

Project proposal

AH

```
library(knitr)
library(tidyverse)
library(broom)
library(htmltools)
```

1. Introduction

Tallia's research about the development of children at risk was done over many years and is one of the first and only observations that were done in this way, as in observing the changes a person at risk goes through at significant stages in his life. The stages include the boarding school, the army/national service and the young adulthood. This gives us the ability to discern the progress the teenager makes along the way.

Our research question is: "Is there a relation and how does the emotional openness level and the will to receive external help through the years (across the multiple meetings) on the scale of development/personal advancement of the teenager (the child at risk) in life?".

Our main goal is to make an evaluation of the emotional openness level and the will to receive external help and as a result we can make a prediction to a certain extent of the status in general of the child at risk in his young adulthood.

Children at risk are a population that has it tougher than most of the general child population. The general problem area is to find ways to help the said population so that they may have an equal footing with the rest of the population. The specific problem we are trying to solve is to make rooted methods to improve their chances of having an adult life that most other children would be able to easily obtain. (rooted methods refer to methods that can be passed to children at a young age).

Our research question is partially based on the emotional openness of a human. This kind of attribute is difficult to diagnose and define which makes the analysis itself hard as a result. The aforementioned research is one of a kind in the way it was an observation that was carried through multiple years. Hence, the thoroughness of our analysis would be unparalleled compared to other past similar research questions, as well as the emotional openness is a niche variable to work with in relation to the relevant kind of data.

Our approach is to specifically rely on the score of the emotional openness and the will to receive external help that we will define using certain questions the children answered in the questionnaire. Depending on the result of our research, it might be advised to work on improving the emotional openness of children at risk and/or encouraging them to seek help in multiple forms from an early age.

2. Data

The data contains questions for youth villages and boarding school residents. The data is divided into 3 questionnaires which will be elaborated next: In the first questionnaire there are questions that: Identify the youth, inquire about the relationships between the youth and his family as well as the staff in the establishment, ask about the practical life skills he obtained in the establishment, survey his willingness to receive help from a specialized staff member, ask about his future prospects. In the second questionnaire there are questions that: Ask about their current status and their plan for the near future in terms of

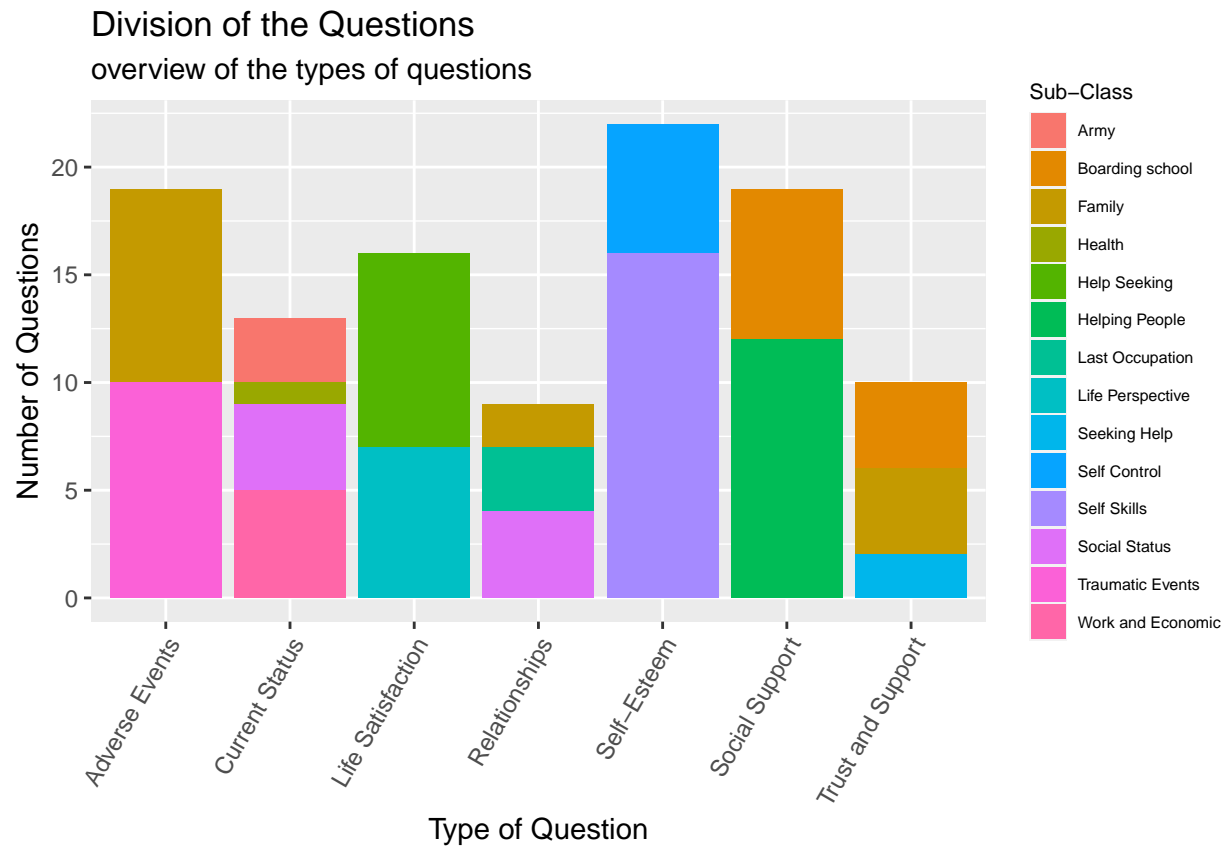
academic studies, ask about the support of their social environment, ask them if they would seek help from the establishment they came from, ask about their social and general life skills now and in the future. In the third questionnaire there are questions that: ask about their current life status and their satisfaction of it, ask about their past traumas and the therapies they have been through in their life, probe on the renewal of relationships with the establishments staff members and the relation's affects on their life, ask them for self evaluation and their future hopes and plans.

