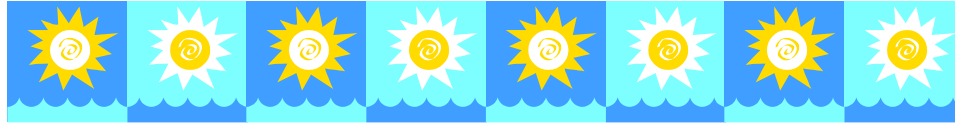


Effectiveness of Exercise in Lowering Pain Levels and Improving Mood

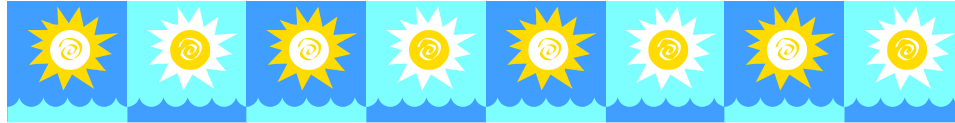


Purpose



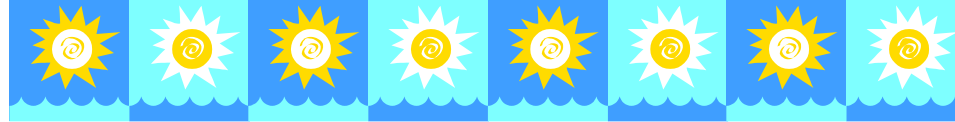
To evaluate the effectiveness of a low impact exercise program in lowering pain levels and improving mood among senior citizens.

Background



Most older adults have some level of joint pain. Research shows when pain begins, most people are scared to exercise. This is a problem for two reasons. First, muscles and bones get weak and can cause more joint pain. Second, having pain for a long time causes decreased mood and depression to set in. Exercise can help because it does not make the pain worse. It can actually decrease pain. When the pain is less, moods improve.

Methods



Target Population:

Senior citizen participants in already established exercise program held at the Lee County Senior Center in Dixon, IL.

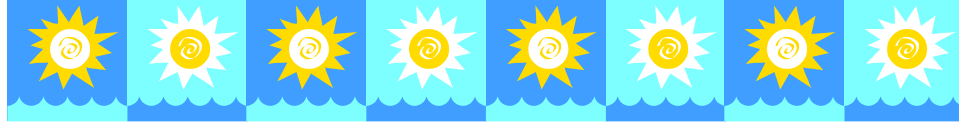
Program:

12 week, low impact exercise class, meeting Mondays and Thursdays for 45 minutes/session. Sessions include warm-up, aerobic, strengthening, and cool-down segments. Participation is free.

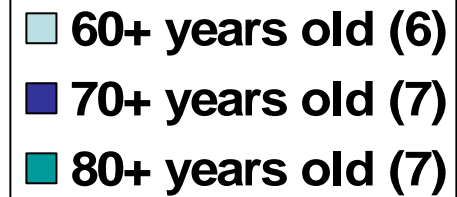
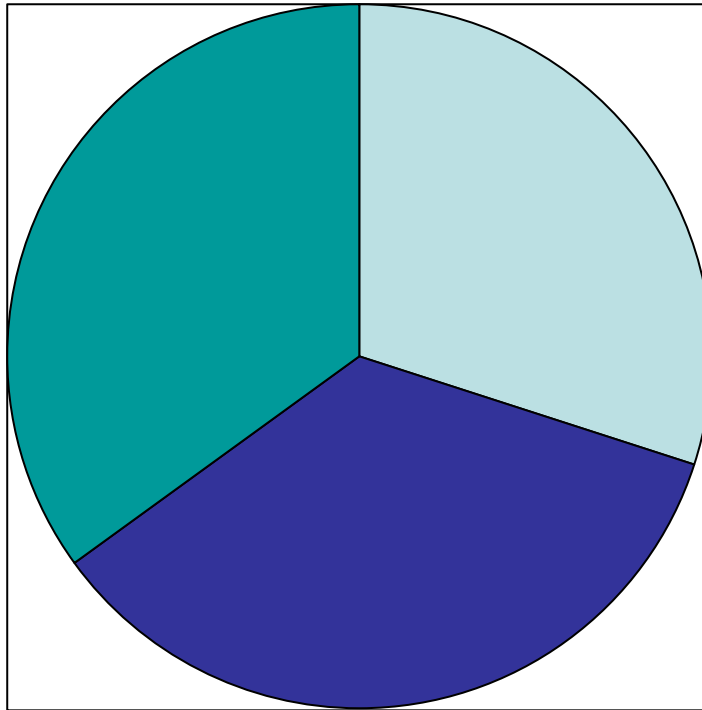
Evaluation:

A pre-test and post-test are distributed during the 12 week period. Pain levels are evaluated using the Numeric 1-10 Pain Scale. Depression levels are assessed using the Durham GRECC Depression Scale.

