Is there an association between early childhood adversity and higher depression scores in US adults?

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```
#needed questionnaires
#install.packages("haven")
#install.packages("nhanesA")
#install.packages("tableone")
library(nhanesA)
library(haven)
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(tableone)
library(dplyr)
library(tableone)
library(kableExtra)
```

```
##
##    'kableExtra'
##
## The following object is masked from 'package:dplyr':
##
##     group_rows
```

```
#depress <- read_xpt("D:/_uoft_1/5 1/depress-and-childhood/data/DPQ_J.XPT")
demo <- nhanes("DEMO_J")
depress <- nhanes("DPQ_J")
#child <- read_xpt("D:/_uoft_1/5 1/depress-and-childhood/data/ECQ_J.XPT")
child <- nhanes("ECQ_J")
BMI <- nhanes("BMX_J")
```

```r
# merge 2 datasets
clean_data <- merge(demo, depress,by = "SEQN", all.x =T)
clean_data_T <- merge(clean_data, child, by = "SEQN", all.x =T)
clean_data_T <- merge(clean_data_T, BMI, by = "SEQN", all.x =T)
# filter missing and refused
```

#filter missing value still error: ModuleStopIfNoVarsLeft(vars): No valid variables.

```r
demo_clean <- clean_data_T %>% select("SEQN","RIDAGEYR","DMDHRGND","RIDRETH1","ECD070A","ECD010","ECQ02
colnames(demo_clean) <- c("SEQN","Age", "Gender", "Race","birth_weight","maternal_age","Maternal_smokin
# Define variables, factorVars for categorical variable
vars <- c("Age", "Gender", "Race","birth_weight","maternal_age","Maternal_smoking", "Marital_status", "
factorVars <- c("Gender", "Race", "Maternal_Smoking", "Marital_Status")
table1 <- CreateTableOne(vars = vars, data = demo_clean, factorVars = factorVars)


# Convert to data frame for stargazer
table1_df <- as.data.frame(print(table1, printToggle = FALSE))
# Display the table in R
kable(table1_df, caption = "Demographics")
```

Table 1: Demographics

	Overall
n	9254
Age (mean (SD))	34.33 (25.50)
Gender = Female (%)	4625 (50.0)
Race (%)	
Mexican American	1367 (14.8)
Other Hispanic	820 (8.9)
Non-Hispanic White	3150 (34.0)
Non-Hispanic Black	2115 (22.9)
Other Race - Including Multi-Racial	1802 (19.5)
birth_weight (mean (SD))	281.41 (1634.07)
maternal_age (mean (SD))	173.52 (1191.73)
Maternal_smoking (%)	
Yes	398 (12.9)
No	2661 (86.1)
Don't know	33 (1.1)
Marital_status (%)	
Married	2737 (49.1)
Widowed	462 (8.3)
Divorced	641 (11.5)
Separated	202 (3.6)
Never married	1006 (18.1)
Living with partner	515 (9.2)
Refused	6 (0.1)
BMI (mean (SD))	26.58 (8.26)
adverse health outcomes in the next generation = No (%)	2170 (86.8)

```r
clean_data_F <- merge(depress, BMI, by = "SEQN", all.x =F, all.y =F)
clean_data_FF <- merge(depress, child, by = "SEQN", all.x =F, all.y =F)
```

age, gender, race, marital status, family PIR, history of hypertension, history of diabetes, smoking and education levels

literature

The Diagnostic and Statistical Manual IV text revised (DSM IV TR) criteria for a major depressive episode stipulate that five of nine possible depression criteria must be present for most of the time over a two week period, must be present most of the time, one of the criteria must include either depressed mood or diminished interest or pleasure (anhedonia), and the symptoms must be a change from prior functioning.

2663 both animal and human studies suggest that fetal exposure to maternal stress can influence later stress responsiveness. a positive stress response in young children include dealing with frustration, getting an immunization, and the anxiety associated with the first day at a child care center. A tolerable stress response include the death of a family member, a serious illness or injury,a contentious divorce, a natural disaster, or an act of terrorism toxic stress include examples of multiple stressors (eg, child abuse or neglect, parental substance abuse, and maternal depression)

Significant stress in early childhood can trigger amygdala hypertrophy and result in a hyperresponsive or chronically activated physiologic stress response, along with increased potential for fear and anxiety.

multiple risk factors are more likely to initiate drinking alcohol at a younger age and are more likely to use alcohol as a means of coping with stress than for social reasons adults in this high-risk group who become parents themselves are less likely to be able to provide the kind of stable and supportive relationships that are needed to protect their children from the damages of toxic stress

4207 women report twice the rate of lifetime depression as men (Bebbington, 1996; Nazroo et al., 1998; Weissman and Klerman, 1977; Wolk and Weissman, 1995)

parental divorce, the experience of a frightening event and physical abuse were all associated with around twice the rates of both current and lifetime depression than among those who did not report such experiences.

Implementation of these specifications is equivalent to a survival model (with exponential distribution) for time till first onset/censorship and a generalised linear model (with Poisson distribution) for recurrent episodes(Poisson age)

parents bmi and their children's(0232) Previous studies found that obesity status in older children was affected by both inheritable traits from parents and shared environment over time and emphasized that environmental effects were important determinants to develop behavior patterns and obesity among adolescents. studies have found a non-linear "U-shaped" relationship between BMI and depression in people aged 50 to 102 and in boys aged 17

birth weight - Women with a birth weight of less than 3 kg had an increased risk of depression at age 26 compared to those with a birth weight of more than 3.5 kg. - Birth weight was not associated with a reported history of depression up to age 26 in men. - Low birth weight was linked to an increased risk of psychological distress at age 16 in both genders, but the association was stronger in women. - The study found that low birth weight, in combination with other factors such as maternal smoking during pregnancy and socioeconomic status, contributed to the increased risk of depression.

- A maternal age of 30–34 years was associated with significant increases in stress DASS-21 scores in female offspring compared to female offspring of 25- to 29-year-old mothers.
- A maternal age of 35 years and over was associated with increased scores on all DASS-21 scales (depression, anxiety, and stress) in female offspring.
- Paternal age was not found to be associated with mental health outcomes for either males or females in this sample.
- The study indicated that older maternal age is a predictor of adverse mental health symptoms, particularly in female offspring, suggesting a gender-specific effect.