

Etude expérimentale randomisée sur l'entraînement des conducteurs âgés de 65 ans et plus pour améliorer leur conduite sécuritaire

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Background

While much attention has been devoted to identifying unsafe drivers, less research has examined approaches to enhance safe driving behavior in seniors

Greater improvements in older driver training can be achieved

Training components developed by experts in the field of older driver training, knowledge users, and consumers

Objective

To examine the effectiveness of different driver training component combinations in enhancing safe driving performance in older adult drivers

Training Components

Classroom Training



On-Road Training



Simulator Training



BT Group

BT+OR Group

BT+OR+S Group

Methodology:

Participants

Voluntary sample

Inclusion criteria:

- must be aged 65 years and over
- must possess a valid, general class driver's license
- must drive at least three times per week
- must be able to speak and read fluent English

Exclusion criteria:

- Evidence of cognitive impairment (score of less than 24 on SMMSE)



Methodology:

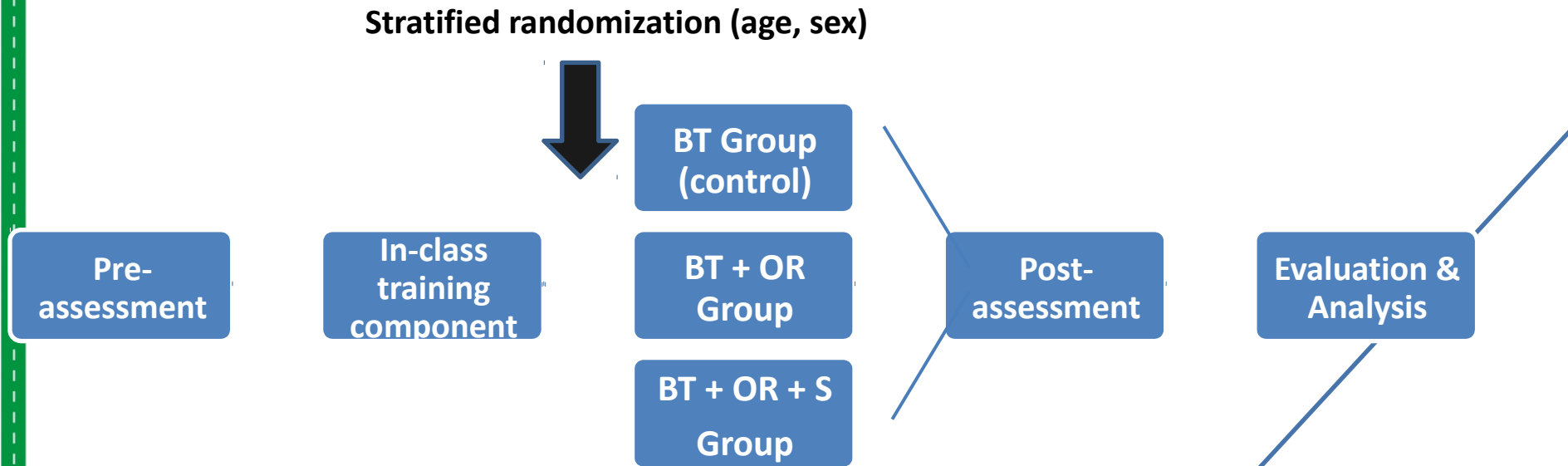
Outcome Measure

- On-road driving evaluation
 - In-vehicle recording device, video technology



- Standardized route
- Scored using demerit points in situations where the driver does not demonstrate safe driving practices
 - Vehicle controls
 - Procedural
 - Observations
 - Compliance errors

Methodology: Procedure



Methodology:

Statistical Analysis

Primary outcome measure

- Analysis of covariance (ANCOVA)
- Fisher's least significant difference (LSD)

Additional analyses

- Correlational analysis between baseline on-road driving evaluation score and the change in participants' pre- and post-intervention on-road driving evaluation scores

Intention-to-treat analysis

Results:

Demographics

N=78

- BT group: n=27
- BT+OR group: n=25
- BT+OR+S group: n=26

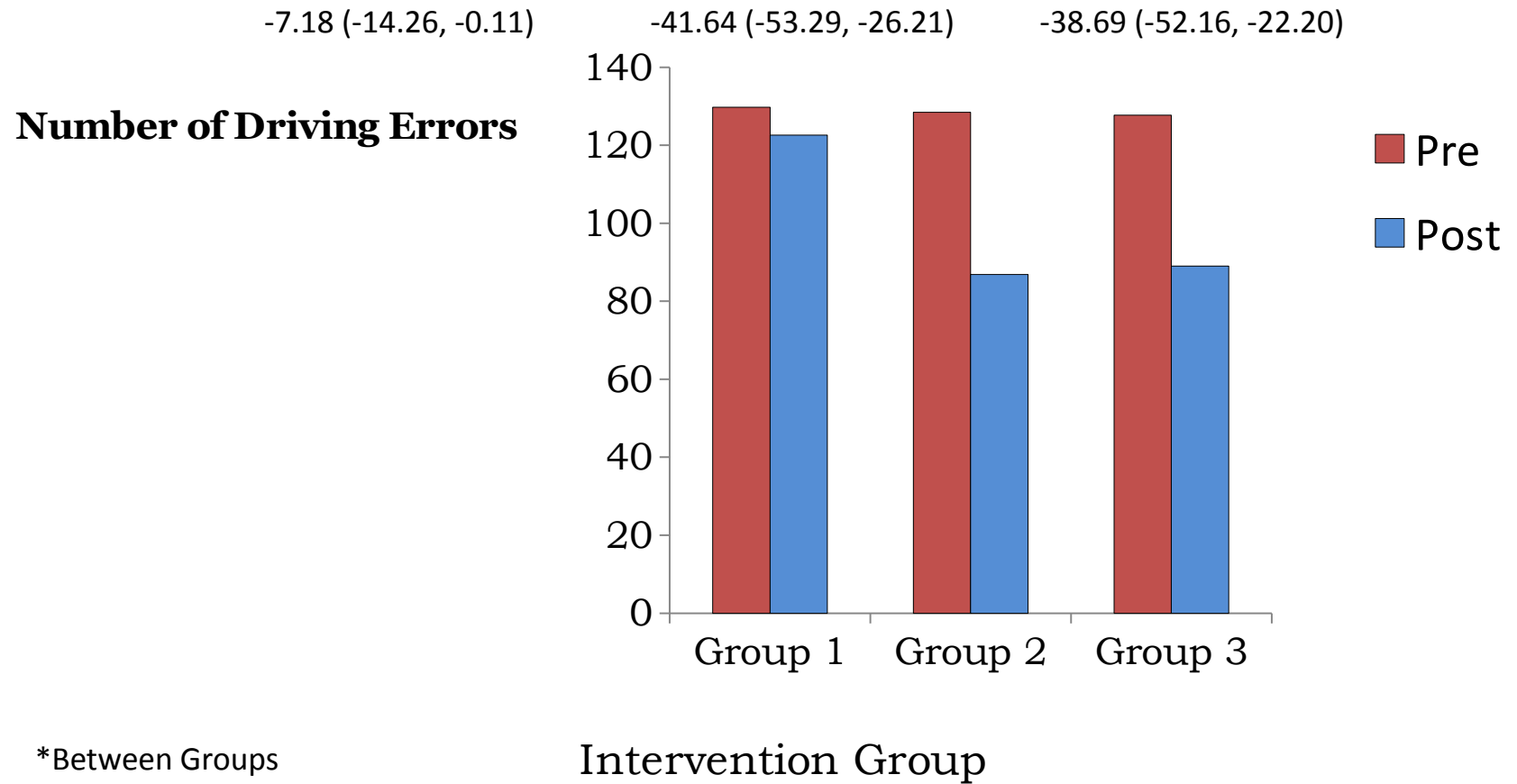
Age: 65-88 years (mean=72.45, SD=5.34)