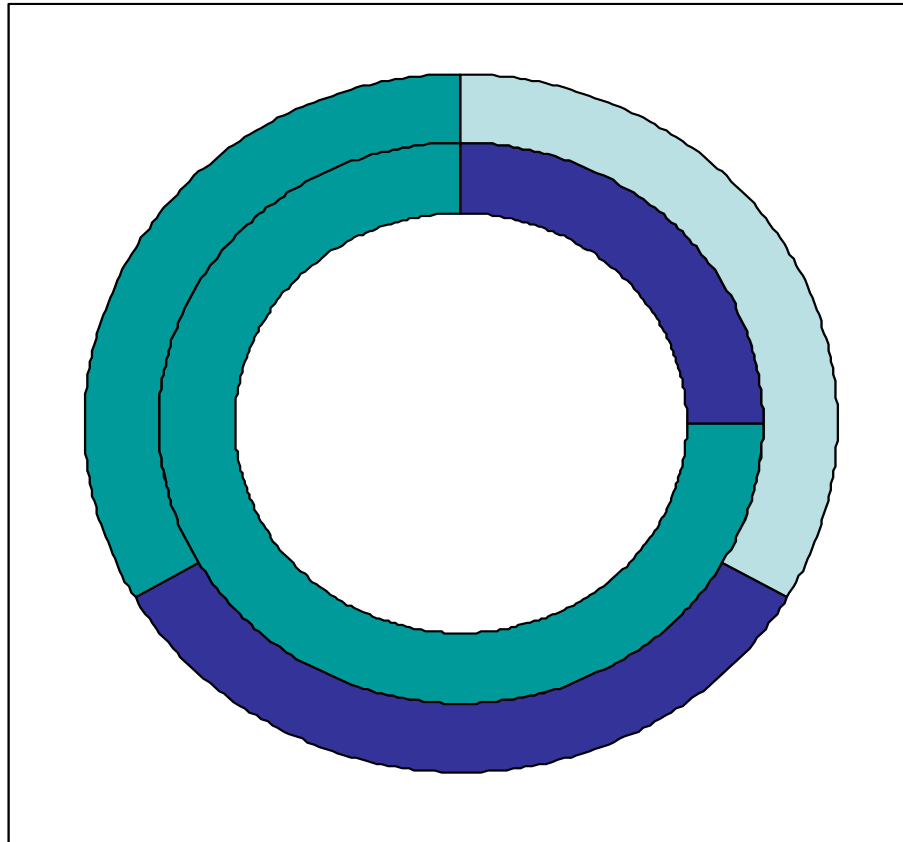
Results



Age Groups of Participants



Male/Female Ratio



■ 60+ years old
(No Males/ 6
Females)

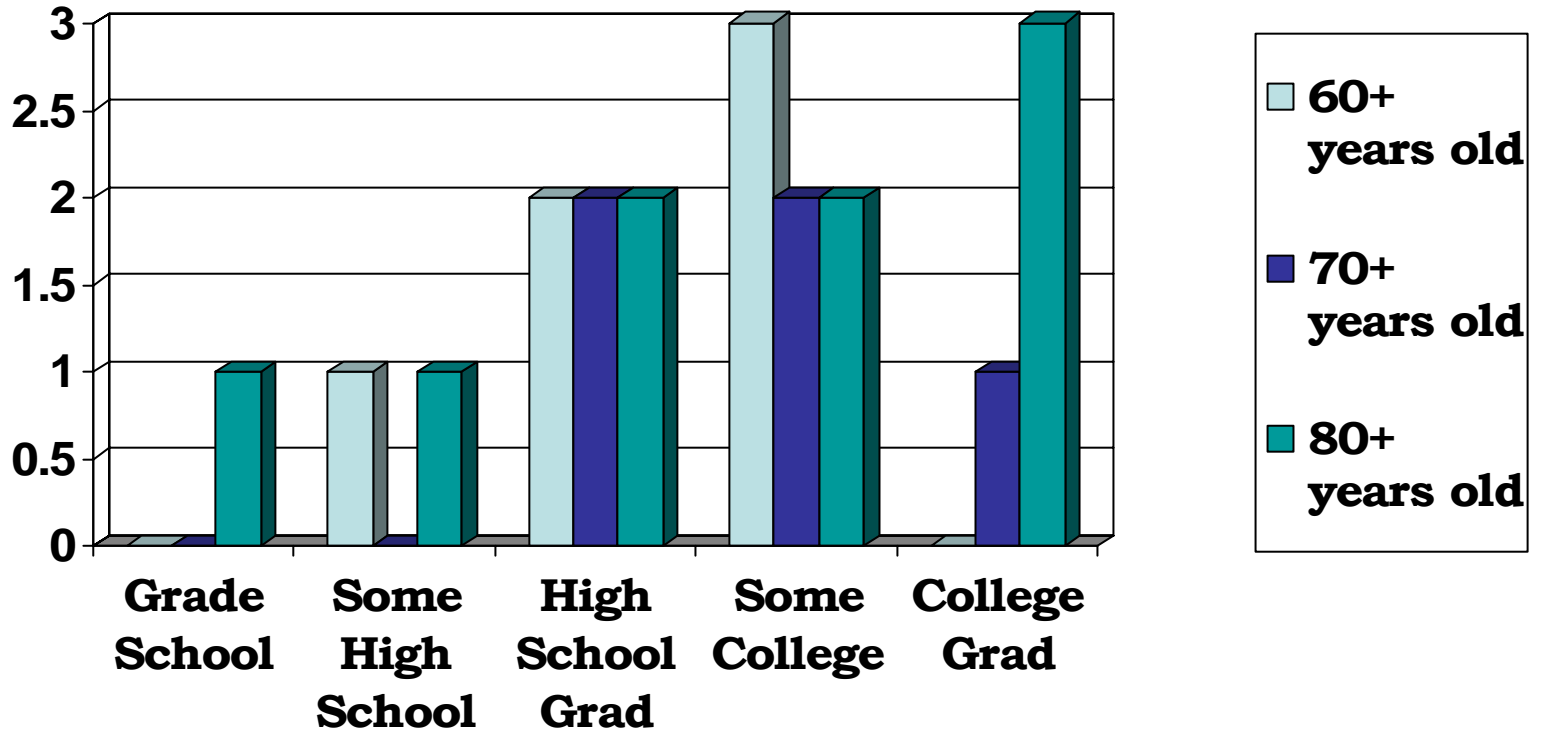
■ 70+ years old
(1 Male/ 6
Females)

