

UMCH

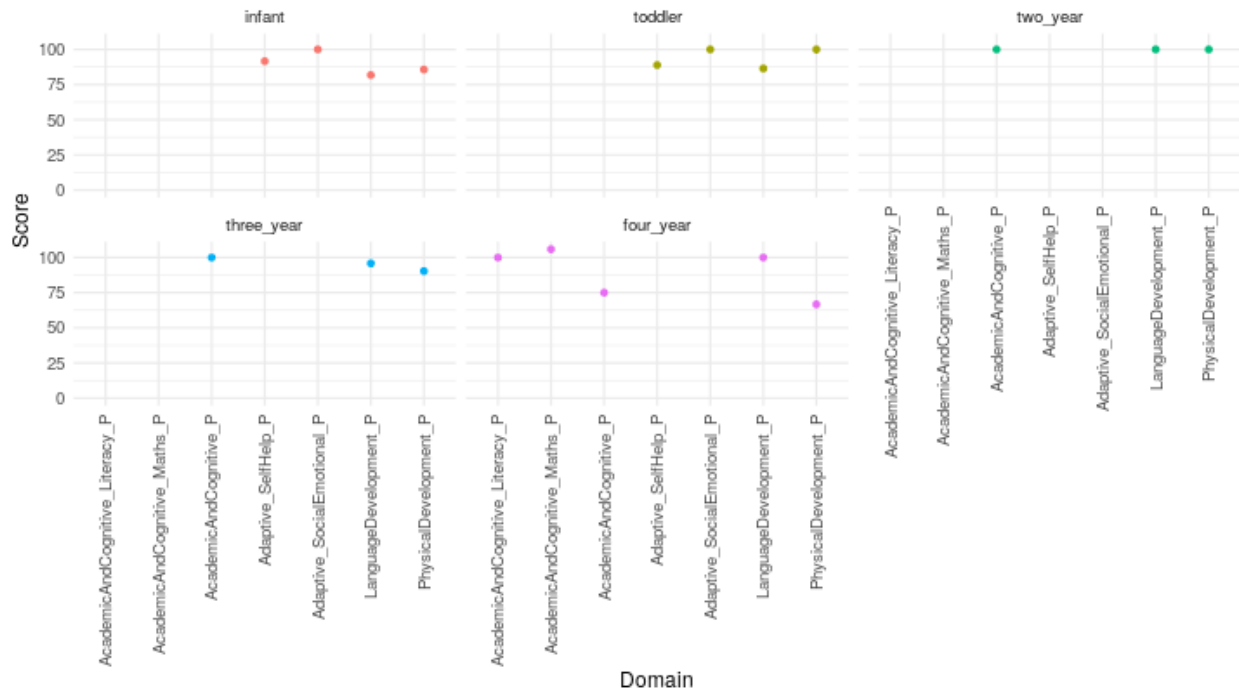
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Graphics

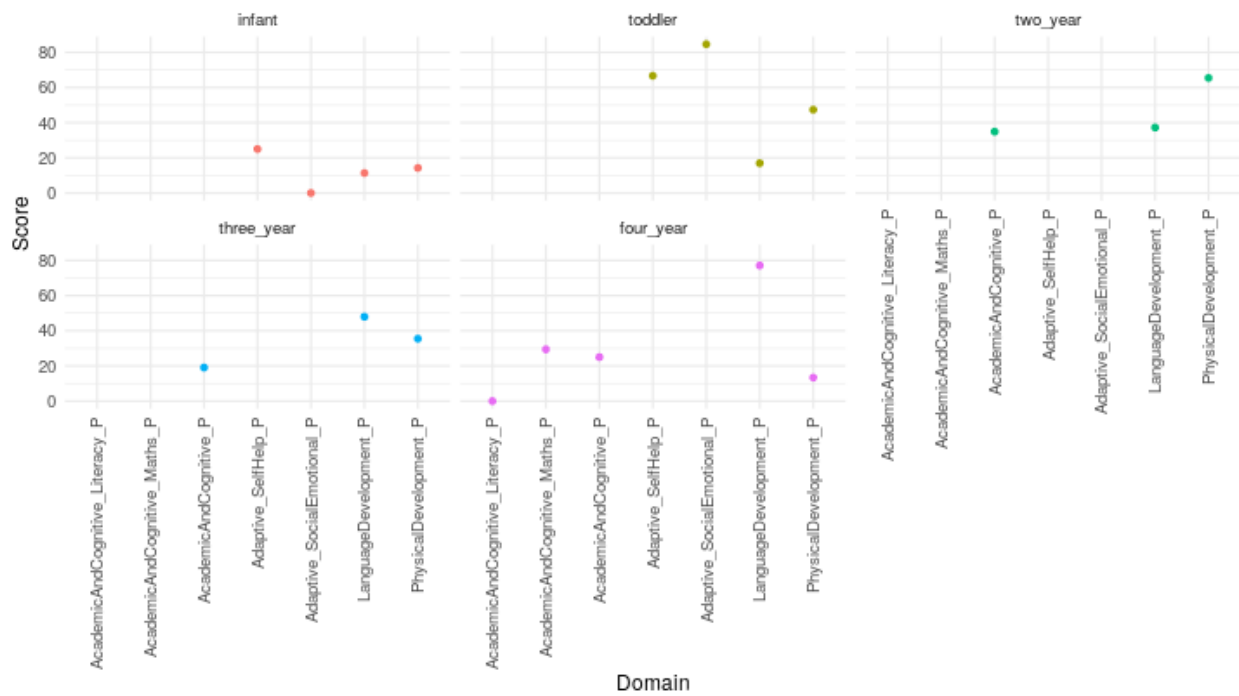
Which domain in the areas of development is scored the lowest and highest in which age group and overall?

