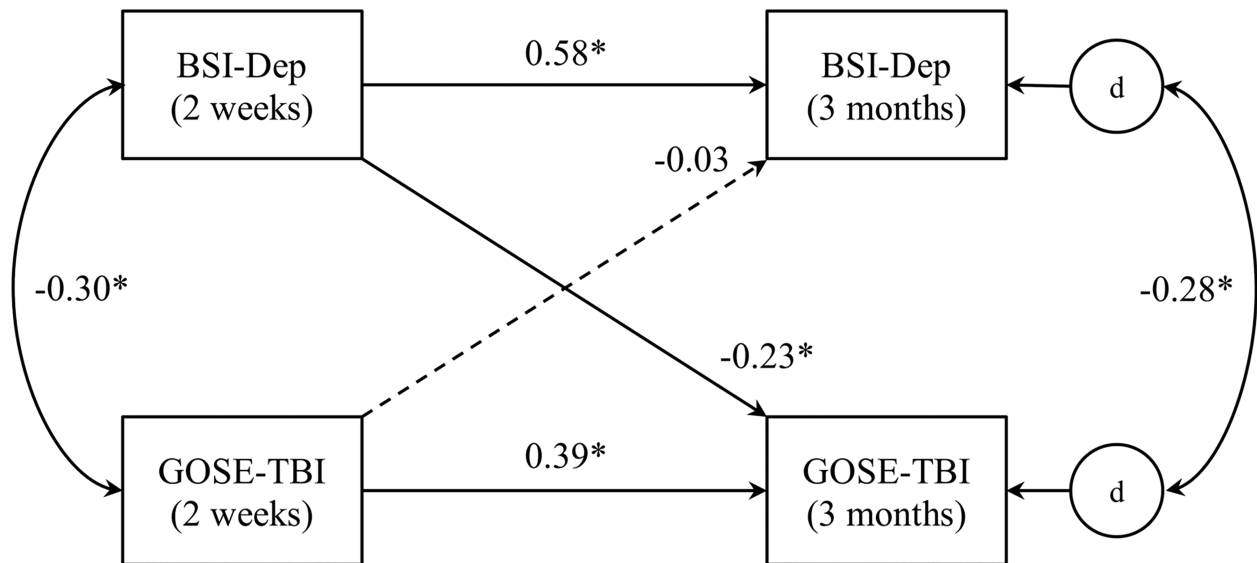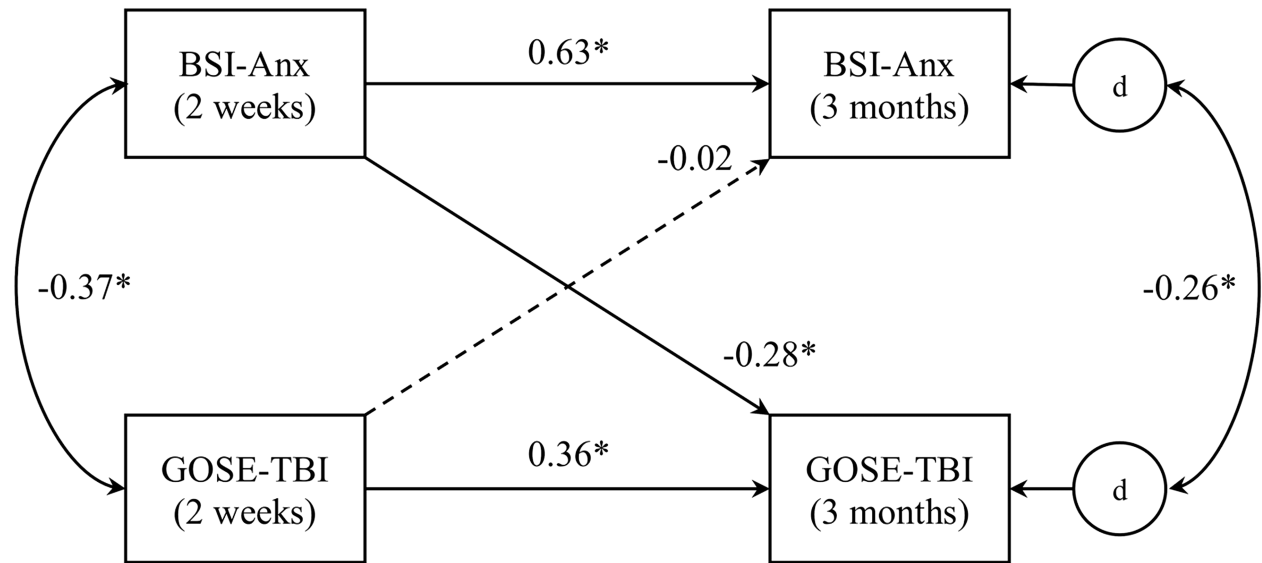