■ 80+ years old
(3 Males/ 4
Females)

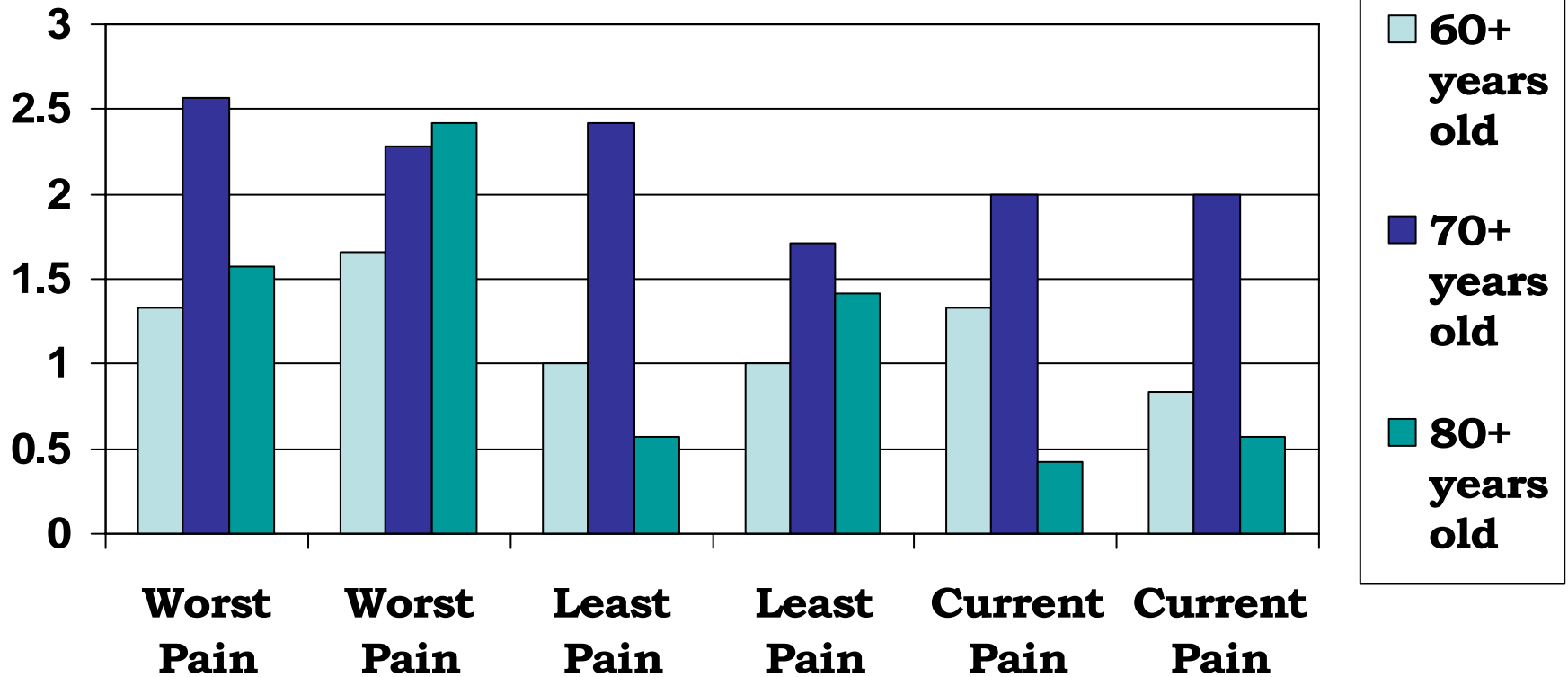
Outside Circle: Females

Inside Circle: Males

Education Level



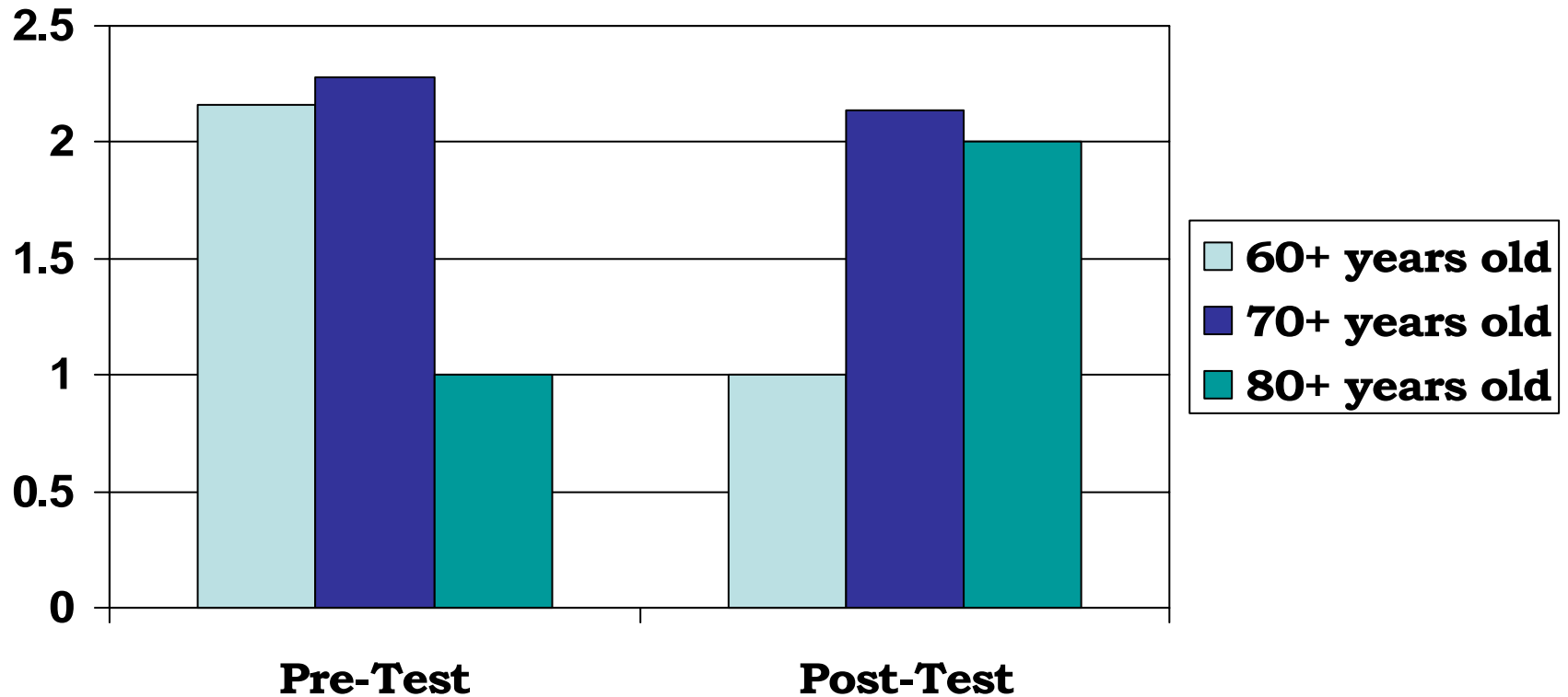
Average Pain Levels



