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PERSONALITY MATTERS: PERSONALITY TRAITS IN THE LEVEL OF LIVING SURVEY AND THEIR RELATION TO WAGE DIFFERENCES, GENDER AND AGE

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Personality matters

Personality traits in the Level of Living Survey and their relation to wage differences, gender and age

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1 Introduction

"Cognitive ability and personality traits predict a variety of social and economic outcomes." (Borghans et al., 2008, p. 975)

The determinants of individuals' allocations in the labor market usually are modelled as depending on educational attainment, socioeconomic background, age and sex. But a surprisingly large portion of the variance in e.g. earnings cannot be explained by these traditional variables (Groves, 2005, p.828). Especially in psychology there is a growing number of papers about the effect of personality traits on the educational and occupational outcome: the wage.

The project *"Stratification processes in the labor market"* carried out by Erik Bihagen, Magnus Nermo, Charlotta Stern and Yvonne Åberg at the University of Stockholm will be the first to combine the effects of personality measures, cognitive ability, and the respondents' social networks on stratification processes in the labor market in one study. Therefore, they analyze the effect of personality traits and cognitive abilities in late adolescence on labor market outcomes, the association between personality traits and the gender wage gap and the impact of kinship and peer networks on the recruitment to top labor market positions.

The purpose of this report is to give an overview of the personality variables as estimated by LNU: How are they measured? Are they changing by age? And are there differences according to gender? The report also provides first results about the effect of personality on wage and on the gender wage gap.

1.1 Theory

In research, there are many debates and papers on the role of educational attainment, cognition performance and social background for economic success (Groves, 2005). But sociological, psychological and economical studies now also find that personality traits have an effect on labor market outcomes (Borghans et al., 2008; Jackson, 2006; Nyhus and Pons, 2005). They even find a correlation between personality and occupational choice, or rather the chance of an application for a specific occupation (Bowles et al., 2001). This goes with the intuitive appeal that a good employee is determined by her/his personality.

1 Introduction

Personality traits are defined as "patterns of thoughts, feelings, and behavior" (Borghans et al., 2008, p. 974). They characterize a person and they are sufficiently "stable across situations [...] although their manifestation depends on context and the traits themselves evolve over the life cycle" (Borghans et al., 2008, p.976) (see chapter 3). Until now there is no common understanding about the formation of personality - if it is more influenced by genetic dispositions or by the circumstances and experiences in life. In the research literature the common measurement-method is the Big Five personality model which is part of the five factor theory (Digman, 1990). On this basis the personality is constructed out of the five items: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism or emotional stability¹. "Big Five traits alone cannot explain diligence unless the person has some goal (or goals) or preferences motivating effort and self discipline in a particular situation" (Borghans et al., 2008, p.1035). Hence, next to the main traits there are found some other personal influences which seem as well to be important for the personality: such as risk taking, locus of control, altruism and leadership.

Borghans et al. (2008) has studied the effect of personality on wages. They discovered that emotional stability predicts higher wages and that emotional stability and conscientiousness predict job performance and self-esteem in early adulthood. Besides locus of control and some other related traits predict income in mid-life and enhance benefits of family background and education on mid-life income. "For many outcomes, certain personality traits (that is, traits associated with Big Five Conscientiousness and Emotional Stability) are more predictive than others (that is, traits associated with Agreeableness, Openness to Experience, and Extraversion)." (Borghans et al., 2008, p. 976)

This project will also analyze the effect of personality traits on labor market outcomes but by taking some more exogenous variables into account, such as age and gender. Especially analyses about gender could bring new knowledge on e.g. the gender wage gap or the gender specific occupational choice.

The following analyses are based on the model which is shown in figure 1. As is true of any model, there might be more links and variables relevant here, but the

¹More details on the Big Five can be found in chapter 2 and table 1. Information on the historical development of the concept is well discussed in Digman (1990)

1 Introduction

model concentrates exclusively on the effects connected to our research questions. It assumes that personality is affected by gender and age, what will be discussed in chapter 3 and 4. The question we will answer is whether labor market outcome, measured as hourly wage, changes by gender and personality (see chapter 5).

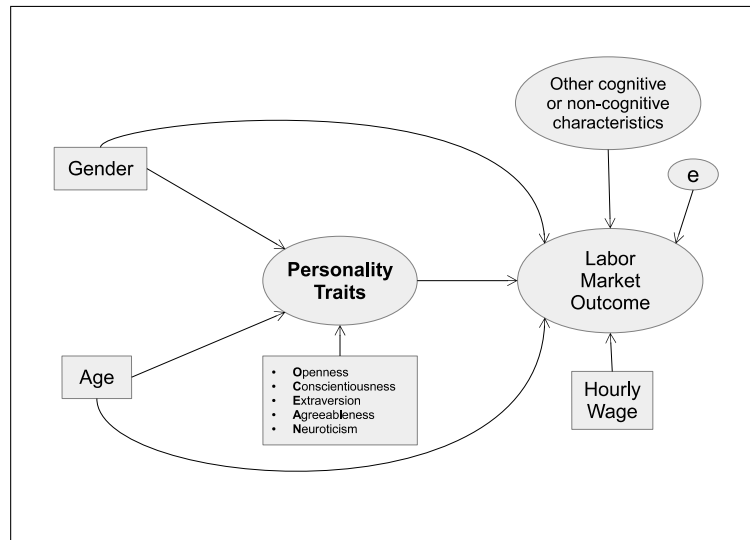


Figure 1: Theoretical Model

1.2 The Level of Living Survey

This report uses the Level of Living Survey (LNU) dataset which is collected by the Swedish Institute for Social Research. It includes data on 6,258 individuals between 18 and 75 years of age living in Sweden and contains information on resources, conditions and activities in different areas. In the sixth wave in 2010 31 new variables intended to measure personality were included: several questions which are connected to the Big Five personality traits, locus of control as well as time and risk preference.² 4,667 persons (non-response rate = 12.7%) participated in the additional paper-and-pencil self-report questionnaire.

²More detailed information about the personality inventory and the connected concepts can be found in Hällsten (2011)

2 Personality Traits

An overview on the APA definitions of Big Five presents table 1 (on page 7), as well as the wording of the LNU personality inventory and the corresponding index made from the inventory items with alpha- and interitem correlation-scores.

The variables in parentheses are excluded from the categories because of the low alpha values. The alpha values in parentheses were calculated together with these excluded variables. As a rule of thumb an alpha of 0.75 is indicative of an index with highly intercorrelated items. As can be seen, none of the dimensions reach this threshold. However, alpha values depend on the number of items. So one reason for the low alphas is simply the low number of items for each personality dimension.³

Before starting the analysis one would like to know if the personality variables of the LNU dataset measure what one would expect them to measure. Likewise, it will be tested if the variables can be summarized as indices for the Big Five traits and if a standardization could minimize the bias effects.

2.1 Personality and Leisure Activities

Leisure activities can be defined in many different ways: "recreation", "pleasure", "rejuvenation", "state of being", "function", "social stratification" or just having some free time (Furnham, 2004, p.168).

Leisure activities are always about choices. So personality structure are likely to be reflected in leisure activities (Furnham, 2004). It makes sense to test the validity of the personality items by studying their relation to the persons' leisure activities.

In the LNU data set from 2010 there are variables included about leisure activities such as vacation, fishing and hunting, gardening, cinema, theater, restaurant, dancing, reading books, studying, making music, Internet, hobbies, sports and visit of relatives, friends and acquaintances, association activities and political participation. Using a correlation matrix one can investigate whether common sensical correlations between personality and leisure exist.

³An analysis of these values can be found in chapter 2.2 on page 11.

Table 1: The Big Five Personality Traits

Personality Trait	APA definition (2007)	LNU variables	Cronbach's Alpha	Interitem Correlation
Openness to Experience	The tendency to be open to new aesthetic, cultural, or intellectual experiences.	z885: I have few artistic interests. z881: I have an active imagination. (z877: I do not like changing old habits.)	0.39 (0.32)	0.24 (0.14)
Conscientiousness	The tendency to be organized, responsible, and hardworking.	z864: I like orderliness. z888: I deal with tasks thoroughly. (z867: I tend to be lazy.) (z872: I like taking responsibility.)	0.51 (0.59)	0.34 (0.27)
Extraversion	An orientation of one's interest and energies toward the outer world of people and things rather than the inner world of subjective experience; characterized by positive affect and sociability.	z893: I am reserved. z886: I am outgoing and sociable. z889: I prefer to stay in the background. (z865: I do not show feelings to others.)	0.69 (0.68)	0.43 (0.35)
Agreeableness	The tendency to act in a cooperative, unselfish manner.	z890: I tend to find fault with others. z892: I am generally trusting.	0.30	0.17
Emotional Stability (Neuroticism)	Neuroticism is a chronic level of emotional instability and proneness to psychological distress. Emotional stability is predictability and consistency in emotional reactions, with absence of rapid mood changes.	z870: I get nervous easily. z874: I handle stress well. (z894: I am almost always in a good mood.)	0.62 (0.58)	0.45 (0.32)

2 Personality Traits

Extraversion The personality trait "Extraversion" is about being sociable versus reserved. We assume a correlation between extraversion and social leisure activities such as dancing, visiting somebody or having visitors, taking part in association activities and political participation. Especially the variable "I am outgoing and sociable" (z886) should be quite a good indicator.

Table 2 present some selected correlation results. There exist positive and negative coefficients, since some of the variables are reversed. The coefficients are not high, but most of them are significant. Especially the results for the variables "Visit Friends" (z821) and "Have Friends visit" (z822) are consistent - the correlation coefficients with most of the extraversion items are between 0.1 and 0.19. One item stands out: "I do not show feelings to others" (z865).

As a result it can be said that extraversion seems not to be strongly connected with social leisure activities or the extraversion items in the data set are not measuring what they are meant to. The only small correlation we could find is between extraversion and friends.

Table 2: Correlation Extraversion - selected results

	Z865	Z886	Z889	Z893
Z818 Dancing	-0.040 (0.014)	0.099 (0.000)	-0.085 (0.000)	-0.045 (0.006)
Z819 Visit Relatives	-0.056 (0.000)	0.053 (0.001)	-0.045 (0.005)	-0.074 (0.000)
Z820 Have Relatives Visit	-0.039 (0.017)	0.060 (0.000)	-0.023 (0.162)	-0.064 (0.000)
Z821 Visit Friends	-0.088 (0.000)	0.185 (0.000)	-0.137 (0.000)	-0.138 (0.000)
Z822 Have Friends Visit	-0.096 (0.000)	0.179 (0.000)	-0.129 (0.000)	-0.146 (0.000)
Z842 Association Activites	-0.022 (0.311)	0.100 (0.000)	-0.066 (0.003)	-0.070 (0.002)
Z849 Political Participation	-0.085 (0.000)	0.029 (0.077)	-0.057 (0.000)	-0.068 (0.000)

(significance of each correlation in parenthesis)

Openness to Experiences The personality trait openness to experiences is meant to give information about the tendency to be open to new aesthetic, cultural, or intellectual experiences. Thus "open people" should like to go to the theater, the cinema and study circles; they should like to read books, make music or other creative hobby activity such as knitting.

2 Personality Traits

Table 3 presents results regarding correlations between openness and aesthetic, cultural leisure activities. We can see that the statement z885 "I have few artistic interest" correlates with these leisure activities - albeit with small but significant coefficients. For example people with no artistic interest are not making music or singing in a choir (coefficient: -0.262). Instead, more people with an active imagination (z881) participate in this kind of leisure activity (coefficient: 0.114). Persons who do not like to change old habits (z877) are less often going to the theater (coefficient: -0.115).

Table 3: Correlation Openness to Experiences - selected results

	Z877	Z881	Z885
Z815 Go to the Cinema	-0.080 (0.000)	0.099 (0.000)	-0.089 (0.000)
Z816 Go to the Theatre	-0.115 (0.000)	0.046 (0.004)	-0.216 (0.000)
Z823 Read Books	-0.093 (0.000)	0.088 (0.000)	-0.213 (0.000)
Z824 Study Circle	-0.053 (0.001)	0.031 (0.055)	-0.106 (0.000)
Z825 Make Music or Sing	-0.034 (0.037)	0.114 (0.000)	-0.262 (0.000)
Z826 Hobby Activity	-0.014 (0.402)	0.050 (0.002)	-0.152 (0.000)

(significance of each correlation in parenthesis)

Emotional Stability Emotional stability can be seen as the opposite of neuroticism. Furnham assumes that there is a general effect of emotional stability on leisure activities - if a person is neurotic he/she is not participating in any activities (Furnham, 2004, p.170). On closer inspection, especially a connection to dancing and sport activities can be assumed. But in the results presented in table 4 no substantial correlations are found.

Conscientiousness Conscientiousness is a personality trait which characterizes the person's tendency to be organized, responsible and hardworking. There is no leisure activity in the LNU data set which can be connected directly to this trait. For this reason conscientiousness is skipped at this point.

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Table 4: Correlation Emotional Stability - selected results

	Z894	Z874	Z870
Z818 Dancing	0.076 (0.000)	0.043 (0.007)	-0.004 (0.824)
Z828 Sports Activities	-0.064 (0.000)	-0.056 (0.001)	0.038 (0.018)

(significance of each correlation in parenthesis)

Agreeableness Since agreeableness describes the cooperativity and selflessness of a person, a correlation with political and associational work may be assumed here too. But even to take part in a study circle could show that a person is agreeable. But again, as presented in table 5, there are no high correlation coefficients. And the ones connected to z890 "I tend to find fault with others" are not significant at all.

Table 5: Correlation Agreeableness - selected results

	Z890	Z892
Z824 Study Circle	-0.024 (0.136)	0.050 (0.002)
Z842 Association Activities	0.004 (0.853)	0.091 (0.000)
Z849 Political Participation	-0.005 (0.742)	0.026 (0.107)

(significance of each correlation in parenthesis)

Other Personality Items Other personality traits such as risk taking (z876) and leadership (z891) could correlate with leisure activities such as sports, associational and political activities. But as seen in table 6, the variable for risk taking is not significant and for the leadership item the significant coefficients are near zero.

Results Using the LNU data set, there are no real strong correlations with leisure activities for most of the personality traits. Several reasons could contribute: The questions about personality in the paper-and-pencil-questionnaire are not measuring what they are meant to, or biases caused by self-perception and an adaptation to social norms have influenced the responses. Another explanation could be that there are no correlations between the personality items and the leisure activity questions included in the data set. The sparetime part of the questionnaire seems to be quite short and is not going into detail such as kind of sports or frequency

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and intensity of the activity. For a more detailed consideration at this point a factor analysis would be useful.

Table 6: Correlation Risk and Leadership - selected results

	Z876 Risk Taking	Z891 Leadership
Z828 Sports Activity	-0.005 (0.762)	-0.064 (0.000)
Z842 Association Activities	0.042 (0.057)	0.059 (0.007)
Z849 Political Participation	-0.014 (0.394)	0.055 (0.001)

(significance of each correlation in parenthesis)

2.2 Indices

Based on the research literature the project will concentrate mostly on the Big Five Personality Traits. In the LNU data set there are about seventeen questions which seem to be connected to these.⁴ But it is not sure at all if they can be summarized into indices - even if it would make the analysis much clearer.

Therefore, by using several methods such as an alpha test and a correlation matrix the relationship between the personality items will be analyzed. In the correlation matrix (see table 7) all variables are included which measure the Big Five from the theoretical point of view. The coefficients provide information on the strength of the variables' correlation. Furthermore, an alpha-test was made to compute interitem correlations and Cronbach's alpha (see table 1 on page 7).

Extraversion This personality trait is represented by four variables. All of them are correlated to each other with coefficients between 0.25 and 0.49.⁵ A bit outstanding is the variable z865 "I do not show feelings to others". All coefficients under 0.4 are due to this variable. Therefore, an extraversion index would be reasonable with the variables z886, z889 and z893. This result is supported by the interitem correlation (0.34) and Cronbach's alpha (0.51) for these three variables.

⁴The allocation of the different items to the personality traits can be found in table 1

⁵Negative Coefficients are caused by reversed variables.

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Conscientiousness For conscientiousness there are four variables. The results are not as clear as for extraversion. There is one stronger correlation between z864 "I like orderliness" and z888 "I deal with tasks thoroughly" (0.34). Next to it there are some minor correlations between z872 "I like taking responsibility" and z888 "I deal with tasks thoroughly" as well as with z867 "I tend to be lazy". An index would only be reasonable for z864 and z888, if at all. The strongest interitem correlation ($b = 0.34$) can be found between these two variables with an alpha of 0.51.⁶

Emotional Stability For this personality trait there are three potential variables. A stronger correlation (coefficient of -0.45) exists between "I get nervous easily" and z874 "I handle stress well". Next to that there is a minor correlation of z894 "I am almost always in a good mood" and z874 "I handle stress well". As previously the usage of an index is debatable. If anything the alpha-test would support an index with z870 and z874 (interitem correlation= 0.45, Cronbach's alpha= 0.62).

Openness and Agreeableness Between the variables for openness to experience as well as for agreeableness there are no correlation coefficients stronger than 0.25 - therefore, it makes no sense to build indexes for both traits. The low interitem correlation and Cronbach's alpha also supports this conclusion. There are some correlations between dimensions. The strongest one is between z886 "I am outgoing and sociable" and z894 "I am almost always in a good mood" (coefficient of 0.4). The item z872 "I like taking responsibility" correlates with z886 "I am outgoing and sociable" and z874 "I handle stress well" (coefficients around 0.3). Next to that there are two minor correlations between z889 "I prefer to stay in the background" and z870 "I get nervous easily" (0.24) as well as between z872 "I like taking responsibility" and z889 "I prefer to stay in the background" (-0.26).

These results suggest that personality indices, as evaluated by correlations and alpha-calculations, are empirically challenged.

⁶This result for Cronbach's alpha seems to be better than the others because alpha increases with the number of items.

Table 7: Correlation Matrix of the Personality Variables

	z877	z881	z885	z864	z867	z888	z872	z865	z886	z889	z893	z890	z892	z894	z874	z870
z877 not change old habitats	1.00															
z881 active imagination	-0.07	1.00														
z885 few artistic interests	0.10	-0.25	1.00													
z864 orderliness	0.16	-0.08	0.01	1.00												
z867 tend to be lazy	0.05	0.15	-0.02	-0.24	1.00											
z888 deal with tasks thoroughly	0.06	-0.04	-0.02	0.34	-0.23	1.00										
z872 taking responsibility	-0.14	0.02	-0.02	0.25	-0.27	0.27	1.00									
z865 not show feelings	0.15	-0.08	0.15	-0.02	0.12	-0.02	-0.11	1.00								
z886 outgoing and sociable	-0.12	0.12	-0.04	0.12	-0.14	0.16	0.30	-0.26	1.00							
z889 stay in the background	0.19	-0.13	0.08	-0.05	0.12	-0.04	-0.26	0.25	-0.40	1.00						
z893 beeing reserved	0.20	-0.07	0.09	0.01	0.13	-0.01	-0.20	0.28	-0.41	0.49	1.00					
z890 find fault with others	0.11	0.16	0.01	-0.02	0.16	-0.06	-0.07	0.10	-0.09	0.04	0.13	1.00				
z892 generally trusting	-0.05	0.01	0.01	0.04	-0.07	0.09	0.14	-0.14	0.17	-0.06	-0.16	-0.19	1.00			
z894 in a good mood	-0.06	0.07	0.03	0.11	-0.15	0.17	0.23	-0.12	0.40	-0.19	-0.24	-0.19	0.25	1.00		
z874 handle stress well	-0.11	0.00	0.06	0.05	-0.09	0.15	0.32	0.02	0.18	-0.17	-0.12	-0.06	0.14	0.29	1.00	
z870 get nervous easily	0.19	0.10	-0.02	0.00	0.20	-0.07	-0.23	0.06	-0.18	0.24	0.24	0.18	-0.10	-0.23	-0.45	1.00

2.3 Standardization

The personality items are all influenced by response bias: in particular the social desirability bias and the acquiescence tendency. There is no common method to filter bias effects out of the calculations. However, in the following section different ways of standardization are presented that could lessen such biases. (Podsakoff et al., 2003; Hällsten, 2011)

Social Desirability Bias "The tendency of respondents to provide socially desirable answers is the most studied form of response bias in the social sciences" (Fisher and Katz, 2000, p.105). There are two ideas how this bias could be lessened.