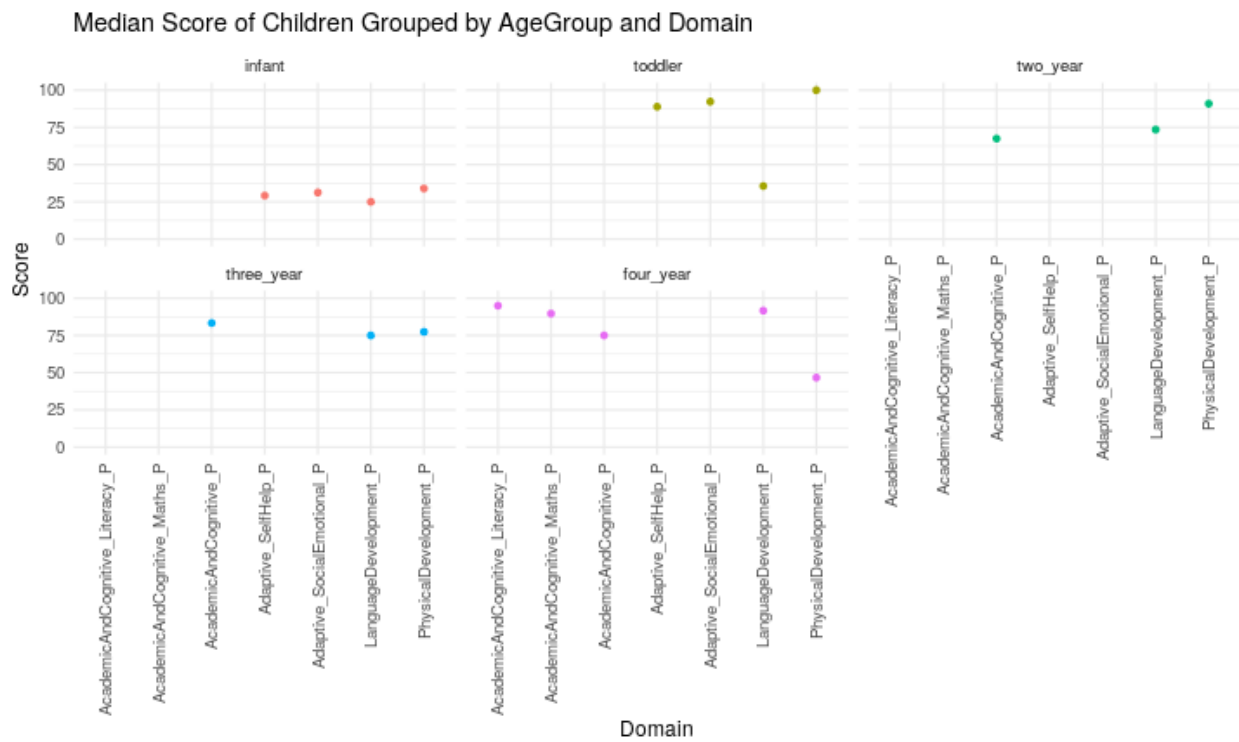
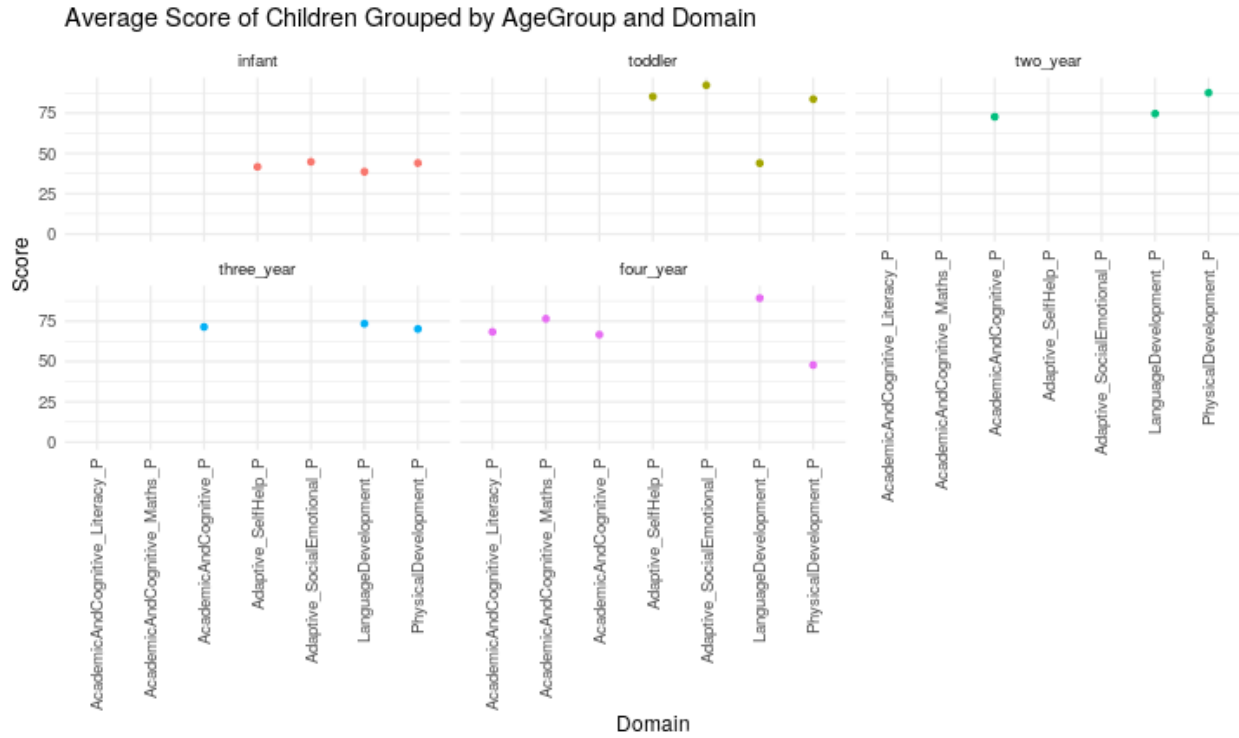
AgeGroup	Domain	Min	Max	Mean	Median
infant	Adaptive_SelfHelp_P	25.00	91.67	41.66667	29.165
infant	Adaptive_SocialEmotional_P	0.00	100.00	44.79167	31.250
infant	LanguageDevelopment_P	11.36	81.82	38.63667	25.000
infant	PhysicalDevelopment_P	14.29	85.71	44.04833	33.930
toddler	Adaptive_SelfHelp_P	66.67	88.89	85.18667	88.890
toddler	Adaptive_SocialEmotional_P	84.62	100.00	92.31000	92.310
toddler	LanguageDevelopment_P	16.95	86.44	43.97333	35.590
toddler	PhysicalDevelopment_P	47.37	100.00	83.62556	100.000
two_year	AcademicAndCognitive_P	34.88	100.00	72.72727	67.440
two_year	LanguageDevelopment_P	37.25	100.00	74.59818	73.530
two_year	PhysicalDevelopment_P	65.45	100.00	87.60364	90.910
three_year	AcademicAndCognitive_P	19.05	100.00	71.42750	83.330
three_year	LanguageDevelopment_P	47.92	95.83	73.43750	75.000
three_year	PhysicalDevelopment_P	35.48	90.32	70.16000	77.420
four_year	AcademicAndCognitive_Literacy_P	0.00	100.00	68.33333	95.000
four_year	AcademicAndCognitive_Maths_P	29.41	105.88	76.47167	89.710
four_year	AcademicAndCognitive_P	25.00	75.00	66.66667	75.000
four_year	LanguageDevelopment_P	77.08	100.00	89.23667	91.670
four_year	PhysicalDevelopment_P	13.33	66.67	47.78000	46.670

