PILOT STUDY OF THE ACUTE PSYCHOLOGICAL AND HEALTH IMPACTS OF HURRICANE IRMA IN IFAS EXTENSION WORKERS

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Study Aims

1) To document the stresses, medical symptoms and behavioral, health status of FL County Extension Workers 6 to 8 weeks post Hurricane Irma toward increasing understanding of the acute psychological impacts of a severe hurricane.

2) Examine the association between demographic, hurricane exposure, self-reported resilience, coping strategy, and behavioral health outcome one to two months post Hurricane Irma.

3) Obtain baseline data for monitoring recovery over time.

Methods

- Recruitment by Dr. Angela Lindsay targeting most heavily impacted UF extension office communities and comparison communities.

- 36 UF Extension Agents were studied

- Two *Listening Sessions* with extension worker communities to identify stressors and reactivity 4 weeks post hurricane.

- Resilience Training of a subset of extension (80%)

- Participants received $25 for study participation

Measures

- Demographics
- medical symptoms,
- Hurricane Impact (HI)
- Concentration
- Everyday memory,
- Self-reported resilience
- Coping strategies,
- Symptoms of PTSD
- Symptoms of Depression

Demographic and Hurricane Exposure Information for Extension Agents within 3 months of Hurricane Irma

Demographic	Time 1 (n=36)
Age	
N	36
Mean±SD	46.50 ± 13.55
Min, Max	25, 69
Gender	
Female	24 (66.7%)
Male	12 (33.3%)
Total	36
Ethnicity	
Hispanic or Latino	3 (8.3%)
Other	1 (2.8%)
White or Caucasian	32 (88.9%)
Total	36
Total Annual Household Income	
$100,000 and higher	15 (41.7%)
$15,000 to $24,999	1 (2.8%)
$25,000 to $34,999	1 (2.8%)
$35,000 to $49,999	2 (5.6%)
$50,000 to $74,000	5 (13.9%)
$75,000 to $99,999	12 (33.3%)
Total	36

Demographic	Time 1 (n=36)
Marital Status	
Married/Partnered	26 (72.2%)
Single/Widowed/Divorced	10 (27.8%)
Total	36
Children (under 18) living in Home	
Yes	12 (33.3%)
No	24 (66.7%)
Total	36
Years of Education	
N	36
Mean±SD	17.53 ± 1.73
Min, Max	13, 20
Hurricane Irma Exposure	
N	36
Mean±SD	8.33 ± 2.92
Min, Max	3, 15

Exposure to Hurricane Irma

PID: _____

Date: _____   Interviewer Initials: _____

Please consider each question and answer "yes" or "no".

1. Were you physically present in the region during hurricane –force winds?	❑ No	❑ Yes
2. Were you physically present in the region during hurricane-related flooding?	❑ No	❑ Yes
3. Did you get a storm related physical injury (anything more than a bruise)?	❑ No	❑ Yes
4. Did you see anyone else get a storm related physical injury (anything more than a bruise)?	❑ No	❑ Yes
5. Was your home or other personal property lost or damaged by Hurricane Irma? *If no, go to 6*	❑ No	❑ Yes
5a. If your personal property was damaged, were your total losses (regardless of insurance coverage) greater than $10,000?	❑ No	❑ Yes
5b. Were your out-of-pocket losses greater than $1,000?	❑ No	❑ Yes

6. Were you displaced from your home for at least a week due to Hurricane Irma?
     If yes, how long? _____days
     Are currently displaced from your home? ❑ No ❑ Yes
	❑ No	❑ Yes

7. Did Hurricane Irma interfere with your ability to work?	❑ No	❑ Yes

8. Were you displaced from your place of work as a result of Hurricane Irma?
     If yes, how long? _____days
     Are currently displaced from your work? ❑ No ❑ Yes
	❑ No	❑ Yes

9. Did you lose days of work because of Hurricane Irma? If yes, how many? _____days	❑ No	❑ Yes
10. Did you work extra days/hours due to Hurricane Irma?	❑ No	❑ Yes

*Adapted from Palinkas LA, Russell J, Downs MA, Patterson JS. 1992. Ethnic differences in stress, coping, and depressive symptoms after the *Exxon Valdez* oil spill. J Nerv Ment Dis 180(5):287-295 **and** Acierno R, Ruggiero KJ, Galea S, Resnick HS, Koenen K, Roitzsch J, de Arellano M, Boyle J, Kilpatrick DG. 2007. Psychological sequelae resulting from the 2004 Florida hurricanes: implications for postdisaster intervention. Am J Pub Health 97:S103-S108