Pre-Test = First Column

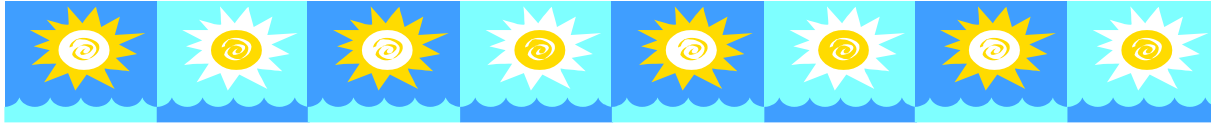
Post Test = Second Column

Average Depression Levels

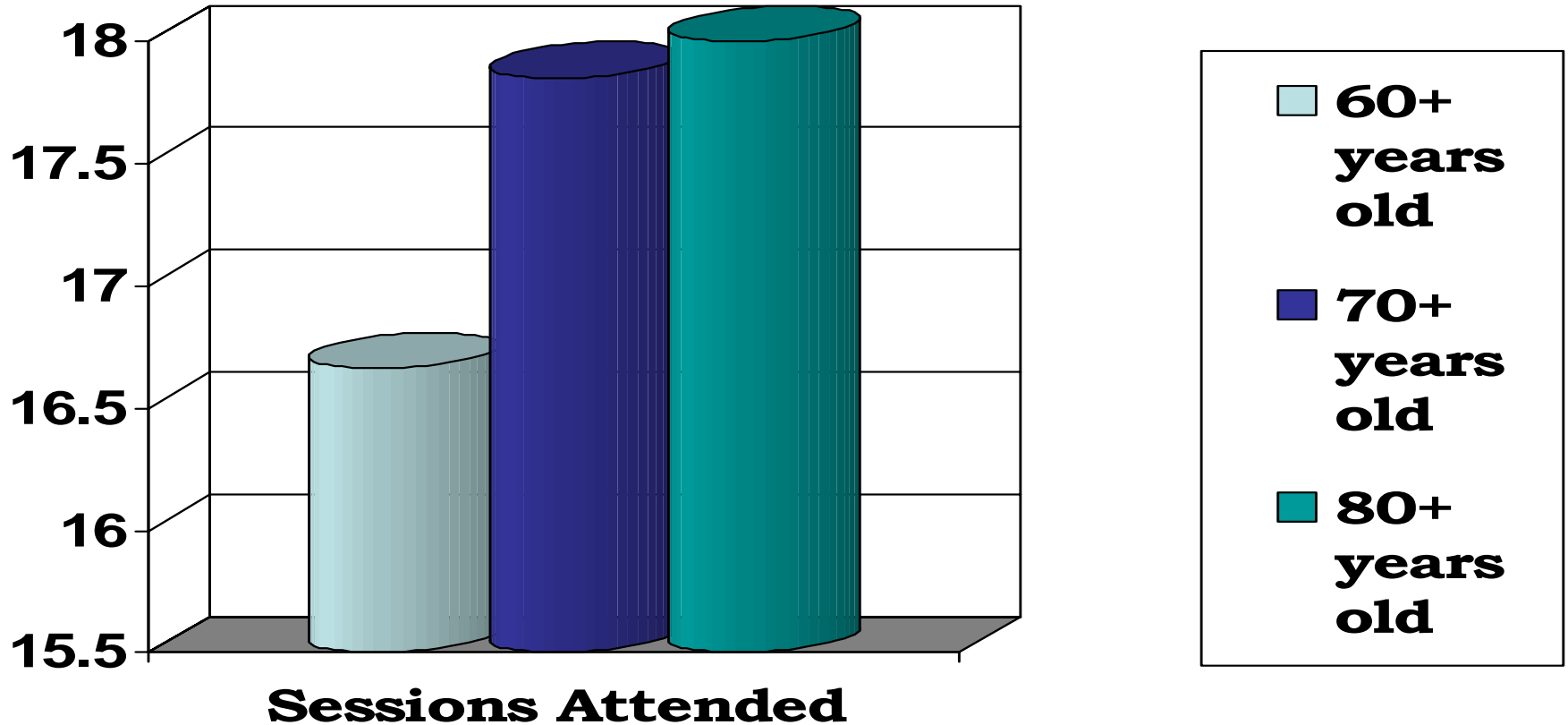


Note: Scores >3 indicate increased risk of depression.