Sex: 74.4% (n=58) women

SMMSE score: 25-30 (mean=28.78, SD=1.62)

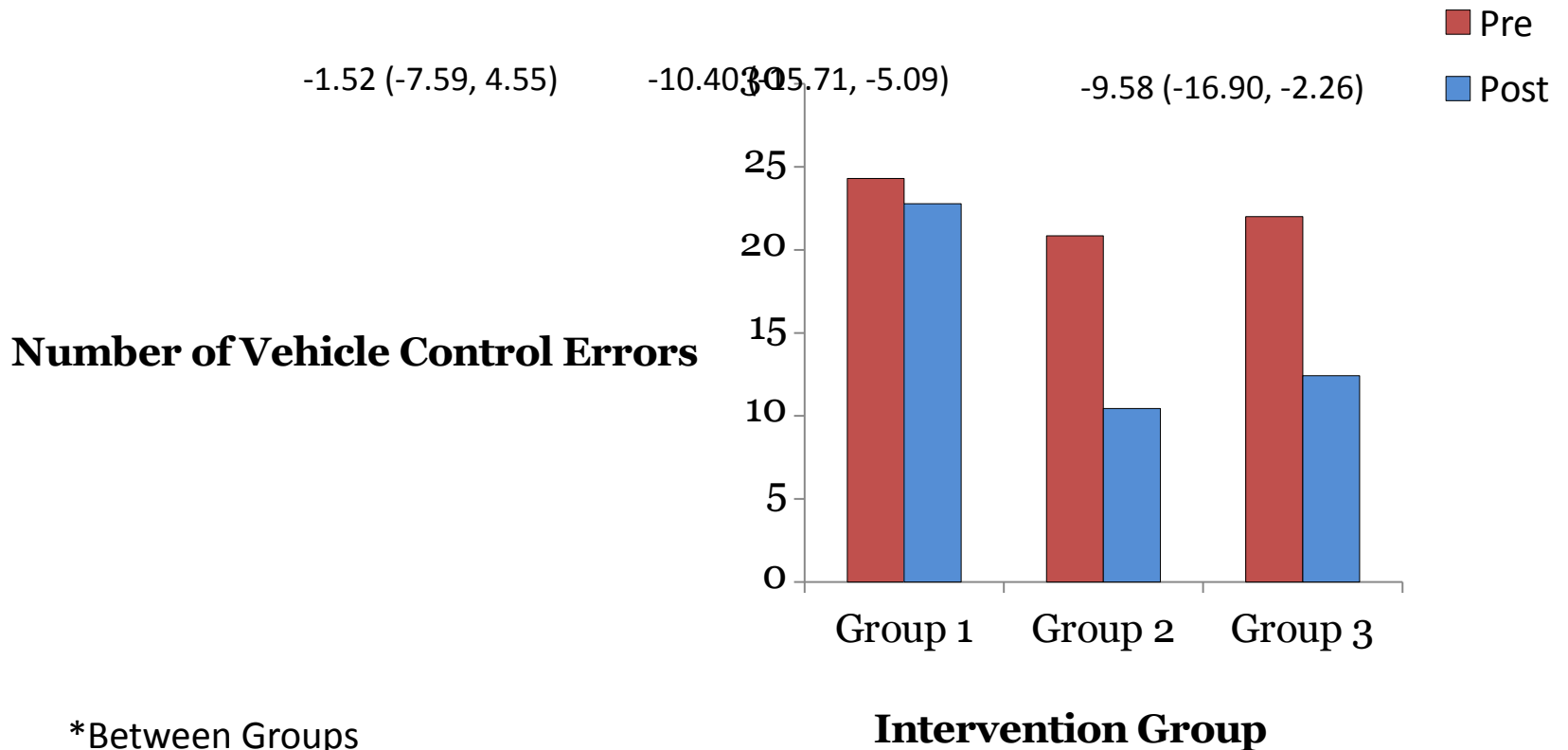
Age started driving: 10-57 years (mean=18.38, SD=6.27)

Results: On-Road Driving Score (Total)



