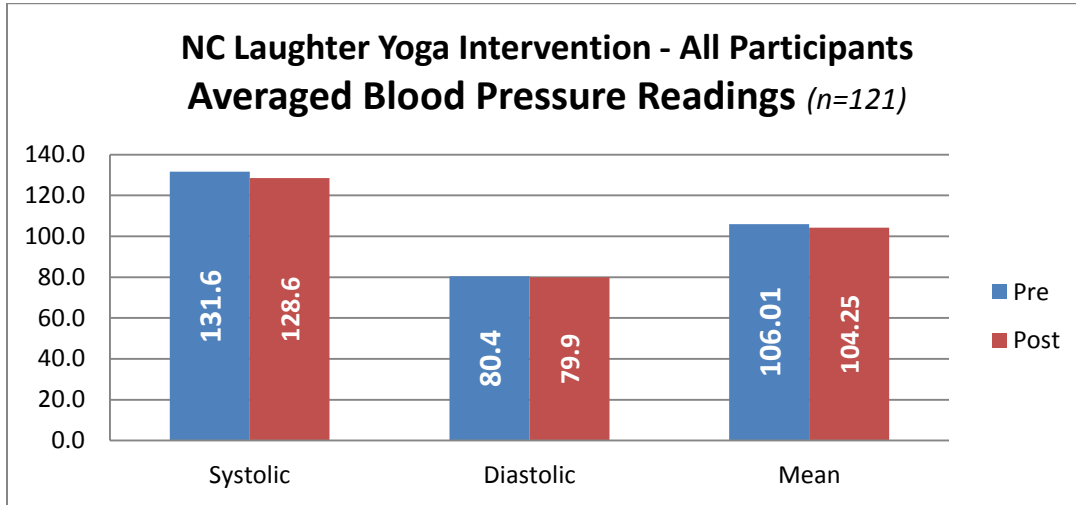


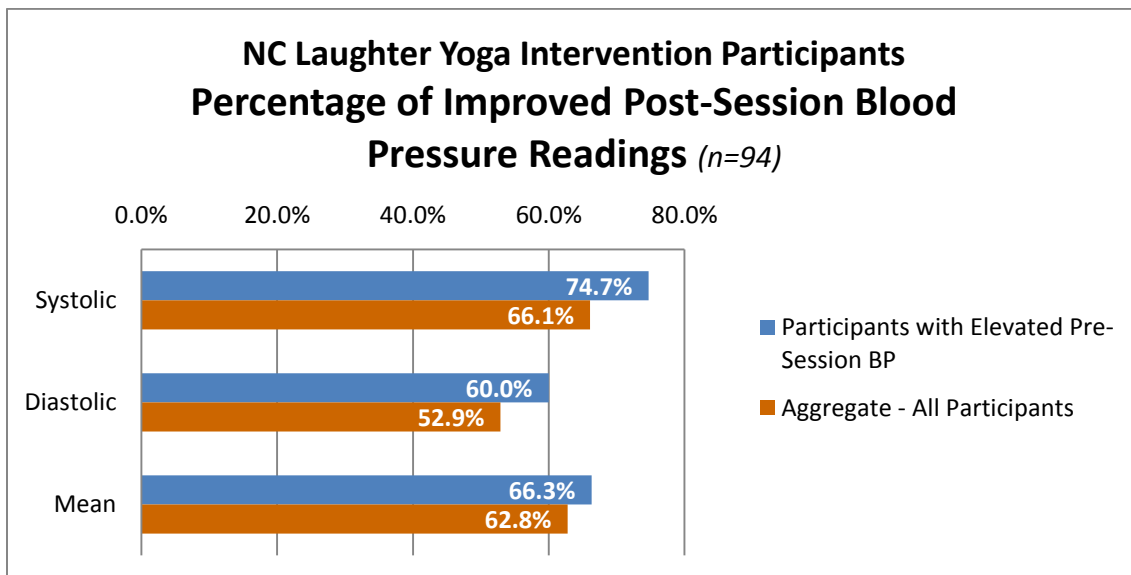
# Laughter Yoga Pilot Project Outcomes Data, 2012-2013