3. Preliminary results

Statistics

##	B.HELP.MENTAL	T3army_fullservice	T3civilserv_full	B.SUPPORT_4
##	Min. :1.000	Min. :1.000	Min. :1.000	Min. :1.000
##	1st Qu.:2.000	1st Qu.:2.000	1st Qu.:1.000	1st Qu.:4.000
##	Median :3.000	Median :2.000	Median :2.000	Median :4.000
##	Mean :2.664	Mean :1.924	Mean :1.643	Mean :4.122
##	3rd Qu.:3.000	3rd Qu.:2.000	3rd Qu.:2.000	3rd Qu.:5.000
##	Max. :3.000	Max. :2.000	Max. :2.000	Max. :5.000
##		NA's :54	NA's :224	
##	B.SUPPORT_6	FamilyTrust	T3_10.20	
##	Min. :1.000	Min. :1.000	Min. :1.000	
##	1st Qu.:4.000	1st Qu.:4.000	1st Qu.:4.000	
##	Median :4.000	Median :5.000	Median :5.000	
##	Mean :4.244	Mean :4.323	Mean :4.432	
##	3rd Qu.:5.000	3rd Qu.:5.000	3rd Qu.:5.000	
##	Max. :5.000	Max. :5.000	Max. :5.000	
##		NA's :9	NA's :32	

