# GOLDFARB

GOLDFARB SCHOOL OF NURSING AT BARNES-JEWISH COLLEGE

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# Exploring Cognitive Function in Older Adults Living with HIV

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# Methods

- 46 older adults living with HIV

- Complete sleep, fatigue, QOL surveys

- Wear actigraph for 1 week, completing Epworth Sleepiness Scale, Fatigue Scale, and Subjective Sleep Quality scale each day

- Cognitive testing using MoCA and NIH Toolbox Cognitive Battery

# The Study

- Describe subjective and objective sleep patterns in older adults living with HIV

- Determine the relationships among sleep measures and cognitive function

- Examine these associations with levels of cognitive function, fatigue, daytime sleepiness, depression and quality of life measures

# Preliminary Results

- Correlation between self-reported sleep duration and sleep measured objectively with actigraphy:

- ($r = .405$, $n = 41$, $p = .012$)

- Subjective sleep measures significantly overestimated total sleep time

- 6 hours 40 minutes vs 4 hours 55 minutes

- Subjective measures also overestimated sleep efficiency compared to actigraphy:

- 78% vs 64%

# Fluid Cognition: Fully Corrected Scores

- 74% of study participants scored below the normative mean of 50

- 23% were at least one SD below the mean

- 16% scored at least 2 SD below the mean

- Mean score was 43.2 (SD 11.2)

