

# The Influence of Cognitive Functioning and Dispositional Optimism on Psychological Distress after Traumatic Brain Injury

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## INTRODUCTION

- Individuals sustaining moderate and severe traumatic brain injury (TBI) are at an increased risk for developing psychological illness compared to healthy adults (Rogers & Read, 2007).
- Common measures of injury severity, such as the Glasgow Coma Scale (GCS) are poor predictors of psychiatric symptomology following TBI.
- One contribution by the field of “positive psychology” is the study of individual differences in “optimism” (Seligman, 2002).
- Optimism is an individual’s expectation of a positive outcome in most situations (Scheier & Carver, 1985).
- Research in positive psychology has found associations between high levels of optimism with better health and coping strategies, while despair, depression, and hopelessness have been found to be related with illness and death in the general population (Seligman, 1975; Taylor, 1991; Schweizer, Beck-Seyffer, & Schneider, 1999).
- Little work in this area has been extended to individuals with neurological disorders, where cognitive, emotional, and perceptual processes may have been altered due to injury or disease.
- The current study examined cognitive functioning and dispositional optimism in relation to TBI to determine their relationships with post-injury psychological distress.

## METHODS

### PARTICIPANTS:

- $N = 43$ , all participants sustained moderate to severe TBI
- All participants at least 1 year post - injury
- Mean current age = 34 ( $SD = 12.51$ ), range 20 - 68
- Mean age of injury = 27 ( $SD = 13.24$ ), range 10 – 66
- Mean duration from injury = 2,580 days ( $SD = 2,526$ ), range 349 - 8087
- Geographical location: Rural Pennsylvania
- 89% Caucasian, 9% African American, 2% Asian

### PROCEDURE:

- Hershey Medical Center Trauma Database** used as recruitment method, as well as individuals in ongoing Hillary Laboratory studies
- If interested, **study packages** mailed to participants
- Telephone interview** scheduled to complete scales
- Craig Handicap Assessment Technique (CHART)** to assess functional outcome
- Telephone Interview for Cognitive Status (TICS-m)** to assess cognitive functioning
- Life Orientation Test- Revised (LOT-R)** to assess individuals optimism versus pessimism.
- Symptom Checklist -90-Revised (SCL-90-R)** to measure number and severity of psychiatric symptoms (Positive Symptom Distress Index).
- Participants mail SCL-90-R and LOT-R to laboratory

## HYPOTHESES

### Hypothesis 1:

Psychological distress will be negatively correlated with cognitive functioning.

### Hypothesis 2:

Psychological distress will be negatively correlated with dispositional optimism.

### Hypothesis 3:

Dispositional optimism will be positively correlated with cognitive functioning.