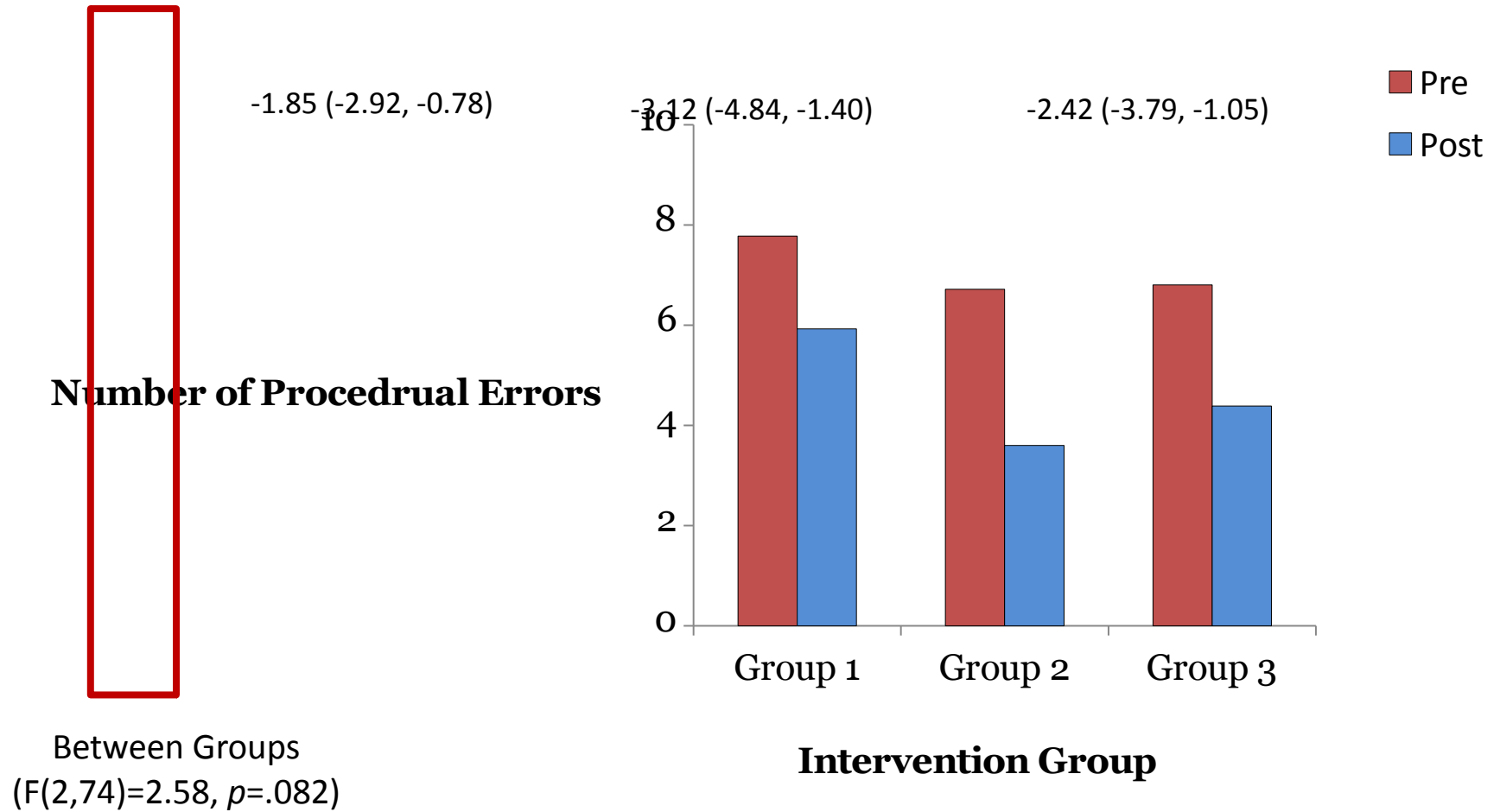
*Between Groups
($F(2,74)=15.74, p<.001$)