# Fluid Cognition-Fully Corrected
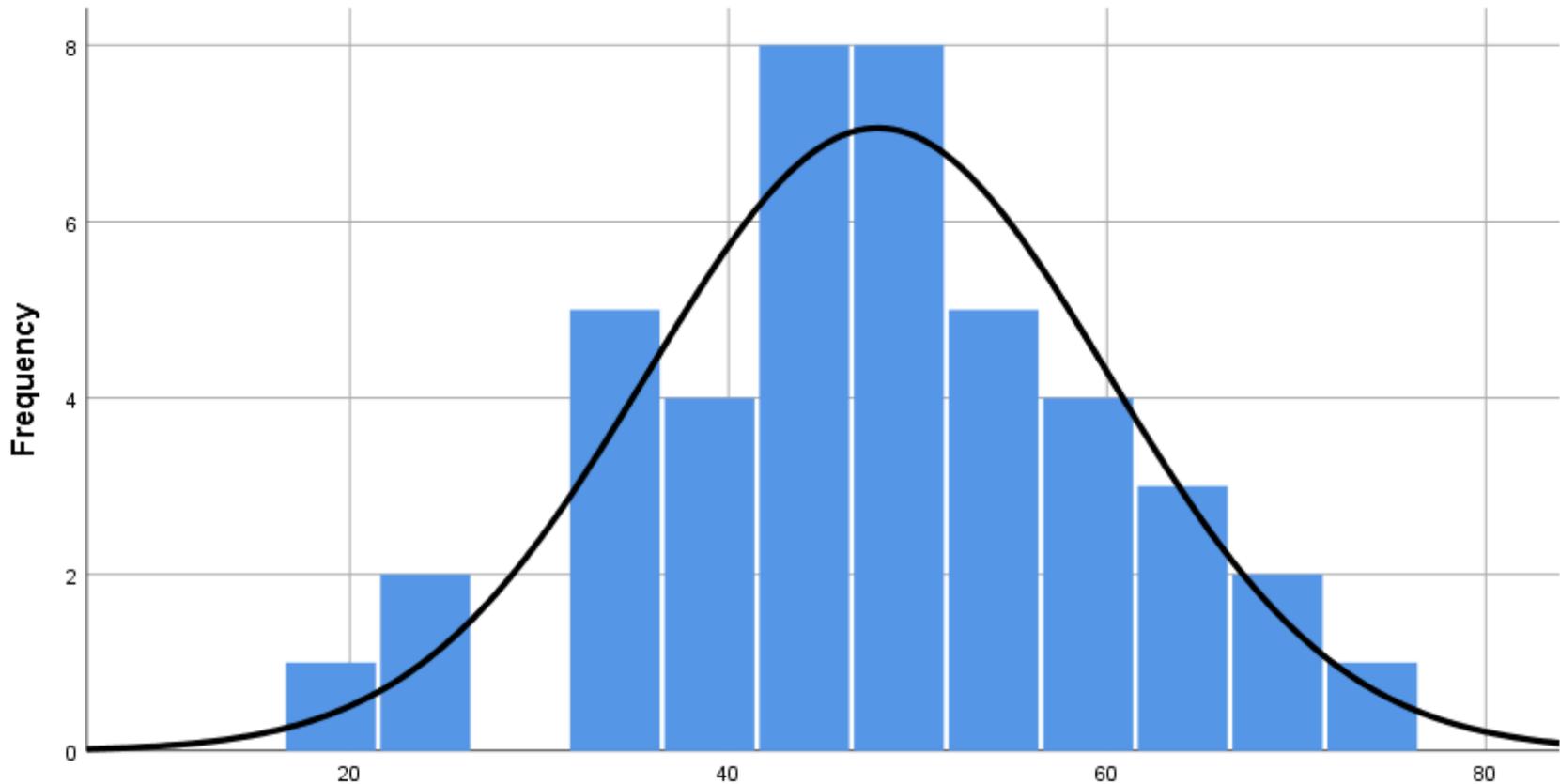
# Correlation with Sleep and Cognition:

- Objective and subjective sleep scores were correlated with lower scores on *fluid cognition* measures (r = .305, n = 43, p = .049)

- Fluid cognition measures the capacity to reason and solve new problems

