

Older children show stronger emotional regulation than younger children.

Children's emotional regulation

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Introduction

Children's ability to regulate emotions improves as they grow, but the pace and patterns of this development vary. This study examines how emotional regulation scores differ across age groups in a sample of children aged 5–12. Results show that older children demonstrate stronger emotional control, highlighting developmental trends in self-regulation.

Methods

Participants and Data

Data were collected from a sample of children aged 60–150 months, each of whom completed an emotional regulation assessment. The dataset included children's age in months and an emotional regulation score. Any missing values were removed prior to analysis.

Data Preparation

Age in months was converted into years (including decimal points) to make results easier to interpret. After conversion, the dataset was cleaned by removing any remaining missing values.

```
hello <- "Hello"

# new variable
# data tidy - remove NAs
```

Descriptive Statistics

Descriptive statistics were computed for both variables. These were summarized in a table and histograms.

Linear Regression

A simple linear regression was conducted to examine whether age predicted emotional regulation. A scatterplot with 95% confidence intervals were included to provide a measure of uncertainty around this prediction. Model assumptions were assessed using standard diagnostic plots.

The linear regression equation predicting emotional regulation from age is:

$$Y = \beta_0 + \beta_1 * X$$

Where:

- Y = predicted emotional regulation score
- β_0 = intercept
- β_1 = slope for age
- X = age in years

Results

The dataset included 20 children aged 5–12 years (mean age = 8.25 years, SD = 2.38). Emotional regulation scores ranged from 3.5 to 12.0, with a mean of 8.44 (SD = 2.10).

