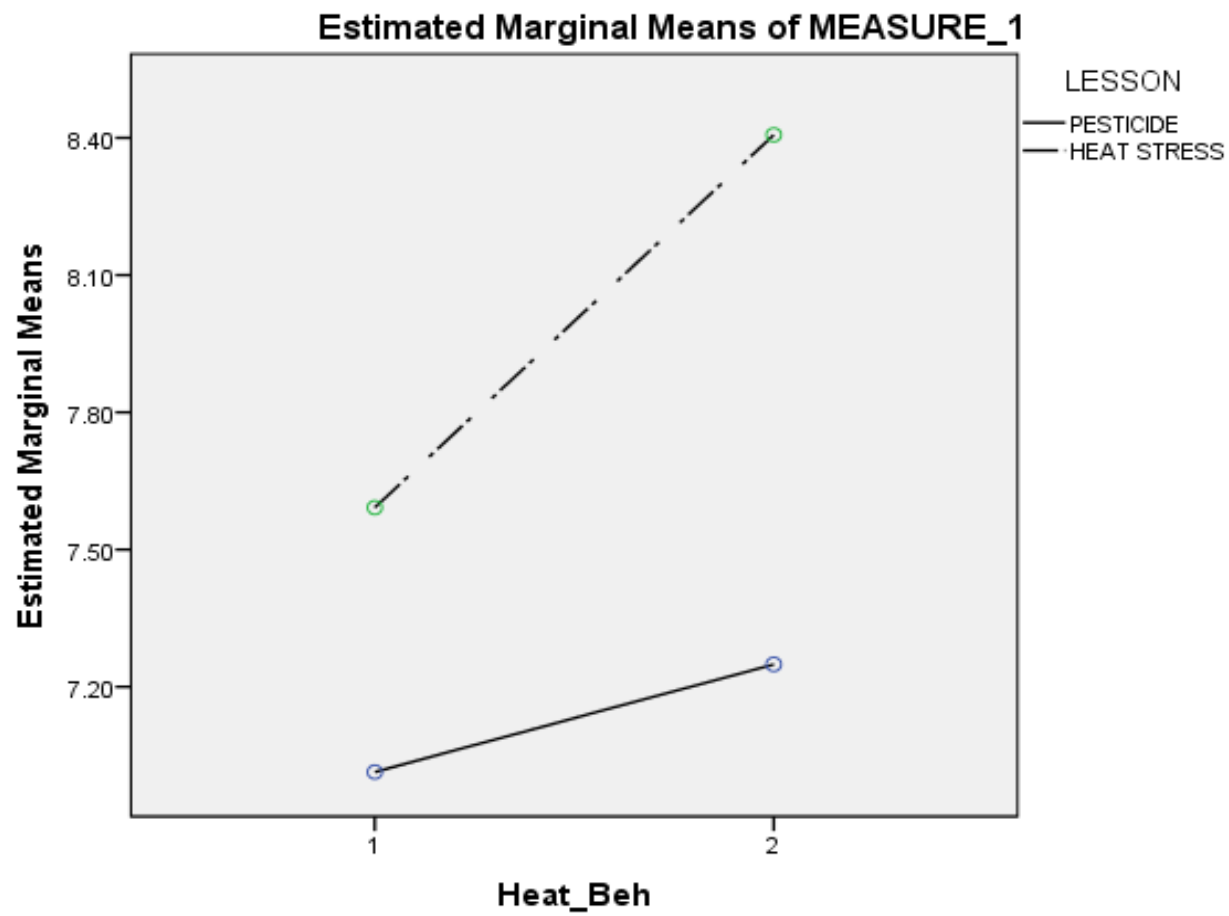


Pre- and posttest values of heat illness-related knowledge, attitudes, and behavioral intention

	WPS Curricula		Heat Illness Curricula		
	M	SD	M	SD	p-value
Heat Illness Knowledge					
Pretest	21.96	6.20	24.63	5.31	.010
Posttest	22.10	6.22	26.39	2.71	.000
Heat Illness Self Efficacy					
Pretest	7.38	2.18	7.90	1.91	.157
Posttest	8.45	1.57	8.63	1.53	.508
Heat Illness Severity					
Pretest	0.83	0.25	0.88	0.26	.351
Posttest	0.88	0.26	0.92	0.22	.388
Heat Illness Behavioral Intention					
Pretest	1.55	0.45	1.64	0.37	.240
Posttest	1.58	0.44	1.80	0.28	.001