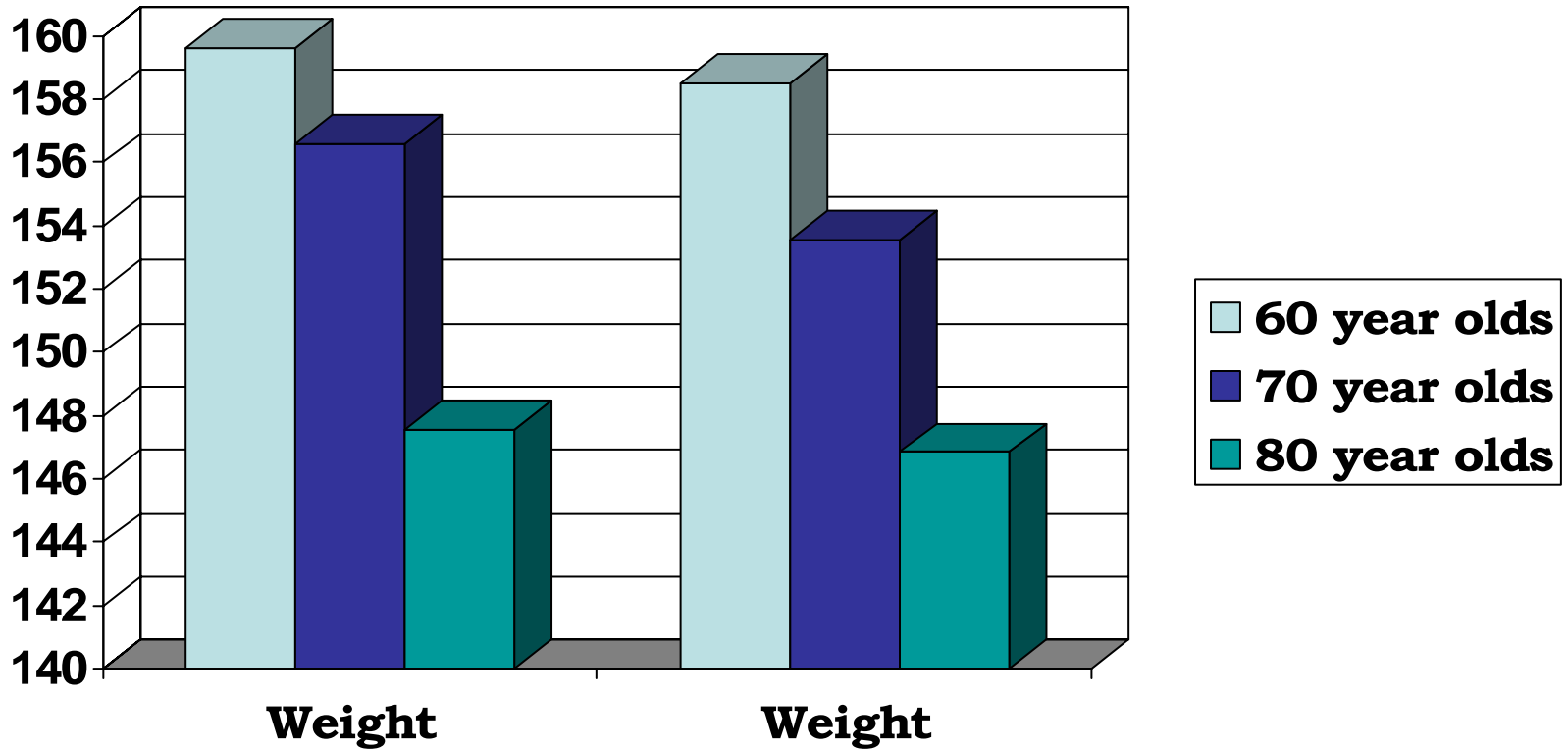
Behaviors and Perceptions



Average Number of Sessions Attended (24 Total)