1. Interpersonal Standardization

The idea is to examine the value of a personality variable in respect of the values of all other personality variables. This calculation leads to percentages from 0 to 100 about the personality distribution. A high value indicates that the person gave more of her/his points to this personality variable compared to the others. Consequently, a personal preference about the personality can be derived here.

$$\textit{interpersonal dependent personality variable} = \frac{\textit{personality variable}}{\textit{sum of all personality variables}}$$

2. Intrapersonal Standardization

Another possibility could be to build an intrapersonal dependent personality variable which removes extreme values. This one is filled with the corresponding percentiles for the individuals' personality variables. According to this method the values between 0 and 1 are dependent on the other observations in the LNU. The percentages indicate how many percent of the other persons have lower values in their personality variable.

$$\textit{intrapersonal dependent personality variable} = \textit{percentile}(\textit{personality variable})$$

2 Personality Traits

Box plots of the normal variables and both standardizations are presented in the Appendix A.1. A direct comparison of the three graphs is not possible since they have different scales.⁷

The Acquiescence Tendency In the working paper *Personality inventory in the 2010 Level of Living Survey (LNU) 2011* Martin Hällsten describes how one could standardize the personality items to lessen the tendency of positive answers. Therefore, he is ipsatizing the variables - which "means that a general acquiescence factor is removed" (Hällsten, 2011, p.3). This factor is measured through a within-respondent average of several item pairs.

In the following analyses none of these standardization methods is going to be used. For further research it is recommended to deepen the theoretical debate here and compare the different proposed methods.

⁷The box plot for the normal personality variable shows the variation of the values the persons gave to their personality. For the interpersonal variables the scale shows percentages on how important this variable was for the individual person compared to the other variables. And the box plot of the intrapersonal standardization indicates the variation of percentiles the persons had compared to the other observations.

3 Personality Traits over the Life Cycle

To analyze personality traits it is important to know if they are constant or change over time. This is connected to the question to what extent personality development is determined by genes. Michelle Jackson sees the same issue in her paper "Personality Traits and Occupational Attainment" (2006). She reports a debate in psychological research literature where it is discussed how much personality characteristics do change over the lifetime. Her result is that childhood personality characteristics do bear some important relation to adult personality characteristics, and changes are small rather than substantial.

Similarly, Robert McCrea and Paul Costa have developed the five-factor theory and analyzed data to answer the question: Are personality traits' roots genetic and fairly stable? In their book "Handbook of Personality: Theory and Research" (1999) they come to the conclusion that "traits develop through childhood and reach mature form in adulthood; thereafter they are stable in cognitively intact individuals" (McCrea and Costa, 1999, p.145). The five-factor theory asserts that "personality traits arise exclusively from biological causes (i.e., genes)" (Srivastava et al., 2003, p.1041) and stop changing around age thirty.

Another group of researchers argues that the social environment also has an important impact on personality traits, and that such traits can vary over the lifetime (Srivastava et al., 2003; Borghans et al., 2008). Sanjay Srivastava, Oliver P. John, Samuel D. Gosling and Jeff Potter (2003) analyze how the mean levels of personality traits (Big Five) differ by age and whether those age effects are moderated by gender. In their analysis conscientiousness and agreeableness increase throughout early and middle adulthood at varying rates. Neuroticism declines among women but does not change among men. Openness increases for women and men up to age of 30 and decreases for older persons. Extraversion decreases significantly from an age of 31 to 60 for women, the increase for men from the age of 31 to 60 was weak and barely significant. (Srivastava et al., 2003)

Lex Borghans, Angela L. Duckworth, James J. Heckmann and Bas ter Weel (2008) "present evidence that both cognitive and personality traits evolve over the life cycle - but to different degrees and at different stages of the life cycle. [...] Some personality traits, as conscientiousness, increase monotonically from childhood to late adulthood" (Borghans et al., 2008, p.976).

The debate is ongoing, but there appears to be evidence of genetic predisposition and environmental influences affecting personality traits. This debate entails further ones, concerning in particular the implementation of the research model under investigation here. If personality is changing over time, it is needed to get information about personality not from childhood but from the same period of time the wage variable was requested. Since occupation can also have an effect here it is important to be aware of the time of collecting the different variables.

3.1 In the Level of Living Survey

Does personality changes over the life cycle? We want to look at this question with the LNU data set. Since we only have cross-sectional data, a test about real changes by age is not possible. However, by comparing persons of different ages we will learn more, but we need to be aware of existing cohort effects. By using a linear regression model with personality trait items, age, highest education⁸ and gender, results in form of regression coefficient plots are presented in the appendix A.2.

For the first regressions we include the ratio scaled age variable (see regression 1a on page 43) and analyze it by gender (see regression 1b on page 46) and by highest education (see regression 1c on page 51). But for all analyses there is no significant or meaningful effect of age on the personality traits.

In a second step we compute the same regressions again with a categorized variable of age (see regression 2a on page 56). This variable is divided into four categories: 19-31, 32-44, 45-59 and 60-74 year olds. All categories have approximately the same number of cases and represent different stages of life. In the regressions the reference is always the youngest category. By this replacement the results change dramatically. There are effects of age on the different personality items which can be partly attributed to gender specific differences (see regression 2b on page 58). In the regressions by education the confidence intervals become conspicuously large (see regression 2c on page 64). That makes a clear statement on effects by education difficult.

Openness to Experience The openness of a person changes over life cycle if we analyze the LNU data. The variable z881 "I have an active imagination" decreases considerably by age with estimated regression coefficients of $b = -0.3$ for the category of the 32-44 year olds, $b = -0.6$ for 45-59 year olds and $b = -0.75$ for the 60-74 year olds. In the regressions by education the low value for the fourth age category is especially affected by a low education (first education category). The same decrease is valid for z877 "I do not like changing old habits", though not as dramatically and only in the middle age categories. Here the coefficient decreases for the 45-59 year olds with $b = -0.15$ and it increases for the 60-74 year olds with $b = 0.1$. Z885 "I have few artistic interest" is only increasing for persons in the age of 32-44 ($b = 0.1$). All of these results do not differ significantly by gender.

⁸The three categories of education are: 1 (reference) = no education, preschool, primary school and vocational gymnasium; 2= theoretical and post-gymnasium; 3= university and postgraduate education)

3 Personality Traits over the Life Cycle

Conscientiousness Furthermore the plots show that the older a person is, the more conscientious she/he is. The variable z867 "I tend to be lazy" gets much smaller from the category 19-31 to older persons with an estimated average regression coefficient of $b = -0.45$ regardless of gender or education. The value of z888 "I deal with tasks thoroughly" grows with each category. On average, especially women over age 45 have more points than younger ones. We can notice the same about z864 "I like orderliness". The coefficient increases for the 60-74 years olds and especially for women. The results for the variable z872 "I like taking responsibility" are of a particular interest. The coefficients for men increase after age 31 with a regression coefficient of $b = 0.2$ and afterwards they stay almost stable. This result is especially valid for higher education (category 2 and 3). For women the variable does not change over age.

Extraversion Most of the variables connected to extraversion decrease by age: z886 "I am outgoing and sociable" has coefficients of $b = -0.2$ for 45-59 years olds and $b = -0.25$ for 60-74 years olds. There are no significant differences of gender or education. The variable z893 "I am reserved" decrease for men with $b = -0.2$ for the categories 32-44 and 45-59. For the highest category the coefficient is zero again. For women there is no significant change at all. The educational categories have no significant effect here. The same can be said about z865 "I do not show feelings to others". This variable decrease for men at an age of 45-59 ($b = -0.3$). There is no significant difference by education. The variable z889 "I prefer to stay in the background" is an interesting variable again: it is increasing by age - for women in the category 60-74 with a coefficient of 0.5 and for men in the same age with 0.2. This suggests that women over 60 would like to stay more in the background than men in the same age. Especially the persons in the education category 1 want to stay in the background. For people with an university degree or an academic career there is no significant effect of age on this personality variable. On average, older people seem to be less outgoing, they show less feelings to others and they prefer to stay more in the background. But at the same time they are a bit less reserved.

Agreeableness The coefficients for the personality trait of agreeableness are increasing by age - for women more than for men. z890 "I tend to find fault with others" is strongly decreasing regardless of gender with coefficients of -0.2 (32-44 year olds), -0.4 (45-59 year olds) and -0.5 (60-74 years olds). The graphs about the education categories show that this effect of age is especially strong for the category of theoretical gymnasium and postgymnasium. The variable z892 "I am generally trusting" is increasing for women over the age of 60 ($b = 0.3$). For men and all the educational categories there are no significant changes.

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Emotional Stability The question if emotional stability is changing by age cannot be answered in general. The variable z874 "I handle stress well" has in general no significant differences by age. The only significant change can be noticed for men over the age of 60. Compared to younger men they declare less often to handle stress well ($b = -0.2$). In contrast to this, the variable z870 "I get nervous easily" is decreasing for persons over the age of 31. This effect of age is stronger for women ($b = -0.6$ for age-category 60-74) than for men ($b = -0.4$ in the same category). And these changes even differ between the education categories. The coefficients for persons with a university degree (category 3) decreases significantly with an age over 45. For the other categories it is already with an age over 31. The third variable which is connected to the personality trait emotional stability z894 "I am almost always in a good mood" changes by age as well. The coefficients decrease for persons older than 31 ($b = -0.2$) - stronger for men ($b = -0.2$) than for women ($b = -0.15$). Here can be discovered the same phenomena again that the coefficients for persons with an university degree decrease first at the age of over 45 years.

In summary, the personality traits in the LNU data set change significantly by age - even if the people are older than 30. And partly, there are different variations depending on the variables gender and highest education.

4 Gender specific Differences in Personality

Are there gender specific differences in the distribution of personality traits? The studies from Semykina and Linz 2005 about Russian employees confirms this question by focusing on the personality traits locus of control and challenge-affiliation. Furthermore, Schmitt et al. 2008 compares the gender differences in the Big Five traits from 55 countries and comes to the same result. Since there were no studies on Sweden, the question rises: Are there also differences of the Big Five personality traits by gender in Sweden using the LNU dataset?

By using Wilcoxon-Mann-Whitney tests⁹ this question can be answered.

Table 8 shows that there are some variables with no significant difference between the mean of females and males: z881 "I have an active imagination" ($z = -0.4$), z888 "I deal with tasks thoroughly" ($z = -1.1$), z889 "I prefer to stay in the background" ($z = 0.3$), z892 "I am generally trusting" ($z = -0.4$) and z873 "It does not pay to plan for the future" ($z = -0.5$). But next to these variables there are differences in personality by gender: Men have less artistic interests ($z_{z885} = 8.2$) and they like it less to change old habits than women ($z_{z877} = 3.5$). On average, women more often like orderliness ($z_{z864} = -6.2$), taking responsibility ($z_{z872} = 3.8$) and they feel less lazy ($z_{z867} = 3.5$). In the personality trait of extraversion men are less outgoing and sociable ($z_{z886} = -6.2$) and more reserved ($z_{z893} = 3.3$) than women. We find a large difference by gender for the variable z865. The value $z = 10.5$ shows that men show less feelings to others than women. Concerning agreeableness, men tend to find more often faults with others than women ($z_{z890} = 5.9$). Furthermore, men seem to be more emotionally stable since they handle stress better ($z_{z874} = 8.9$) and they get less often nervous than women ($z_{z870} = -8.8$). In contrast women are more often in a good mood ($z_{z894} = -4.7$).

Next to the Big Five traits some other personality items are checked for gender differences as well. The results show that most of them differ by gender: Men feel more often as a risk taker ($z_{z876} = 8.8$) and a natural leader ($z_{z891} = 5.3$). They think more often that success is a result of hard work rather than luck ($z_{z880} = 2.2$) and that anything that happens to them is their own doing ($z_{z883} = 3.4$). In contrast, women are much more likely to think about how others have it than of themselves ($z_{z868} = -11.3$).

⁹The Wilcoxon-Mann-Whitney test is a non-parametric analog to the independent samples t-test. It can be used when it is assumed that the dependent variable is not a normally distributed interval variable but at least ordinal.

4 Gender specific Differences in Personality

In summary, it can be said that there are gender specific differences in personality traits: Women are more often open to experience, extroverted and conscientious than men. In contrast, men are on average more often emotionally stable and feel as risk takers and natural leaders. These discoveries will be relevant for further made analyses on wage and the occupational choice, but also to several other research questions.

Table 8: Gender Differences in Personality

	z-Value	Mean Men	Mean Women
Openness to Experience			
z881 "I have an active imagination"	-0.4	3.26 (1.06)	3.25 (1.15)
z885 "I have few artistic interests"	8.2***	3.00 (1.39)	2.64 (1.38)
z877 "I do not like changing old habitats"	3.5***	3.03 (1.05)	2.92 (1.08)
Conscientiousness			
z864 "I like orderliness"	-6.2***	4.23 (0.71)	4.36 (0.69)
z888 "I deal with tasks thoroughly"	-1.1	4.01 (0.74)	4.03 (0.74)
z867 "I tend to be lazy"	3.5***	2.31 (1.03)	2.19 (1.03)
z872 "I like taking responsibility"	-3.8***	3.97 (0.84)	4.06 (0.83)
Extraversion			
z886 "I am outgoing and sociable"	-6.2***	3.86 (0.91)	4.03 (0.87)
z889 "I prefer to stay in the background"	0.3	2.80 (1.03)	2.80 (1.08)
z893 "I am reserved"	3.3***	2.77 (1.02)	2.67 (1.08)
z865 "I do not show feelings to others"	10.5***	2.82 (1.09)	2.45 (1.13)
Agreeableness			
z890 "I tend to find fault with others"	5.9***	2.62 (0.98)	2.43 (0.97)
z892 "I am generally trusting"	-0.4	3.77 (0.80)	3.77 (0.86)
Emotional Stability			
z874 "I handle stress well"	8.9***	3.74 (0.87)	3.46 (1.00)
z870 "I get nervous easily"	-8.8***	2.40 (1.03)	2.73 (1.14)
z894 "I am almost always in a good mood"	-4.7***	3.87 (0.76)	3.97 (0.80)
Other Items			
z876 "I am a risk taker"	8.8***	2.81 (1.01)	2.52 (1.04)
z873 "It does not pay to plan for the future"	-0.5	2.22 (1.12)	2.24 (1.13)
z880 "Success is a result of hard work rather than luck"	2.2**	3.93 (0.74)	3.87 (0.80)
z883 "What happens to me is my own doing"	3.4***	3.82 (0.77)	3.72 (0.84)
z891 "I am a natural leader"	5.3***	3.18 (1.01)	2.98 (1.11)
z868 "I often think more about how others have it than of myself"	-11.3***	3.24 (0.94)	3.57 (0.97)

Standard deviations in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

5.1 The Effect of Personality on Wage

Do personality traits affect the labor market outcome? This main research question is analyzed through several OLS and simultaneous quantile regressions¹⁰. The labor market outcome is measured as the natural logarithm of the gross hourly wage. All regressions are controlled for years of education, work experience and the squared variable of work experience.¹¹

In table 9 on page 25 the results of a linear regression indicate that wage is affected through several personality trait items. Moreover, these effects differ between women and men. The variables z894 'I am almost always in a good mood' ($b = -0.048$) and z872 'I like taking responsibility' ($b = 0.062$) have the strongest effects on wage. For men the variable of responsibility is most important with a coefficient of $b = 0.095$, in contrast to women, who have a much lower coefficient ($b = 0.049$). The same phenomena is true for the good mood variable. The effect is negative for both but stronger for men ($b = -0.047$) than for women ($b = -0.028$).

These results can be analyzed in more detail through a simultaneous linear quantile regression. Table 10 on page 26 shows the effect of the personality traits on several percentiles of wage. Again the effects of the variables z872 'I like taking responsibility' and z894 'I am almost always in a good mood' are noticeable. It seems to be especially important for wages to take responsibility in the higher or very high wage groups ($b_{q75} = 0.071$, $b_{q90} = 0.0824$, $b_{q95} = 0.110$). In the highest wage group the effect for men is stronger with $b_{q95} = 0.187$ while for women taking responsibility is less important for the same wage group ($b_{q95} = 0.073$). To be in a good mood has also a negative effect on wage in the higher wage groups ($b_{q75} = -0.078$, $b_{q90} = -0.097$, $b_{q95} = -0.084$). Again this effect is especially important for men ($b_{q90} = -0.082$). For women the coefficient is much smaller ($b_{q90} = -0.034$).

In the following each personality trait will be discussed in detail using the findings in tables 9, 10, 11 and 12.

Openness to Experience The personality trait openness to experience affects the wage slightly negatively regardless of gender. The artistic interest of a person (z885) has a very weak but significantly negative effect on wage independent of gender. It gets slightly stronger for the ninety-fifth percentile with $b_{q95} = 0.046$. Persons who

¹⁰A simultaneous quantile regression examines how the relation of the dependent and the independent variable changes depending on the score of the dependent variable measured in quantiles / percentiles.

¹¹The complete results of table 10 can be found in the appendix A.3 on page 69.

5 Personality Traits and the Labor Market Outcome

do not like changing old habits have also a lower wage than others ($b_{z877} = -0.019$). For women the effect increases the higher their wage is ($b_{q90} = -0.05$, $b_{q95} = -0.074$). The third variable z881 'I have an active imagination' has a slightly negative effect for both female and male too ($b = -0.026$) - especially in the lower and middle wage group (q10 to q75).

Conscientiousness Apart from variable z872 'I like taking responsibility' which is already discussed above, there are few significant results for the personality trait conscientiousness. Women who tend to be lazy (z867) and are in the ninetieth percentile of wage earn slightly less ($b_{q90} = -0.032$). The same is true for women who deal with tasks thoroughly (z888) and are in seventy-fifth percentile ($b_{q75} = -0.037$). The coefficient for z864 'I like orderliness' in the highest wage group is negative for women ($b_{q95} = -0.057$) and men ($b_{q95} = -0.072$).

Extraversion The extraversion of a person has a mixed effect on wage - dependent on the different variables. On the one hand a man who is outgoing and sociable (z886) and has an average wage earns less than reserved men ($b_{q50} = -0.026$). On the other hand reserved men (z893) earn less than outgoing ones when they are in the low wage categories ($b_{q10} = -0.036$, $b_{q25} = -0.031$). High-earning women who prefer to stay in the background (z889) have also a lower wage than outgoing ones ($b_{q90} = -0.053$, $b_{q95} = -0.067$).

Agreeableness The coefficients for the personality trait agreeableness provide only marginal information about the effect on wage. Women who find fault with others (z890) and have a high wage earn more money than women who less often find fault with others ($b_{q75} = 0.039$, $b_{q90} = 0.037$, $b_{q95} = 0.047$). The results of the other variable (z892) are not significant.

Emotional Stability There are few significant results connected to the personality trait emotional stability - apart from the already discussed variable z894 'I am almost always in a good mood'. Persons who handle stress well (z874) and are in the highest wage category earn a bit more than persons who don't handle stress well ($b_{q95} = 0.039$).