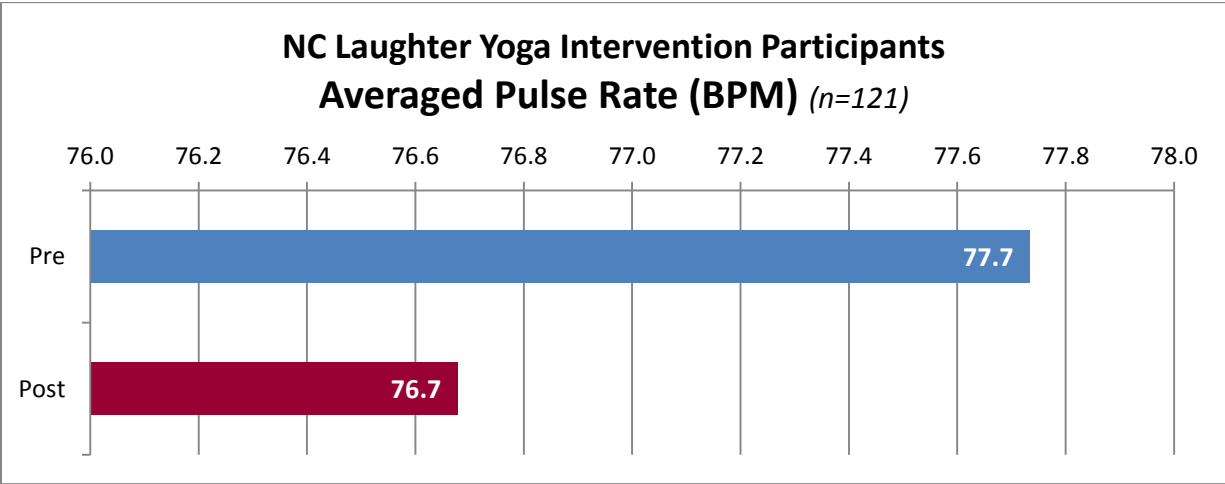
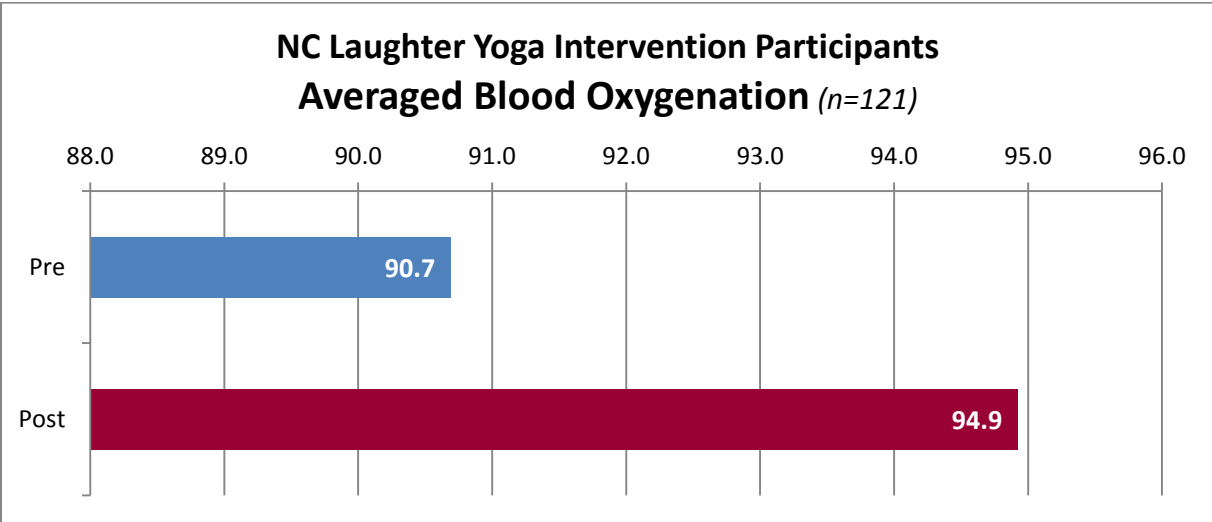
Spearheaded by Cindy Miles, CLYT  
Southwestern Commission Area Agency on Aging

## Phase One – North Carolina



Of the total 121 participants in the study, nearly 22% recorded pre-session Blood Pressure readings that were within the range considered to be “normal”. The remaining 78% recorded Blood Pressure readings that were above the normal range. What is interesting to observe is that a separate analysis of participants, whose pre-session blood pressure readings were above the normal range and considered elevated, revealed a larger impact in improved post-session Blood Pressure.