Table 1: Descriptive statistics

Mean_Age	SD_Age	Mean_ER	SD_ER
8.25	2.02	8.44	2.28

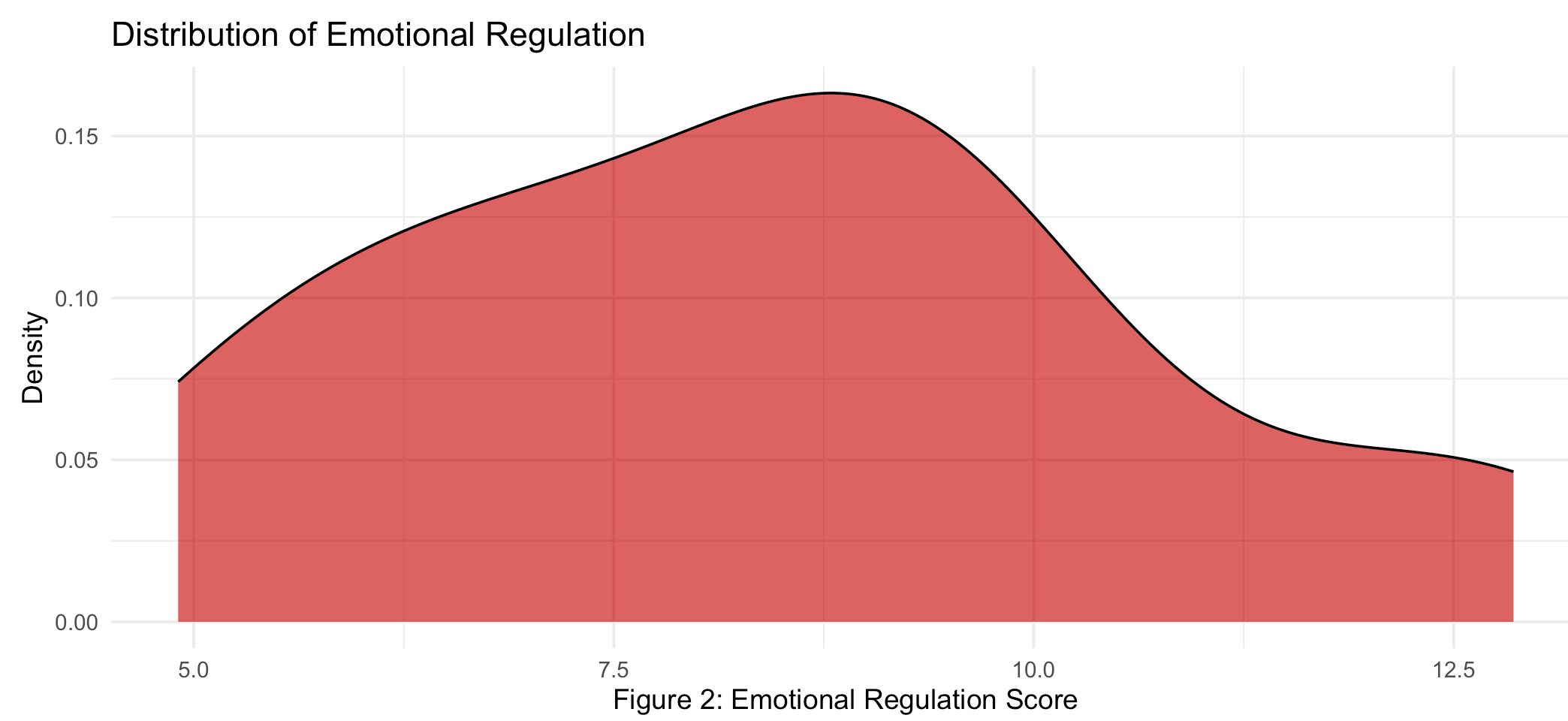
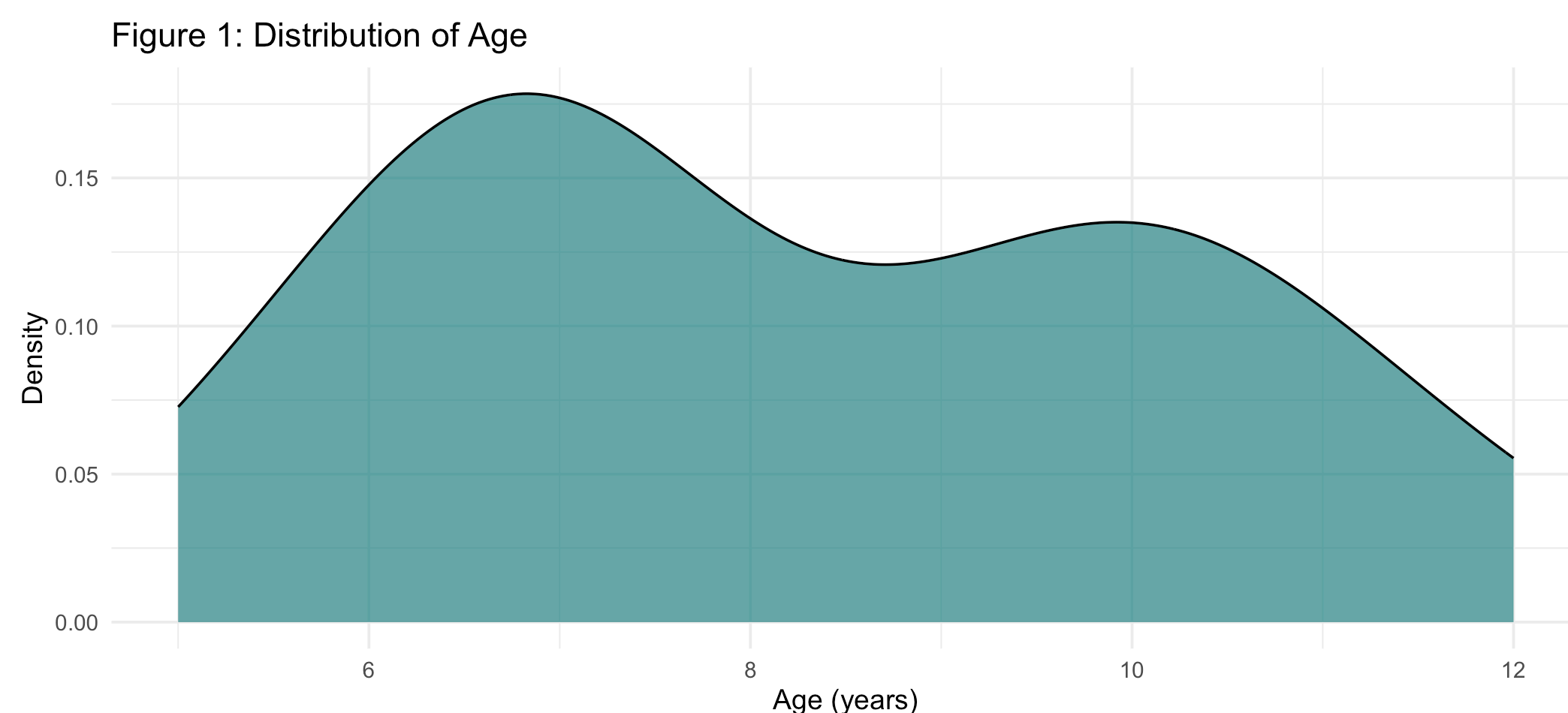
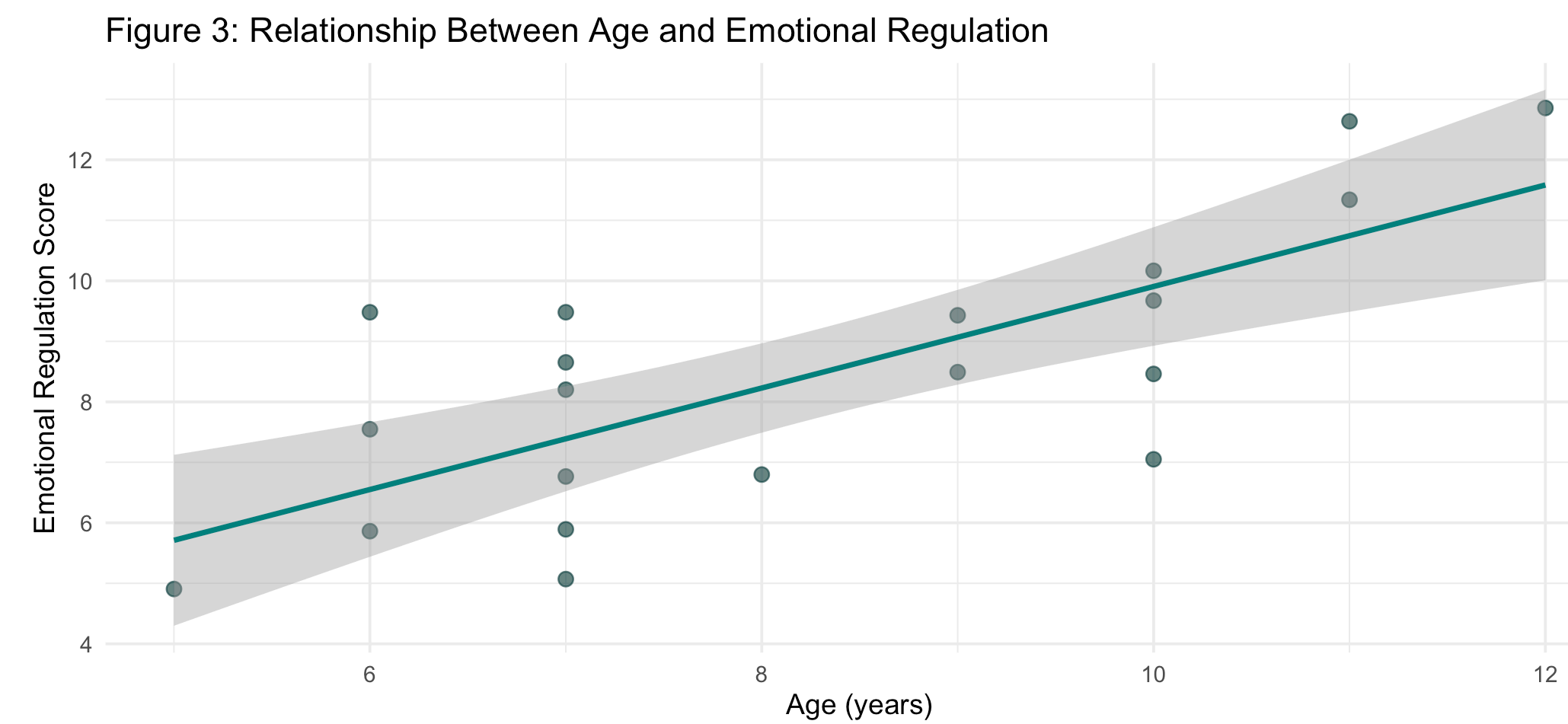