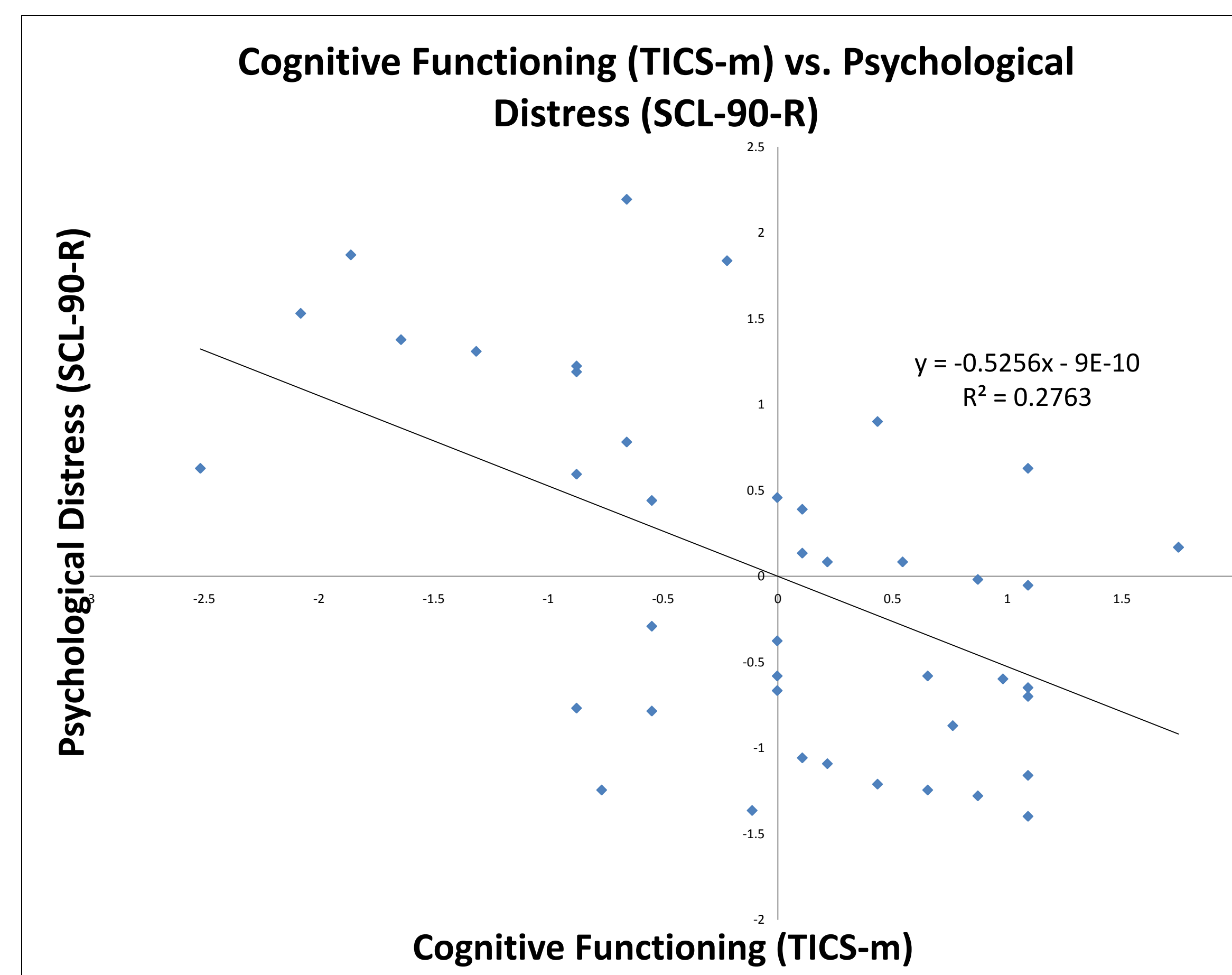
### Hypothesis 4:

GCS will not be significantly correlated with psychological distress after brain injury.

## RESULTS: HYPOTHESIS 1

Table 1. Relationships of cognitive functioning and psychological distress after TBI