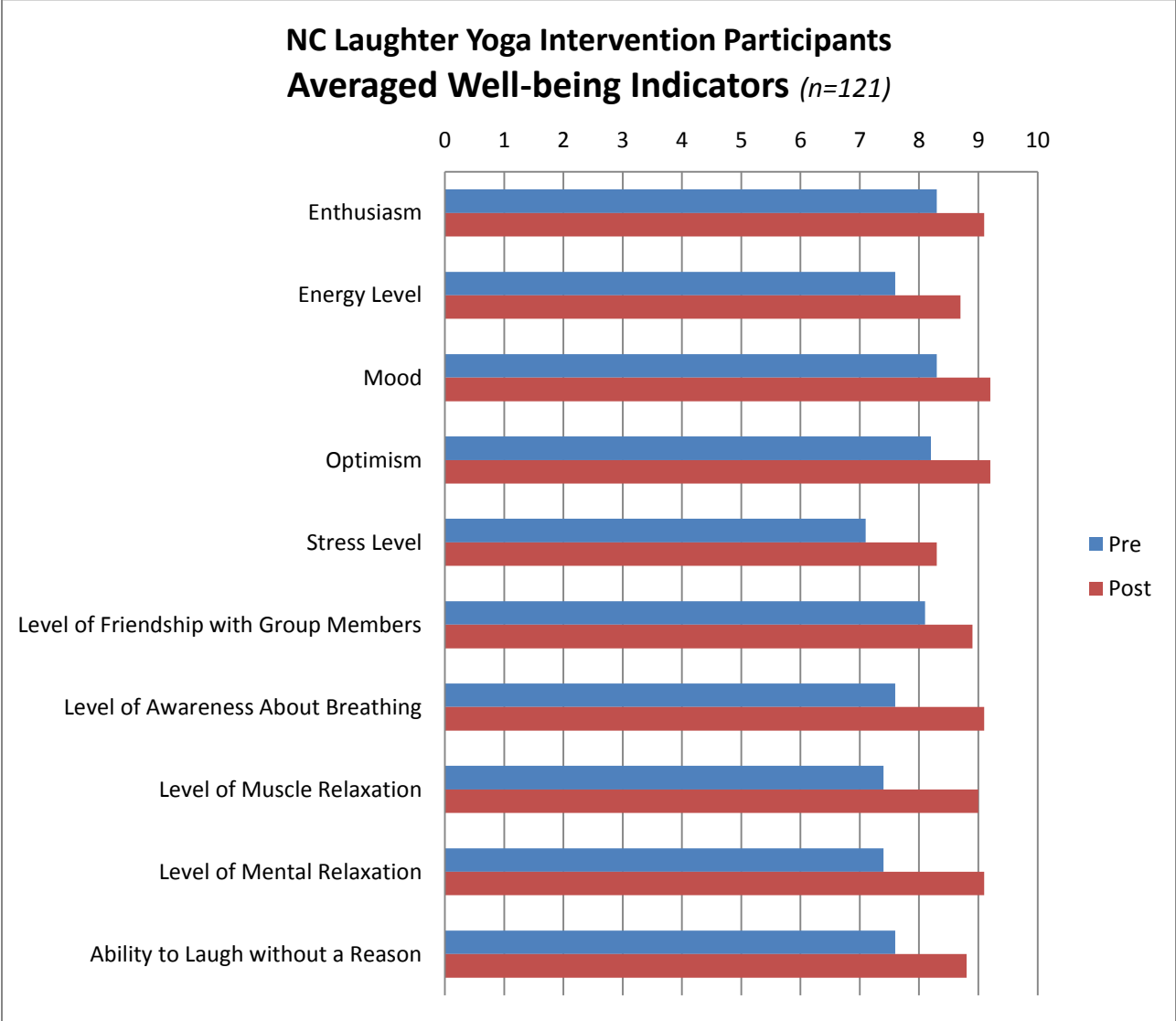




The PhD Evaluator for the North Carolina Division of Aging and Adult Services conducted a Repeated Measures ANOVA to examine whether the changes in assessments or scores were significantly different from pre- to post-assessment. Below is a table of the average reading for each outcome pre- and post-session.

	Mean	Standard Deviation	Range
Mean BP			
PRE	106.01	11.37	81.50 – 137.50
POST	104.25	11.10	82 – 140.50
Systolic BP			
PRE	131.63	16.58	100 – 174
POST	128.57	15.72	98 – 191
Diastolic BP			
PRE	80.39	9.55	62 – 106
POST	79.92	10.13	56 – 114
Heart Rate			

	PRE	77.89	14.17	50 – 115
	POST	76.84	13.95	73 – 99
Blood Oxygenation Level				
	PRE	95.82	3.69	78 – 99
	POST	95.75	4.26	73 – 99



When examining the Psychological Outcomes, the Repeated Measures ANOVA analysis revealed that there was an overall significant change in well-being. Specifically, participants reported greater feelings of psychological well-being at posttest when compared to reports at pretest. This remained true even after controlling for age. When looking at the individual items, there were significant increases in self-reported Enthusiasm, Energy Level, Mood, Optimism, Awareness of one’s own Breathing, Level of Muscle Relaxation, Level of Mental Relaxation, and the Ability to Laugh without a Reason. The only items that were not significant were Stress Level and Level of Friendship with Group Members. However, it is important to note that those variables did show improvements from pre- to post-testing, as shown on the table below.