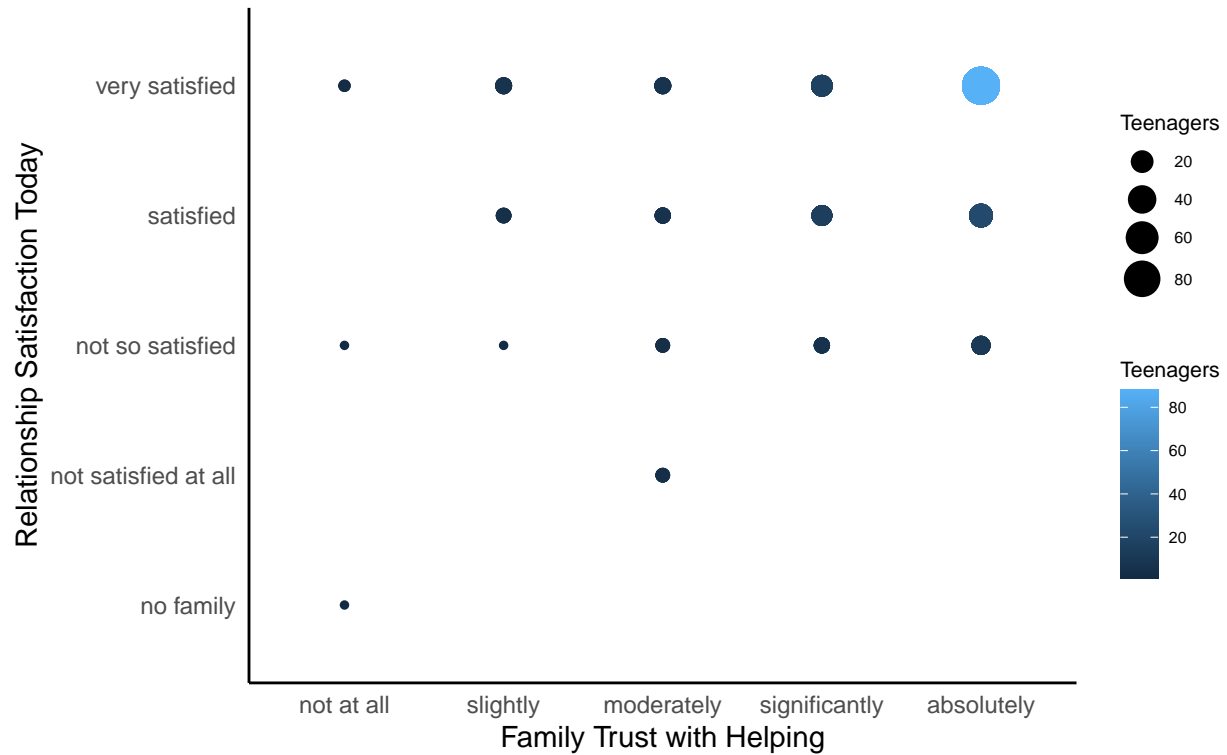
Visualizations



In the bar plot above, we can see the division of the relevant questions from the 3 questionnaires of the research. The questions are divided by types, such that each type includes sub-classes. The purpose of this visualization is to show what we can work with in terms of questions and data as well as to add to the statistics.

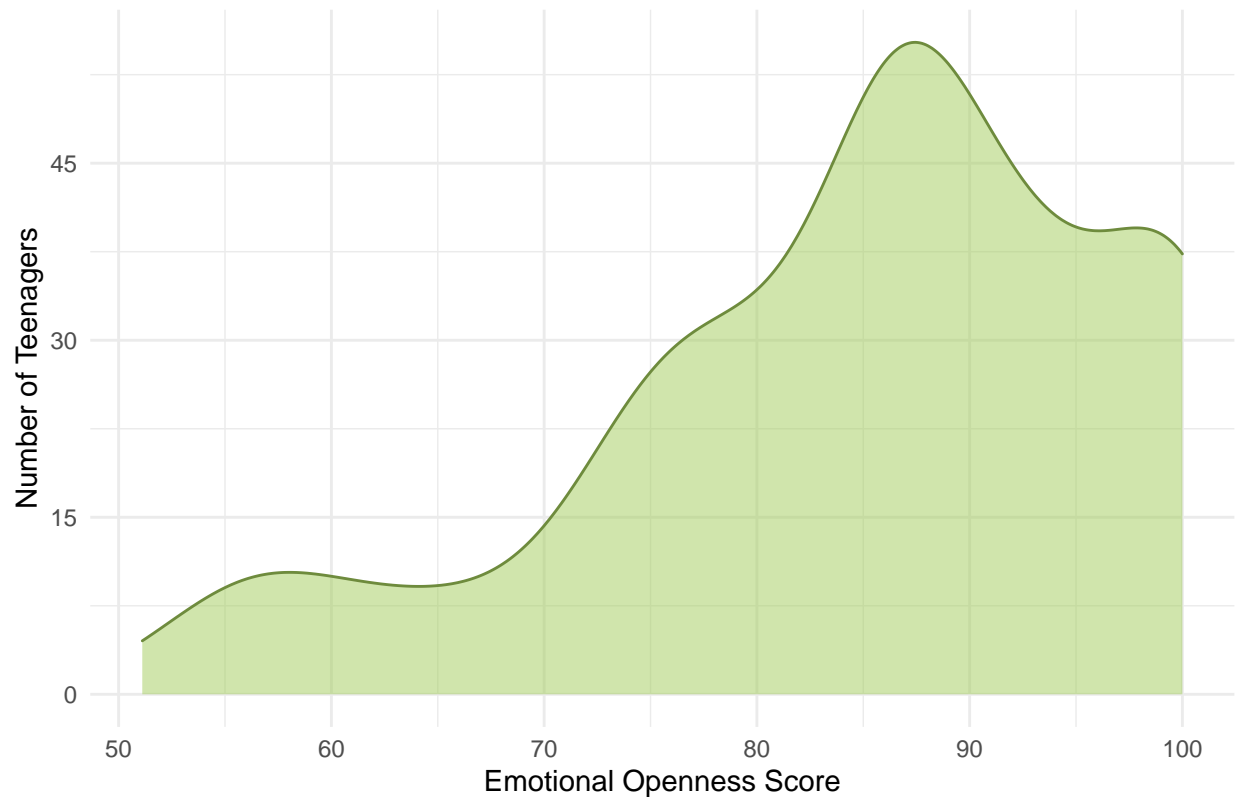
The Development in the Relationship with the Family

relationship satisfaction today depending on trust with helping in the past



In the scatter plot above, we can see the relationship between the degree of the teenager's past trust in his family, and the degree of satisfaction from his relationship with them today. We can infer from the visualization that most of the teenagers have a strong connection with their family today, although a considerable amount of them had low trust in their family in the past.