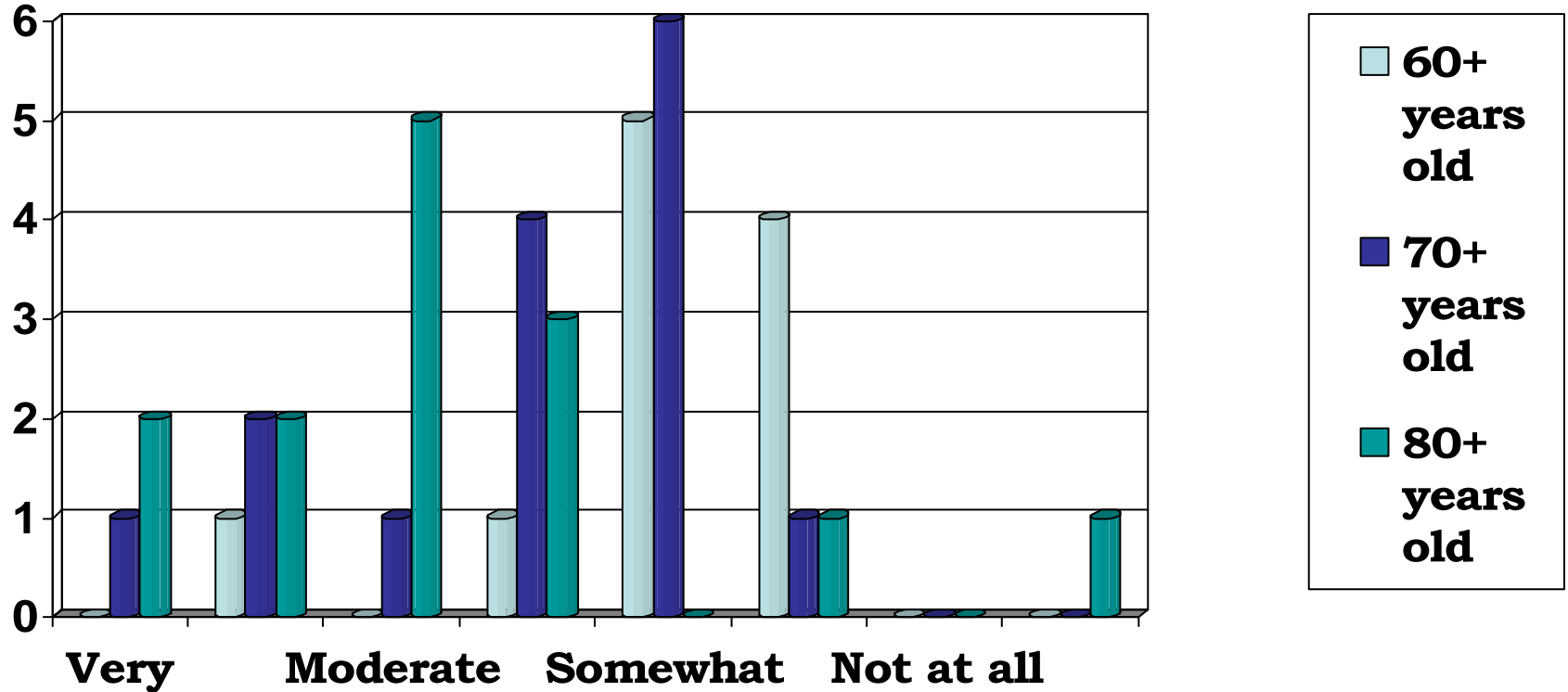
Average Weight



Pre-Test = First Column

Post-Test = Second Column

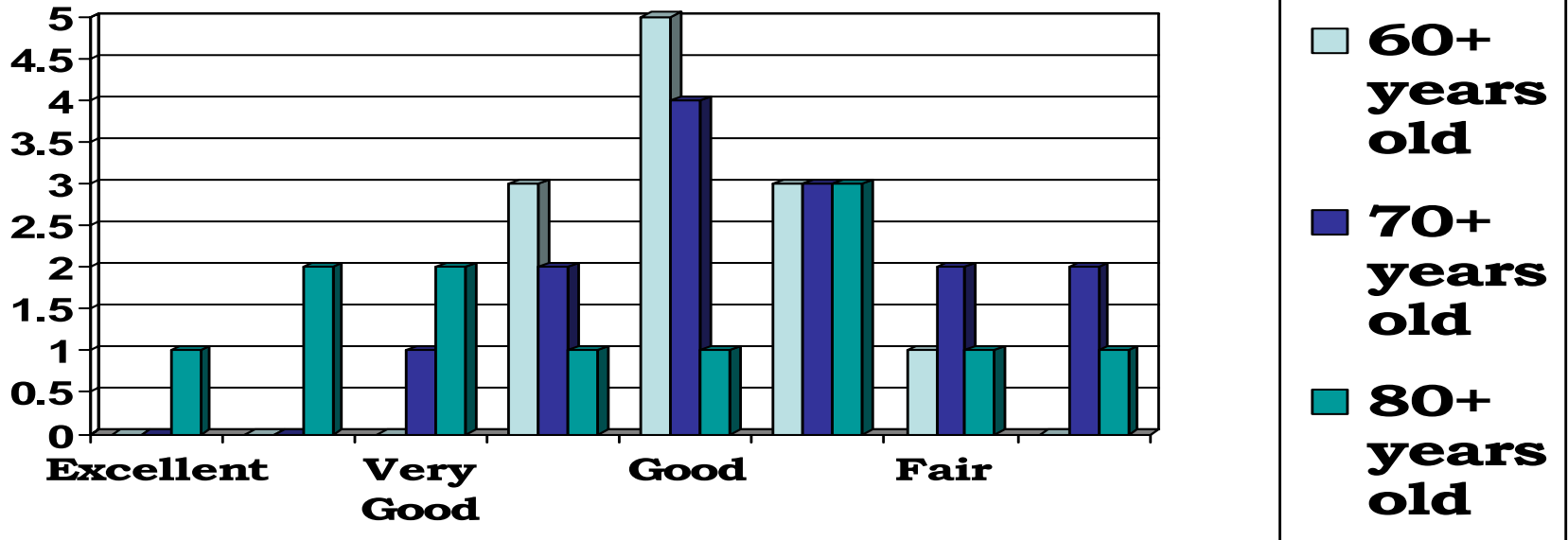
Physically Fit



Pre-Test = First Column

Post-Test = Second Column

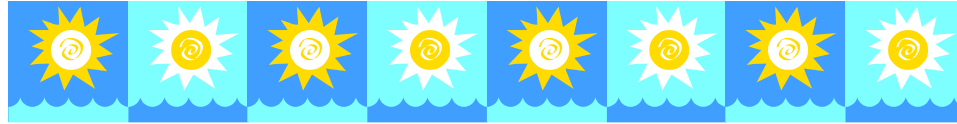
Current Health Status



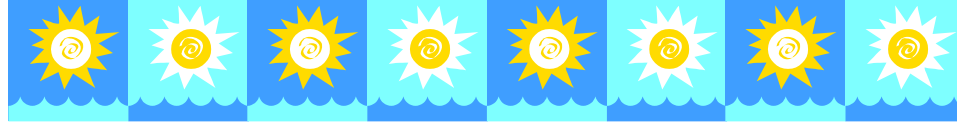
Pre-Test = First Column

Post-Test = Second Column

Discussion

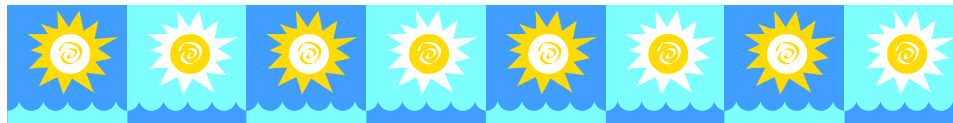


Participation



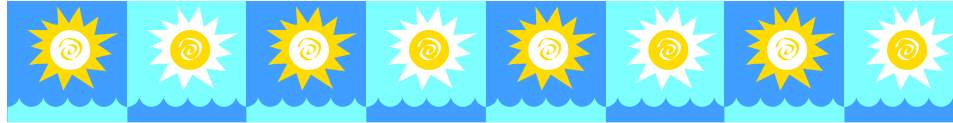
- Nearly equal participation among 60-70-80 year olds.
- 80 year olds had the best attendance = 75% of time (70 year olds = 74.3% and 60 year olds = 69.4%)
- ***All average attendance well over 50%!!!**
- 24 regularly attending participants at beginning of study.
- 38 participants by the end of the study.
- 5 one-time-only participants.
- 22 participants completed the pre-test.
- 27 participants completed the post-test.
- 20 completed pre-tests and post-tests.
- All 24 of the original participants maintained some level of participation throughout the study.
- 2 participants attended 23/24 sessions!!
- Maximum class size = 25.
- Minimum class size = 11.