What *additional* work duties did you perform as a result of Hurricane Irma? (e.g. worked at EOC, shelter, etc): _____

_____

What was your greatest work related stress due to Hurricane Irma?
_____

_____

Following Hurricane Irma, did you experience any of the following for more than one week? (Please check all that apply)

_____ Lack of clean clothing

_____ No electricity

_____ Lack of clean water

_____ Lack of food

_____ Limited transportation

_____ Financial losses

_____ Exposure to mold

Did you experience any of the following losses as a result of hurricane Irma? (Please check all that apply)

_____ Damage to household contents

_____ Loss of sentimental possessions

_____ Loss of pets

_____ Damage to crops, trees, and/or garden

_____ Loss of transportation

_____ Other: _____

Additional Work Duties:EOC

- Prepared office for storm shelter
- Shelter duty/shelter manager
- EOC phone station duty
- Shelter training
- Communicated with EOC state and local
- Damage assessment
- EOC reports to county department, UF, and FDACS

Additional Work Duties: Office and Facility

- Moved office supplies/equipment to temporary storage pods
- Organize storage pods
- Survey the building for damages
- Work clean-up/debris removal
- Develop a movement plan
- Coordinate office protection
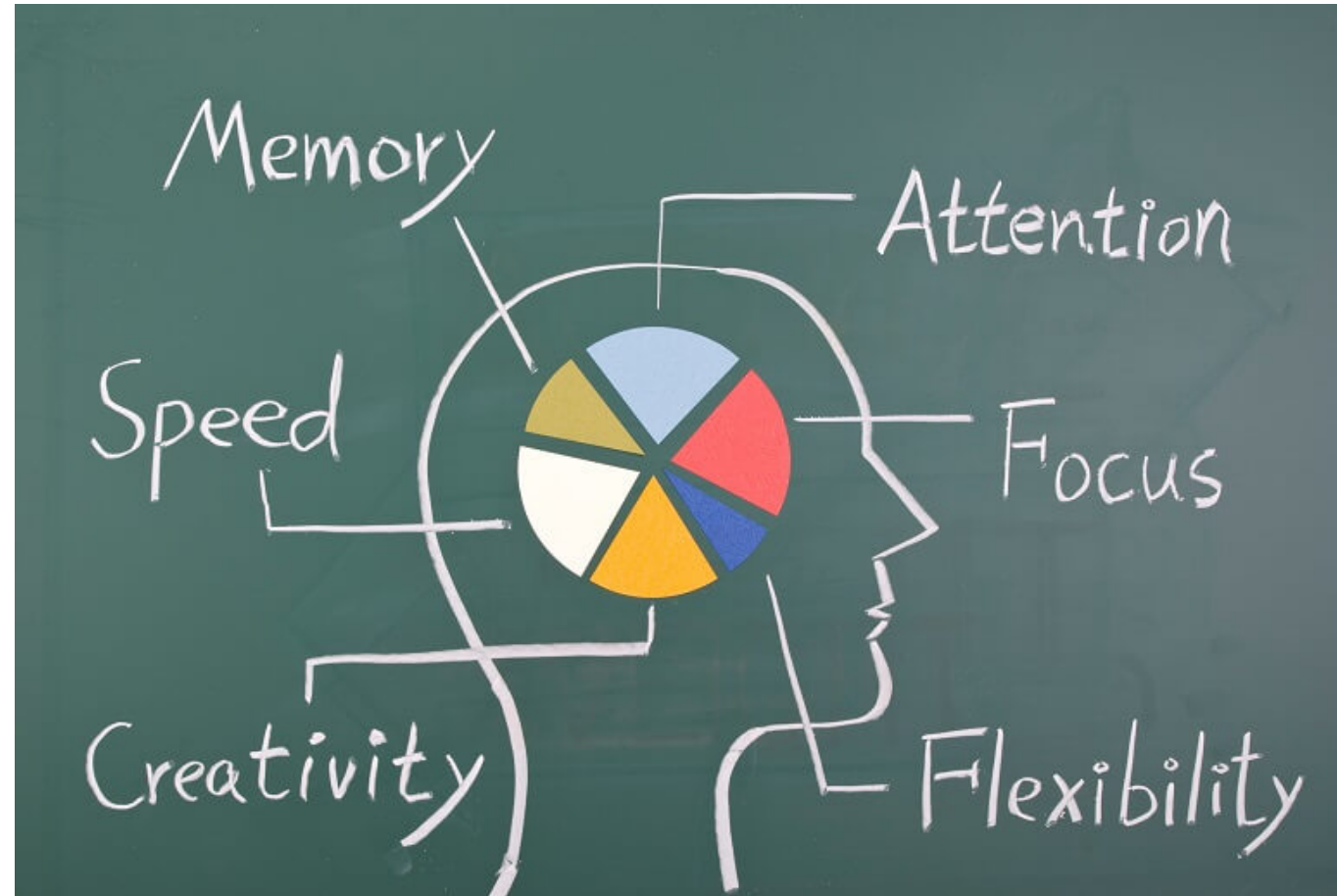
Additional Work Duties: Farm Related