- Less dependent on past education and more susceptible to environmental factors such as sleep and fatigue

# Fluid Cognition-Age Corrected
## (Standard Scores)

- About a third of participants were at least 1 SD below national average

- 12% 2 SD or more below national average

- 12% 1 SD above national average
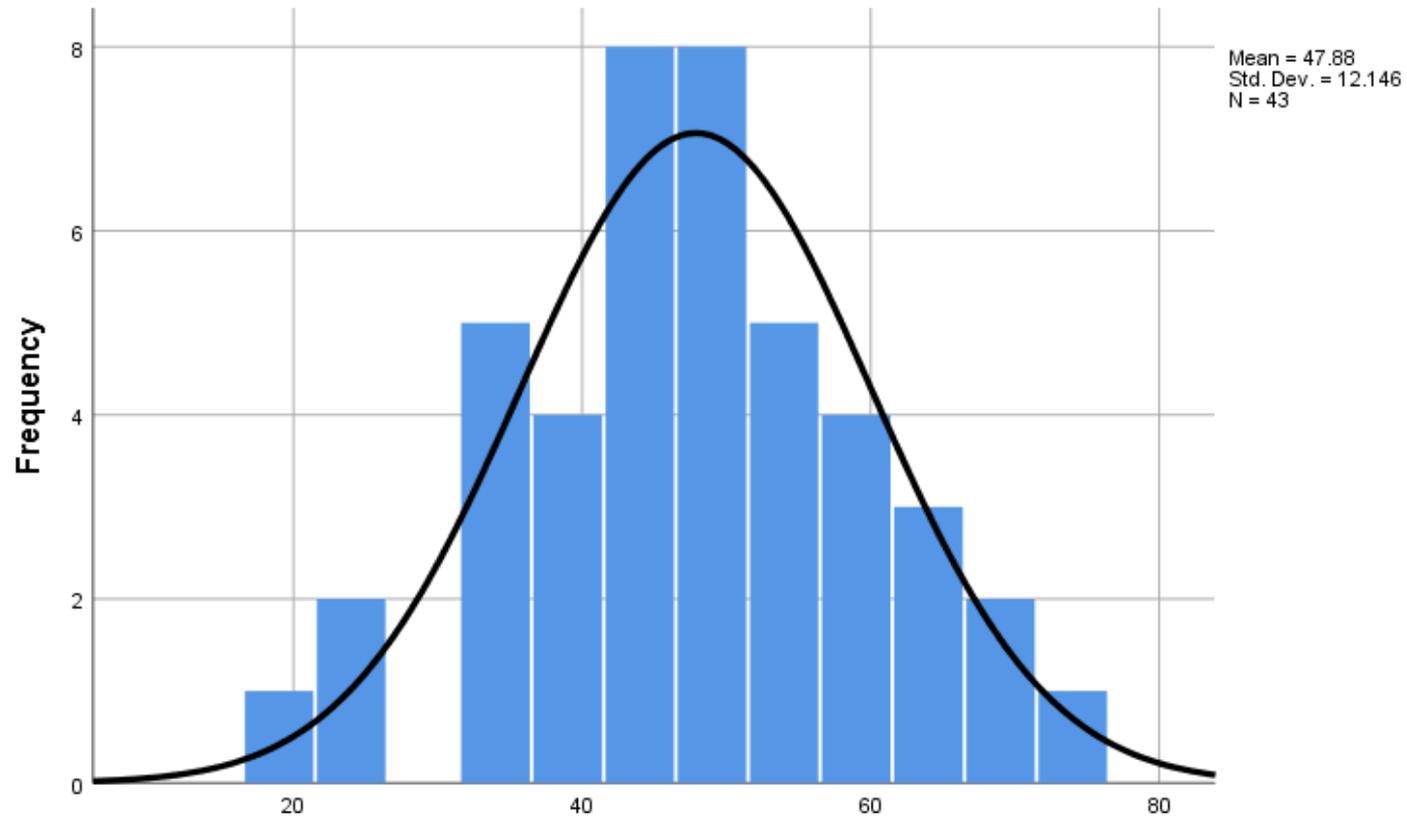
- No participants more than 1 SD above NA