Emotional Openness Corresponding to Completing Military or Civil Service



In the density plot above, we can see the relationship between the emotional openness score of the teenagers and whether they completed full military or civil service. We created emotional openness score for a general teenager, which is calculated by referencing the next three questions: 1. To what extent do you feel there are people in your life right now who give you tips and suggestions when you approach them with a problem? 2. To what extent do you feel there are people in your life right now who you can turn to when you want to talk about something that worries you or bothers you? 3. After you left the boarding school, did you consult with any of the village staff about dealing with emotional difficulties (e.g., in the military and national service, adapting to new situations).

The emotional openness score can get values from 24 to 100. 24 is the lowest score, that means the teenager most likely has difficulties with opening emotionally. 100 is the highest score, that means the teenager is emotionally open and does not mind requesting for help.

We can see from the visualization that the more emotionally open the teenager is, the more likely he is to complete full military/civil service.

4. Data analysis plan

The explanatory variables are questions that measure the emotional openness of the teen and his will to receive external help, such as: B.SUPPORT, B.HELP.MENTAL, B.HELP.RELATIONS, B.HELP.NONPROFIT, B.LONELY, B.INTERNET.SUPPORT 3,4, SenseCont 1-6, FamilyTrust, Pn-imiaTrust, PnimiaSupp.

the explained variables are questions that measure the development/personal advancement of the teen in life, such as: T3army_fullservice, T3civil_service, T3civilserv_full, T3_SRH, T3job_no, T3A8.wp.160 , T3T314.10, T3_10.20, T3_10.120, T3_10.460, T3_socialsupport.

The methods we believe to be useful to answer our research question are making visualizations that show cause and effect. The final result will be composed of graphs that show regression of the development of the teen in a variety of aspects in life (like financially, health wise, socially, educationally etc.) as it is dependent on the causal variables, the ones which represent the openness and the help. For most of the graphs we will use a score as the independent variable. This score will be calculated by the different explanatory variables mentioned above, and it will signify the emotional openness of the teen and his will to receive external help as a whole. We will strive so that the results projected in the various visualizations will provide findings towards the correlation between the emotional openness and the help received to the development throughout life in general. Our theory is that the more the teen is open emotionally and/or is willing to receive external help, his development in the different aspects of life would better compared to others who do not seek help and/or are not emotionally open.

As a team of 3, we'll make sure to divide the work accordingly and cooperate properly. First, we'll go through the data and look for problematic properties of the dataset to try and fix/clean it. We'll come up with ideas for graphs which will aid us in showing the conclusions of our research question. We'll divide the work so that one member will be responsible for fixing and cleaning the data. We've run into numerous issues that needed our intervention, among them are: - Incoherent scales of the answers to certain questions, meaning that some questions had "[I do] not agree at all" as 1 while other questions had it as 5 so the whole scale is reversed, as such, fixing it is permanent for easy manipulation of the data. - Multiple rows with the same serial number, in the data there are rows that have answer values until a certain column and the rest of the values are NAs while the next row with the same serial number has NAs until that same column and the rest of the columns have answer values, meaning that combining them will result in one row which contains all the answers of the teen. - Selection of only the relevant columns to our research question and filtering out the rows of the people that didn't fill out the third questionnaire. - Adjusting the variables to their relevant type in terms of the way we'd want to manipulate the data

The second member will be responsible for creating the visualizations and thinking of ways to construct them, so that they would easily and clearly convey the conclusions from our research. Since visualizations are essential for projecting the results of the research, it is of most importance to choose a fitting scheme of the graph as well as taking care of its aesthetics, adding suitable labels and informative text.

The third member will be responsible for writing the body of the project. This includes the conclusions we arrived at, further explanation of the visualizations and writing a clear description of what was done in the project.

We'll add that every part that was done by one of the project members, was done while consulting with the other members and making sure with the rest of the group that each part was done properly.

Appendix

Data README

SISE2601 Project data description

=====

Team name: AH

The existing questions in the dataset consist of 3 questionnaires.

These three questionnaires occurred about two years apart and as stated examined the condition of the child / adolescent / adult during different times in his life.

The questions described in this file are translated to english to ensure consistency and to resolve technical issues.

1. During your last year in boarding school how many times have you seen at least one of your parents? The question is encoded in the data as ParentMeet.

The answers to the question range from never or almost never to once every two weeks.

2. During your last year in boarding school how many times have you been in telephone contact with at least one of the parents?

The question is encoded in the data as ParentPhone.

The answers range from never or almost never to two or three times a week.

3. To what extent can you trust someone from your biological family (eg parents, siblings) when you need help or support?

The question is encoded in the data as FamilyTrust.

The answers range from not at all to very much.