The results show that personality traits affect wage and these effects depend on gender and the level of wage. Therefore, the importance of personality traits in this context should not be underestimated. However, it is still unexplained how these findings affect gender differences in wage. This is discussed in chapter 5.2.

5 Personality Traits and the Labor Market Outcome

Table 9: Linear regression of wage by gender - significant results in bold

	all gender	men	women
z615 'work experience'	0.012*** (0.002)	0.018*** (0.003)	0.007*** (0.002)
z615_sqr 'squared work experience'	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
z342 'years of education'	0.037*** (0.002)	0.042*** (0.003)	0.033*** (0.003)
z885 'few artistic interests'	0.019*** (0.005)	0.013 (0.008)	0.010* (0.006)
z877 'not changing old habits'	-0.019*** (0.007)	-0.030*** (0.011)	-0.022*** (0.008)
z881 'active imagination'	-0.026*** (0.007)	-0.034*** (0.011)	-0.027*** (0.008)
z867 'tend to be lazy'	-0.010 (0.007)	-0.010 (0.011)	-0.015* (0.009)
z888 'deal with tasks thoroughly'	-0.015 (0.010)	-0.008 (0.015)	-0.029** (0.012)
z872 'taking responsibility'	0.062*** (0.009)	0.095*** (0.014)	0.049*** (0.011)
z864 'like orderliness'	-0.013 (0.011)	-0.019 (0.016)	0.018 (0.013)
z886 'outgoing and sociable'	-0.027*** (0.010)	-0.026* (0.014)	-0.019 (0.012)
z893 'reserved'	-0.013 (0.008)	-0.024* (0.012)	-0.006 (0.010)
z889 'prefer to stay in background'	-0.019** (0.008)	-0.015 (0.013)	-0.012 (0.009)
z865 'not show feelings to others'	0.002 (0.007)	-0.015 (0.010)	-0.005 (0.008)
z890 'find fault with others'	0.022*** (0.008)	0.010 (0.012)	0.023*** (0.009)
z892 'generally trusting'	0.014 (0.009)	0.008 (0.014)	0.014 (0.011)
z870 'get nervous easily'	-0.012 (0.008)	-0.008 (0.012)	0.005 (0.009)
z874 'handle stress well'	0.019** (0.009)	-0.010 (0.014)	0.014 (0.009)
z894 'almost always in a good mood'	-0.048*** (0.011)	-0.047*** (0.016)	-0.028** (0.012)
Constant	4.672*** (0.105)	4.792*** (0.162)	4.546*** (0.119)
Observations	2,163	1,110	1,053
R-squared	0.197	0.238	0.213

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

Table 10: Simultaneous linear quantile Regression of Wage - significant results in bold

	q10	q25	q50	q75	q90	q95
z615	0.011*** (0.002)	0.012*** (0.002)	0.008*** (0.001)	0.011*** (0.002)	0.014*** (0.003)	0.015*** (0.004)
z615_sqr	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
z342	0.023*** (0.002)	0.024*** (0.002)	0.035*** (0.003)	0.043*** (0.004)	0.047*** (0.004)	0.059*** (0.007)
z885	0.013*** (0.004)	0.009** (0.004)	0.015*** (0.005)	0.020*** (0.006)	0.012 (0.011)	0.046*** (0.016)
z877	-0.003 (0.005)	-0.013*** (0.005)	-0.014** (0.006)	-0.023** (0.010)	-0.032** (0.016)	-0.027 (0.023)
z881	-0.022*** (0.009)	-0.018** (0.009)	-0.022** (0.010)	-0.020** (0.009)	-0.035** (0.015)	-0.024 (0.023)
z867	0.003 (0.012)	-0.004 (0.006)	-0.014** (0.005)	-0.022** (0.009)	-0.019 (0.016)	-0.012 (0.023)
z888	-0.001 (0.012)	0.005 (0.010)	-0.006 (0.011)	-0.022 (0.016)	-0.017 (0.029)	-0.003 (0.022)
z872	0.022** (0.009)	0.025*** (0.009)	0.038*** (0.009)	0.071*** (0.011)	0.082*** (0.016)	0.110*** (0.024)
z864	0.003 (0.012)	0.011 (0.010)	0.001 (0.012)	0.008 (0.010)	-0.046 (0.039)	-0.070** (0.029)
z886	-0.016 (0.012)	-0.010 (0.009)	-0.024** (0.010)	-0.032*** (0.011)	-0.026* (0.014)	-0.014 (0.018)
z893	-0.013* (0.007)	-0.009 (0.010)	-0.022** (0.010)	-0.017 (0.014)	-0.006 (0.020)	-0.002 (0.019)
z889	-0.006 (0.010)	0.001 (0.006)	-0.005 (0.007)	-0.023** (0.011)	-0.050*** (0.017)	-0.035* (0.021)
z865	0.001 (0.005)	0.006 (0.006)	0.011 (0.008)	0.008 (0.010)	-0.008 (0.018)	-0.025 (0.019)
z890	0.009* (0.006)	0.015*** (0.006)	0.020*** (0.006)	0.025** (0.011)	0.027** (0.012)	0.022 (0.018)
z892	0.008 (0.010)	0.021*** (0.007)	0.011 (0.012)	0.015 (0.011)	0.039 (0.026)	0.021 (0.027)
z870	-0.006 (0.007)	-0.009 (0.007)	-0.008 (0.009)	-0.020* (0.011)	-0.024 (0.016)	-0.014 (0.016)
z874	0.008 (0.008)	0.008 (0.011)	0.019** (0.008)	0.011 (0.017)	0.025 (0.021)	0.039** (0.016)
z894	-0.016 (0.015)	-0.038*** (0.013)	-0.043*** (0.011)	-0.078*** (0.011)	-0.097*** (0.021)	-0.084*** (0.027)
Constant	4.414*** (0.096)	4.422*** (0.087)	4.623*** (0.083)	4.846*** (0.120)	5.284*** (0.238)	4.907*** (0.260)
Observations	2,163	2,163	2,163	2,163	2,163	2,163

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

Table 11: Simultaneous-Quantile Regression of Wage for **Men** - Significant Results in bold

	q10	q25	q50	q75	q90	q95
z615	0.015*** (0.004)	0.014*** (0.003)	0.017*** (0.003)	0.017*** (0.004)	0.022*** (0.007)	0.021*** (0.007)
z615_sqr	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
z342	0.022*** (0.006)	0.030*** (0.006)	0.044*** (0.006)	0.048*** (0.009)	0.055*** (0.009)	0.069*** (0.013)
z885	0.006 (0.011)	0.010 (0.009)	0.003 (0.009)	0.001 (0.014)	0.016 (0.018)	0.042* (0.024)
z877	-0.023 (0.015)	-0.015 (0.012)	-0.028* (0.015)	-0.030 (0.019)	-0.030 (0.025)	-0.019 (0.023)
z881	-0.015 (0.014)	-0.021* (0.013)	-0.039*** (0.011)	-0.042** (0.020)	-0.041** (0.019)	-0.020 (0.029)
z867	-0.004 (0.016)	-0.016* (0.009)	-0.010 (0.013)	-0.028 (0.019)	-0.006 (0.029)	-0.011 (0.027)
z888	0.009 (0.014)	-0.006 (0.014)	-0.011 (0.019)	-0.019 (0.029)	0.004 (0.017)	0.001 (0.030)
z872	0.026* (0.014)	0.044*** (0.017)	0.085*** (0.014)	0.103*** (0.014)	0.155*** (0.017)	0.187*** (0.037)
z864	0.004 (0.023)	0.010 (0.020)	0.005 (0.020)	0.007 (0.027)	-0.067* (0.034)	-0.072*** (0.027)
z886	-0.014 (0.013)	-0.011 (0.009)	-0.026** (0.013)	-0.022 (0.018)	-0.011 (0.019)	-0.028 (0.038)
z893	-0.036** (0.018)	-0.031** (0.012)	-0.024* (0.014)	-0.021 (0.015)	-0.006 (0.021)	0.004 (0.039)
z889	0.014 (0.017)	0.009 (0.011)	0.002 (0.015)	-0.026 (0.017)	-0.021 (0.020)	-0.058 (0.039)
z865	0.007 (0.010)	-0.000 (0.011)	-0.014 (0.010)	-0.008 (0.017)	-0.018 (0.019)	-0.030 (0.031)
z890	0.014 (0.014)	-0.008 (0.013)	0.006 (0.014)	0.016 (0.021)	0.012 (0.027)	-0.008 (0.038)
z892	0.006 (0.011)	0.008 (0.011)	0.003 (0.011)	0.019 (0.022)	0.047 (0.031)	-0.025 (0.042)
z870	-0.015 (0.014)	-0.010 (0.014)	-0.009 (0.011)	-0.001 (0.016)	-0.004 (0.016)	0.007 (0.022)
z874	-0.006 (0.018)	-0.020 (0.019)	-0.010 (0.021)	-0.003 (0.017)	-0.005 (0.028)	0.032 (0.041)
z894	-0.038** (0.017)	-0.038** (0.018)	-0.043*** (0.015)	-0.061** (0.029)	-0.082* (0.043)	-0.066 (0.052)
Constant	4.565*** (0.216)	4.683*** (0.168)	4.721*** (0.232)	4.841*** (0.314)	4.788*** (0.393)	4.756*** (0.462)
Observations	1,110	1,110	1,110	1,110	1,110	1,110

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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Table 12: Simultaneous-Quantile Regression of Wage for **Women** - Significant Results in bold

	q10	q25	q50	q75	q90	q95
z615	0.010*** (0.002)	0.011*** (0.003)	0.007*** (0.002)	0.005 (0.003)	0.002 (0.004)	0.008* (0.004)
z615_sqr	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000* (0.000)
z342	0.023*** (0.003)	0.024*** (0.003)	0.028*** (0.003)	0.036*** (0.006)	0.037*** (0.007)	0.047*** (0.006)
z885	0.010** (0.005)	0.003 (0.006)	0.002 (0.006)	0.004 (0.007)	0.015 (0.011)	0.030** (0.015)
z877	0.001 (0.010)	-0.004 (0.006)	-0.025*** (0.007)	-0.031* (0.018)	-0.050** (0.020)	-0.074*** (0.021)
z881	-0.028*** (0.008)	-0.019** (0.008)	-0.030*** (0.010)	-0.026** (0.010)	-0.015 (0.011)	-0.028 (0.018)
z867	0.003 (0.014)	-0.004 (0.007)	-0.007 (0.006)	-0.012 (0.011)	-0.032** (0.014)	-0.026 (0.021)
z888	-0.010 (0.013)	-0.000 (0.012)	-0.010 (0.016)	-0.037** (0.018)	-0.043 (0.029)	-0.048 (0.050)
z872	0.027** (0.011)	0.032*** (0.011)	0.038*** (0.010)	0.050*** (0.016)	0.056** (0.025)	0.073*** (0.027)
z864	0.003 (0.013)	0.003 (0.011)	0.021** (0.010)	0.027* (0.016)	0.056* (0.031)	0.057** (0.027)
z886	-0.004 (0.011)	-0.007 (0.018)	-0.021 (0.016)	-0.013 (0.025)	-0.012 (0.029)	-0.046 (0.028)
z893	-0.008 (0.010)	-0.009 (0.009)	-0.022* (0.012)	-0.015 (0.014)	0.016 (0.015)	0.001 (0.026)
z889	-0.004 (0.008)	-0.001 (0.008)	-0.002 (0.009)	-0.008 (0.012)	-0.053*** (0.018)	-0.067** (0.032)
z865	-0.005 (0.008)	0.008 (0.009)	0.002 (0.008)	0.000 (0.011)	-0.020 (0.014)	-0.025* (0.013)
z890	0.010 (0.006)	0.009 (0.007)	0.026** (0.011)	0.039** (0.015)	0.037*** (0.014)	0.047*** (0.014)
z892	0.011 (0.012)	0.018 (0.012)	0.020 (0.013)	0.007 (0.020)	-0.001 (0.032)	0.007 (0.035)
z870	0.004 (0.009)	0.009 (0.009)	0.007 (0.008)	0.009 (0.012)	0.013 (0.024)	0.021 (0.025)
z874	0.005 (0.010)	0.011 (0.011)	0.009 (0.012)	0.027 (0.018)	0.011 (0.023)	0.029 (0.027)
z894	-0.009 (0.012)	-0.025 (0.015)	-0.028** (0.014)	-0.042** (0.021)	-0.034* (0.020)	-0.043** (0.020)
Constant	4.316*** (0.118)	4.322*** (0.146)	4.549*** (0.121)	4.636*** (0.185)	4.865*** (0.186)	4.940*** (0.239)
Observations	1,053	1,053	1,053	1,053	1,053	1,053

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2 The Gender Wage Gap

Do personality traits contribute towards a better understanding of the reasons for the gender wage gap? The gender wage gap is a repeatedly proven fact in social research and there are many studies about its origin. As shown in chapter 4 there are differences of personality traits by gender. If these traits effect the wage as well, as it can be assumed with the previous analyses, that could open a new perspective on the whole gender wage gap debate. There are already researches about possible connections in data from Russia and the Netherlands. They confirm that around 11 to 12 percent of the observed gender wage gap can be ascribed to differences in personality trait scores (Nyhus and Pons, 2012; Semykina and Linz, 2005). But are these results also transferable to Sweden? And how do the effects differ within the salary range?

With OLS and simultaneous quantile regressions by gender we are going to test if the inclusion of personality traits in the model reduces gender differences in labor market outcome for Swedish data.¹²

Table 13 (page 30) shows two linear regression models. Model 1 analyzes the effect of gender on wage and model 2 includes the personality trait variables to the regression for a comparison. Next to the personality items we include interaction terms for gender and personality items which differ by gender.¹³ As in previous analyses we use work experience (z615), squared work experience (z615_sqr) and years of education (z342) as control variables. It must be said, that for sure not all variables that could play a role, are included in these models. Therefore, the aim is not to show the size of the gender wage gap but to analyze the change which takes place when including the personality traits. More detailed information is shown by the tables 14 and 15 on page 31 and 33 with the results of the corresponding simultaneous quantile regressions.

As assumed, Model 1 shows that to be a women has a negative effect on wage ($b = -0.154$). In table 14 the coefficient for gender increases for the higher wage groups ($b_{q90} = -0.244$, $b_{q95} = -0.272$). The difference of the linear and the simultaneous quantile regression coefficients of gender are shown in the graphs 3 on page 34.¹⁴ Especially the graph for model 1 emphasizes the need to consider the percentiles of wage separately since there are significant differences. The conclusion one can draw for model 1 is that the higher the wage, the larger is the wage difference of women and men.

¹²The complete tables of the simultaneous quantile regression are in the appendix A.3 on page 69.

¹³More information on these interactions are given in chapter 4.

¹⁴The black line shows the value of the linear coefficient and the dark gray one the values of the simultaneous quantile regressions' coefficients. The gray area represents the simultaneous quantile regression's confidence interval and the dotted line the one from the OLS regression.

5 Personality Traits and the Labor Market Outcome

Table 13: Linear Regression of Wage, Gender and Personality - Significant Results

	Model 1	Model 2
women	-0.154*** (0.013)	-0.612*** (0.170)
z615 'work experience'	0.013*** (0.002)	0.013*** (0.002)
z615_sqr 'squared work experience'	-0.000*** (0.000)	-0.000*** (0.000)
z342 'years of education'	0.031*** (0.002)	0.037*** (0.002)
z877 'not changing old habits'		-0.027*** (0.009)
z881 'active imagination'		-0.030*** (0.007)
z888 'deal with tasks thoroughly'		-0.019* (0.010)
z872 'taking responsibility'		0.096*** (0.012)
z886 'outgoing and sociable'		-0.031** (0.012)
z893 'reserved'		-0.024** (0.011)
z889 'prefer to stay in background'		-0.014* (0.008)
z865 'not show feelings to others'		-0.017* (0.009)
z894 'almost always in a good mood'		-0.053*** (0.014)
woxz872 'interaction effect women x z872'		-0.051*** (0.019)
Constant	4.619*** (0.029)	4.966*** (0.130)
Observations	2,580	2,114
R-squared	0.155	0.263

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

Figure 2: Predicted Values for Wage by Gender (based on table 13)

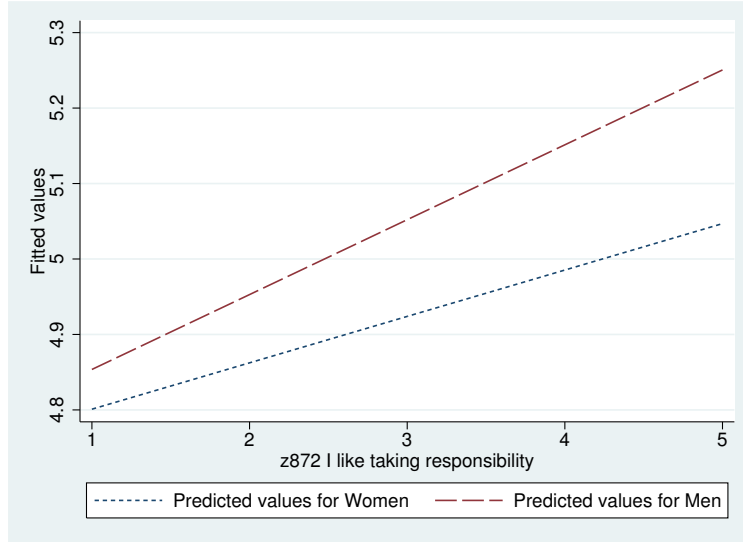


Table 14: Simultaneous Quantile Regression of Model 1

	q10	q25	q50	q75	q90	q95
women	-0.059*** (0.011)	-0.106*** (0.009)	-0.147*** (0.011)	-0.210*** (0.013)	-0.244*** (0.020)	-0.272*** (0.031)
z615	0.014*** (0.001)	0.013*** (0.001)	0.013*** (0.001)	0.012*** (0.002)	0.005 (0.003)	0.009* (0.005)
z615_sqr	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000* (0.000)
z342	0.019*** (0.005)	0.026*** (0.003)	0.035*** (0.002)	0.046*** (0.003)	0.057*** (0.003)	0.058*** (0.003)
Constant	4.424*** (0.063)	4.461*** (0.042)	4.505*** (0.033)	4.607*** (0.046)	4.739*** (0.051)	4.861*** (0.056)
Observations	2,580	2,580	2,580	2,580	2,580	2,580

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

By including the personality traits in the model the effect of gender on wage becomes stronger ($b = -0.612$) - especially for the higher wage groups. This can be attributed to the interaction effects which change the way the gender coefficient has to be interpreted. The gender wage gap depends now on the personality trait one is analyzing. This change of interpretation is visualized in the graph 2 (page 31). Here the different average wages for women and men are described dependent on their personality scores for z872 'I like taking responsibility'. Table 15 on page 33 shows the results of the simultaneous quantile regression. For the ninetieth percentile there is a huge gender difference with a coefficient of $b_{q90} = -0.934$ and for the ninety-fifth $b_{q95} = -0.981$ - even though the latter one is hardly significant. This result is highly visible in the quantile regression graph 3 (page 34).¹⁵ As seen above in the section 5.1 the variables z872 'I like taking responsibility' and z894 'I am almost always in a good mood' have the strongest effect on wage - especially in the higher wage groups. Furthermore, one should mention the interaction term for z872 and gender. This one is with a coefficient of $b = -0.051$ the only significant interaction. According to this finding, the wage difference between the wage of men and women increases with the will to take responsibility.