# Fluid Cognition-Age-Corrected
## (Standard Score)



Mean = 92.07
Std. Dev. = 17.557
N = 43
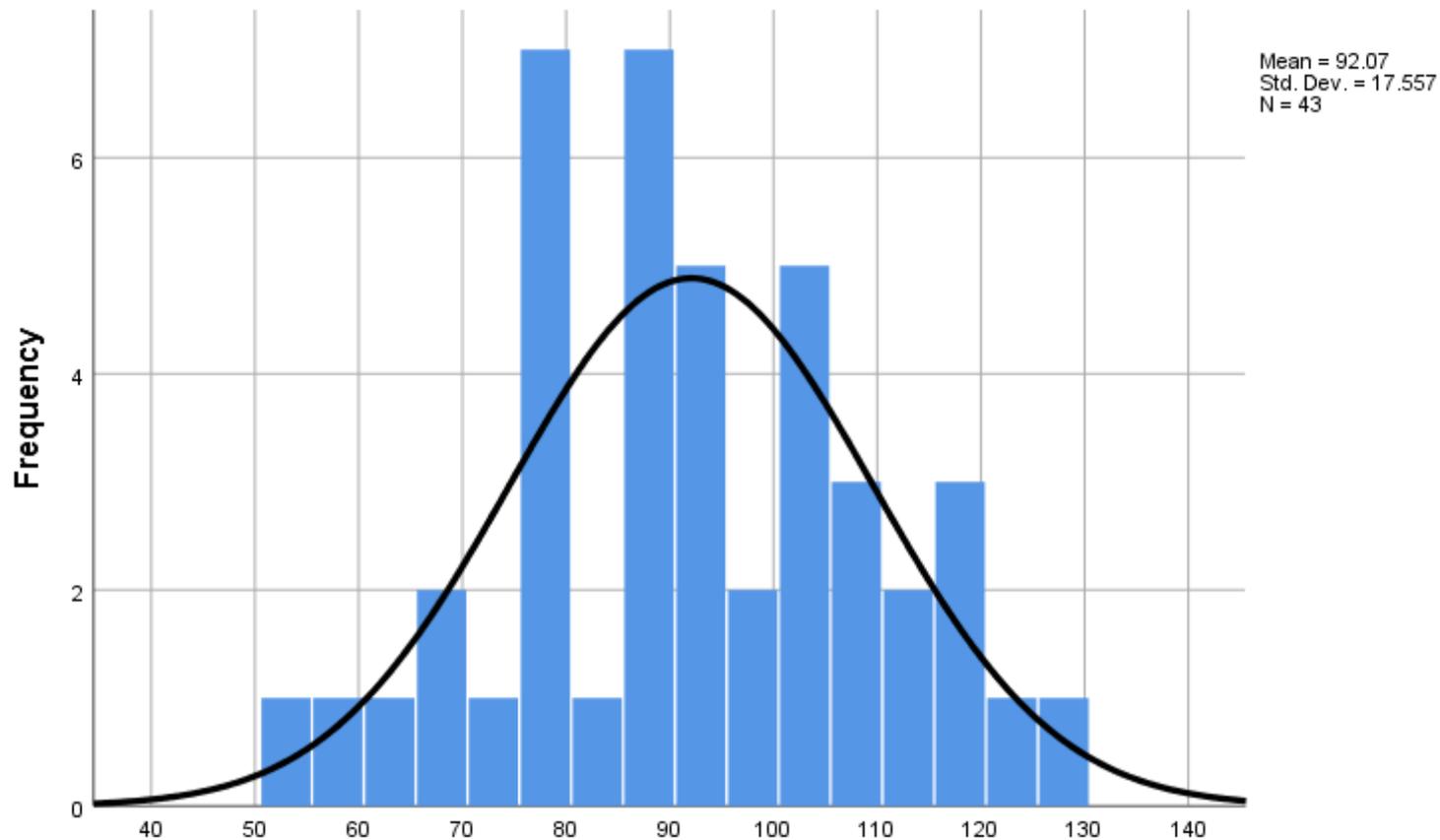
# Crystallized Cognition-Fully Corrected

- 56% of study participants scored below the normative mean of 50

- 26% were at least one SD below the mean

- 7% scored at least 2 SD below the mean

- Mean score was 47.9 (SD 12.15)