Pain



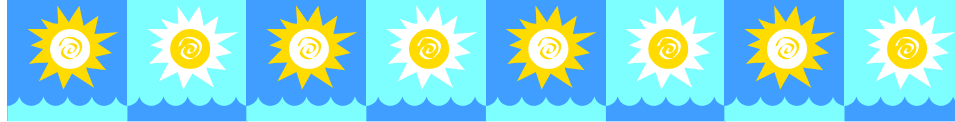
- **60 year olds** showed a progression in the level of worst pain from pre-test to post-test. Levels were unchanged when comparing least amount of pain from pre-test to post-test. Improvement noted with decreased levels of current pain from pre-test to post-test. Interesting, this age group had the lowest amounts of average worst pain.
- **70 year olds** had the most pain, on average, in nearly every category (worst, least, current pain) on pre-test and post-test. However, there was improvement from pre-test to post-test in worst and least pain levels. Current pain remained the same.
- **80 year olds** were consistent in demonstrating a worsening of pain in all three categories (worst, least, current pain) from the pre-test to the post-test. However, this age group had the least amount of average current pain on both pre-tests and post-tests.

Depression



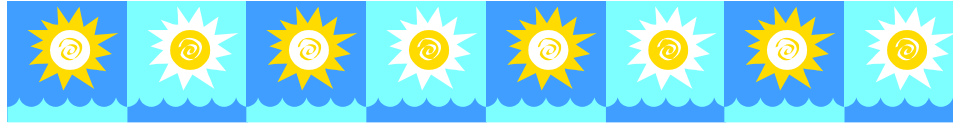
- **Overall: Pre-test and Post-test averages <3.**
- Pre-test: 3/20 participants with scores >3.
Average=5.3 on depression scale.
- Post test: 2/20 participants with scores >3.
Average=5.5 on depression scale.
- **60 year olds** averaged a **decrease** in depression levels by 1.16 points from pre-test to post-test.
- **70 year olds** averaged a **decrease** in depression levels by 0.14 points from pre-test to post-test.
- **80 year olds** averaged an increase in depression levels by 1 point from pre-test to post-test.

Weight



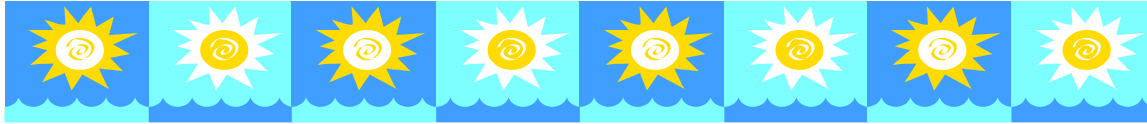
- Weights on pre-test and post-test were based on self-report.
- **Average weight loss in all age groups.**
- **60 year olds:** average weight loss of 1.1 pound.
- **70 year olds:** average weight loss of 3 pounds.
- **80 year olds:** average weight loss of 0.72 pounds.
- **Overall weight loss is significant** ($p=0.052$)!

Fitness



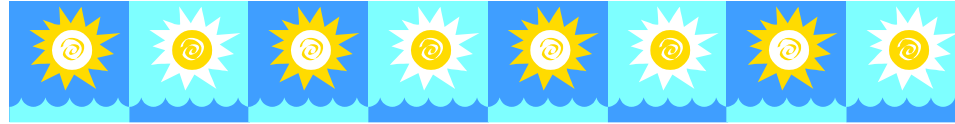
- **60 year olds:** All indicated they were somewhat fit on pre-test. (None thought they were very fit or even moderately fit on pre-test.) On post-test, the majority still felt they were somewhat fit, but there were some who felt very fit and moderately fit.
- **70 year olds:** This age group had participants that were very, moderate and somewhat fit on both pre-test and post-test. None felt they were not fit at all on either pre-test or post-test. Interesting, there was an increase in those who felt very fit and moderately fit from pre-test to post-test while there was a decline in the number who felt somewhat fit.
- **80 year olds:** On pre-test, the 80 year olds were either very fit or moderately fit. (None felt somewhat fit or not at all fit.) In comparing the pre-test to the post-test, there was no change in the number feeling very fit. Most 80 year olds still felt moderately fit. Two participants declined in level of fitness to somewhat and not at all fit.

Current Health



- **60 year olds:** On pre-test, most felt either in good or fair health. (None felt they were in excellent or very good health.) On post-test, there was a tie for the number in very good and good health. (None in fair or excellent health.)
- **70 year olds:** From pre-test to post-test, there was an increase in the number of those in very good health, a decline in the number in good health, while the number in fair health remained the same. None felt they were in excellent health on pre-test or post-test.
- **80 year olds:** From pre-test to post-test, there was an increase in the number of those in excellent and good health, a decline in very good health and no change in fair health.

Conclusion



- We had FUN!!
- We exercised!!
- We met new people!!
- They asked for an exercise video.
- I made them an exercise video to use once my study was concluded.
- **WE HAD FUN!!**