- Farm-related:
  - Helped prepare greenhouses and gardens for impact
  - Moved animals in flooded pastures
  - Composted dead cattle
  - Delivered food to farm/item disposition of goods to farmers and urban clientele
  - Relayed farm problems throughout state to find assistance
  - Worked to get aide to displaced families and farms
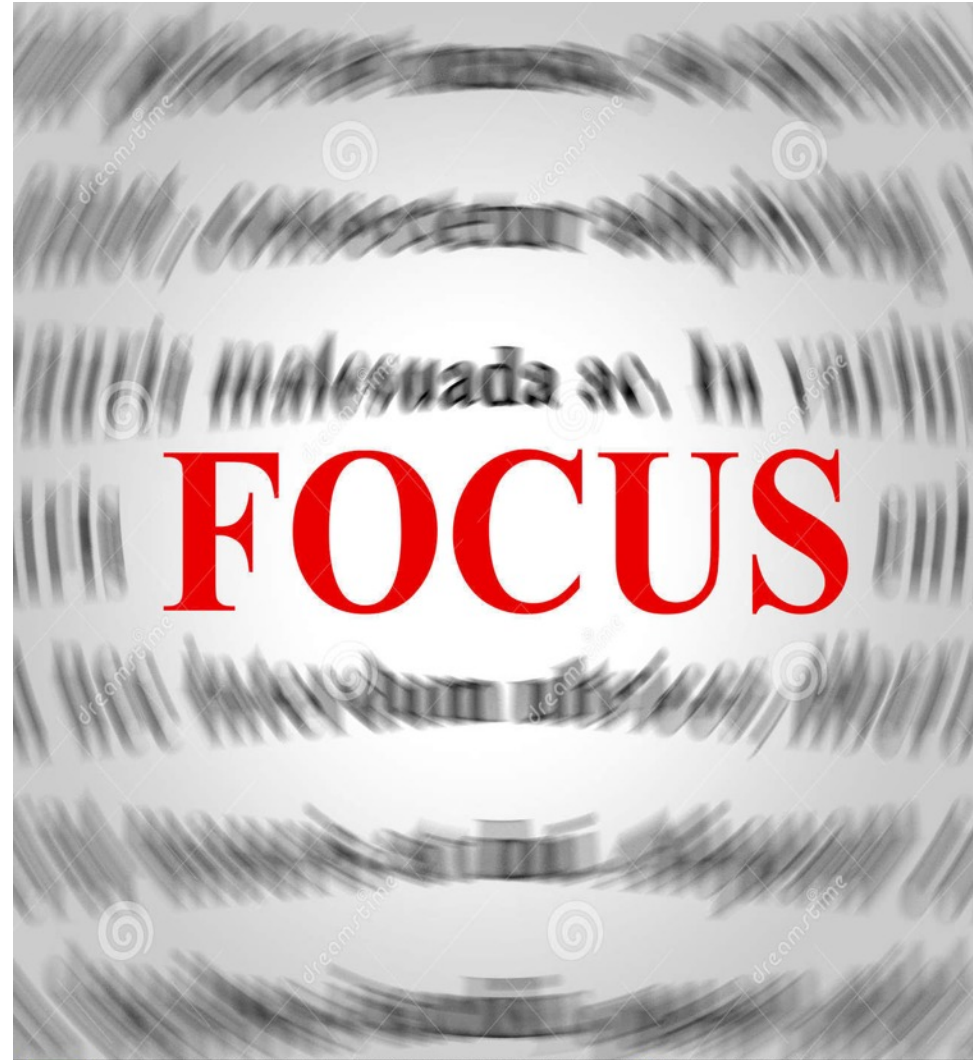 - Extra hours spend with producers