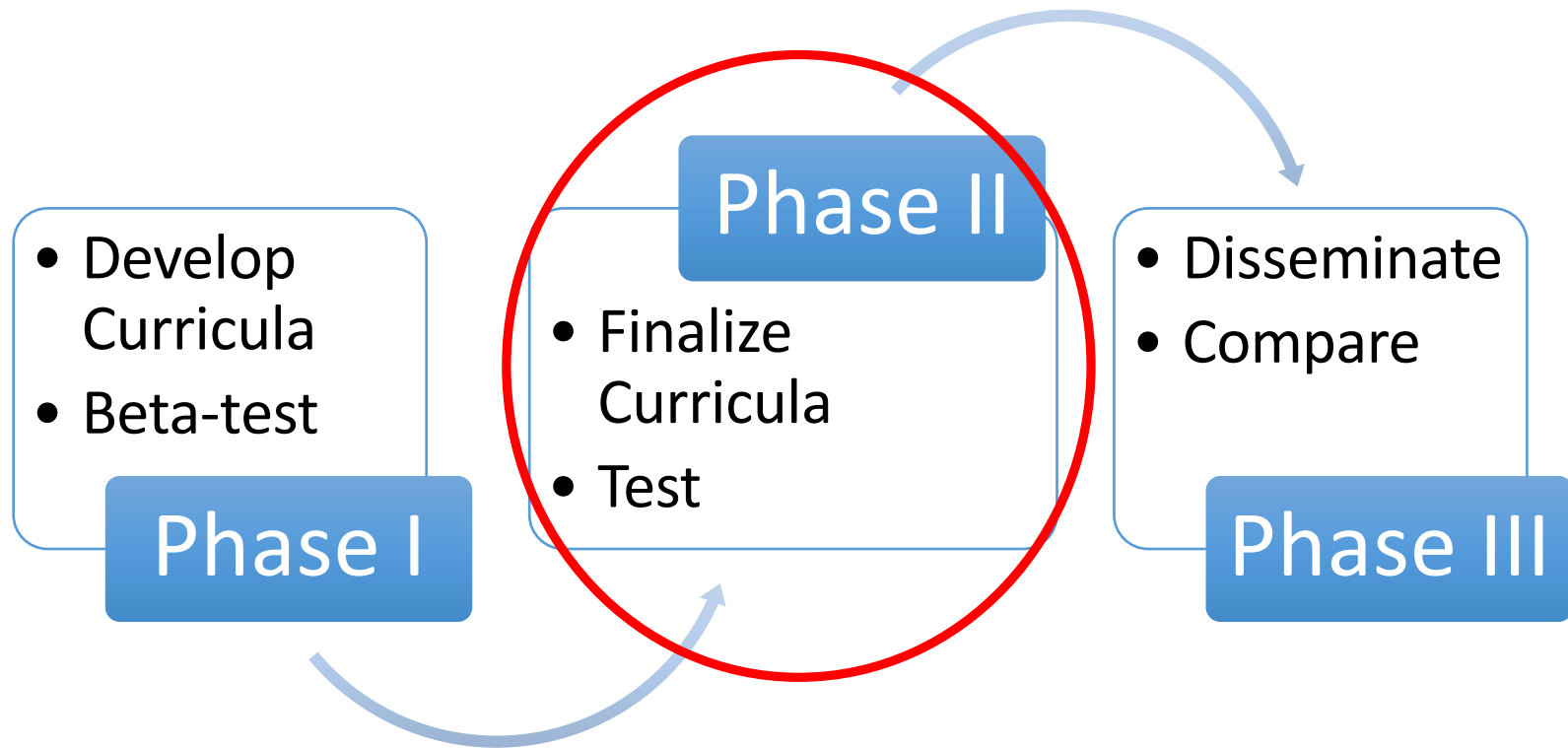
Heat Illness Results



Covariates appearing in the model are evaluated at the following values: 2. ¿Es usted hombre o mujer? = .68, 11. ¿Cuántos años lleva trabajando en la agricultura en los Estados Unidos? = 6.09