Maximum Score of Children Grouped by AgeGroup and Domain

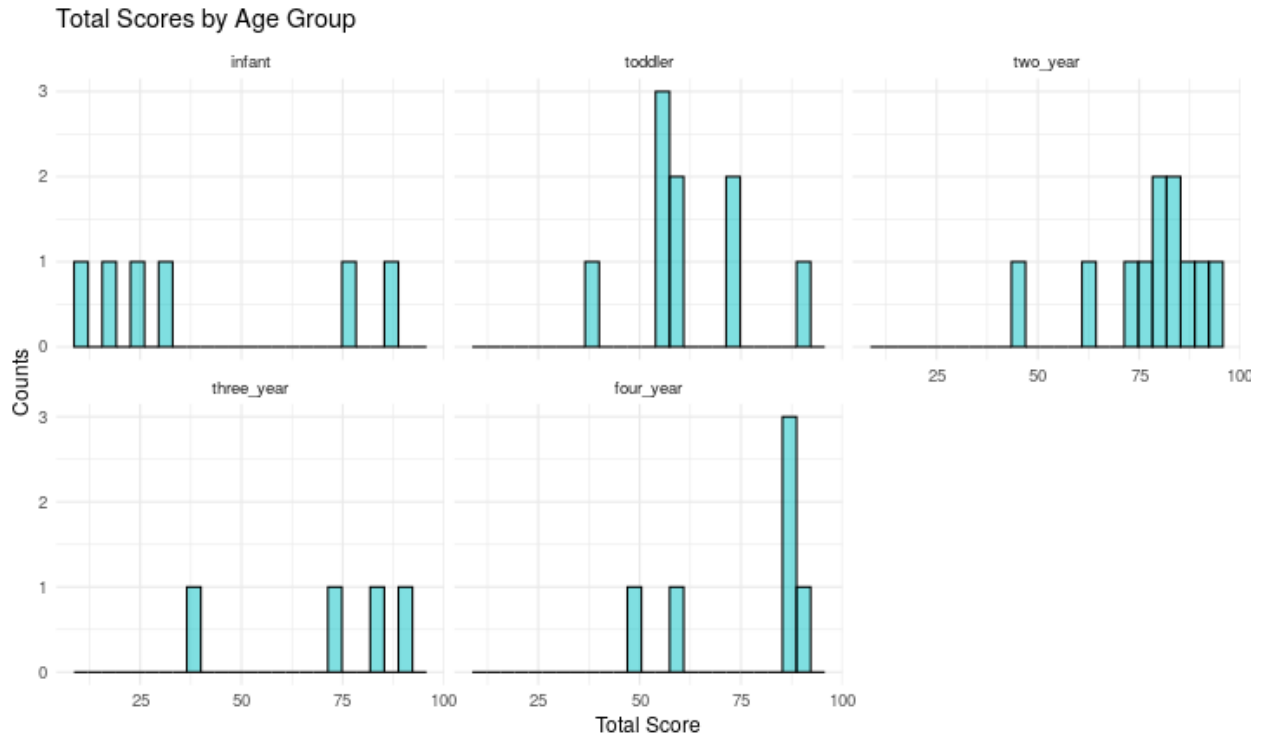


Minimum Score of Children Grouped by AgeGroup and Domain

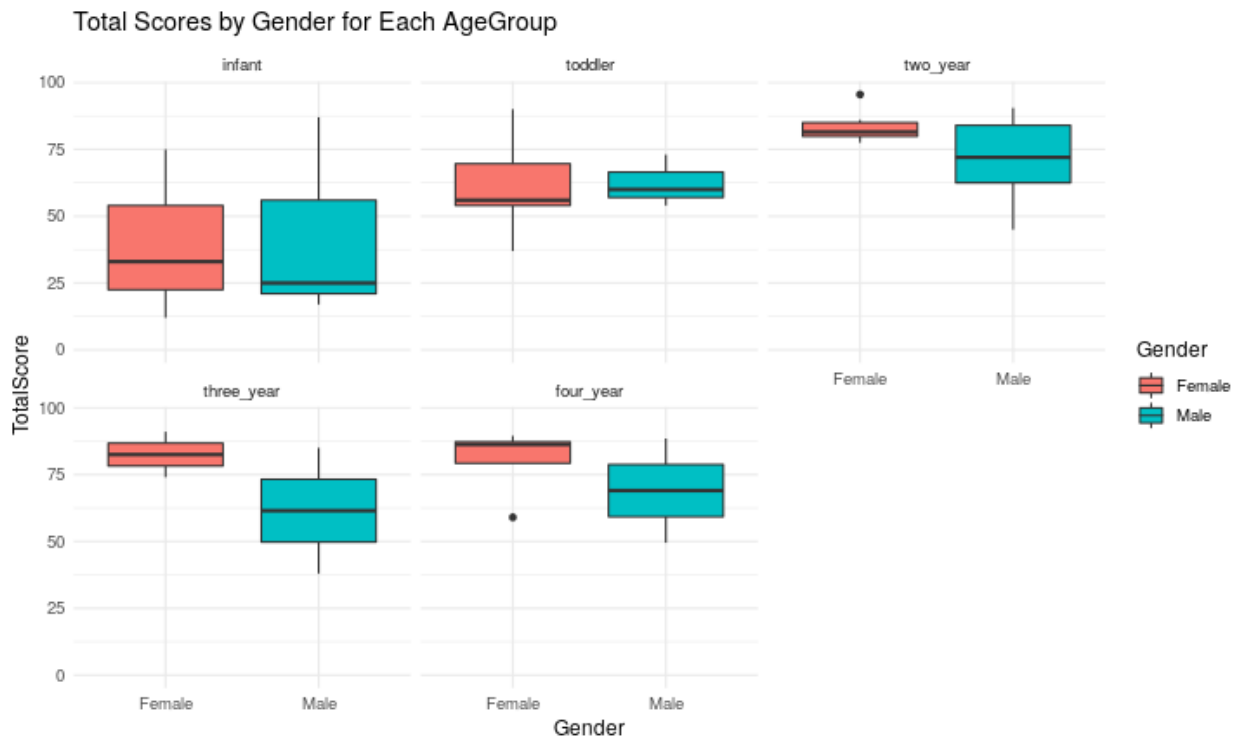




How does score vary by age group?



How does score vary by gender?