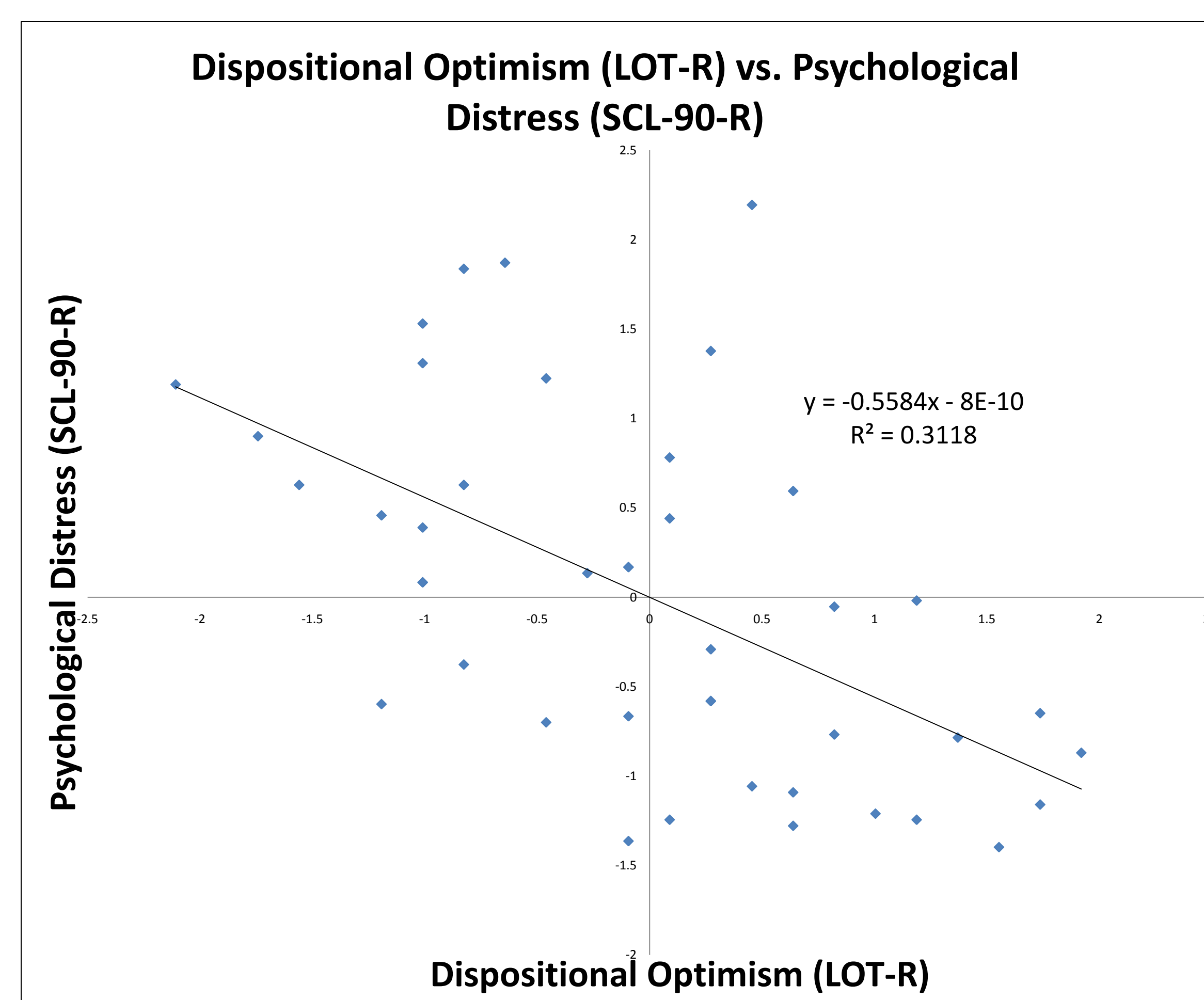
	Psychological Distress (SCL-90-R)
Cognitive Functioning (TICS-m)	$r(42) = -0.53, p < .01$



## RESULTS: HYPOTHESIS 2

Table 2. Relationships of dispositional optimism and psychological distress after TBI