Figure 2: Emotional Regulation Score

Density plots of the two variables show that age was approximately normally distributed, while emotional regulation scores were slightly positively skewed, with most children scoring between 6 and 10.

A simple linear regression was conducted to examine whether age predicts emotional regulation in children aged 5–12. The model was significant, $F(1, 18) = 28.71$, $p < .001$, and explained a substantial portion of the variance in emotional regulation, $R^2 = .61$. Age was a significant positive predictor of emotional regulation, $B = 0.80$, $SE = 0.15$, $t = 5.36$, $p < .001$, indicating that older children tended to have higher emotional regulation scores.

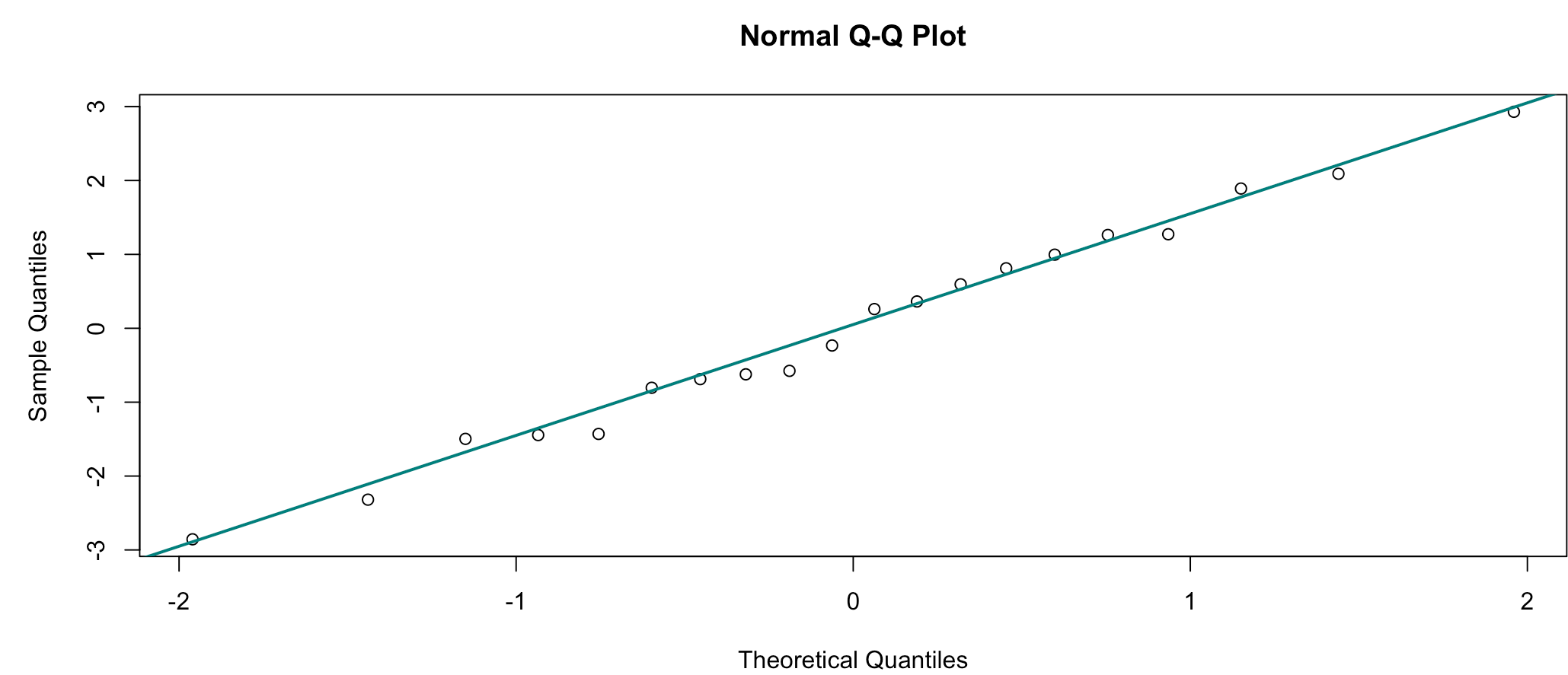
##	Estimate	Std. Error	t value	Pr(> t)
## (Intercept)	1.52	1.50	1.01	0.33
## age	0.84	0.18	4.74	0.00



At the mean age of 8.25 years, the predicted emotional regulation score is:

$$Y = 1.517 + 0.8389 * 8.25 = 8.44$$

Residuals were checked for normality and constant variance. Q–Q plots showed approximate normality, and residuals versus fitted values indicated homoscedasticity.



Conclusion

This study demonstrates that emotional regulation improves with age in children aged 5–12. Older children showed stronger self-regulation compared to younger children, consistent with typical developmental trends. These findings highlight the importance of supporting emotional skills in early childhood to promote healthy development.