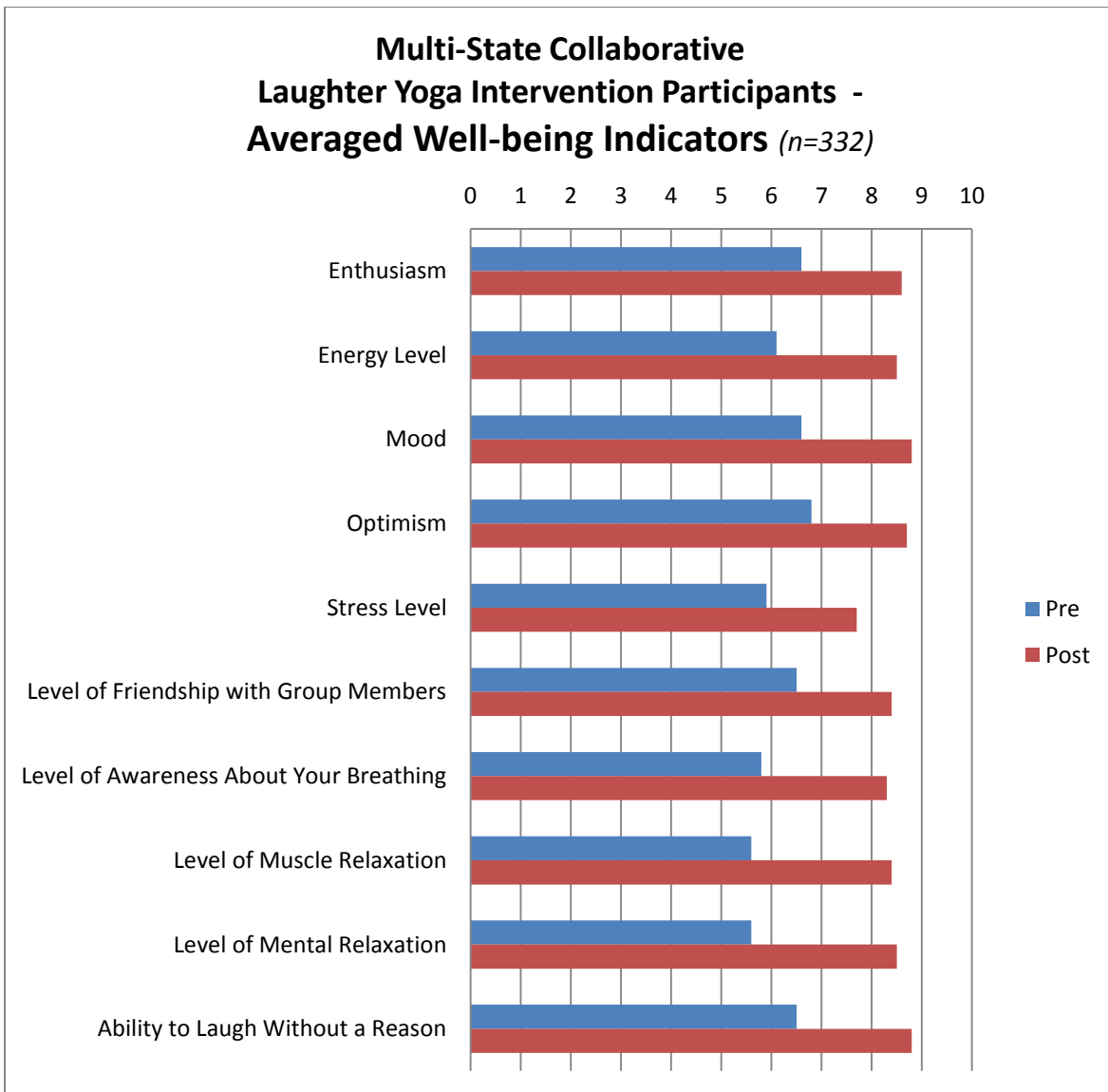
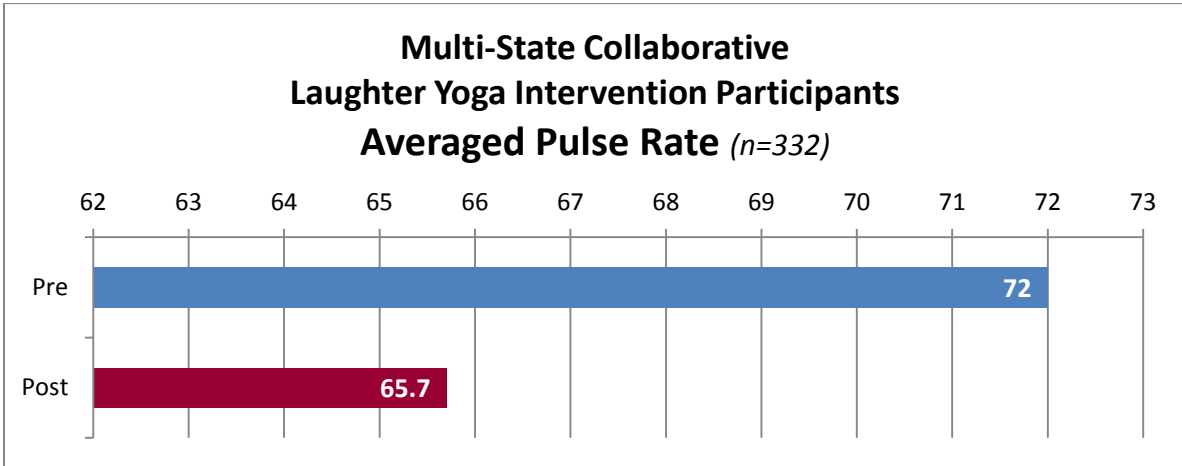
		Mean	Standard Deviation	Range
Enthusiasm				
	PRE	8.40	1.51	4 – 10
	POST	9.12	1.20	4 – 10
Energy Level				
	PRE	7.78	1.67	4 – 10
	POST	8.89	1.53	3 – 10
Mood				
	PRE	8.25	1.41	4 – 10
	POST	9.31	1.30	5 – 10
Optimism				
	PRE	8.37	1.49	4 – 10
	POST	9.35	1.11	5 – 10
Stress Level				
	PRE	7.27	2.01	2 – 10
	POST	8.64	1.81	1 – 10
Level of Friendship with Group				
	PRE	7.90	2.07	2 – 10
	POST	8.98	1.43	3 – 10
Level of Awareness of Breathing				
	PRE	7.56	2.04	3 – 10
	POST	9.18	1.35	2 – 10
Level of Muscle Relaxation				
	PRE	7.30	1.88	2 – 10
	POST	9.12	1.06	5 – 10
Level of Mental Relaxation				
	PRE	7.31	1.93	3 – 10
	POST	9.16	1.08	5 – 10
Ability to Laugh for No Reason				
	PRE	7.39	2.37	1 – 10
	POST	8.94	1.66	2 – 10