Reported Medical Syptoms

- Mood changes = 14 (38.9%)
- Overall Cognitive Changes (42%)
- Losing/misplacing things = 12 (33.3%)
- Irritability = 18 (50%)
- Fatigue = 25 (69.4%)
- Trouble sleeping = 12 (33.3%)
- Headaches = 10 (27.8%)
- Lower back pains = 11 (30.6%)

Cognitive Changes in Daily Living Under Condition of Fatigue or Stress
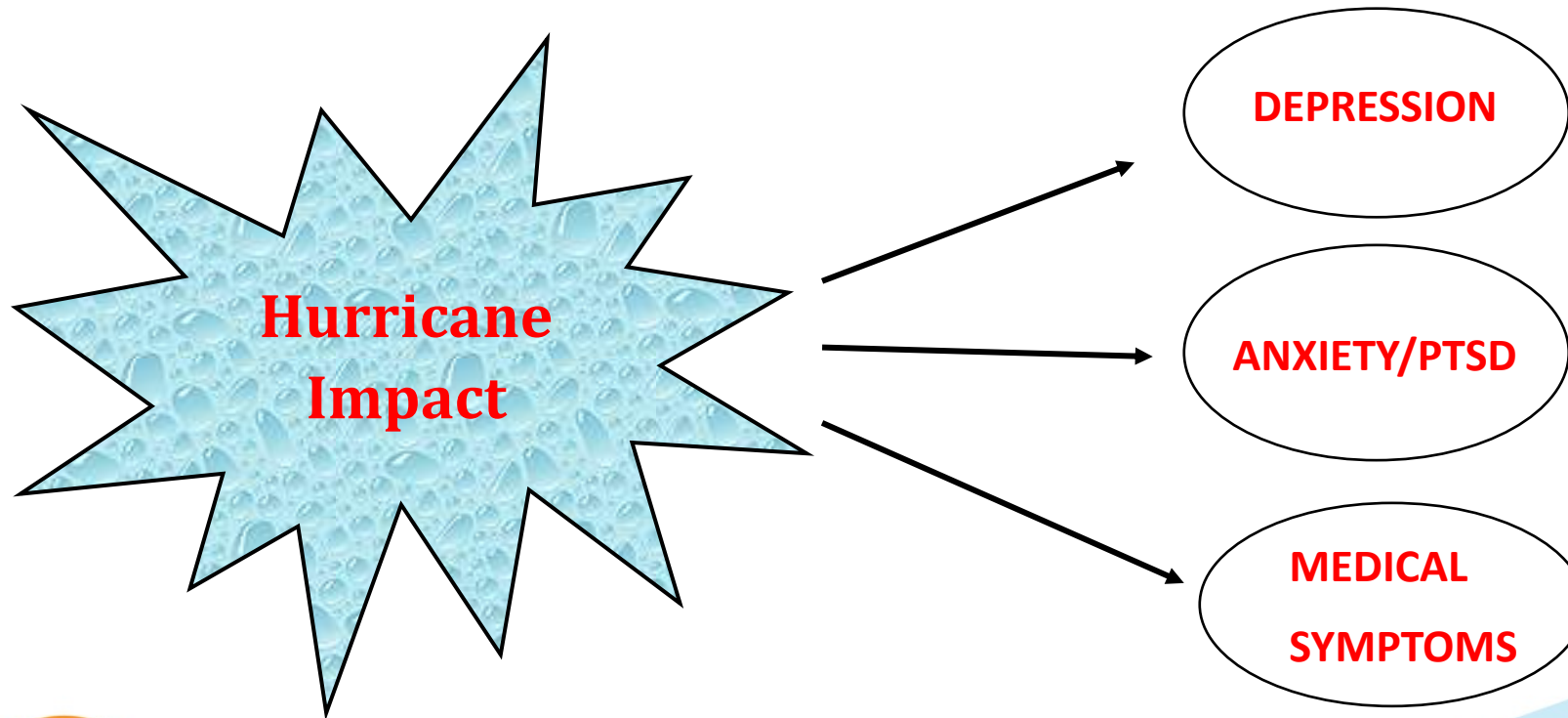
Measure of Attention/Concentration