# Crystallized Cognition-Fully Corrected



Mean = 47.88
Std. Dev. = 12.146
N = 43

# Crystallized Cognition- Age-Corrected
## (Standard Score)

- About a third of participants were at least 1 SD below national average

- 12% 2 SD or more below national average

- 12% 1 SD above national average

- No participants more than 1 SD above NA

# Crystallized Cognition-Age-Corrected
## (Standard Score)



Mean = 94.77
Std. Dev. = 17.835
N = 43
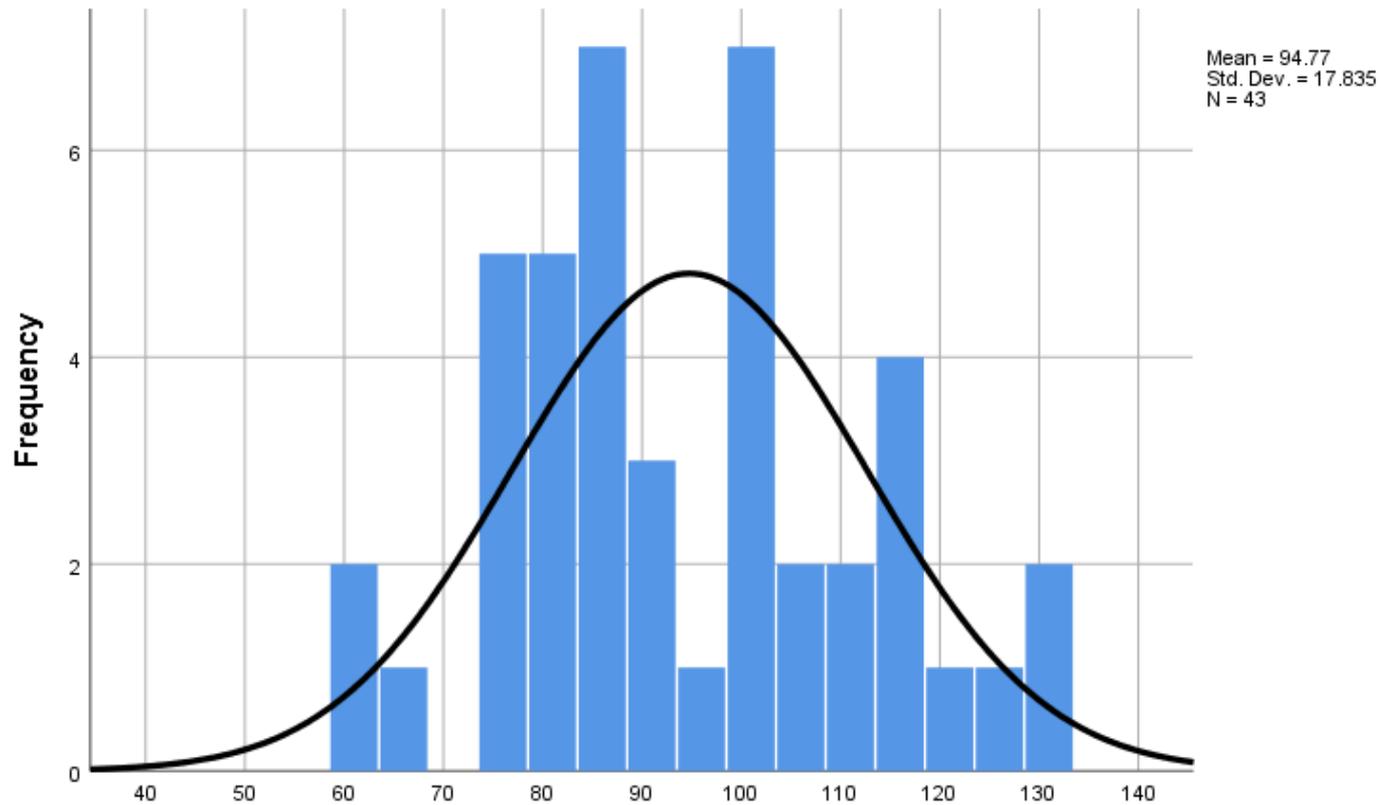
# Total Cognition- Fully Corrected