Quite conclusive is the R^2 -value for both models as shown in table 13. Through model 1 15.5 percent of the variance of wage can be explained. In model 2 this value is more than ten percent points bigger ($R^2 = 0.263$). These results are similar to those of previous studies. Consequently, it can be assumed that personality traits have a great importance for the analysis of wage. And this is especially valid for higher wage groups. Consequently personality traits should not be disregarded in the wage and gender wage gap research.

¹⁵Please recognize the different scales when comparing the graphs in figure 3 on page 34.

5 Personality Traits and the Labor Market Outcome

Table 15: Simultaneous Quantile Regression of Model 2 - Selected Results

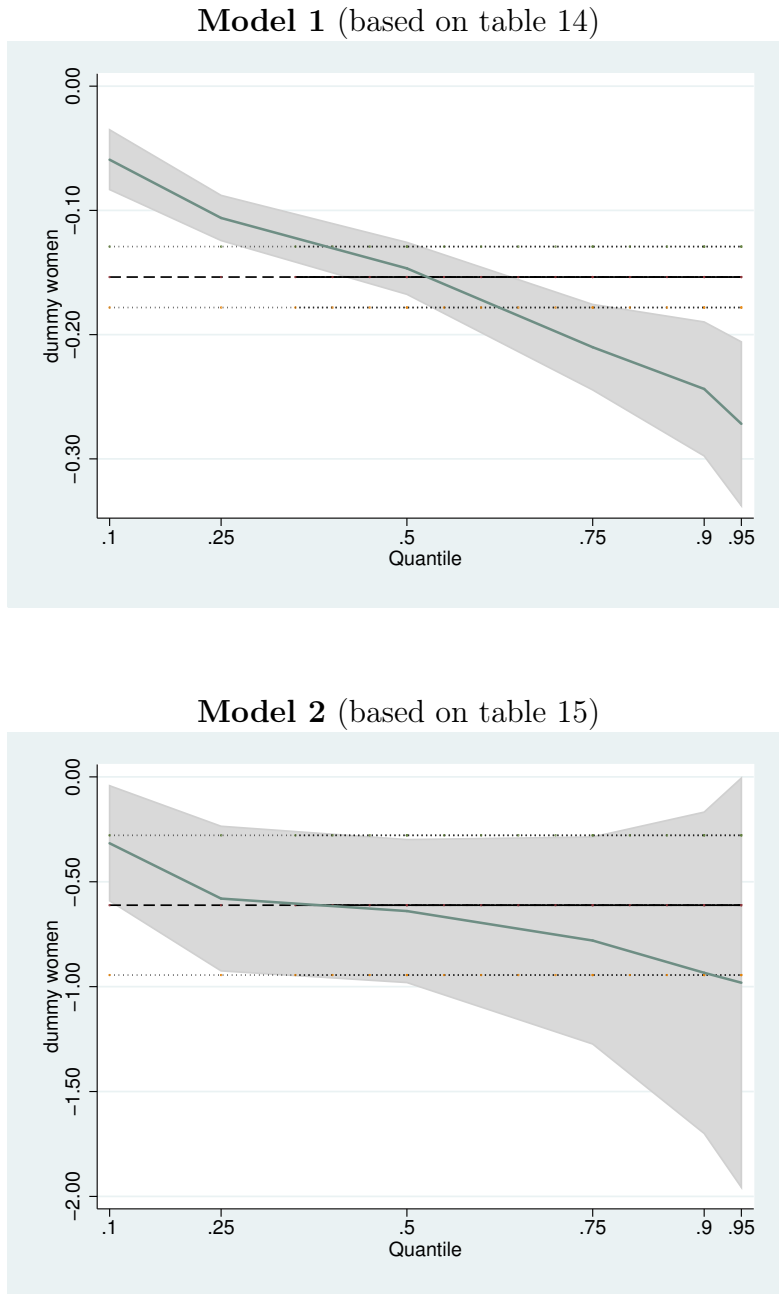
	q10	q25	q50	q75	q90	q95
women	-0.316*	-0.580***	-0.640***	-0.780***	-0.934***	-0.981*
	(0.192)	(0.143)	(0.169)	(0.246)	(0.312)	(0.520)
z615	0.012***	0.012***	0.011***	0.011***	0.012***	0.014***
	(0.002)	(0.002)	(0.002)	(0.003)	(0.004)	(0.005)
z615_sqr	-0.000***	-0.000***	-0.000***	-0.000***	-0.000**	-0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
z342	0.021***	0.027***	0.034***	0.042***	0.046***	0.058***
	(0.003)	(0.003)	(0.003)	(0.004)	(0.005)	(0.008)
z877	-0.014	-0.013	-0.022	-0.027*	-0.024	-0.004
	(0.012)	(0.011)	(0.016)	(0.016)	(0.023)	(0.025)
z881	-0.024***	-0.019***	-0.032***	-0.040***	-0.037***	-0.032
	(0.007)	(0.005)	(0.008)	(0.011)	(0.014)	(0.019)
z867	0.002	-0.015	-0.015	-0.027**	-0.012	-0.030
	(0.017)	(0.010)	(0.010)	(0.013)	(0.030)	(0.034)
z888	0.003	-0.003	-0.012	-0.036*	-0.017	-0.053**
	(0.014)	(0.012)	(0.012)	(0.019)	(0.018)	(0.027)
z872	0.028	0.037***	0.083***	0.109***	0.151***	0.182***
	(0.024)	(0.014)	(0.020)	(0.016)	(0.025)	(0.029)
z864	0.011	0.013	0.002	0.019	-0.077*	-0.082**
	(0.022)	(0.021)	(0.019)	(0.023)	(0.040)	(0.036)
z886	-0.024	-0.023*	-0.031**	-0.023*	-0.012	-0.030
	(0.022)	(0.012)	(0.014)	(0.013)	(0.023)	(0.026)
z893	-0.026*	-0.026**	-0.026*	-0.028*	-0.001	0.010
	(0.014)	(0.013)	(0.014)	(0.016)	(0.023)	(0.035)
z889	-0.004	0.003	-0.004	-0.020*	-0.034**	-0.064***
	(0.006)	(0.005)	(0.007)	(0.012)	(0.017)	(0.018)
z870	-0.020*	-0.013	-0.010	-0.012	-0.012	-0.007
	(0.011)	(0.012)	(0.013)	(0.017)	(0.022)	(0.027)
z894	-0.026	-0.033**	-0.064***	-0.078***	-0.102***	-0.093**
	(0.025)	(0.016)	(0.018)	(0.018)	(0.036)	(0.042)
woxz872	-0.003	-0.001	-0.034	-0.084***	-0.099**	-0.122***
Constant	4.637***	4.788***	4.997***	5.103***	5.298***	5.385***
	(0.128)	(0.154)	(0.135)	(0.184)	(0.406)	(0.539)
Observations	2,114	2,114	2,114	2,114	2,114	2,114

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5 Personality Traits and the Labor Market Outcome

Figure 3: Gender Coefficients of the Simultaneous Quantile Regressions



6 **Concluding Summary**

For a long time personality was an overlooked factor in research on the individual's allocation on the labor market. However, recent studies find that next to the educational attainment, socioeconomic background, age and gender, personality has an effect on wage as well. But analyses of Swedish data and with a detailed view on the wage distribution are still missing. As part of the project 'Stratification processes in the labor market' this report provides information about the personality inventory in the 2010 Level of Living Survey (LNU). Using the Big Five model the results suggest that there is a change of personality over the life cycle which depends on gender and education. Furthermore, there are differences in personality traits by gender. As a next step we analyze the effect of personality on wage by gender. We find that around 10 percent of the variance of wage can be explained through the inclusion of personality. Especially the items about being in a good mood and taking responsibility are paramount. However, the gender wage gap is not explained by personality.

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A Appendix

A.1 Standardized Personality Items

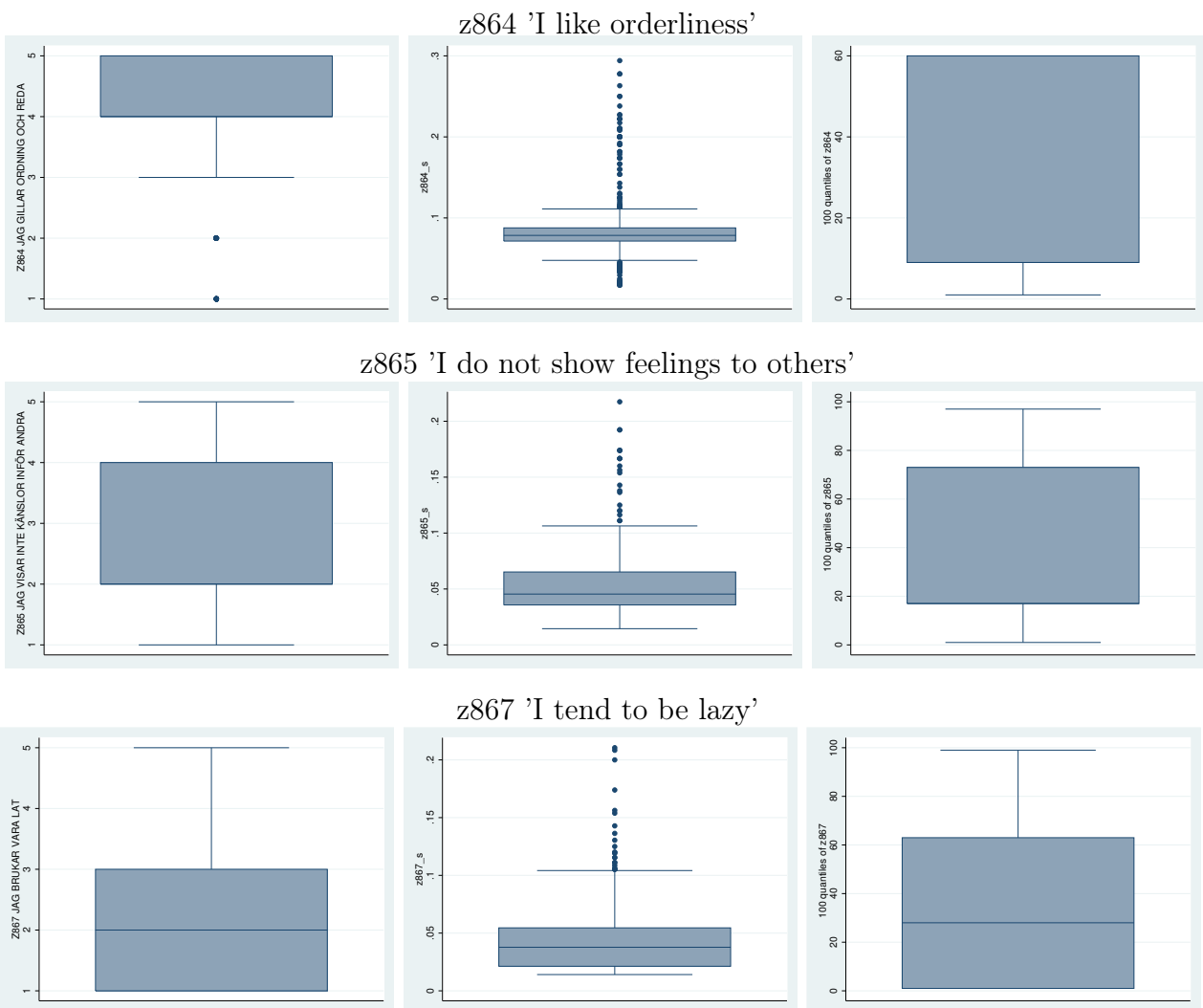
The following graphs show box plots for the normal personality variables and two standardized versions. In one row is always presented the same variable.

A box plot describes the variation of numerical data through their quartiles. It consists a box and two whiskers. The ends of the box represent the quartiles and the line inside the box the median. The two whiskers indicate the variability outside the quartiles. If there exist outliers they are shown as individual points.

Personality Variables

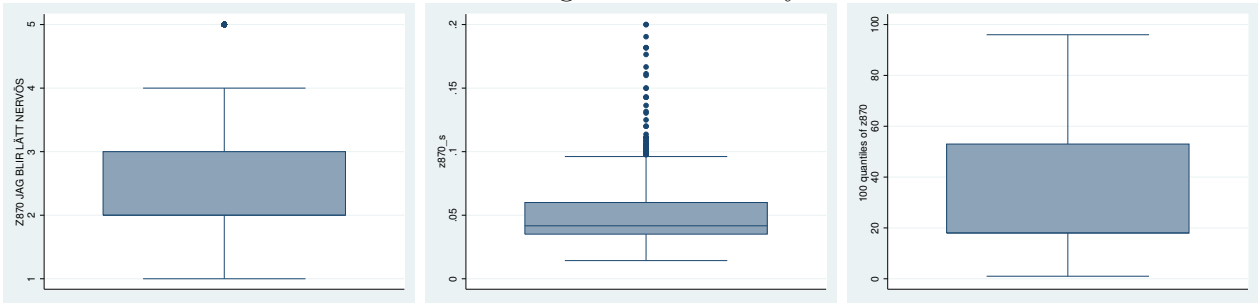
Interpersonal Variables

Intrapersonal Variables

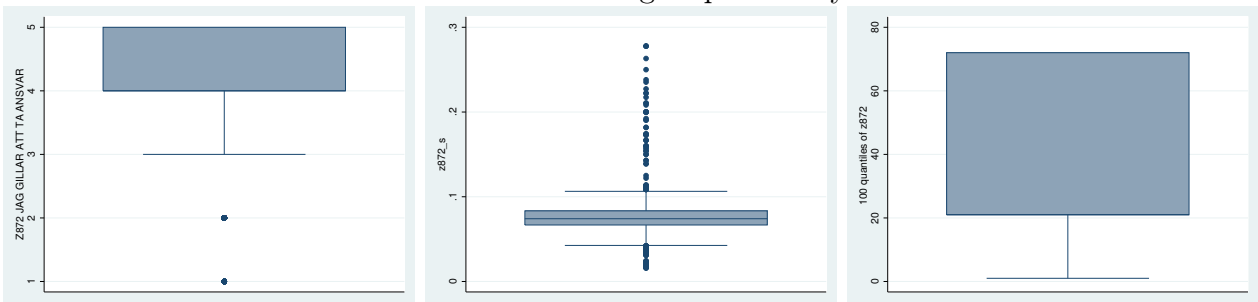


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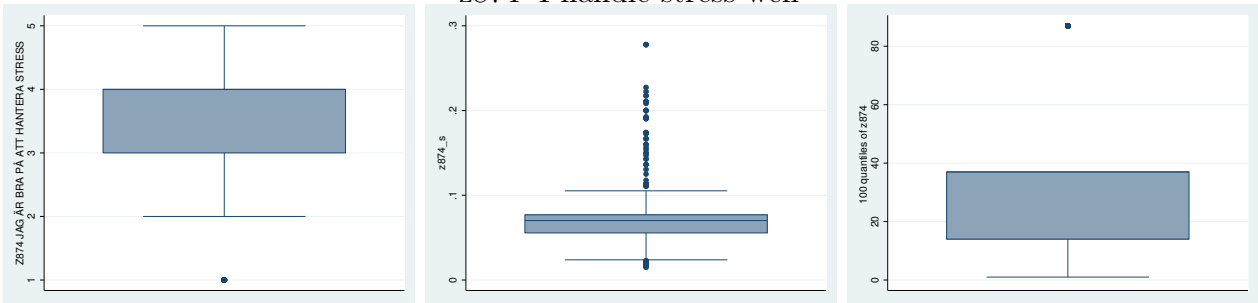
z870 'I get nervous easily'



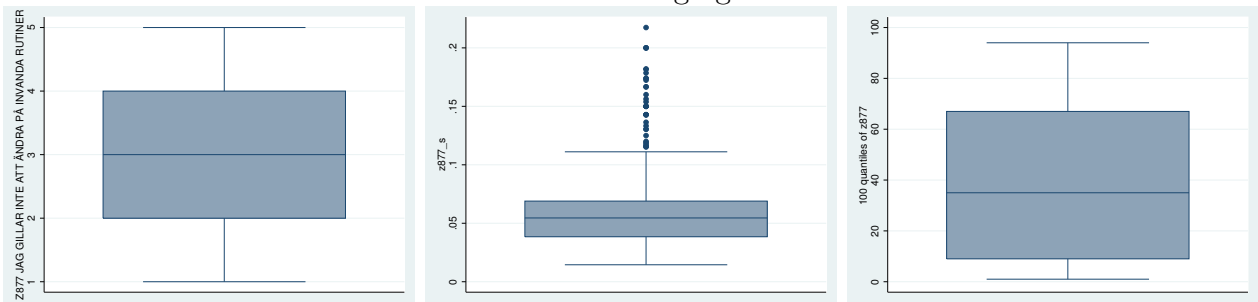
z872 'I like taking responsibility'



z874 'I handle stress well'

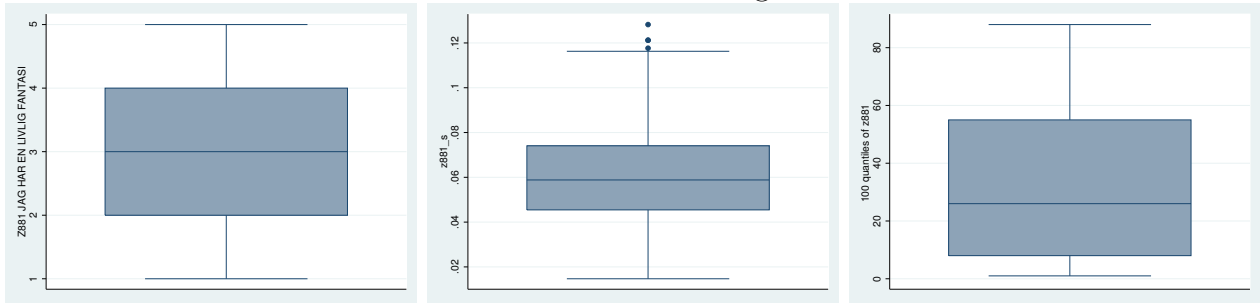


z877 'I do not like changing old habits'

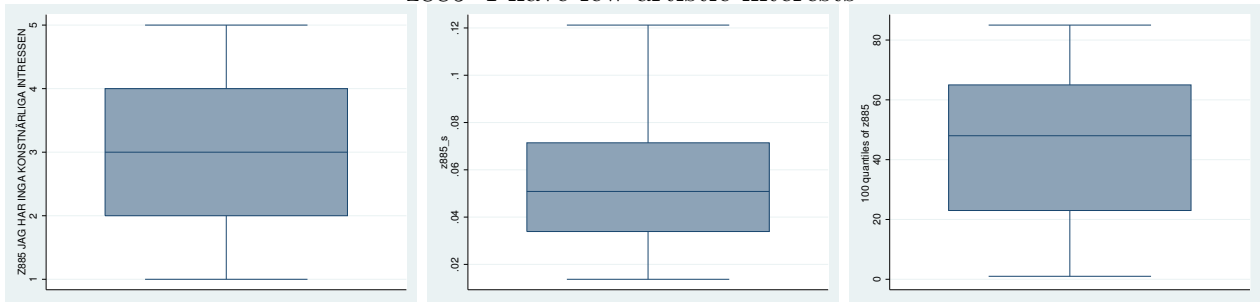


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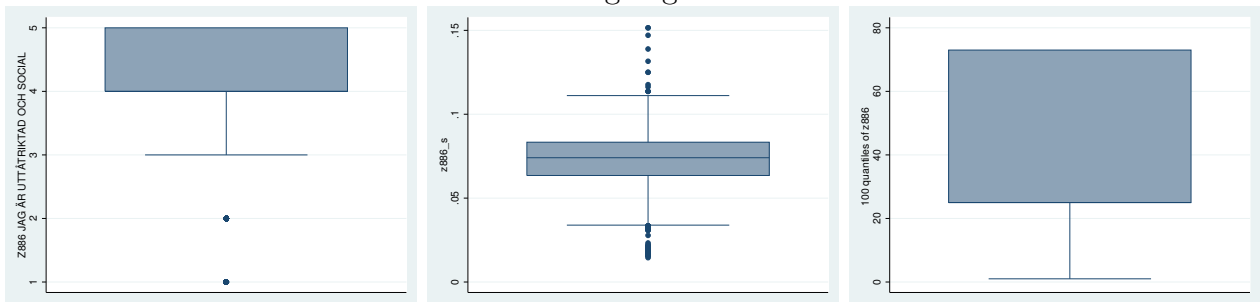
z881 'I have an active imagination'