4. To what extent does someone in your biological family support you in your choices and decisions?

The question is encoded in the data as FamilSupp.

The answers range from not at all to very much.

5. Apart from your parents, do you have a person older than you who influences you in a positive and meaningful way?

The question is encoded in the data as Mentor.

We will mark 1 for no and 2 for yes.

6. How often are you in touch with him today approximately (e.g., meeting with him, talking on the phone, corresponding on WhatsApp)?

The question is encoded in the data as MentorFreq.

The answers range from never or almost never to two or three times a week.

7. Do you have staff members at the boarding school who are significant to you (for example: social worker, instructor, coordinator)?

The question is encoded in the data as FormalMentor.

We will mark 1 for no and 2 for yes.

8. To what extent can you trust someone from the boarding school staff when you need help or support?

The question is encoded in the data as PnimiaTrust.

The answers range from not at all to very much.

9. To what extent do you have someone from the boarding school staff who supports you in your choices and decisions?

The question is encoded in the data as PnimiaSupp.

The answers range from not at all to very much.

10. If you would like to consult or receive any help in the future after you leave the boarding school to what extent do you think you will turn to the boarding school?

The question is encoded in the data as HelpSeekInten1.

The answers range from not at all to very much.

11. If you would like to consult or get any help in the future, to what extent do you think the boarding school can help you?

The question is encoded in the data as HelpSeekInten2.

The answers range from not at all to very much.

12. How anxious are you to leave the boarding school and go on an independent life?

The question is encoded in the data as V34.

The answers range from very upset to very unconcerned about leaving the boarding school.

13. To what extent do you agree with the following statements?

The first statement is encoded in the data as SenseCont1.

And the first statement is "what will happen to me in the future depends mainly on me".

The second statement is encoded in the data as SenseCont2.

And the second saying is "I can do almost anything I decide to do".

The third statement is encoded in the data as SenseCont3.

And the third saying is "Many times I feel like I can not deal with my problems in life".

The fourth statement is encoded in the data as SenseCont4.

And the fourth statement is "I have little control over what happens to me in life".

The fifth statement is encoded in the data as SenseCont5.

And the fifth saying is "there is no way I can solve most of the problems that are bothering me in life".

The sixth statement is encoded in the data as SenseCont6.

And the sixth saying is "I can only slightly change the things that are important to me in life".

14.

For the following statements there is the question: To what extent do you feel there are people in your life right now who...

It is encoded as B.SUPPORT.

The statements come to indicate how much the person feels that he is alone in front of the world or that there are people around him that he is willing to help, and they can help him.

First statement - encoded as B.SUPPORT_1.

Giving you or helping you get things you need (e.g., clothes, money, or anything else)?

Second statement - encoded as B.SUPPORT_2.

Helping you with things you need to do (for example, taking or accompanying you to places, helping with military / national service things, with arrangements, etc.)?

Third statement - encoded as B.SUPPORT_3.

Make you feel that they love you and that they care about you?

Fourth statement - encoded as B.SUPPORT_4.

Are you given tips and suggestions that help you, when you approach them with a problem?

Fifth statement - encoded as B.SUPPORT_5.

People you enjoy talking to?

Statement Friday - encoded as B.SUPPORT_6.

People you turn to when you want to talk about something that is important to you (for example, about something that worries you or bothers you)?

15. How often since you left the village until today are you in contact with the alumni coordinator or someone from the village staff in any form (or your initiative or the village initiative) for example: face to face, telephone contact, messages / WhatsApp) ...

It is encoded as B.CONTACT.DURATION.

The answers range from not at all to occasionally in two weeks or more.

16. Dealing with emotional difficulties (e.g., in the military and national service,

adapting to new situations

It is encoded as B.HELP.MENTAL.

The answers are:

1. I consulted
2. I did not consult because I did not have to
3. I did not consult even though I had to.

And the next question: to what extent did it help you?

It is encoded as B.HELP.MENTAL.DEGREE.

The answers range from not at all to very much.

17. Connecting or strengthening the bond with your family members or other significant other people

It is encoded as B.HELP.RELATIONS.

The answers are:

1. I consulted
2. I did not consult because I did not have to
3. I did not consult even though I had to.

And the next question: to what extent did it help you?

It is encoded as B.HELP.RELATIONS.DEGREE.

The answers range from not at all to very much.

18. Connection with other factors that help young people in various fields

(e.g. associations / social workers)

It is encoded as B.HELP.NONPROFIT.

The answers are:

1. I consulted
2. I did not consult because I did not have to
3. I did not consult even though I had to.

And the next question: to what extent did it help you?

It is encoded as B.HELP.NONPROFIT.DEGREE.

The answers range from not at all to very much.

22. I meet people and make friendships to the extent that suits me in a setting.

It is encoded as B.MAIN.OCCUPATION_1.