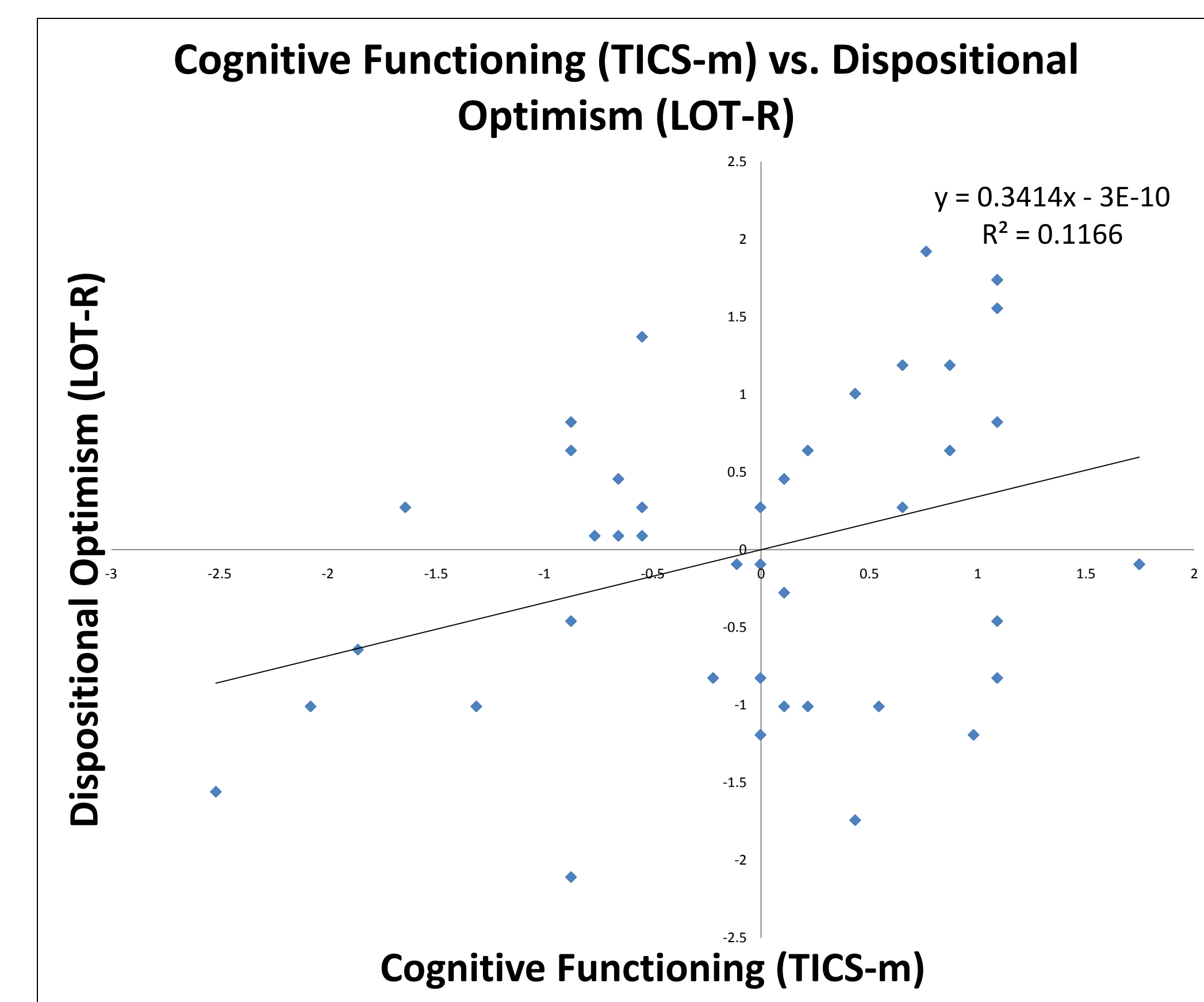
	Psychological Distress (SCL-90-R)
Dispositional Optimism (LOT-R)	$r(42) = -0.56, p < .01$



## RESULTS: HYPOTHESIS 3

Table 3. Relationships of cognitive functioning and dispositional optimism after TBI