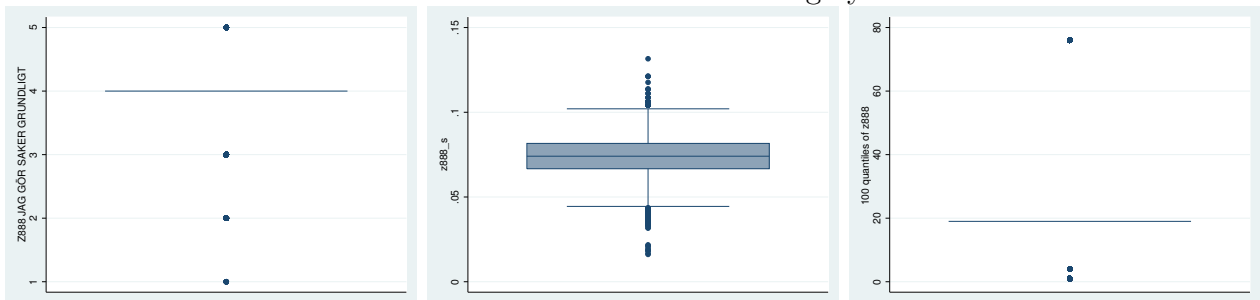
z885 'I have few artistic interests'



z886 'I am outgoing and sociable'

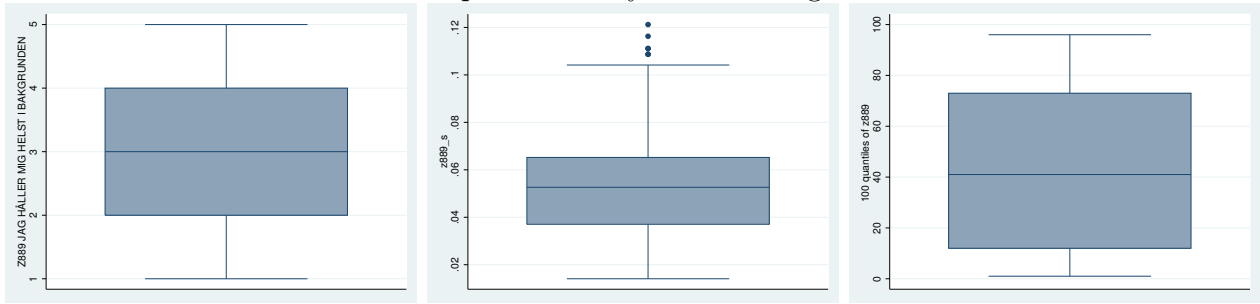


z888 'I deal with tasks thoroughly'

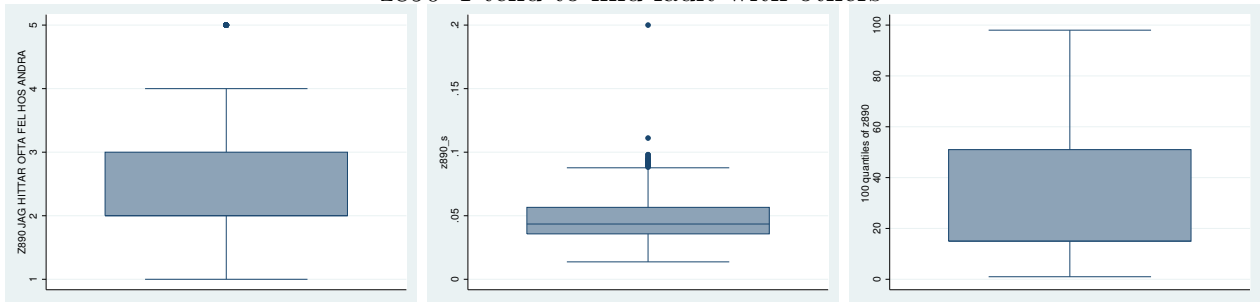


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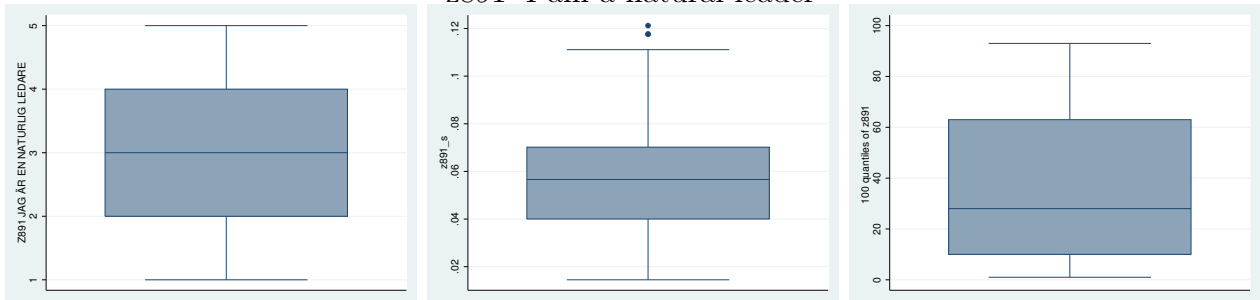
z889 'I prefer to stay in the background'



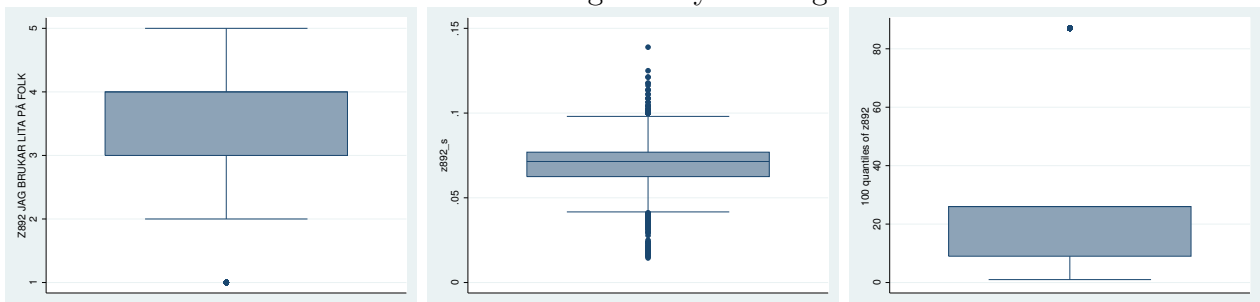
z890 'I tend to find fault with others'



z891 'I am a natural leader'

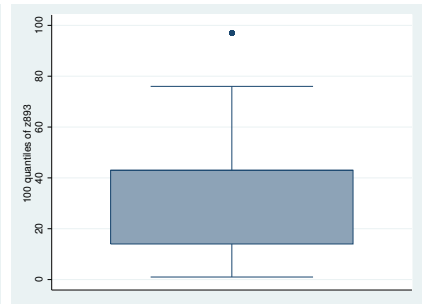
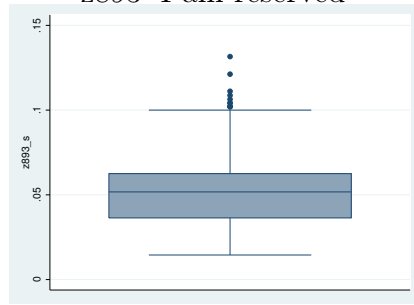
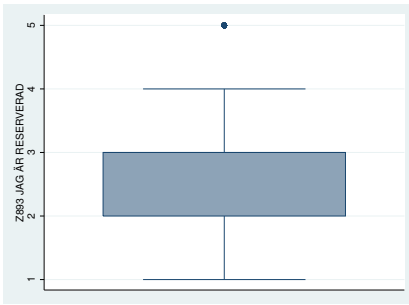


z892 'I am generally trusting'

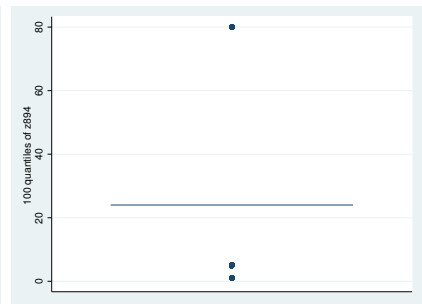
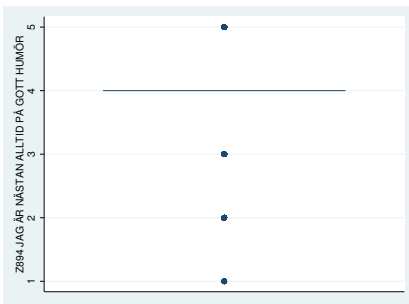


A Appendix

z893 'I am reserved'



z894 'I am almost always in a good mood'

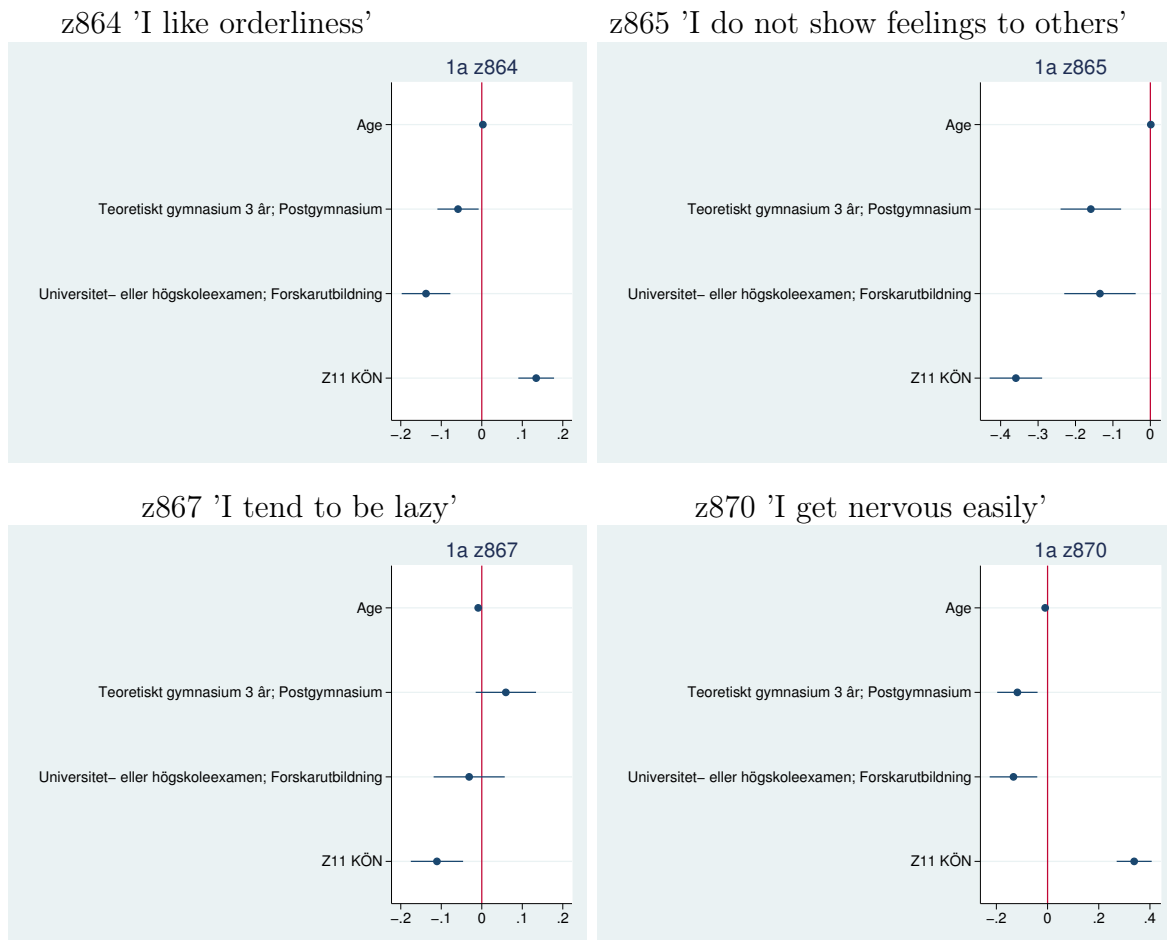


A.2 Personality Traits over the Life Cycle - Regression Results

The following 'coefplots' show the regression coefficients of several variables as a point with the corresponding confidence interval as the enclosing line. Please note the different scales of the graphs.

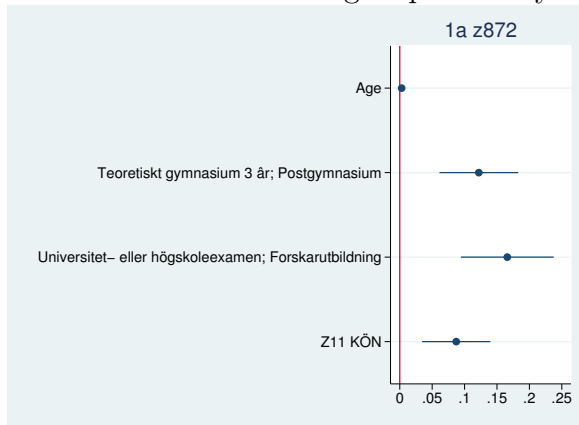
1a Influence of Age on Personality

The following graphs show the regression coefficients of age, education (category 1 as reference) and gender (named *z11 Kön*) on the personality items.

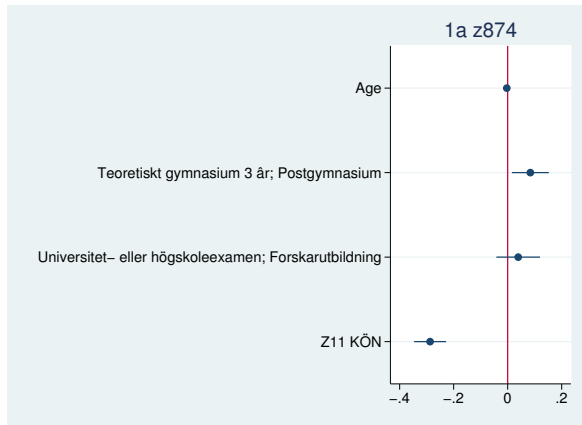


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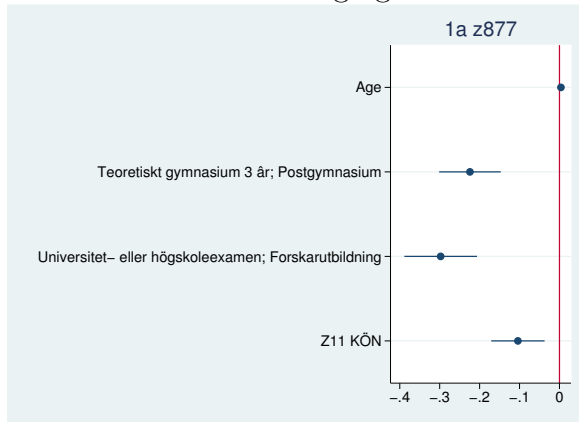
z872 'I like taking responsibility'



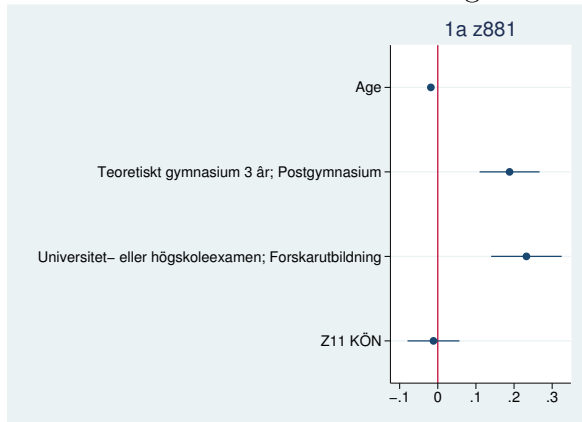
z874 'I handle stress well'



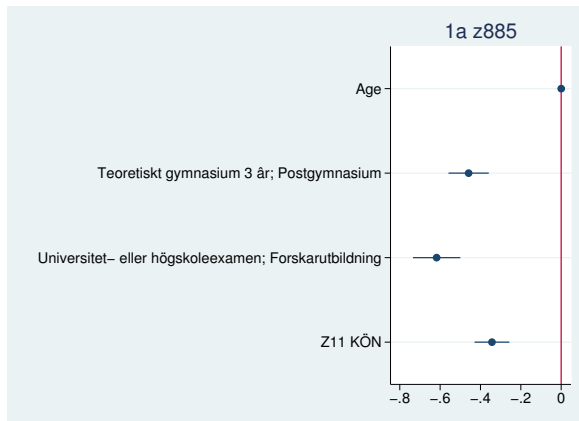
z877 'I do not like changing old habitats'



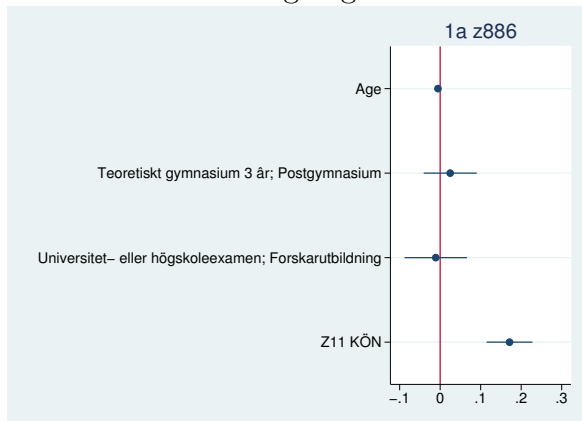
z881 'I have an active imagination'



z885 'I have few artistic interests'

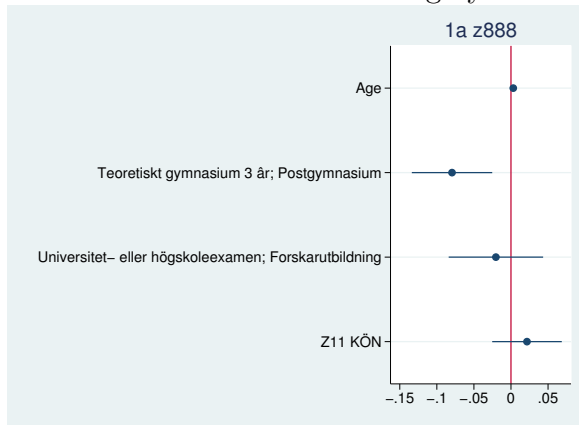


z886 'I am outgoing and sociable'