### **Phase Two – Multi-State Initiative**

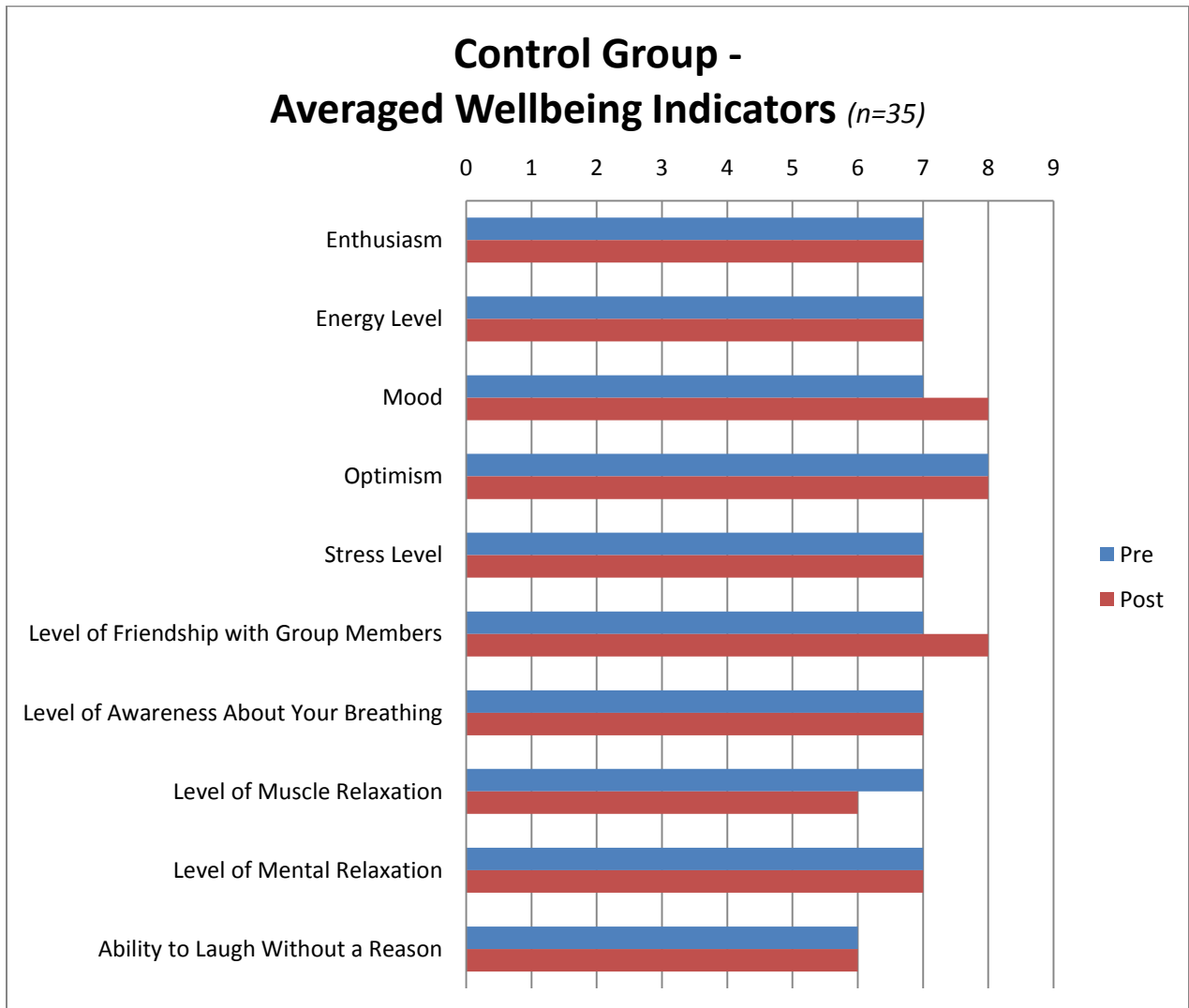
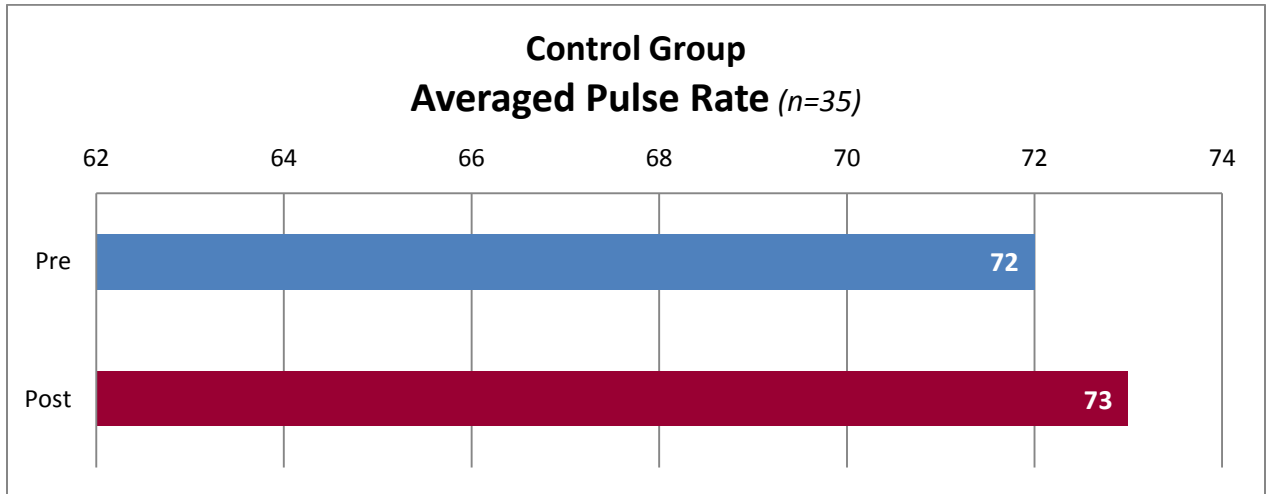
At the suggestion of the NC Division of Aging and Adult Services, the Area Agency on Aging initiated a multi-state collaborative, with data contributed by Certified Laughter Yoga Teachers, Leaders, and Master Trainers from:

- California – Jeffrey Briar
- Illinois - Lynda Tourloulis
- Massachusetts – Bill & Linda Hamaker
- New Hampshire - Marcia Wyman

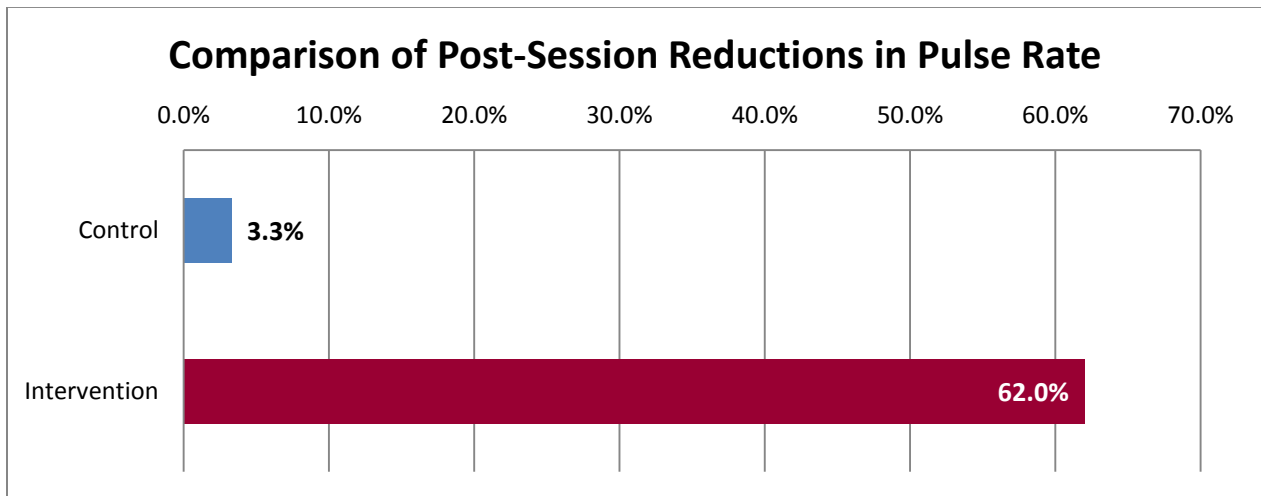
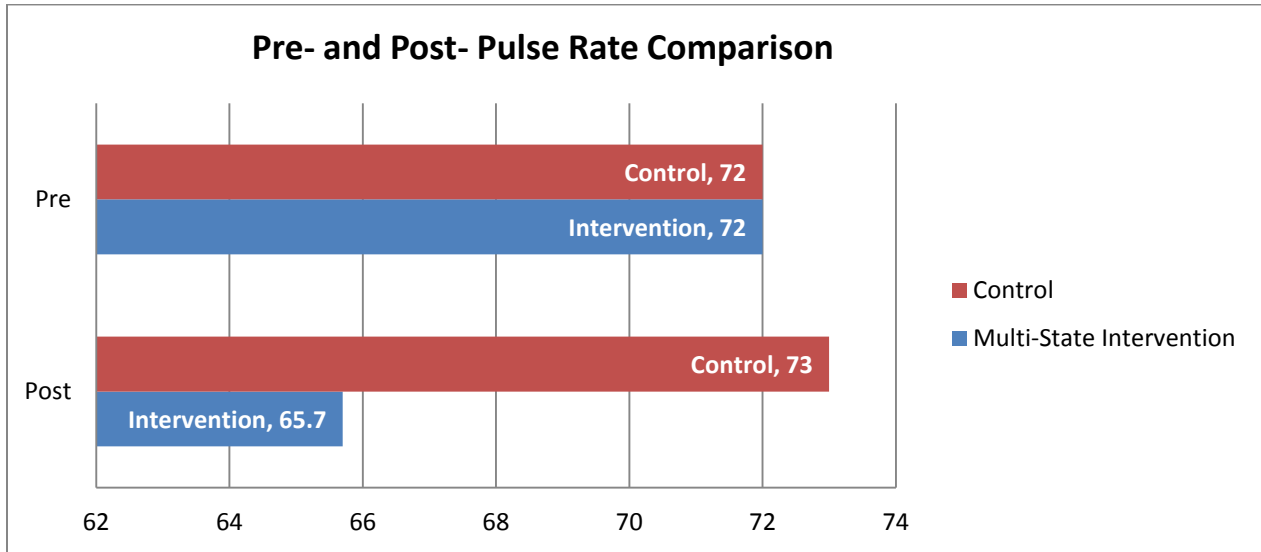
- New Mexico - Audrey S. Autrey
- Rhode Island - Mary McDonald



