

## MichiCANS and CAFAS Comparison

While the CAFAS and the MichiCANS have somewhat different designs and intended functions, it is also the case that there is substantial overlap between the type of information used to complete both tools. To inform the transition from the CAFAS to the MichiCANS, The University of Kentucky Center for Innovation in Population Health (IPH) completed an analysis of the correlation between the two tools on June 7<sup>th</sup>, 2024, and a brief summary table is included below. Additionally, the predictive ability of the MichiCANS was tested and the best model for prediction was identified. The testing conclusion confirms that although the MichiCANS does not create a composite score such as the CAFAS, the MichiCANS does provide conclusive functional impairment assessment across all CAFAS subscales to be used for eligibility determination and individualized service planning. A summary of the results from that analysis is also included below.

### MichiCANS/CAFAS Correlation

The CAFAS is organized into eight different subscales. A sample of the clinical and statistical correlation between the CAFAS subscale and the MichiCANS items can be found in the table below.

CAFAS Subscales	MichiCANS Items	
<b>School/Work Role Performance</b>	Runaway School Attendance School Behavior School Achievement	Interpersonal Strengths Educational Setting Strengths Vocational Strengths Community Life Strengths
<b>Home Role Performance</b>	Family Functioning Family Strengths Living Situation Oppositional Behavior Runaway	Intentional Misbehavior Interpersonal Strengths Relationship Permanence Educational Setting Strengths Community Life Strengths
<b>Community Role Performance</b>	Community Life Strengths Social Functioning-Adults Interpersonal Strengths Psychosis Impulsivity/Hyperactivity Oppositional	Conduct Danger to Others Sexual Aggression Intentional Misbehavior Delinquent Behavior Community Safety
<b>Behavior Towards Others</b>	Social Functioning (Peer and Adult) Oppositional Behavior Conduct Adjustment to Trauma Danger to Others	Family Functioning Family Strengths Interpersonal Strengths Educational Setting Strengths
<b>Moods/Emotions</b>	Depression Anxiety Anger Control Adjustment to Trauma Intentional Misbehavior Family Strengths	Interpersonal Strengths Relationship Permanence Educational Setting Strengths Talents/Interests Community Strengths
<b>Substance Use</b>	Substance Use Severity of Use Peer Influences Parental/Caregiver Influences Stage of Recovery	Runaway Family Strengths Educational Strengths Talents/Interests
<b>Thinking</b>	Psychosis Decision making	Attachment Difficulties Developmental/Intellectual
<b>Caregiver Resources</b>	All Caregiver Resources and Needs Items	

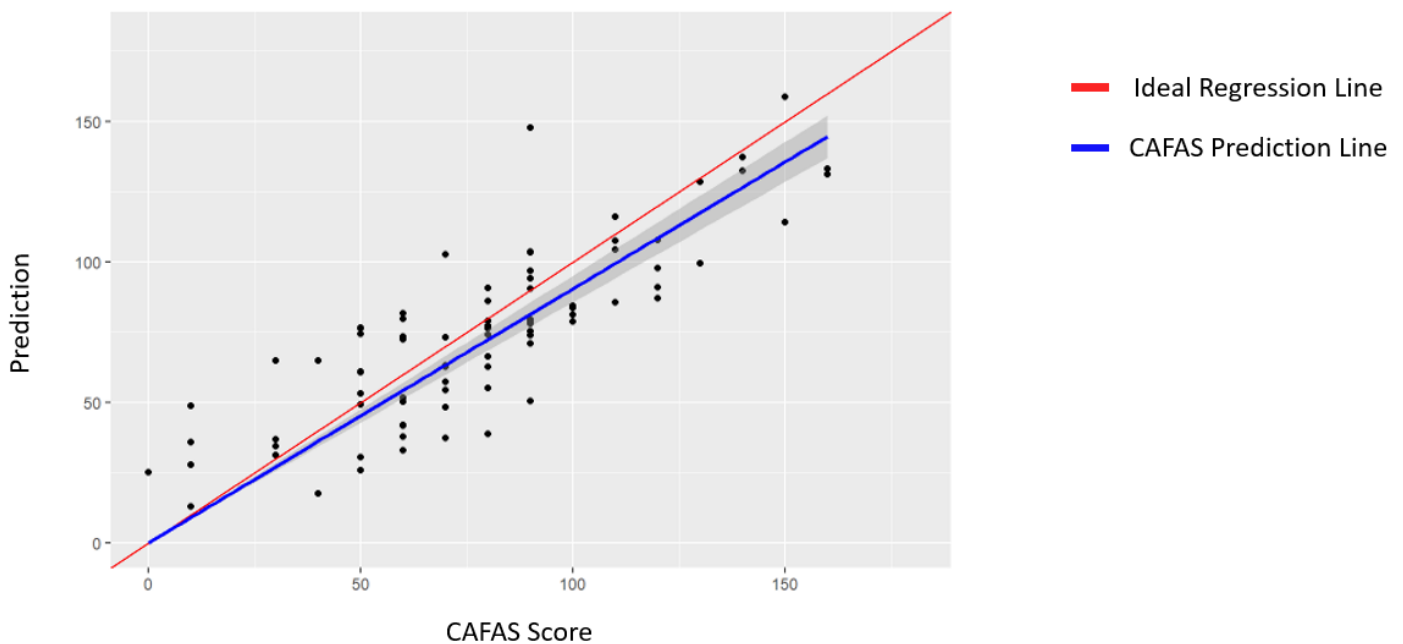
## Prediction Models

An analysis was conducted to test the ability for the MichiCANS to predict the CAFAS. A series of eleven (11) models were tested to determine the best fit. (Note: CAFAS data does not have the level of specifications needed for determining MichiCANS actionable items, however MichiCANS data is able to predict a CAFAS score). The purpose of this rigorous testing was to ensure conclusive alignment between the MichiCANS and CAFAS and is not meant to be used to provide a predicted CAFAS score.

Goodness of fit is determined by the highest R-Squared values (Range 0-1). These values can help us understand how much variation in the CAFAS can be explained by the MichiCANS. For example, an R-Squared value of 1 suggests that all the variation in CAFAS scores can be explained by MichiCANS scores. Likewise, an R-Squared value of 0 suggests that none of the variation in CAFAS scores can be explained by MichiCANS scores. The model used for this analysis had an R-Squared value of .67, meaning that 67% of the variation in the CAFAS can be explained by the MichiCANS.

In the Scatter plot below, we see a red line, a blue line and a series of dots. The red line is the ideal regression line. This is the line that represents a perfect prediction. The blue line represents the MichiCANS ability to predict the CAFAS. This line is the mean of the distances between the dots (the CANS predicted CAFAS scores) and the red ideal regression line. The close proximity between the two lines suggests that the MichiCANS works quite well when asked to predict CAFAS scores.

An analysis model was not completed for the PECFAS.



## Conclusion

The implementation of the MichiCANS demands a shift from use of composite CAFAS scores for eligibility determinations to the use of MichiCANS actionable items and decision support models. In preparation for such a shift in operations, a rigorous analysis of the MichiCANS actionable items aligning with CAFAS composite scores was completed using a series of eleven (11) models, confirming the Raw Score Weighted Model can effectively demonstrate MichiCANS ability to accurately align with CAFAS composite scores.