

INTRODUCTION

Consequences after traumatic brain injury (TBI) include physical disability, emotional disturbances, cognitive impairments & behavioral problems^{1,2,3,4}. Few studies in TBI outcome literature examine relationships between psychiatric & cognitive factors on functional outcome⁵. The current study examined the association between outcomes following TBI, specifically whether psychological distress and cognitive ability predicted functional outcomes following moderate and severe TBI.

HYPOTHESES

1. Psychological distress will demonstrate a significant negative correlation with cognitive ability.
2. Psychological distress and cognitive ability will correlate with functional outcome, and each will predict unique variance in functional outcome status.

METHODS

Subjects:

- 45 individuals who had sustained moderate and severe TBI
- 25 males, 20 females
- 40 Caucasians, 4 African-Americans, 1 Asian
- Recruited from the Hershey Medical Center Trauma Database and ongoing Hillary Laboratory studies.

Procedure:

- Participants received Study Packages and completed a telephone interview
- Completed the Symptom Checklist Questionnaire-90-Revised (SCL-90-R), the Telephone Interview for Cognitive Status (TICS), and the Craig Handicap Assessment Reporting Technique (CHART)

Table 1. Participant Characteristics

Variable	Mean	SD	Min	Max	Normative Data
Age	34.1	12.5	20.0	68.0	-----
Education (yrs)	13.0	2.1	9.0	20.0	-----
GCS	5.6	3	3.0	12.0	-----
Time since injury (yrs)	7.0	6.7	1.0	22.2	-----
SCL-90-R	1.8	.6	1.0	3.1	1.32 (SD = .42)
TICS	31.1	4.6	19.5	39	35.79 (SD = 1.75)
CHART	89.9	16.0	39.5	100.0	Max Score = 100

Figure 1.