The answers range from not at all to very much.

23. I have a number of good friends or acquaintances in the framework with whom I can talk about any problems I may have.

It is encoded as B.MAIN.OCCUPATION_8.

The answers range from not at all to very much.

24. I am satisfied with my social life in the framework.

It is encoded as B.MAIN.OCCUPATION_9.

The answers range from not at all to very much.

25. There is always someone I can talk to about my day-to-day problems or anything else that bothers me.

It is encoded as B.LONELY_1.

The answers range from not at all to very much.

26. There are a lot of people I trust completely.

It is encoded as B.LONELY_2.

The answers range from not at all to very much.

27. I think my circle of friends and acquaintances is limited.
It is encoded as B.LONELY_3.
The answers range from not at all to very much.

28. There are enough people I feel close to.
It is encoded as B.LONELY_4.
The answers range from not at all to very much.

29. I am looking to belong to a group or online forum with a similar problem,
to learn from them what to do.
It is encoded as B.INTERNET.SUPPORT_3.
The answers range from not usually doing so to doing so to a very large extent.

30. I try to get help, support and understanding from someone professional,
through online help and support sites.
It is encoded as B.INTERNET.SUPPORT_4.
The answers range from not usually doing so to doing so to a very large extent.

31. In general, how would you define your state of health?
It is encoded as T3_SRH.
The answers range from not good at all to very good.

32. How many places do you work?
It is encoded as T3job_no.
The answer is a digit.

33. Who pays your wages in your main workplace?
It is encoded as T3A8.wp.160.
The answers are 1. workplace 2. manpower company 3. other.

34. In the last month, what was your gross income from all your jobs
(including wages and income from a business)?
It is encoded as T3i4.10.
There are 11 answers that are categorized according to 1 to 11 and indicate different wage levels.

35. Excellent list of ten difficult events. For each of them the adult should indicate
whether he passed it in his childhood (up to the age of 18).
The question is encoded as T3Adverse_Events.
For each of the 10 sections it is required to indicate no = 1 / yes = 2.

36. An excellent list of ten more difficult events related to the emotional aspect.
For each of them the adult should indicate whether he went through it as a child
(up to the age of 18).
The question is encoded as T3_ACE.
For each of the 10 sections it is required to indicate no = 1 / yes = 2.

37. What type of apartment do you live in?
It is encoded as T3housing_status.
The answers are a rented apartment / sheltered housing / an apartment owned by others and more.

38. Have you served full military service?
It is encoded as T3army_fullservice.
The answers are yes = 1 / no = 2.

39. Did you do national service?
 It is encoded as T3civil_service.
 The answers are yes = 1 / no = 2.

40. Have you served full national service?
 It is encoded as T3civilserv_full.
 The answers are yes = 1 / no = 2.

41. Of all the areas I mentioned in which areas would you be currently interested in assistance, advice or guidance?
 One example: "Studies and Higher Education".
 It is encoded as T3helpneeded.
 There are 9 sections that should be marked / not marked V if advice in the relevant fields is desired.

42. Now I will ask you about your relationship with family and friends, how satisfied are you with your relationship with your family?
 It is encoded as T3_10.20.
 The answers range from not at all satisfied to very satisfied.

43. Do you have friends you talk to on the phone? Includes a call on a zoom or any app, not including messages and text messages.
 It is encoded as T3_10.120.
 The answers are yes = 1 / no = 2.

44. Excellence 4 activities and asked how many times you have participated in these activities in the past year.
 It is encoded as T3_10.460.
 The answers are 1. not at all 2. 1-9 times 3. 10 times and more.

45. The question is: To what extent do you feel there are people in your life right now who: And there are 6 statements on the subject.
 One for example: "Giving you or helping you get things you need for example: clothes, money or anything else".
 It is encoded as T3_socialsupport.
 The answers range from not at all (= 1) to very much (= 5).

46. Are you successful or those who share with you in the household to cover all your monthly expenses for food for electricity, telephone and the like.
 It is encoded as T3_14.80.
 The answers range from not at all to without any difficulty.

47. There are 7 statements about a person's satisfaction from his current point in his life.
 One example: "I'm doing well in life".
 It is encoded as T3_life_satisfaction.
 The answers range from never (= 1) to almost always (= 4).

48. There are 16 statements about a person's self-esteem regarding what he can do today in life independently.
 One example: "Looking for a job?".
 It is encoded as T3_skills.
 The answers range from insuring not (= 1) to insuring yes (= 4).