- Mean score was 49.86

- 13% 1 or more SD below national average

- Half of those were 2 SD below

- 19% 1 SD above national average

- No participants more than 1 SD above NA

# Total Cognition-Fully Corrected



Mean = 49.86
Std. Dev. = 11.006
N = 43
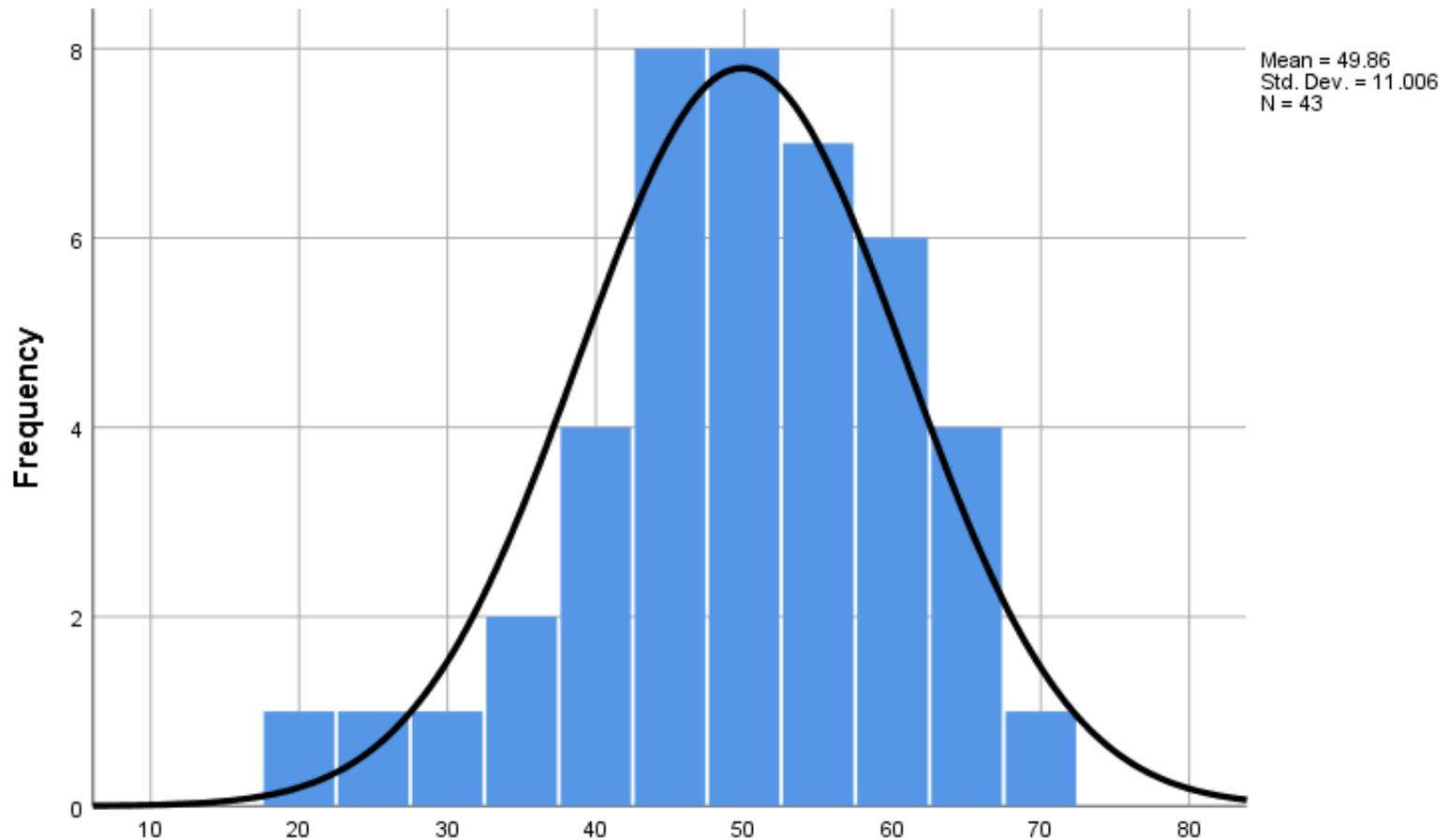
# Conclusions

- Fluid cognition was the cognitive measure where study participants fell below the norm the most

- Cognitive interventions have the greatest chance of impacting this measure

- Developing effective cognitive interventions could positively impact life for older adults living with HIV

# Life Satisfaction Correlations

- Age was associated with Life Satisfaction:

- r .311, p = .045

- Global Sleep (from PSQI) was associated with Life Satisfaction:

- r .384, p = .014

# Symptom Distress Associations

- Symptom Distress was associated with:

- Fatigue (Promis) r = .429, p = .011

- Depression (Promis) r = .483, p = .004

- Global Sleep (PSQI) r = .432, p = .011

# Sleep Problems were Significant:

- Total sleep time was significantly less than that of similarly aged persons that do not have HIV
- 274 minutes ( 4 h 34 minutes) vs 358 minutes (5 h 58 minutes)

- Sleep efficiency was also worse than age-adjusted norms
- 63.83% vs 79.2%

# The End