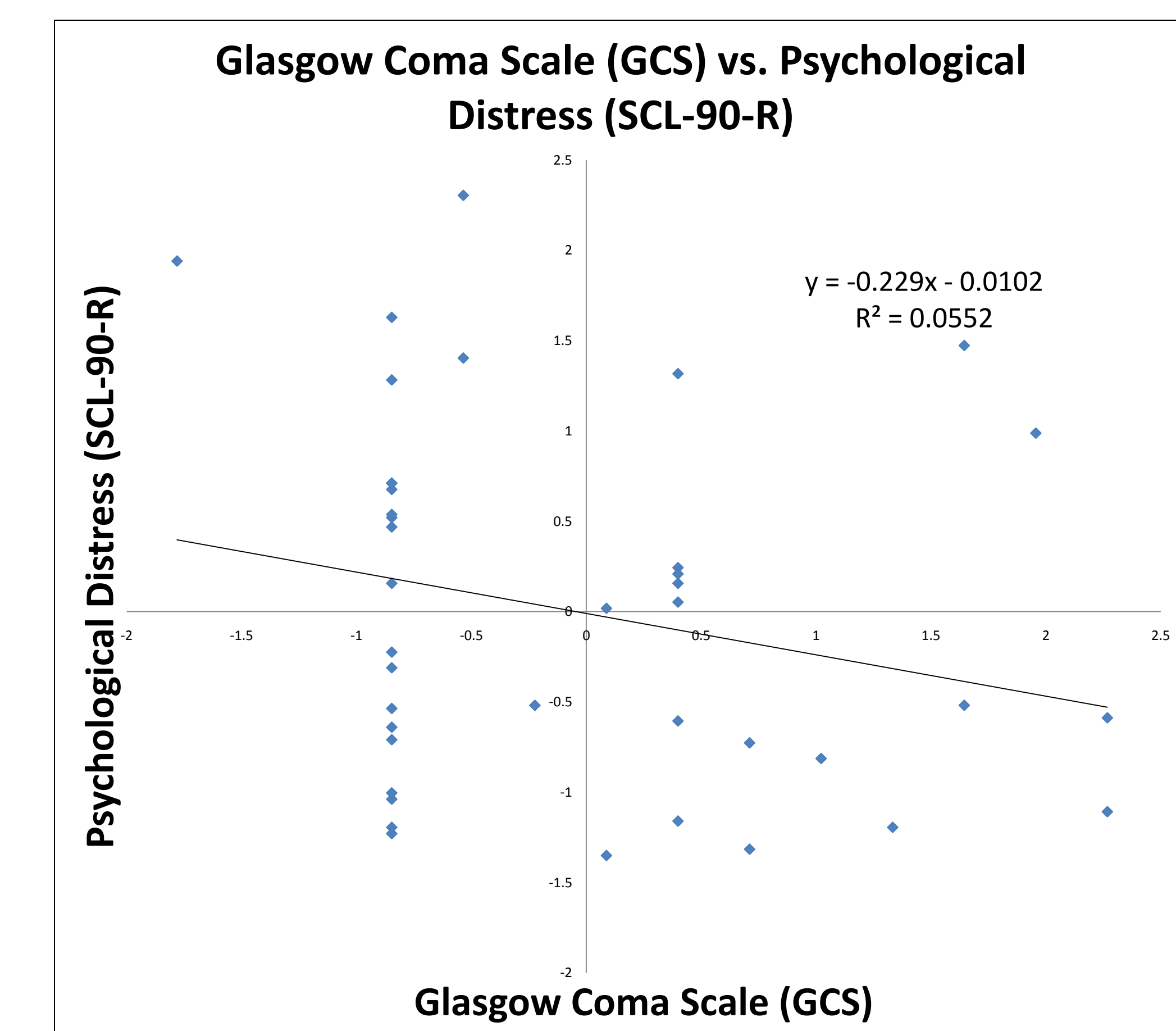
	Cognitive Functioning (TICS-m)
Dispositional Optimism (LOT-R)	$r(42) = .34, p < .05$



## RESULTS: HYPOTHESIS 4

Table 4. Relationships of GCS and psychological distress after TBI

	Psychological Distress (SCL-90-R)
Glasgow Coma Score (GCS)	$r(42) = -0.23, p = ns$



## CONCLUSIONS

- Results revealed that increased cognitive functioning and dispositional optimism strongly correlate with decreased psychological distress after TBI.
- In the current study, the GCS did not show a meaningful relationship with psychological distress among individuals with TBI, indicating that injury severity may not be an informative predictor of psychological distress after brain injury.

## REFERENCES

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