Source code

```
library(knitr)
library(tidyverse)
library(broom)
library(htmltools)
opts_chunk$set(echo = FALSE) # hide source code in the document
data12 <- haven::read_sav('C:/Users/yaniv/OneDrive/studies/university/advanced programming languages/Pr
data3 <- haven::read_sav('C:/Users/yaniv/OneDrive/studies/university/advanced programming languages/Pro
relevnt_cols <- c('serial_number', 'ParentMeet', 'ParentPhone', 'FamilyTrust', 'FamilSupp',
                  'Mentor', 'MentorFreq', 'FormalMentor', 'PnimiaTrust', 'PnimiaSupp',
                  'HelpSeekInten1', 'HelpSeekInten2', 'V34', 'SenseCont1', 'SenseCont2',
                  'SenseCont3', 'SenseCont4', 'SenseCont5', 'SenseCont6', 'B.SUPPORT_1',
                  'B.SUPPORT_2', 'B.SUPPORT_3', 'B.SUPPORT_4', 'B.SUPPORT_5', 'B.SUPPORT_6',
                  'B.CONTACT.DURATION', 'B.HELP.MENTAL', 'B.HELP.MENTAL.DEGREE', 'B.HELP.RELATIONS',
                  'B.HELP.RELATIONS.DEGREE', 'B.HELP.NONPROFIT', 'B.HELP.NONPROFIT.DEGREE',
                  'B.MAIN.OCCUPATION_1', 'B.MAIN.OCCUPATION_8', 'B.MAIN.OCCUPATION_9',
                  'B.LONELY_1', 'B.LONELY_2', 'B.LONELY_3', 'B.LONELY_4', 'B.INTERNET.SUPPORT_3',
                  'B.INTERNET.SUPPORT_4', 'T3_SRH', 'T3job_no', 'T3A8.wp.160', 'T3T314.10',
                  'T3Adverse_Events_1', 'T3Adverse_Events_2', 'T3Adverse_Events_3',
                  'T3Adverse_Events_4', 'T3Adverse_Events_5', 'T3Adverse_Events_6',
                  'T3Adverse_Events_7', 'T3Adverse_Events_8', 'T3Adverse_Events_9',
                  'T3Adverse_Events_10', 'T3_ACE_1', 'T3_ACE_2', 'T3_ACE_3', 'T3_ACE_4', 'T3_ACE_5',
                  'T3_ACE_6', 'T3_ACE_7', 'T3_ACE_8', 'T3_ACE_9', 'T3housing_status',
                  'T3army_fullservice', 'T3civil_service', 'T3civilserv_full', 'T3helpneeded_1',
                  'T3helpneeded_2', 'T3helpneeded_3', 'T3helpneeded_4', 'T3helpneeded_5',
                  'T3helpneeded_6', 'T3helpneeded_7', 'T3helpneeded_8', 'T3helpneeded_9',
                  'T3_10.20', 'T3_10.120', 'T3_10.460_1', 'T3_10.460_2', 'T3_10.460_3',
                  'T3_10.460_4', 'T3_socialsupport_1', 'T3_socialsupport_2', 'T3_socialsupport_3',
                  'T3_socialsupport_4', 'T3_socialsupport_5', 'T3_socialsupport_6', 'T3_14.80',
                  'T3_life_satisfaction_1', 'T3_life_satisfaction_2', 'T3_life_satisfaction_3',
                  'T3_life_satisfaction_4', 'T3_life_satisfaction_5', 'T3_life_satisfaction_6',
                  'T3_life_satisfaction_7', 'T3_skills_1', 'T3_skills_2', 'T3_skills_3',
                  'T3_skills_4', 'T3_skills_5', 'T3_skills_6', 'T3_skills_7', 'T3_skills_8',
                  'T3_skills_9', 'T3_skills_10', 'T3_skills_11', 'T3_skills_12', 'T3_skills_13',
                  'T3_skills_14', 'T3_skills_15', 'T3_skills_16')

flip_scale <- function(df, col_name) {
  flip_factor <- max(df[col_name], na.rm = TRUE) + 1
  for (row in seq_len(nrow(df))) {
    if (is.na(df[row, col_name])) { next }
    df[row, col_name] <- flip_factor - ifelse(df[row, col_name] >= 1,
                                              round(df[row, col_name]), 1)
  }
  return(df)
}
flip_list <- c('ParentMeet', 'ParentPhone', 'T3_SRH', 'T3_14.80', 'T3_10.20',
              'T3army_fullservice', 'T3civilserv_full')
data3$T3interviewee_number <- as.numeric(data3$T3interviewee_number)

coalesce_by_column <- function(df) {
  return(coalesce(!!!as.list(df)))
}
```

```

test_data3 <- data3 %>%
  group_by(T3interviewee_number)
sum_df <- summarise_all(test_data3, coalesce_by_column)
test_df <- sum_df
test_df$T3job_no <- suppressWarnings(as.numeric(test_df$T3job_no))
test_df <- test_df %>% rename(serial_number = T3interviewee_number)
df123 <- test_df %>%
  merge(data12, by = "serial_number") %>%
  select(all_of(relevnt_cols))
for (col in flip_list) {
  df123 <- flip_scale(df123, col)
}
for (col in seq_len(ncol(df123))) {
  max_val <- floor(max(df123[col], na.rm = TRUE))
  for (row in seq_len(nrow(df123))) {
    if (is.na(df123[row, col])) { next }
    if (1 <= df123[row, col]) {
      if (df123[row, col] <= max_val) {
        df123[row, col] <- round(df123[row, col])
      }
      else {
        df123[row, col] <- max_val
      }
    }
    else {
      df123[row, col] <- 1
    }
  }
}
for (row in seq_len(nrow(df123))) {
  if (df123[row, "B.HELP.MENTAL"] == 3) {
    df123[row, "B.HELP.MENTAL"] <- 1
    next
  }
  if (df123[row, "B.HELP.MENTAL"] == 2) {
    df123[row, "B.HELP.MENTAL"] <- 3
    next
  }
  if (df123[row, "B.HELP.MENTAL"] == 1) {
    df123[row, "B.HELP.MENTAL"] <- 2
  }
}
summary(df123 %>% select(c('B.HELP.MENTAL', 'T3army_fullservice', 'T3civilserv_full',
                           'B.SUPPORT_4', 'B.SUPPORT_6', 'FamilyTrust', 'T3_10.20'))))
class_of_qs <- read.csv(file = 'C:/Users/yaniv/OneDrive/studies/university/advanced programming language
ggplot(class_of_qs, aes(x = Class, fill = Sub_Class)) + geom_bar() +
  theme(axis.text.x = element_text(hjust = 1, angle = 60),
        legend.key.size = unit(2, 'cm'),
        legend.key.height = unit(0.5, 'cm'),
        legend.key.width = unit(0.5, 'cm'),
        legend.title = element_text(size=8),
        legend.text = element_text(size=6)) +