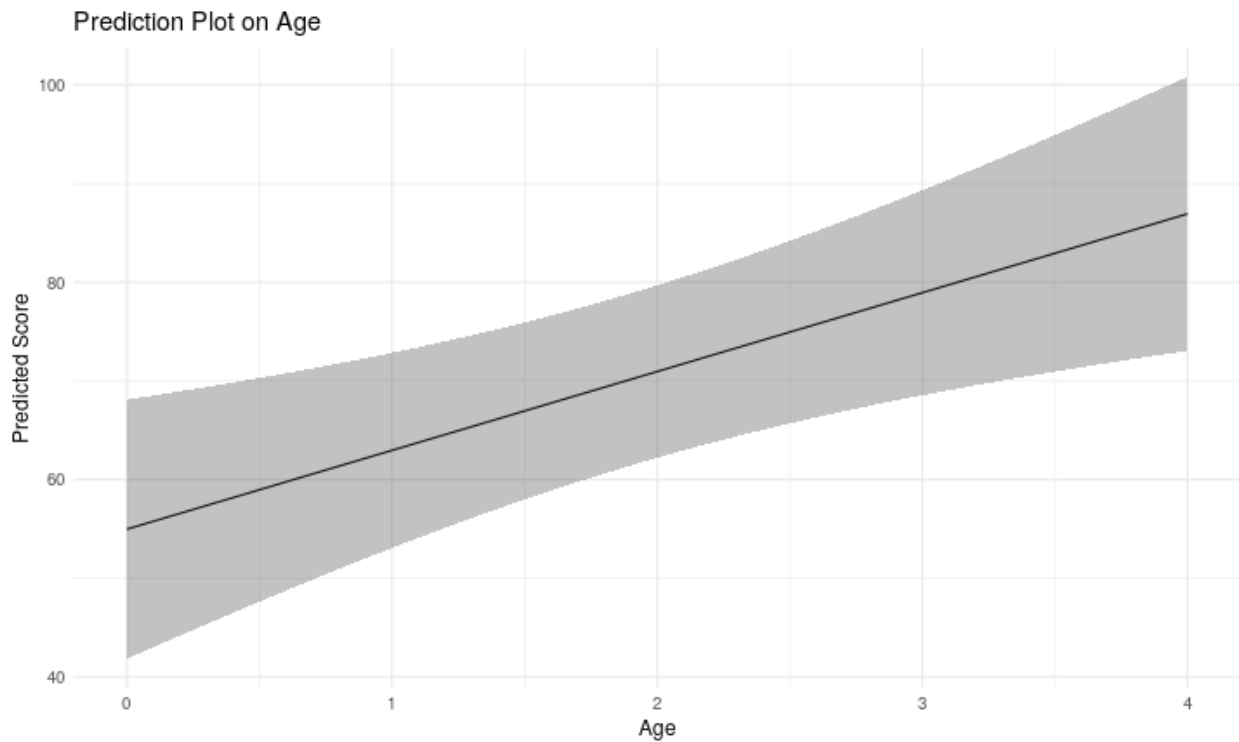
TotalScore Model

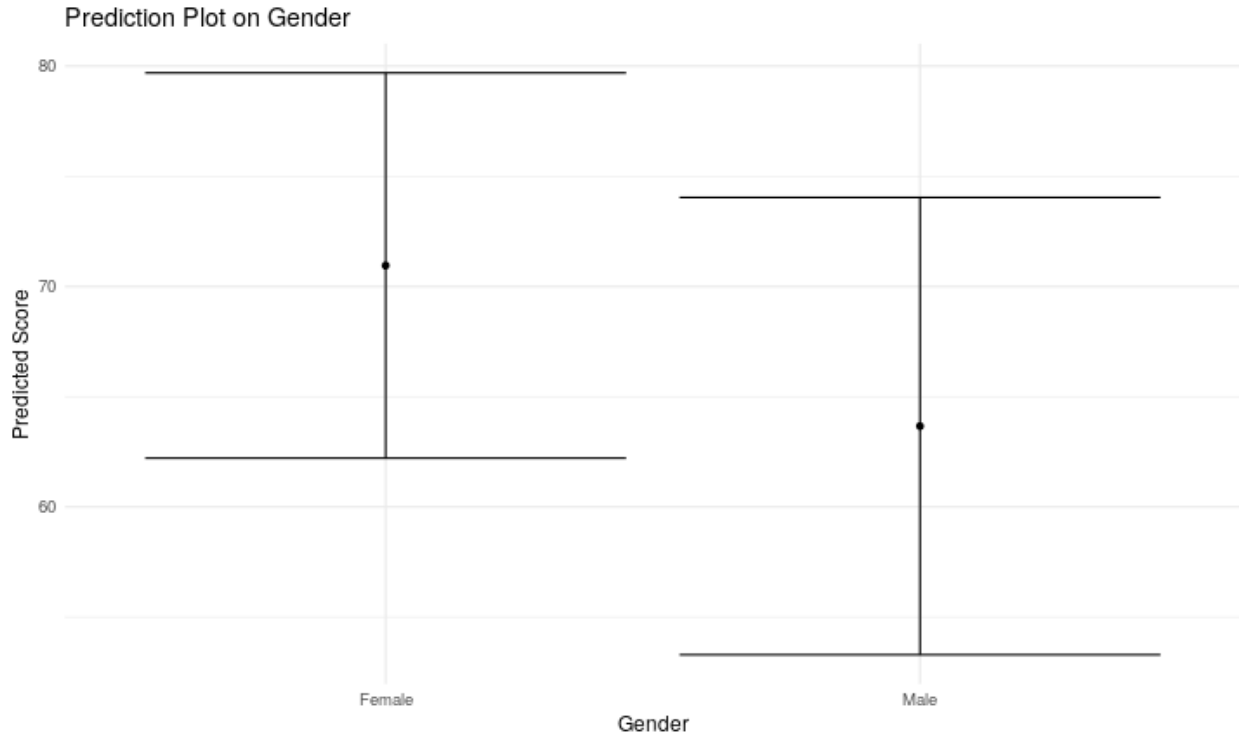
We used linear regression model because it is used to show/predict the relationship between variables where the response variable is continuous. We can use up to 2 predictors given the size of the data (36/15). We will not add any interaction or random effect due to the size of the dataset. Our predictors will be Age and Gender because all other variables contributes to the Total Score which does not make logical sense to include those.

Response variable: TotalScore Predictor(s): Age, Gender

Regression model: Linear regression

Prediction Plot





According to the prediction plot for Age, there seems to be a positive trend between the score and age where as age increases, the score also increases. This makes sense because the “pass” score for each age group differs according to the age with lower age having the lowest pass score.

According to the prediction plot for Gender, it looks like the total score is a little higher for female compared to male. However, the overlapping range is high and the number of children is not the same (21 females and 15 males), so it brings down the reliability score of this data but it is worth noting.