Measures

- Demographics
- medical symptoms,
- Hurricane Impact (HI)
- Concentration
- Everyday memory,
- Self-reported resilience
- Coping strategies,
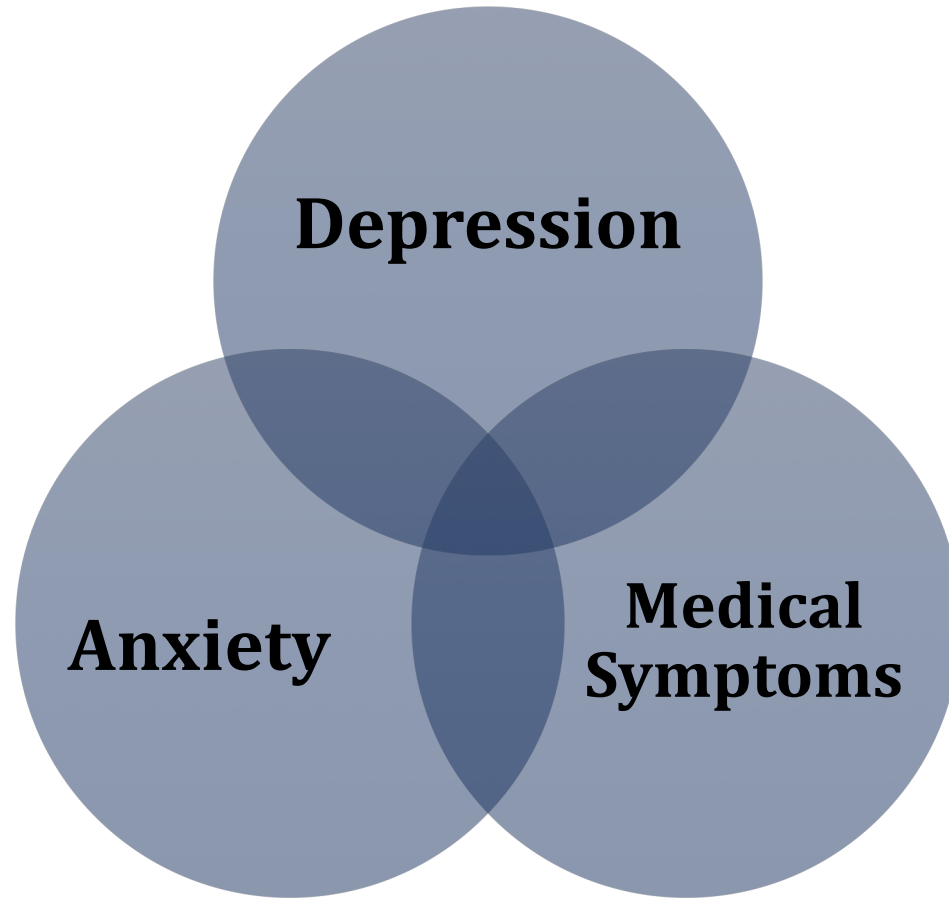- Symptoms of PTSD
- Symptoms of Depression

Predictors of Outcome: *Depression, PTSD, Number of Medical Symptoms (n=36)*

	Beck Depression Inventory total score		Post Traumatic Checklist-5 Total Score		Total Number of Medical Symptoms	
	Coefficient (SE)	P value	Coefficient (SE)	P value	Coefficient (SE)	P value
Model 1:						
Exposure High vs. low	5.111111	0.036	11.22222	.01	5.111111	.002
Model 2:						
Exposure High vs. low	5.228696	.04	10.97848	.06	4.906668	.005
Past exposure	5.228696	.27	-.0248143	.97	.0126636	.57
Age	-.051819	.25	-.1153924	.47	.0126636	.83

Predictor of Medical/Behavioral Outcome

Interaction of Outcome Factors

Results and Implications

1. No one had a score below the average to superior range on measures of information processing speed. *The reported difficulty was likely the inability to apply this skill in the stressful environment.*

2. Logistic regression modeling: Hurricane Impact ⟶ predicted depression, PTSD and number of medical symptoms.

3. Need time to manage hurricane related problems and plenty of sleep. Average time "return to normal" from Irma.

4. One year outcome studies in final stage of analyses.