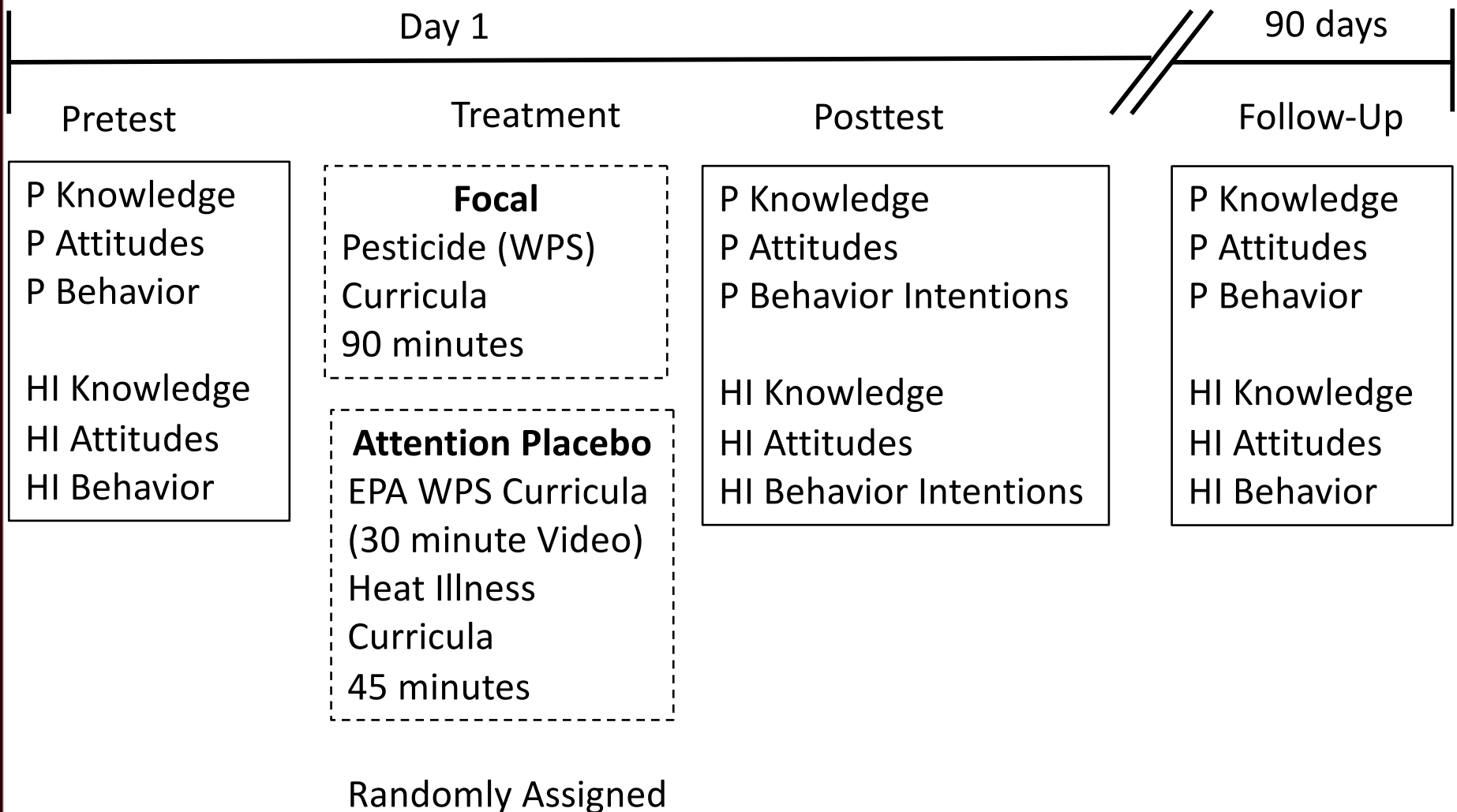


A Three-Phase Strategy





An Attention-Placebo Study Design





Progress to date on Phase II

- N=242 farmworkers recruited and trained
 - N=116 randomized to PISCA WPS or PISCA Heat illness
 - N=126 randomized to EPA WPS, PISCA WPS or PISCA Heat illness
- Mixed success on 3-month follow-up
 - 48 of 116 (41.3%) obtained
 - 68 of 126 (53.9%) obtained
 - 38 of 126 are in the 3-month window
- Additional Products
 - Translated both curricula into Creole for use with Haitian Farmworkers
 - With Migrant Clinician's Network, we are Creating a "leave behind" comic book for WPS



Summary of Key Points

- Farmworkers are health disparate and vulnerable population
- Health problems resulting from chronic low-dose exposure to pesticide and extreme heat are leading threats to the occupational health of the farmworker population
- Culturally- and contextually-relevant curricula change knowledge and behavioral intentions underlying safety behavior
- Partnerships among community groups, advocacy organizations and academics produces “fruit” that may protect farmworker health



Ready to Jump Into Conversation!!



- Contact:
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Thank You!