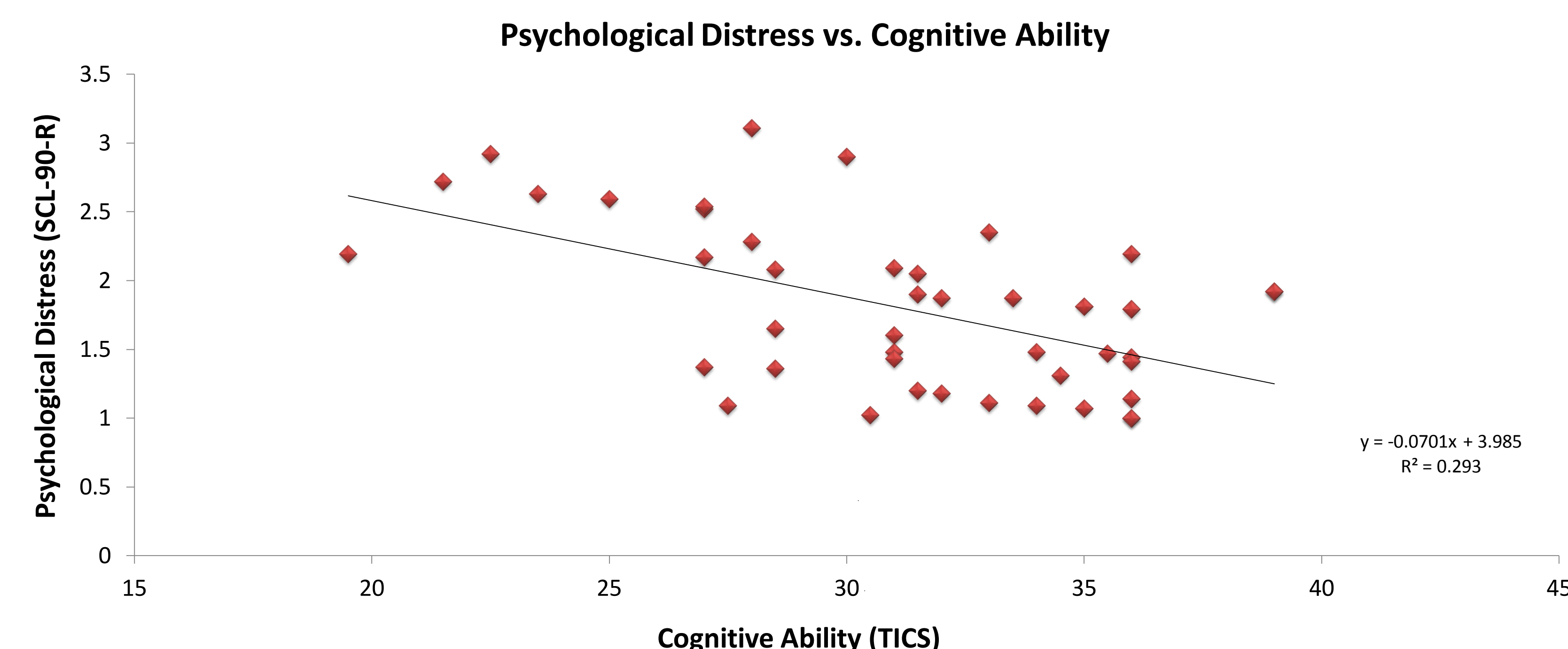
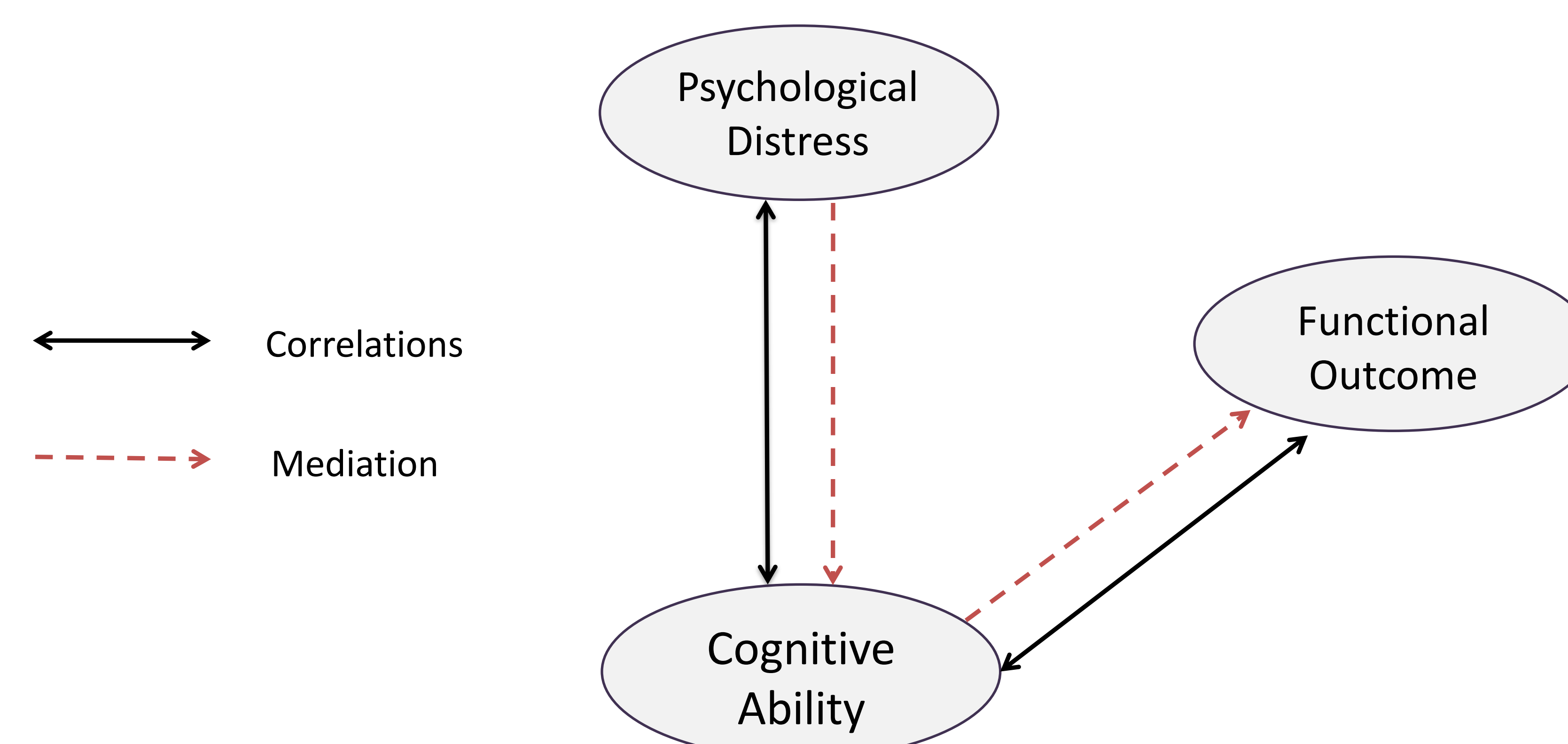


Figure 2. Post-Hoc Model of the Relationships Between Psychological Distress, Cognitive Ability, and Functional Outcome



RESULTS

Hypothesis 1: Psychological distress and cognitive ability were significantly correlated, see Figure 1.

Hypothesis 2: Psychological distress and cognitive ability were significantly correlated with functional outcome ($r(44) = -.46, p < .05$) and ($r(44) = .47, p < .001$), respectively. The correlation between cognitive ability and functional outcome, when controlling for psychological distress, was significant ($r(39) = .338, p < .038$). The partial correlation between psychological distress and functional outcome, controlling for cognitive ability, was not significant ($r(39) = -.114, p < .495$).

Post-Hoc Mediation Analysis: Regression analyses were used to examine if cognitive ability mediated the relationship between psychological distress and functional outcome. When psychological distress was entered first and cognitive ability was entered second, the model was significant, $\Delta R^2 = .102, F(1, 40) = 4.66, p < .05$. When cognitive ability was entered first and psychological distress was entered second the model was not significant, $\Delta R^2 = .01, F(1, 40) = .47, p = .50$. See Figure 2.

CONCLUSIONS

The current study examined the associations between outcomes following TBI and demonstrated that cognitive ability mediates the relationship between psychological distress and functional outcome. These data indicate that treatment of psychological distress following TBI could ultimately improve functional outcomes.

REFERENCES

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