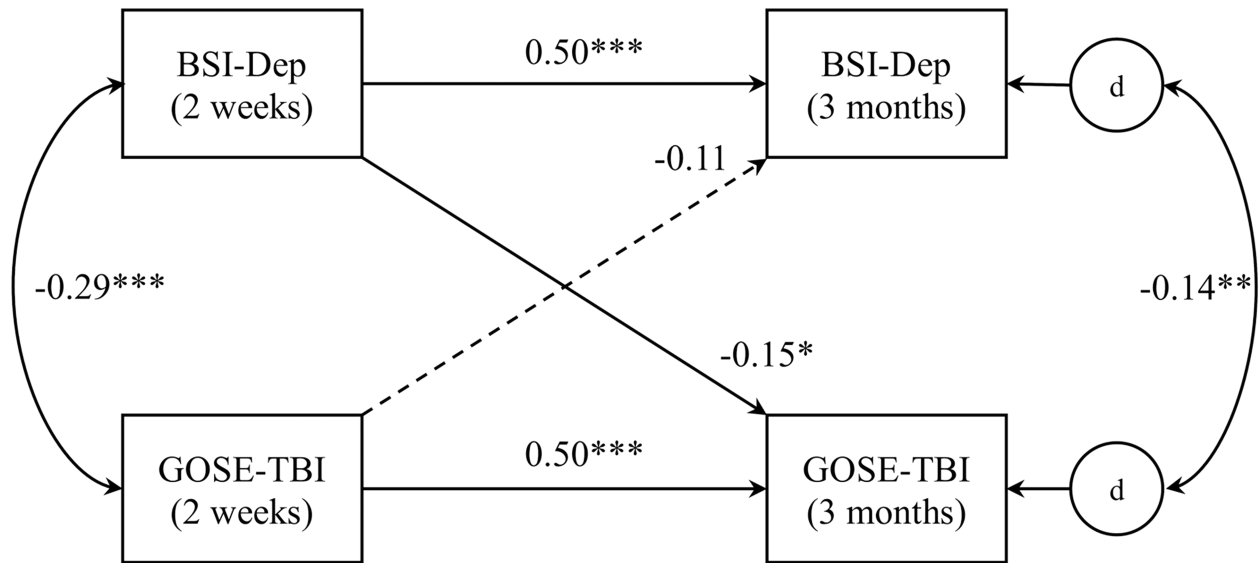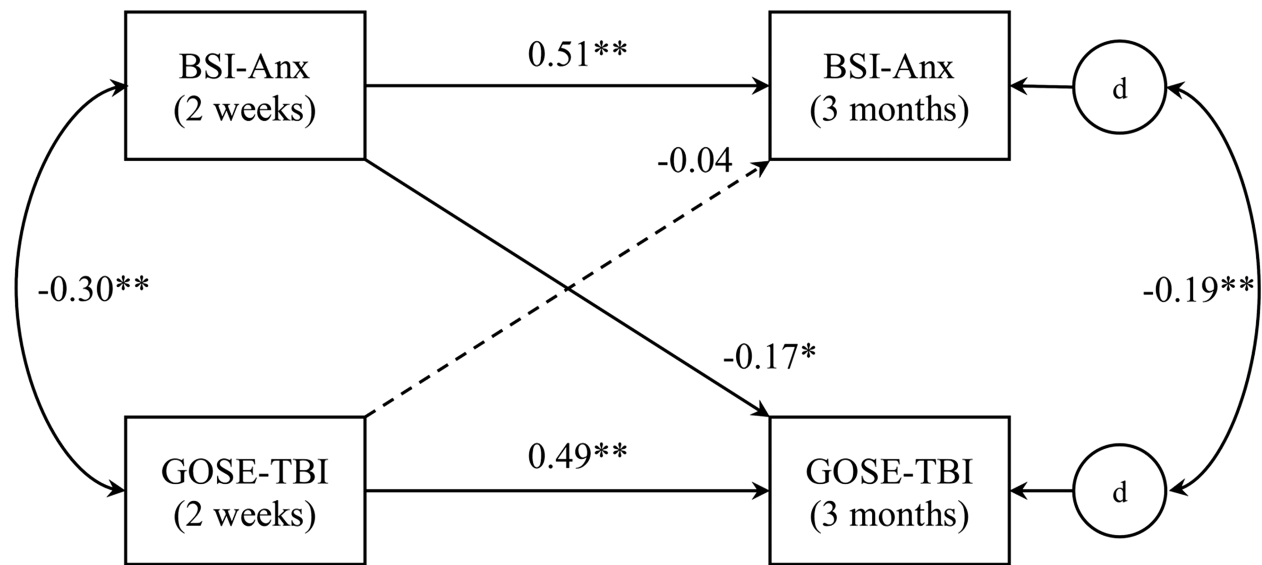# Supplementary Data