Results: On-Road Driving Score (Vehicle Control)

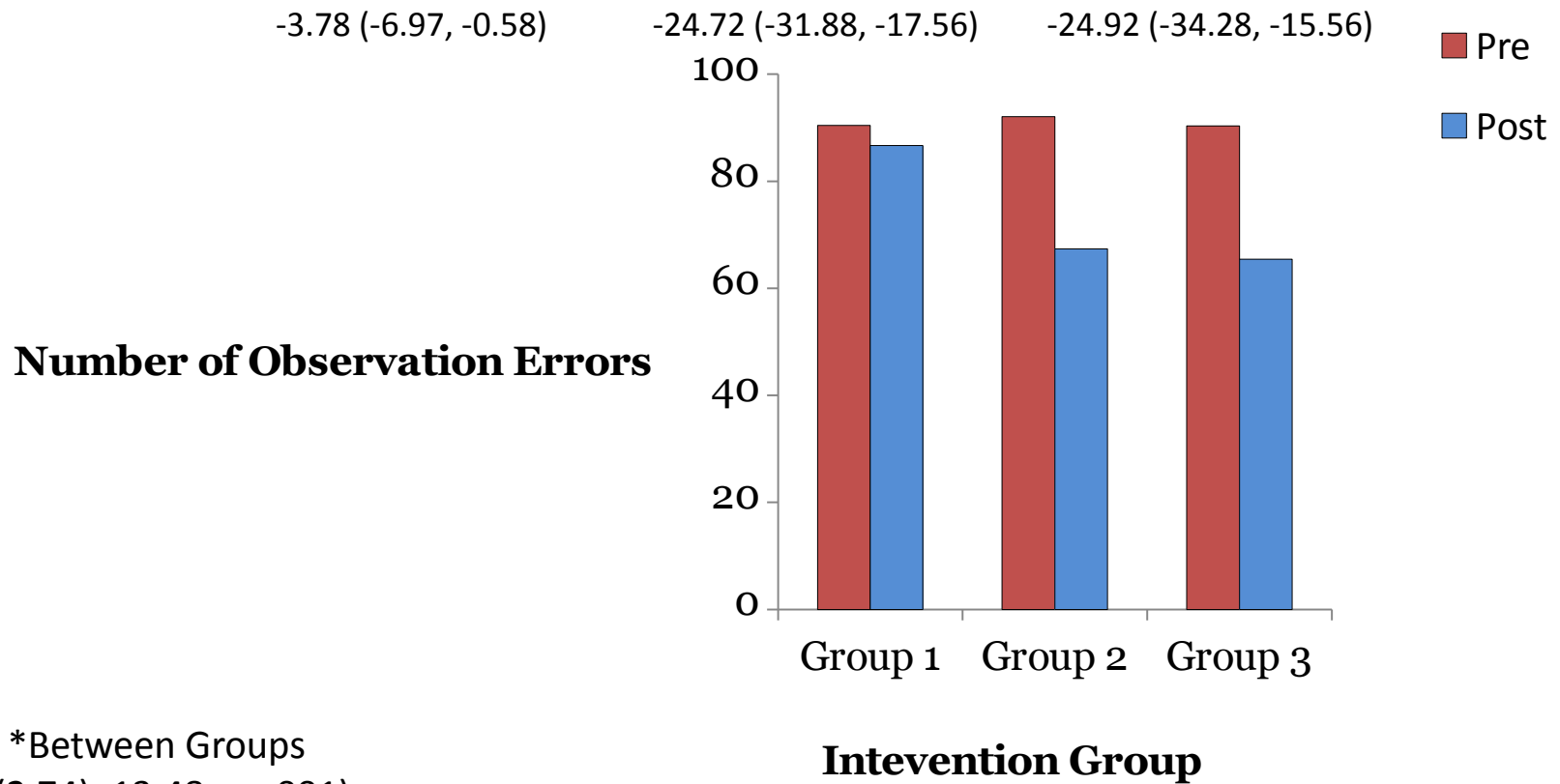


*Between Groups
($F(2,74)=4.93, p=.010$)