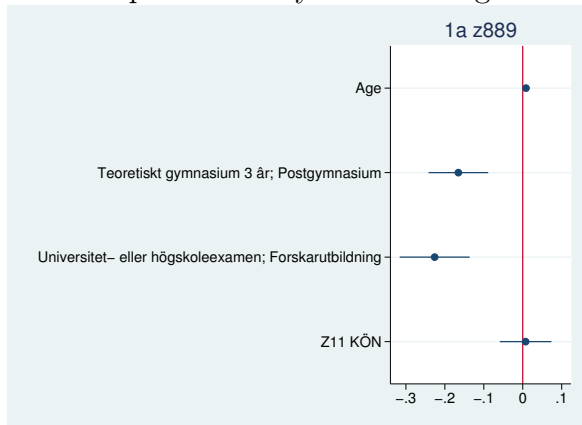


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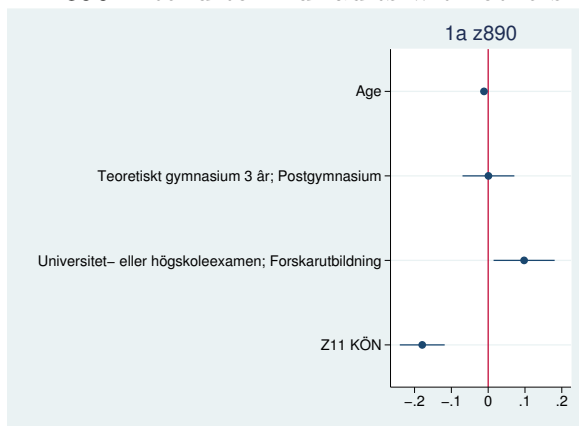
z888 'I deal with tasks thoroughly'



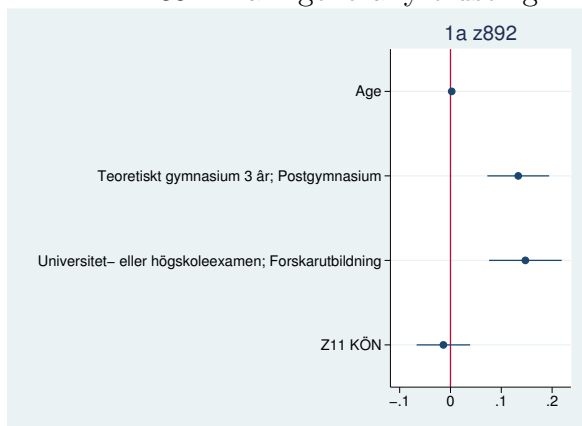
z889 'I prefer to stay in the background'



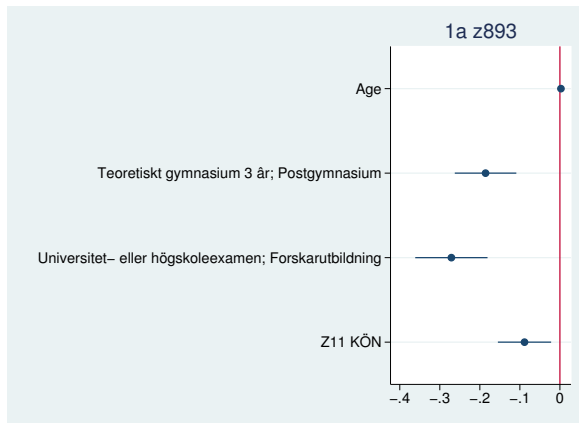
z890 'I tend to find faults with others'



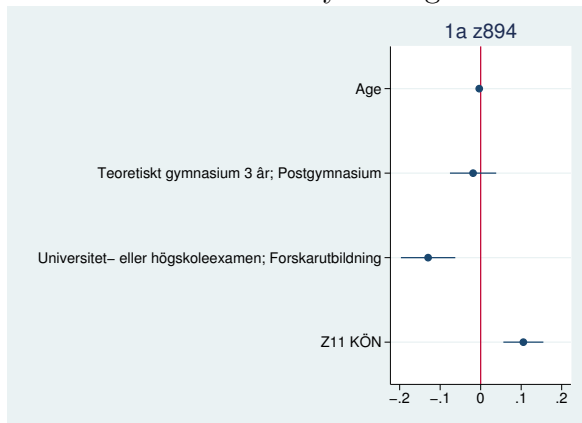
z892 'I am generally trusting'



z893 'I am reserved'



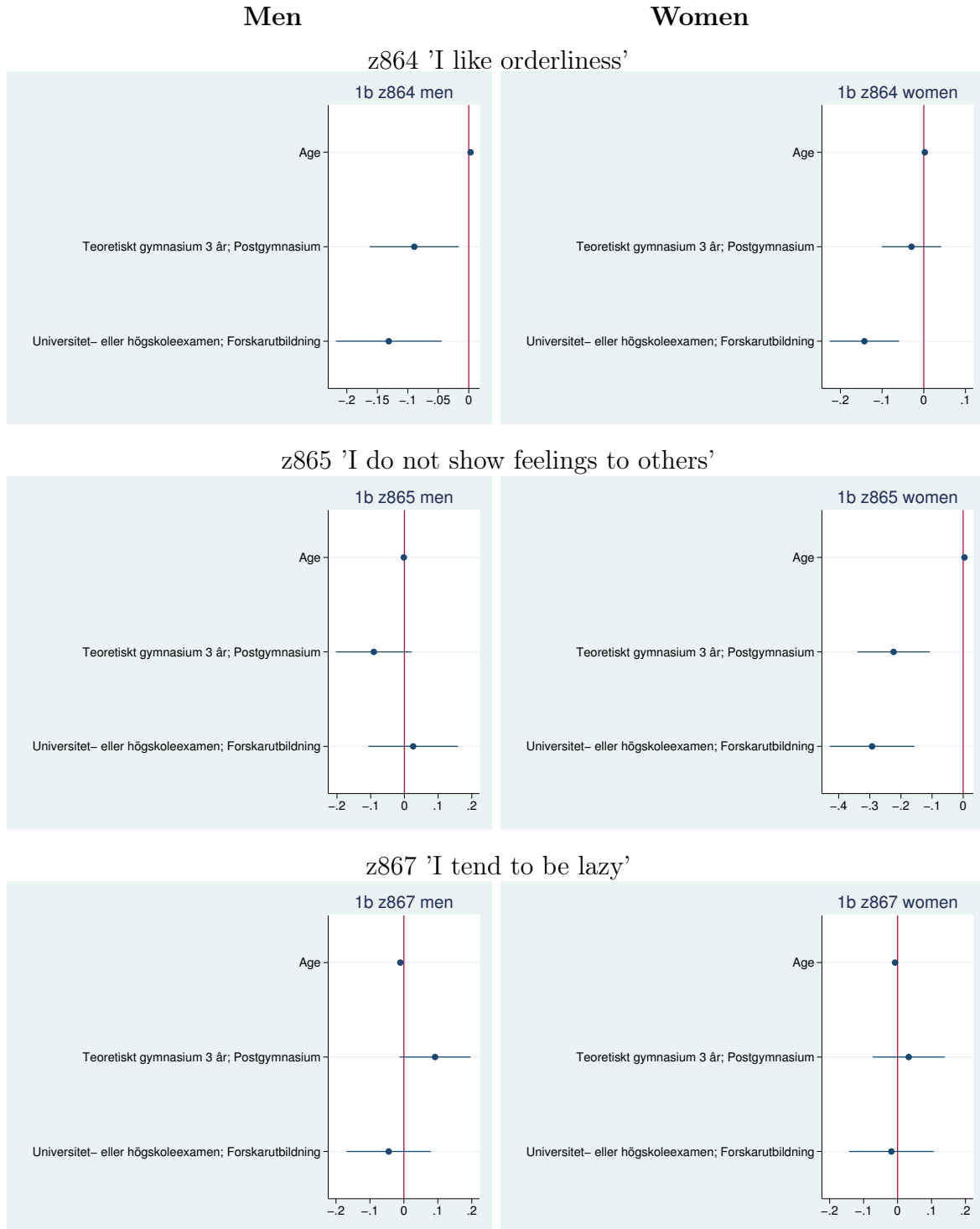
z894 'I am almost always in a good mood'



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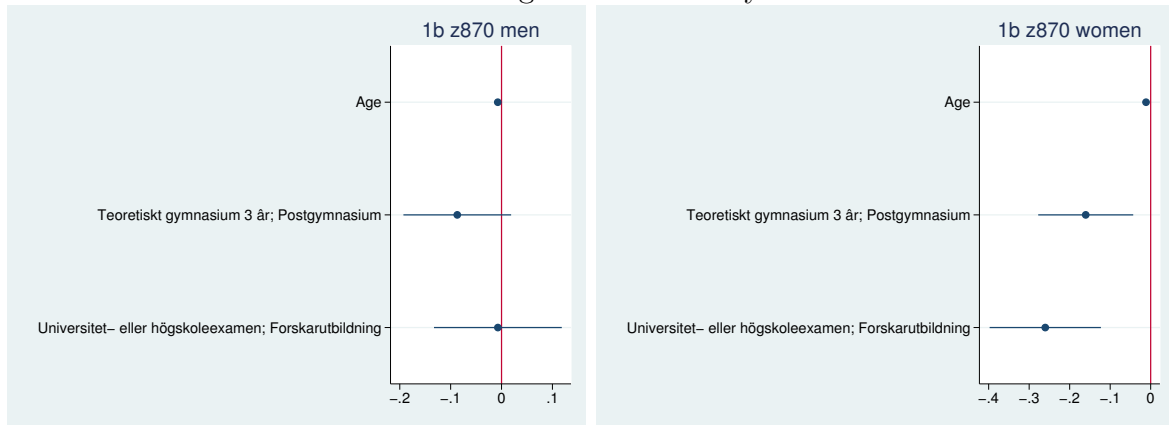
1b Influence of Age on Personality by Gender

The following graphs show the regression coefficients of age and education (category 1 as reference) on the personality items by gender.

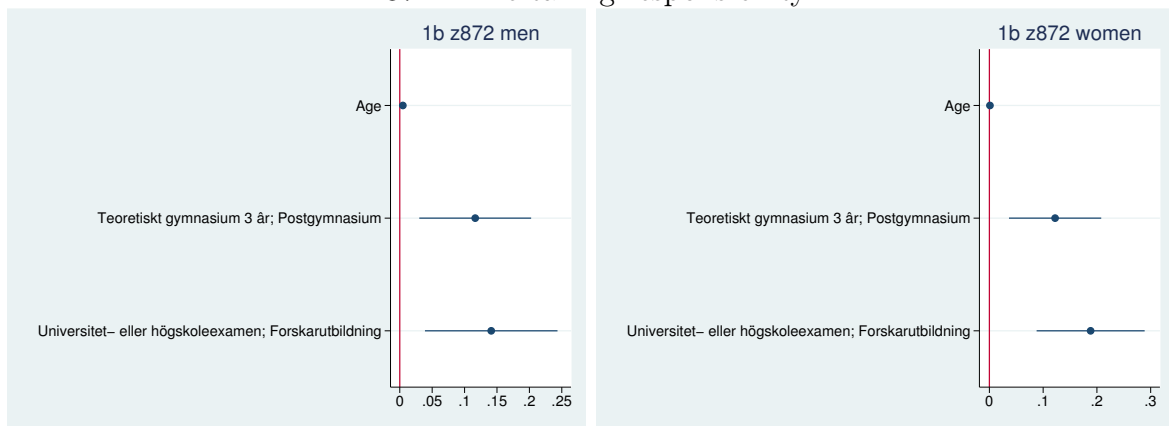


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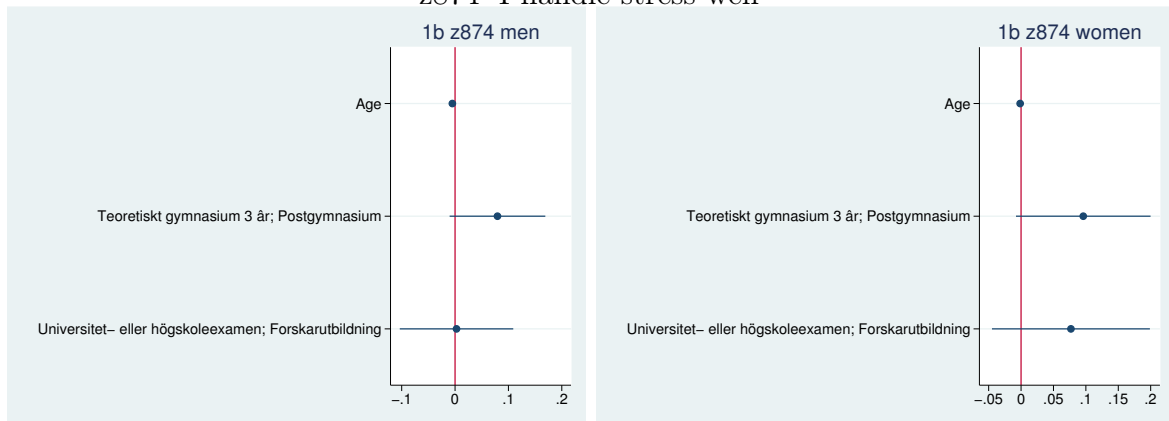
z870 'I get nervous easily'



z872 'I like taking responsibility'



z874 'I handle stress well'

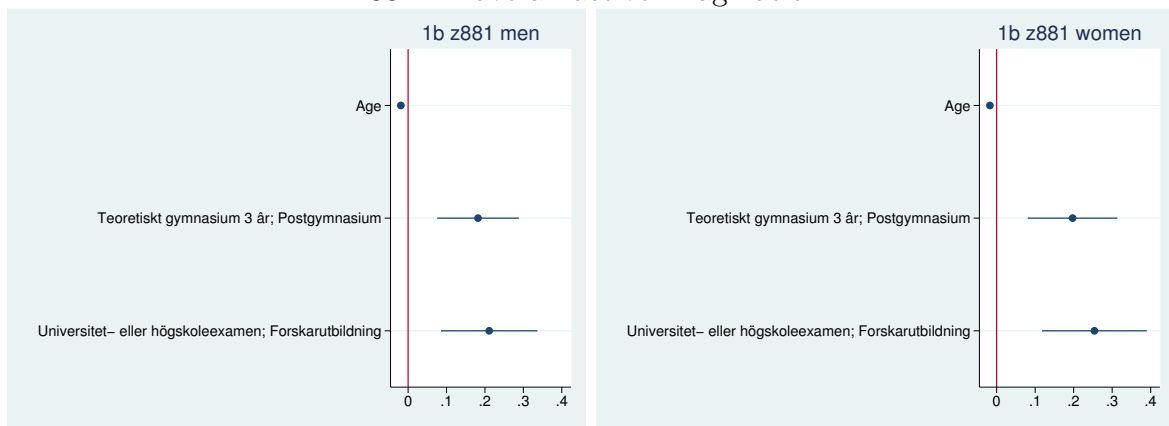


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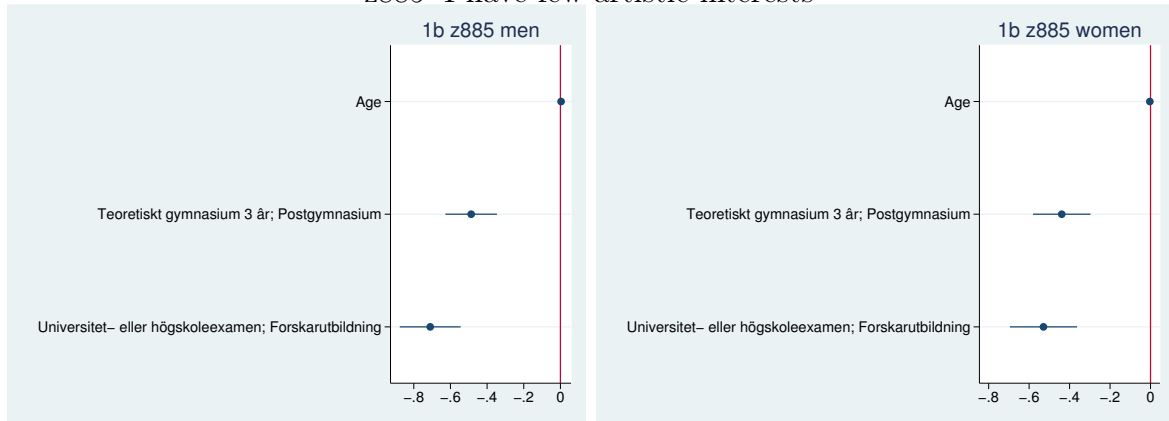
z877 'I do not like changing old habitats'



z881 'I have an active imagination'

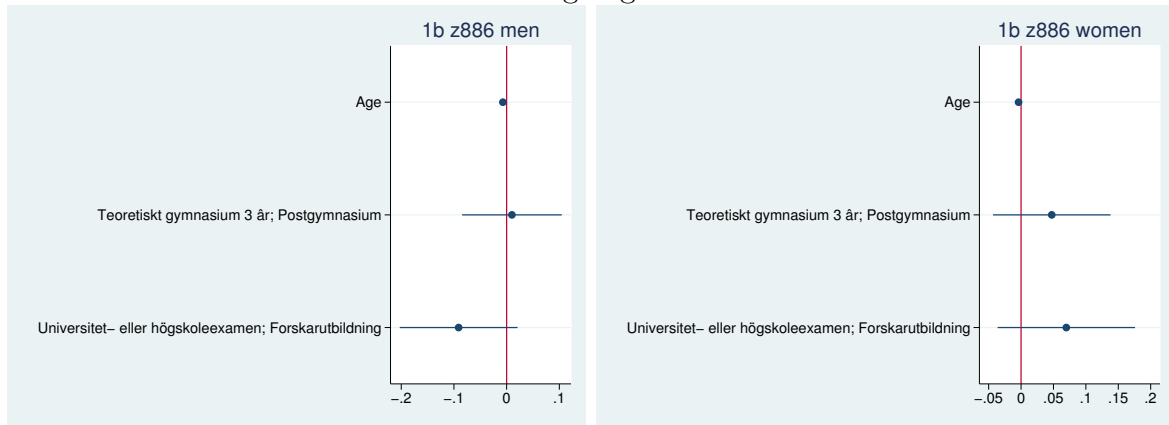


z885 'I have few artistic interests'