SUPPLEMENTARY FIG. S1. Cross-lagged panel analysis model for depression and functional status (CT-negative mTBIs). Note: "BSI-dep" = BSI depression subscale, "d" represents the unique error ("disturbance") term corresponding to its respective dependent variable. Curved lines represent correlations; straight lines represent predictive paths. Correlation and standardized path coefficients are displayed. Statistically significant effects are presented in solid lines; dashed lines indicate nonsignificant effects. Age, sex, and psychiatric history were also included in the model as covariates, but, for clarity purposes, are not pictured here. $*p < 0.001$. BSI, Brief Symptom Inventory; CT, computed tomography; mTBIs, mild traumatic brain injuries.

SUPPLEMENTARY FIG. S2. Cross-lagged panel analysis model for anxiety and functional status (CT-negative mTBIs). Note: "BSI-anx" = BSI anxiety subscale, "d" represents the unique error ("disturbance") term corresponding to its respective dependent variable. Curved lines represent correlations; straight lines represent predictive paths. Correlation and standardized path coefficients are displayed. Statistically significant effects are presented in solid lines; dashed lines indicate nonsignificant effects. Age, sex, and psychiatric history were also included in the model as covariates, but, for clarity purposes, are not pictured here. $*p < 0.001$. BSI, Brief Symptom Inventory; CT, computed tomography; mTBIs, mild traumatic brain injuries.

SUPPLEMENTARY FIG. S3. Cross-lagged panel analysis model for depression and functional status (CT-positive mTBIs). Note: "BSI-dep" = BSI depression subscale, "d" represents the unique error ("disturbance") term corresponding to its respective dependent variable. Curved lines represent correlations; straight lines represent predictive paths. Correlation and standardized path coefficients are displayed. Statistically significant effects are presented in solid lines; dashed lines indicate nonsignificant effects. Age, sex, and psychiatric history were also included in the model as covariates, but, for clarity purposes, are not pictured here. $*p < 0.05$; $**p < 0.01$; $***p < .001$. BSI, Brief Symptom Inventory; CT, computed tomography; mTBIs, mild traumatic brain injuries.

SUPPLEMENTARY FIG. S4. Cross-lagged panel analysis model for anxiety and functional status (CT-positive mTBIs). Note: "BSI-anx" = BSI anxiety subscale, "d" represents the unique error ("disturbance") term corresponding to its respective dependent variable. Curved lines represent correlations; straight lines represent predictive paths. Correlation and standardized path coefficients are displayed. Statistically significant effects are presented in solid lines; dashed lines indicate nonsignificant effects. Age, sex, and psychiatric history were also included in the model as covariates, but, for clarity purposes, are not pictured here. $*p < 0.01$; $**p < 0.001$. BSI, Brief Symptom Inventory; CT, computed tomography; mTBIs, mild traumatic brain injuries.

Criterion	Data Source	Comments
Inclusion criteria		
1. Age 0–100	Chart	
2. Documented/verified TBI (ACRM Criteria)	Chart, interview	
3. Injury occurred <24 h ago	Chart, interview	
4. Acute brain CT for clinical care	Chart	Subject must have brain CT scan
5. Visual acuity/hearing adequate for testing	Chart, interview	
6. Fluency in English or Spanish	Chart, interview	Based on test battery or personnel availability
7. Ability to provide informed consent	Interview	☐ Patient ☐ Surrogate ☐ Waiver
Exclusion criteria		
1. Significant polytrauma that would interfere with follow-up and outcome assessment	Chart	Significant body trauma may confound TBI outcomes testing.
2. Prisoners or patients in custody	Chart, interview	
3. Pregnancy in female subjects	Chart, interview	
4. Patients on psychiatric hold (e.g., 5150, 5250)	Chart	
5. Major debilitating baseline mental health disorders (e.g., schizophrenia or bipolar disorder) that would interfere with follow-up and the validity of outcome assessment	Chart, interview	Debilitating psychiatric disorders can significantly impact the reliability of follow up and/or pose difficulties in attributing to index TBI.
6. Major debilitating neurological disease (e.g., stroke, CVA, dementia, or tumor) impairing baseline awareness, cognition, or validity of follow-up and outcome assessment.	Chart, interview	Documented debilitating baseline cognitive impairment will confound outcome assessment in addition to not being fully consentable.
7. Significant history of pre-existing conditions that would interfere with follow-up and outcome assessment (e.g., substance abuse, alcoholism, HIV/AIDS, major transmittable diseases that may interfere with consent, end-stage cancers, learning disabilities, and developmental disorders).	Chart, interview	
8. Contraindications to MRI (for CA+MR/CA+MRI-HDFT cohort)	MRI screening	
9. Low likelihood of follow-up (e.g., participant or family indicating low interest, residence in another state or country, homelessness, or lack of reliable contacts	Interview	
10. Current participant in an interventional trial (e.g., drug, device, and behavioral)	Chart, interview	Exception to co-enrollment exclusion is made for sites participating in Resuscitation Outcomes Consortium Prehospital Tranexamic Acid for TBI Study.
11. Penetrating TBI	Chart	
12. Spinal cord injury with ASIA score of C or worse	Chart	

TBI, traumatic brain injury; ACRM, American Congress of Rehabilitation Medicine; CT, computed tomography; CVA, cerebrovascular accident; HIV, human immunodeficiency virus; AIDS, acquired immune deficiency syndrome; MRI, magnetic resonance imaging; ASIA, American Spinal Injury Association.