```

```

    labs(title = "Division of the Questions",
          subtitle = "overview of the types of questions",
          x = "Type of Question",
          y = "Number of Questions",
          fill = "Sub-Class")
gdf <- df123 %>% select(c('FamilyTrust','T3_10.20')) %>% drop_na() %>%
group_by(FamilyTrust, T3_10.20) %>%
  mutate(amount = n())
ggplot(gdf, aes(x=haven::as_factor(FamilyTrust),y=haven::as_factor(T3_10.20),
                size = amount, color = amount)) + geom_point() + theme_minimal() +
  theme(legend.key.size = unit(2, 'cm'),
        legend.key.height = unit(0.5, 'cm'),
        legend.key.width = unit(0.5, 'cm'),
        legend.title = element_text(size=8),
        legend.text = element_text(size=6),
        panel.grid.major = element_blank(), panel.grid.minor = element_blank(),
        panel.background = element_blank(), axis.line = element_line(colour = "black")) +
  labs(title = "The Development in the Relationship with the Family",
        subtitle = "relationship satisfaction today depending on trust with helping in the past",
        x = "Family Trust with Helping",
        y = "Relationship Satisfaction Today", size = "Teenagers", color = "Teenagers") +
  scale_y_discrete(labels = c('no family','not satisfied at all',
                              'not so satisfied','satisfied','very satisfied')) +
  scale_x_discrete(labels = c('not at all','slightly','moderately',
                              'significantly','absolutely'))
score_df <- df123 %>% select (c('B.SUPPORT_4', 'B.SUPPORT_6', 'B.HELP.MENTAL',
                              'T3army_fullservice', 'T3civilserv_full'))
score_df[is.na(score_df)] <- 0
score_df <- score_df %>% mutate(em_op_score = (1/3) * (B.SUPPORT_4 * 20 +
  B.SUPPORT_6 * 20 + B.HELP.MENTAL * (100/3)), ar_ci_score =
  T3army_fullservice + T3civilserv_full) %>%
  filter(ar_ci_score == 2)

ggplot(score_df, aes(x = em_op_score, fill = ar_ci_score, color = "darkolivegreen3")) +
  geom_density(alpha = 0.5, fill = "darkolivegreen3", color = "darkolivegreen4") +
  theme_minimal() + scale_y_continuous(breaks = c(0.00, 0.01, 0.02, 0.03),
                                       labels = c("0", "15", "30", "45")) +
  labs(title = "Emotional Openness Corresponding to Completing Military or Civil Service",
        x = "Emotional Openness Score",
        y = "Number of Teenagers")
cat(readLines('C:/Users/yaniv/OneDrive/studies/university/advanced programming languages/Project/proj/d

```