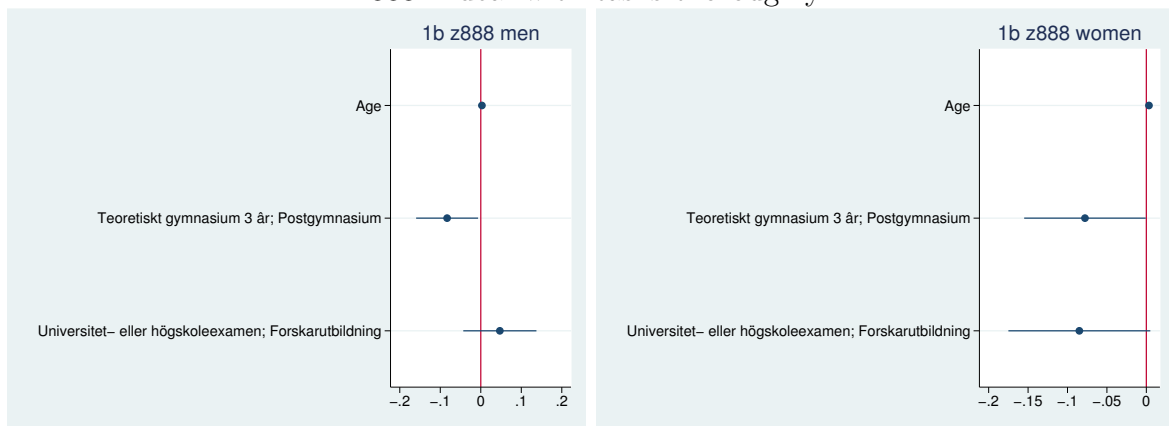


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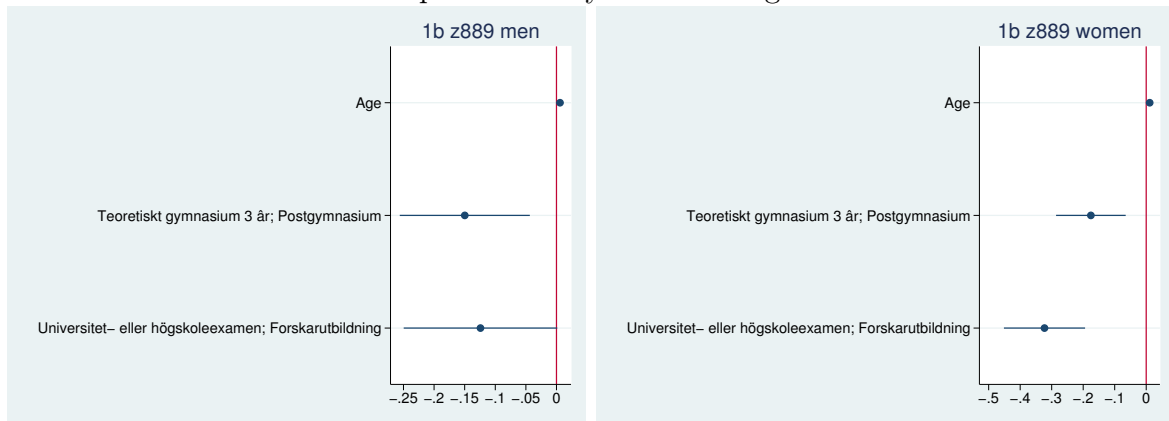
z886 'I am outgoing and sociable'



z888 'I deal with tasks thoroughly'

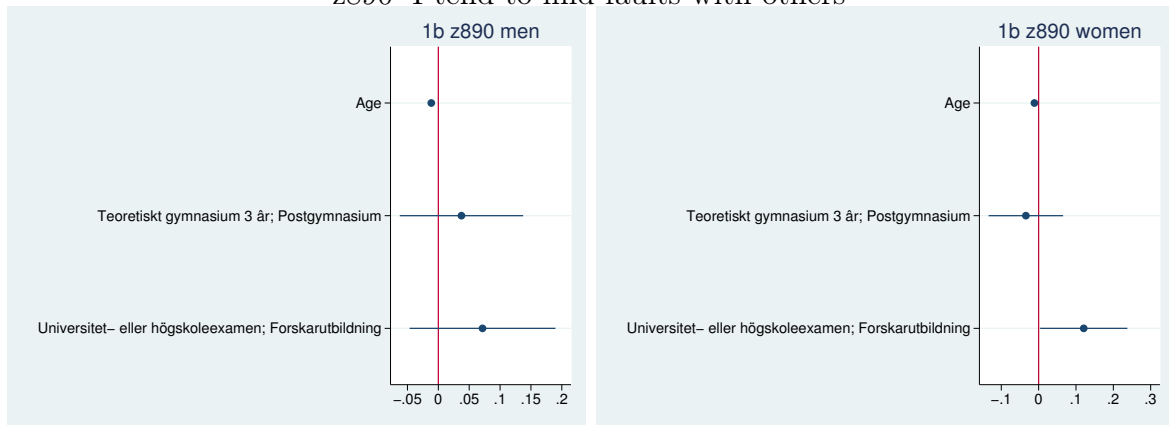


z889 'I prefer to stay in the background'

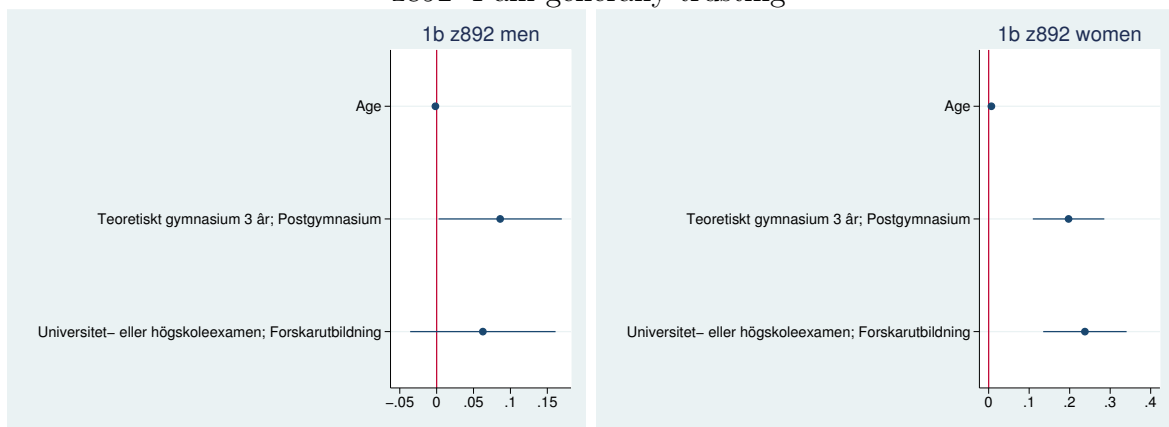


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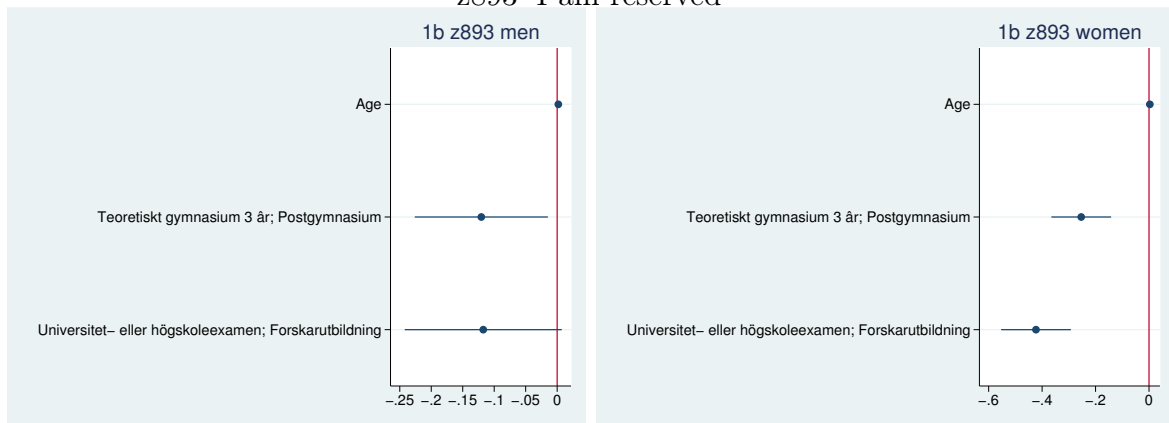
z890 'I tend to find faults with others'



z892 'I am generally trusting'

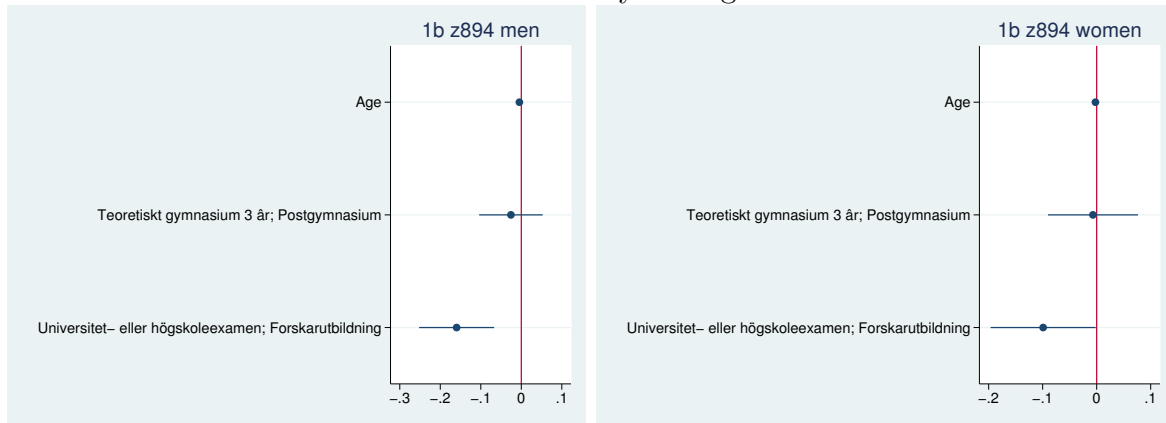


z893 'I am reserved'



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z894 'I am almost always in a good mood'



1c Influence of Age on Personality by Education

The following graphs show the regression coefficients for age and gender (named *z11 Kön*) on the personality items by the following educational categories.

Educational Category 1: no education, preschool, primary school and vocational gymnasium

Educational Category 2: theoretical and post-gymnasium

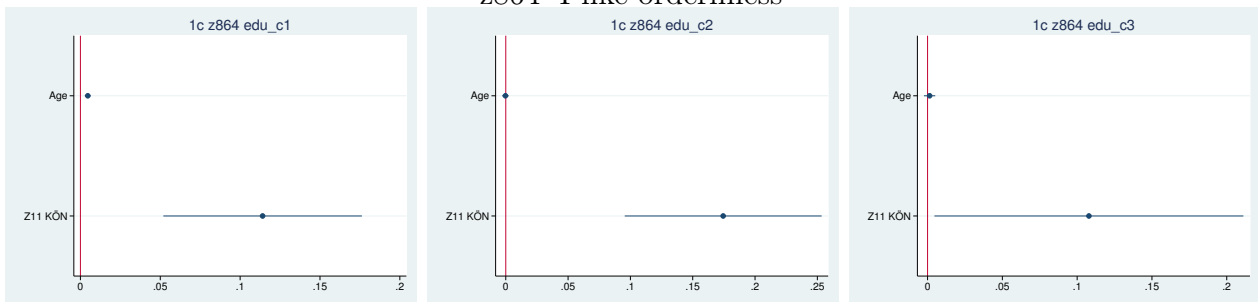
Educational Category 3: university and postgraduate education

Category 1

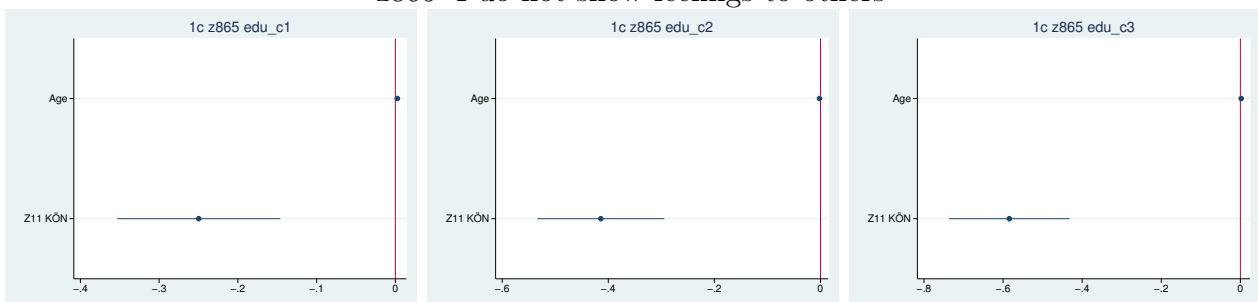
Category 2

Category 3

z864 'I like orderliness'

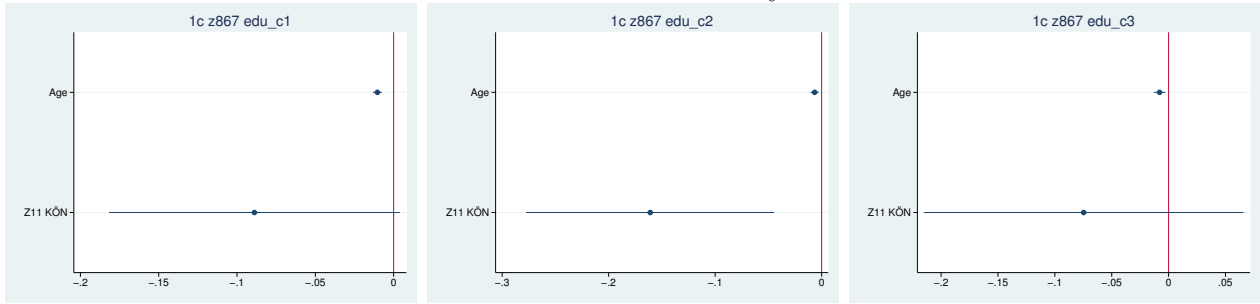


z865 'I do not show feelings to others'

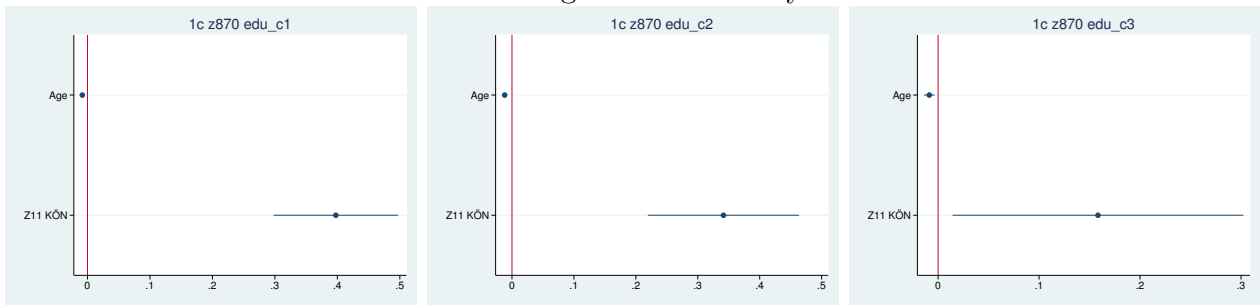


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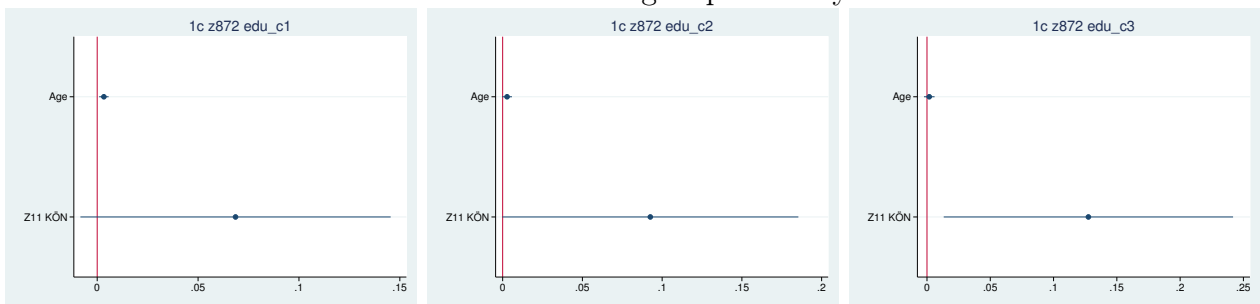
z867 'I tend to be lazy'



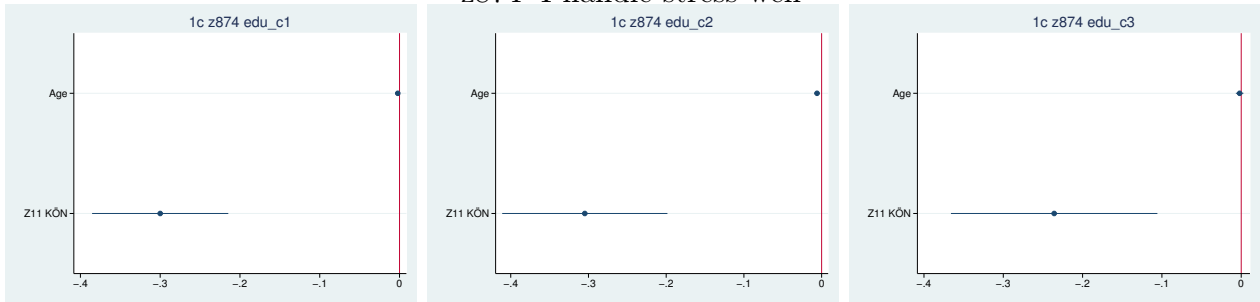
z870 'I get nervous easily'



z872 'I like taking responsibility'

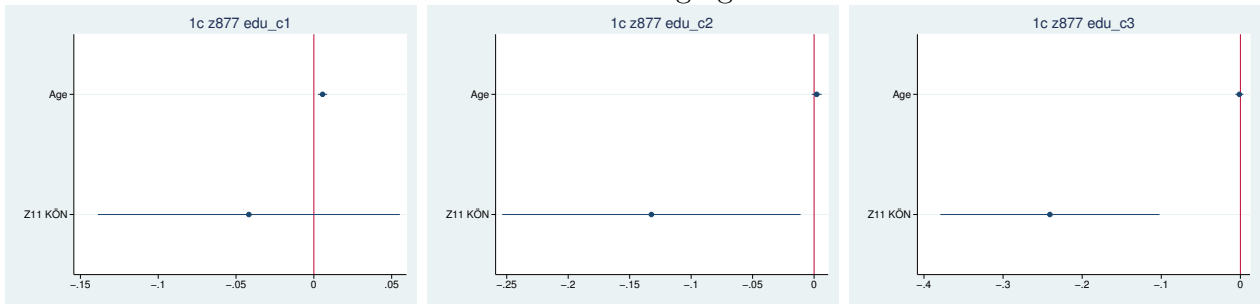


z874 'I handle stress well'

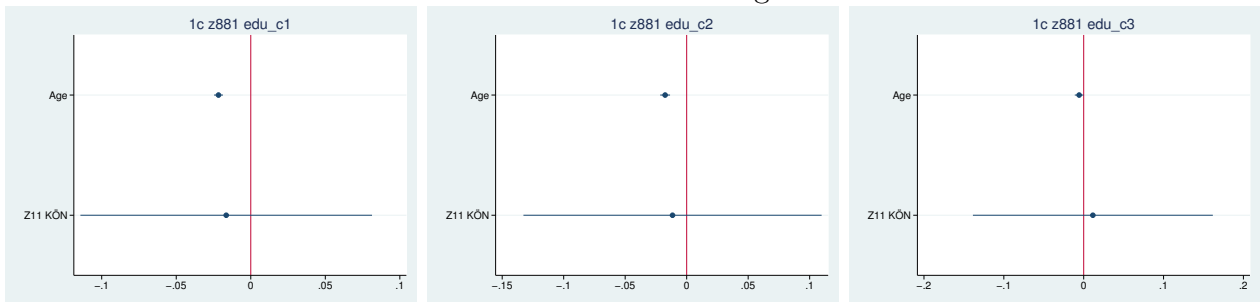


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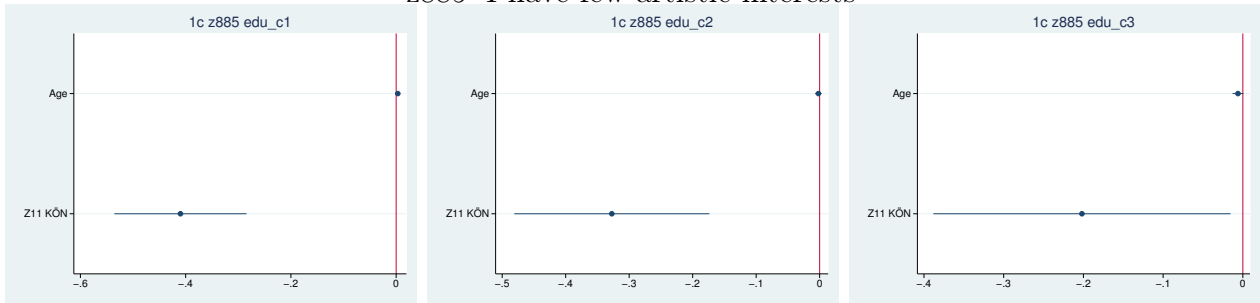
z877 'I do not like changing old habitats'