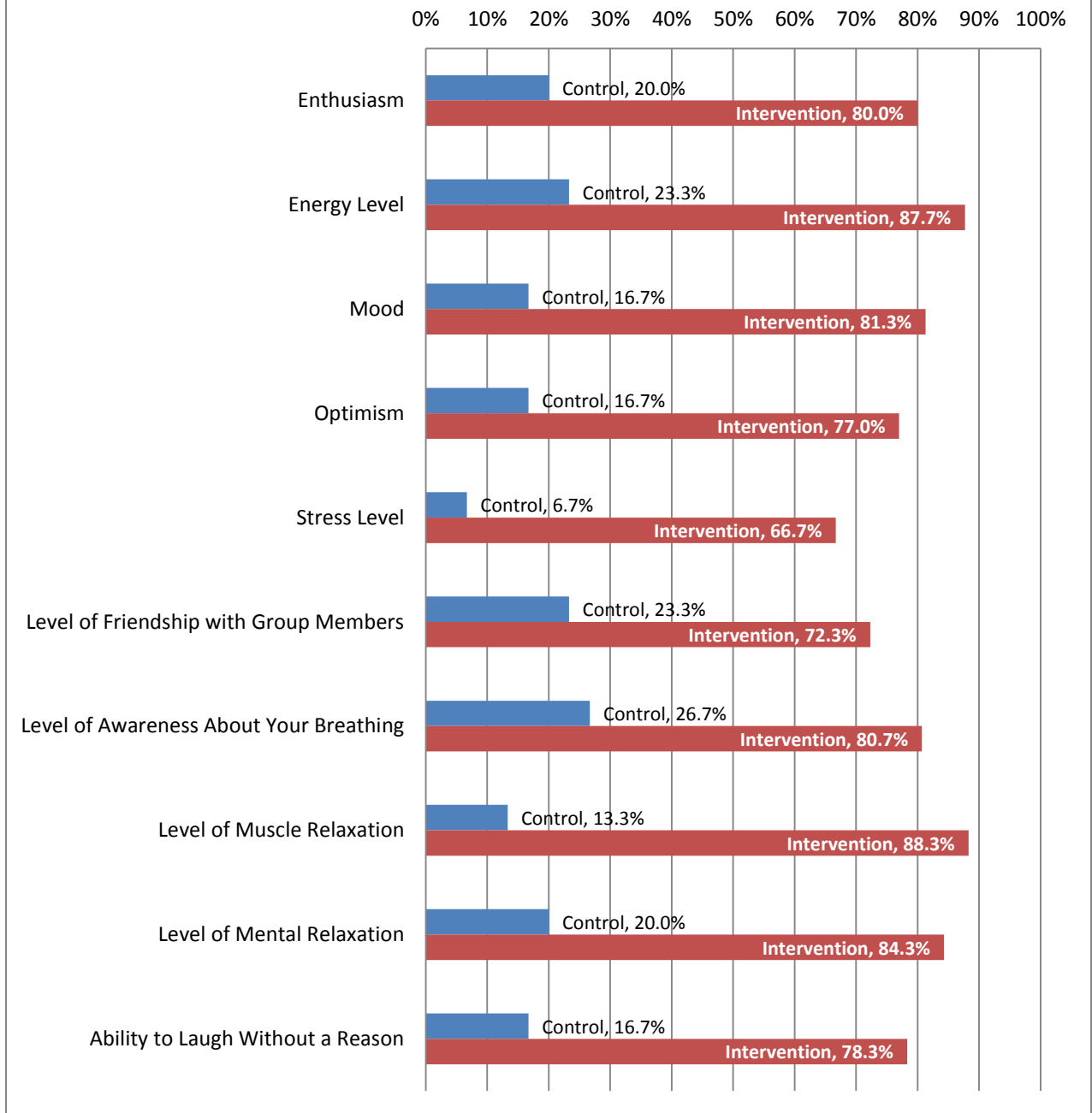
**Phase 3 – Control Group**



**Comparisons**



## Percentage of Participants Reporting Post-Session Gains in Well-being Indicators



In North Carolina, there are at least 107 Senior Centers that receive funding from the NC Division of Aging and Adult Services, effective July 1, 2013. Fifty-one Certified Laughter Yoga Leaders, directly affiliated with North Carolina aging services providers, have been trained since July 2012. According to the National Council on Aging, there are nearly 11,000 senior centers nationwide.