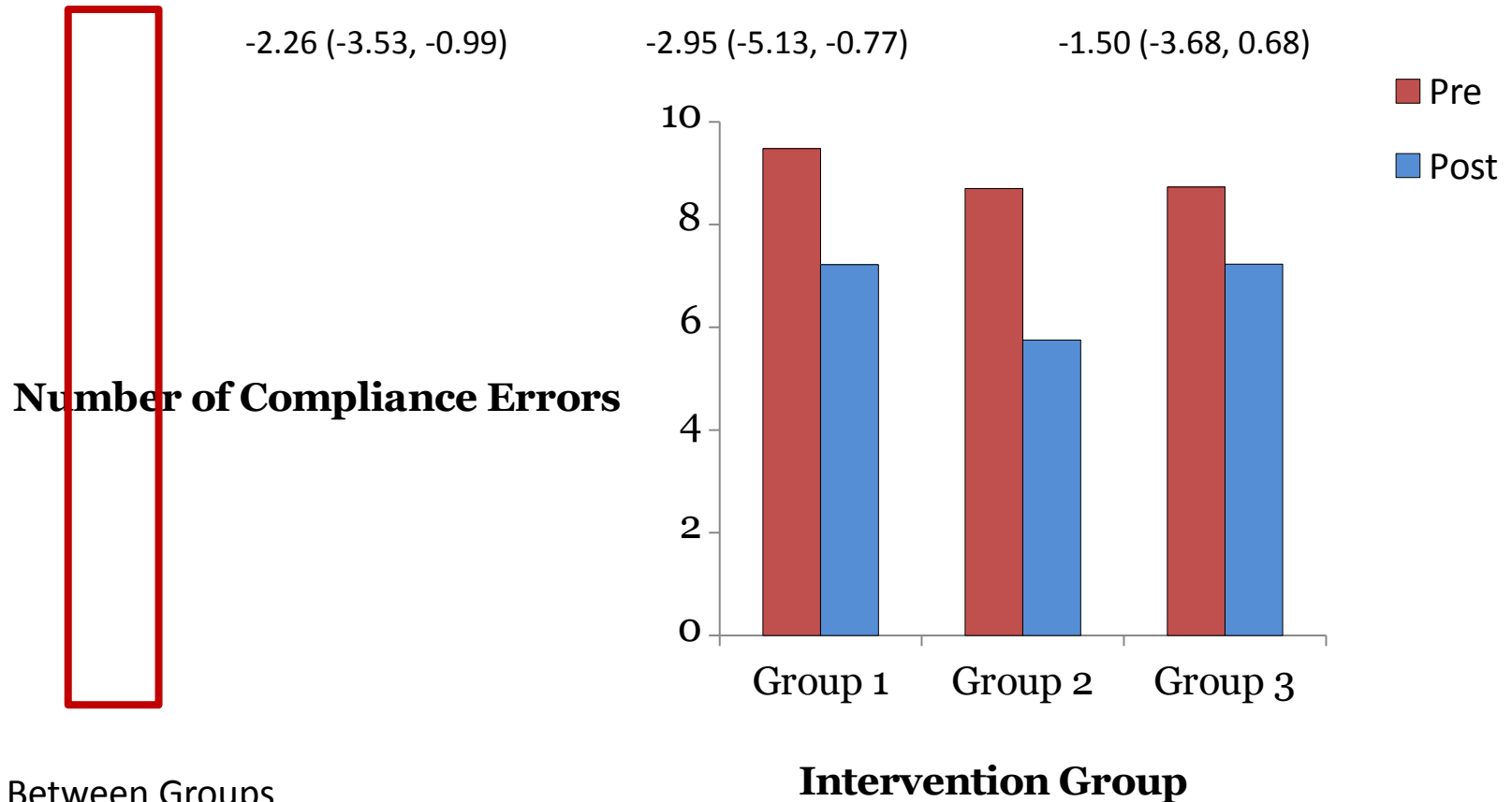
Results: On-Road Driving Score (Procedural)



Results: On-Road Driving Score (Observations)



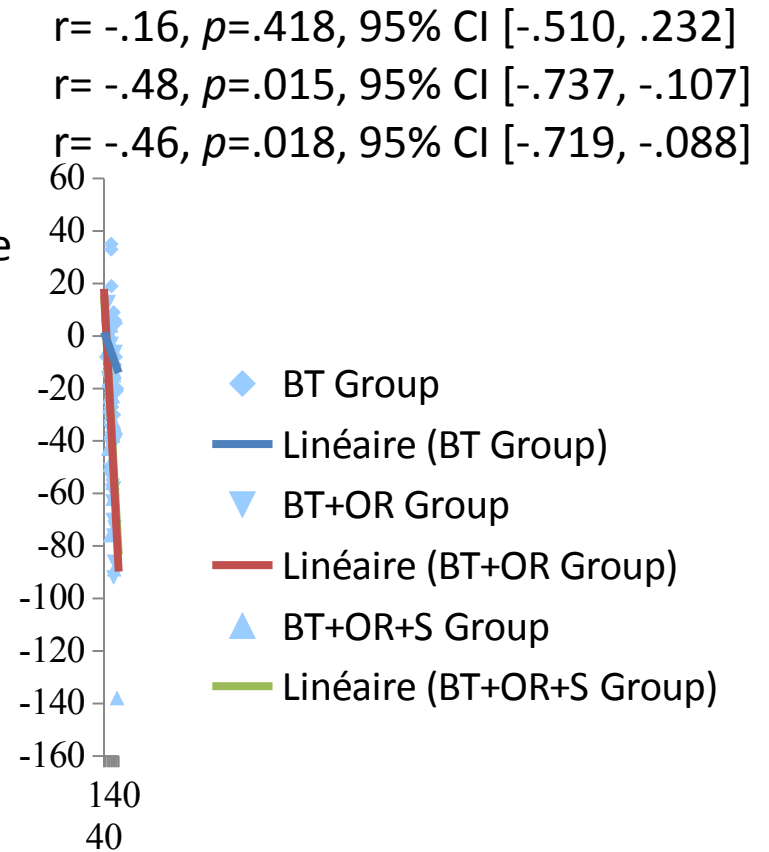
Results: On-Road Driving Score (Compliance)



Between Groups
($F(2,74)=1.24, p=.296$)

Results: Additional Analyses

Change in On-Road Driving Evaluation Score



Baseline On-Road Driving Evaluation Score

Limitations and Directions for Future Research

Volunteer bias

Sample location



Generalizability

Simulator sickness

Simulator intervention intensity

Additional outcome variables

Long-term intervention effects

Research Implications

Potential reduction in crashes with the resulting injury prevention and economic benefits to road users

Prolonged use of the automobile with the resulting quality of life benefits for older drivers and their families



Conclusion

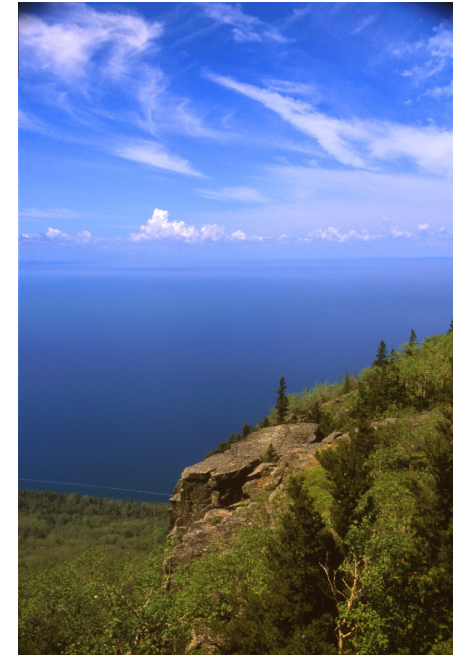
On-road training with individualized feedback can result in considerable improvements in on-road driving performance in older adults

Should be the focus of more inquiry

Thank You!

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