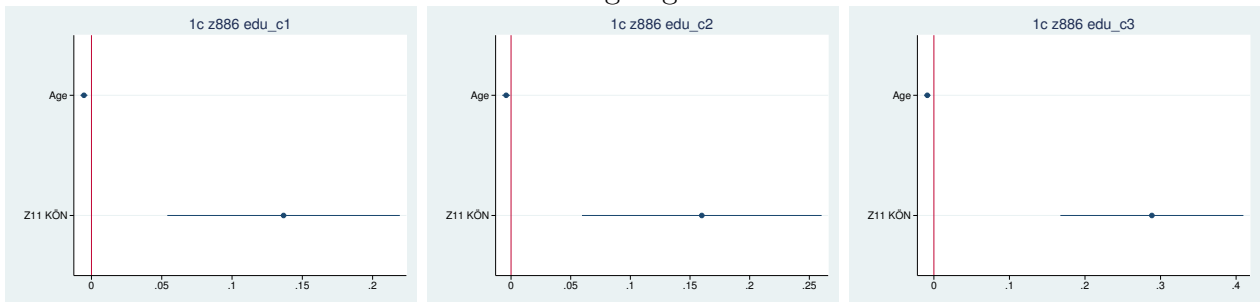
z881 'I have an active imagination'



z885 'I have few artistic interests'

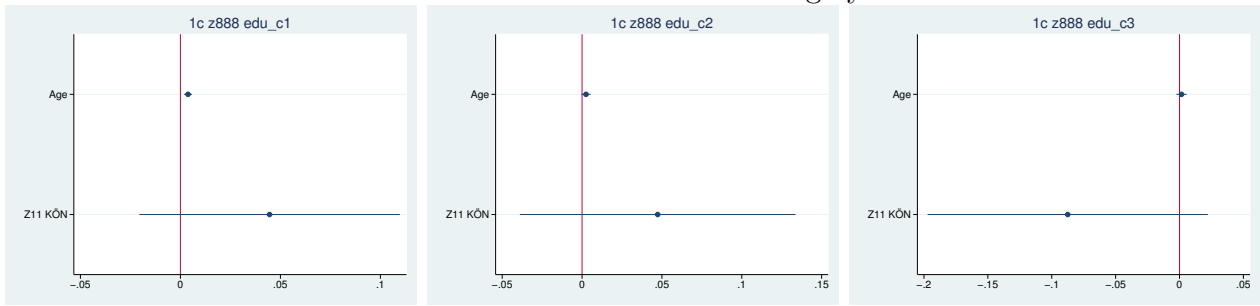


z886 'I am outgoing and sociable'

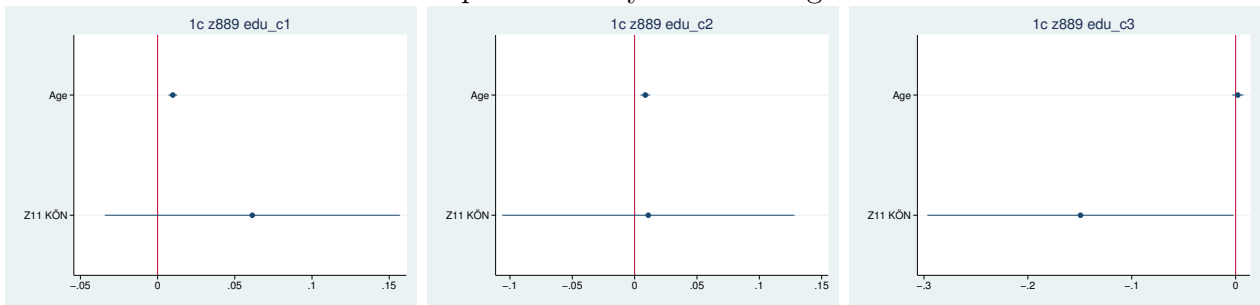


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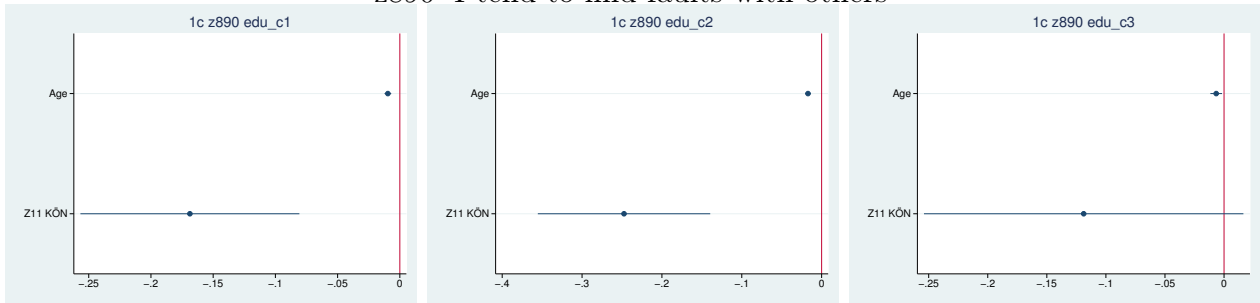
z888 'I deal with tasks thoroughly'



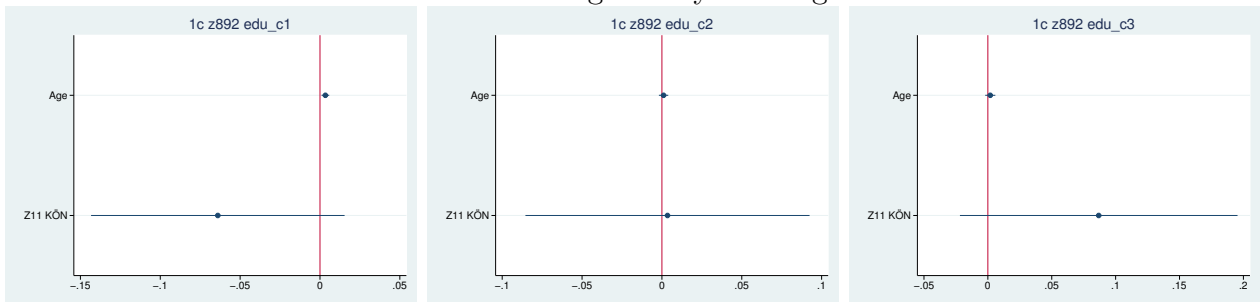
z889 'I prefer to stay in the background'



z890 'I tend to find faults with others'

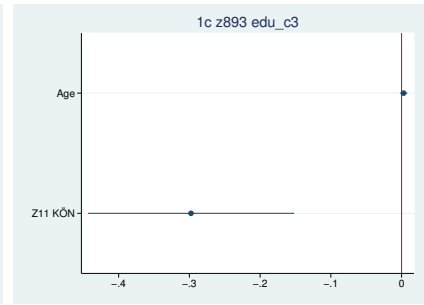
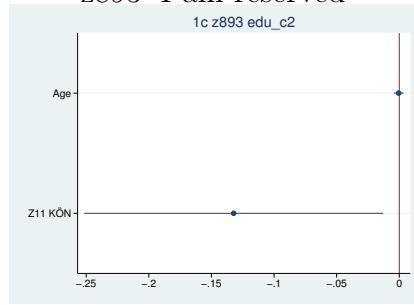
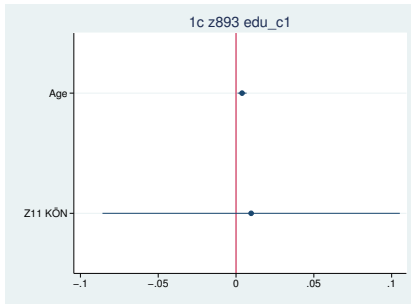


z892 'I am generally trusting'

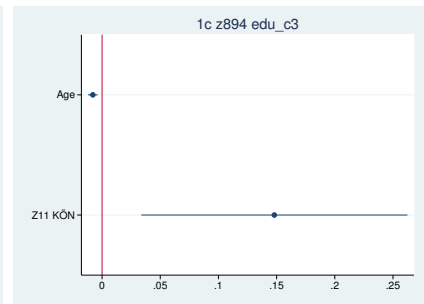
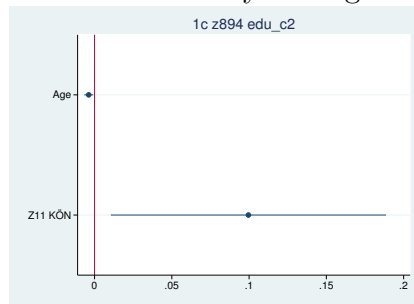
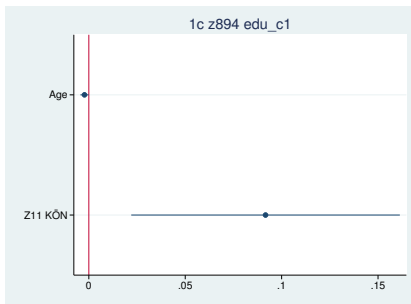


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z893 'I am reserved'



z894 'I am almost always in a good mood'

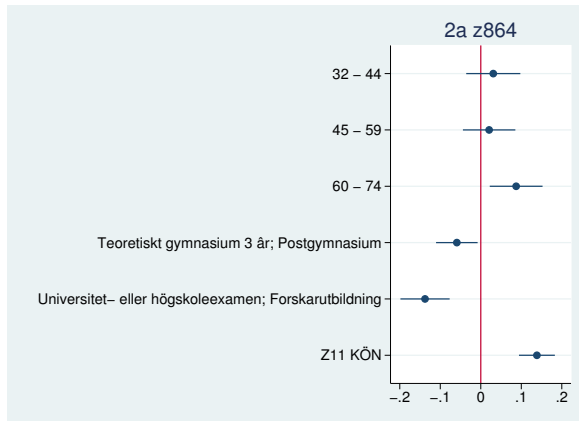


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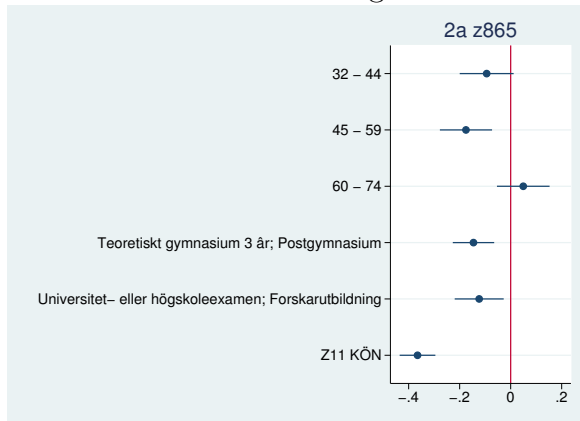
2a Influence of Age (Categorized) on Personality

The following graphs show the regression coefficients for the categorized age (category 1 as reference), education (category 1 as reference) and gender (named *z11 Kön*) on the personality items.

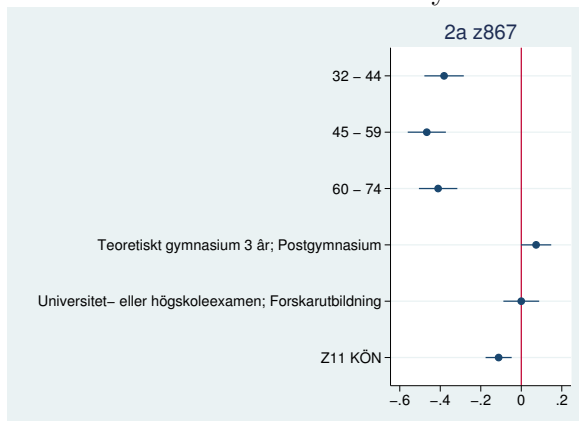
z864 'I like orderliness'



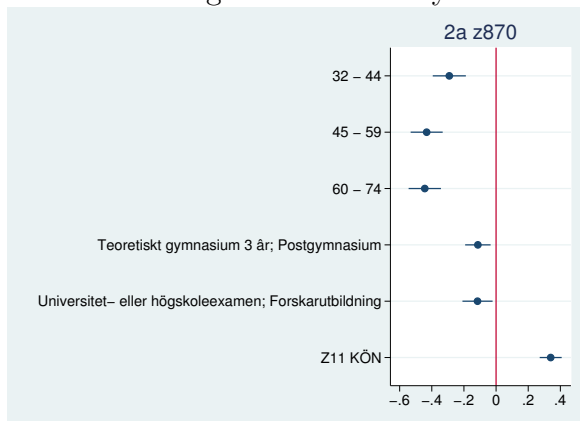
z865 'I do not show feelings to others'



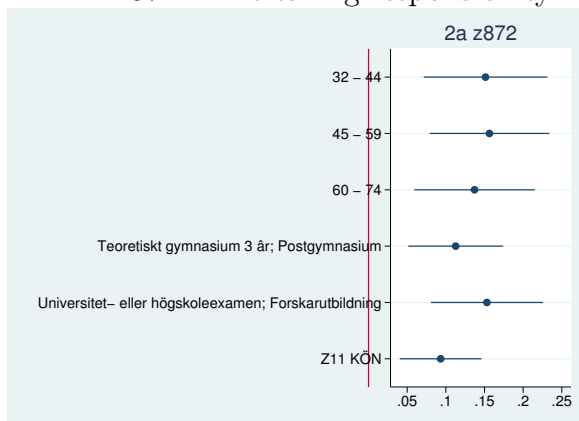
z867 'I tend to be lazy'



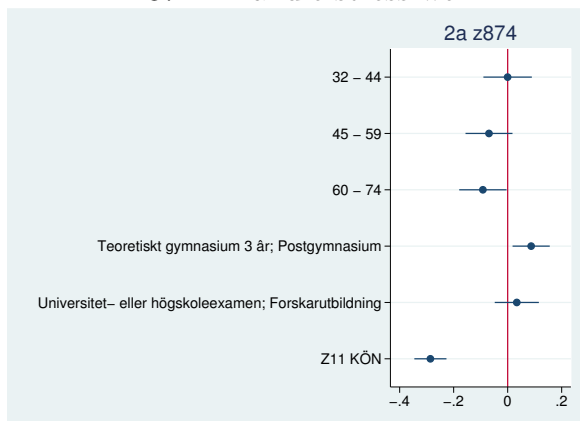
z870 'I get nervous easily'



z872 'I like taking responsibility'

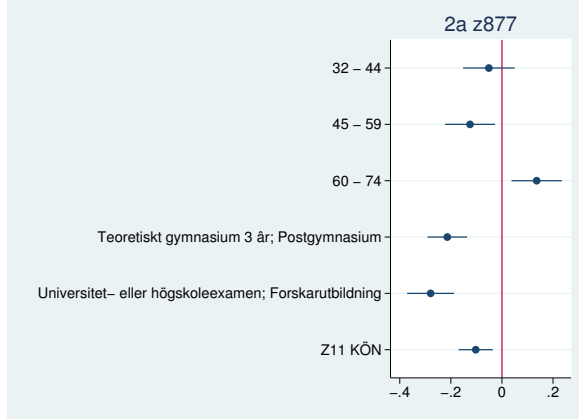


z874 'I handle stress well'

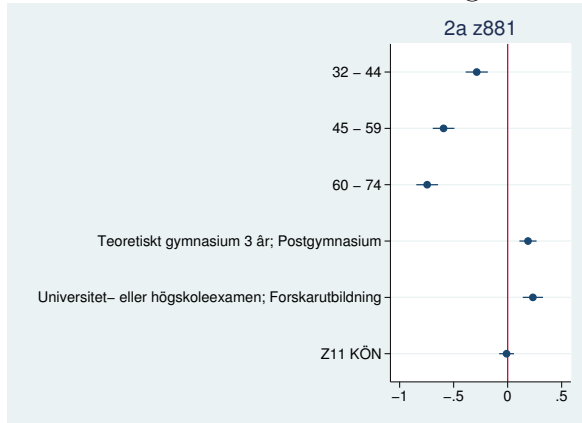


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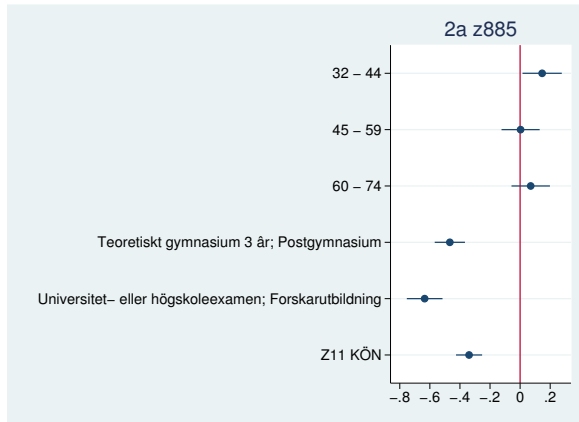
z877 'I do not like changing old habitats'



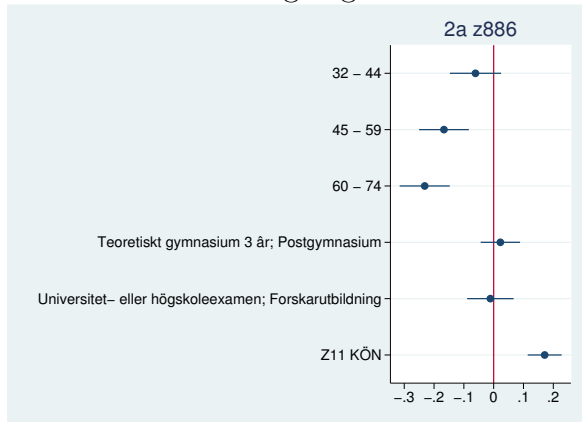
z881 'I have an active imagination'



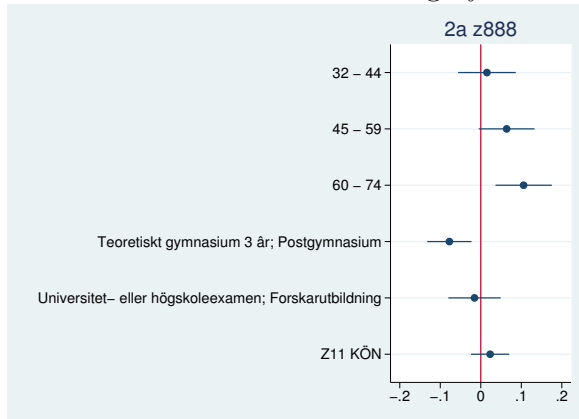
z885 'I have few artistic interests'



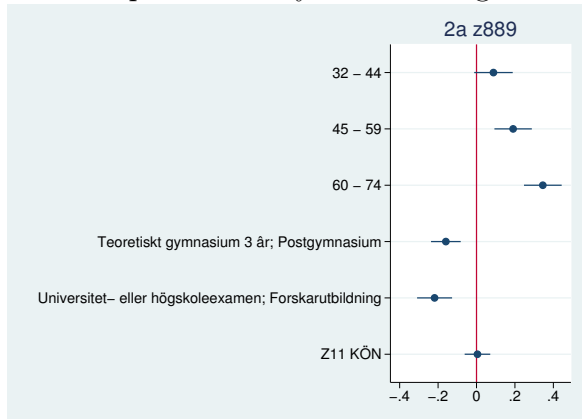
z886 'I am outgoing and sociable'



z888 'I deal with tasks thoroughly'

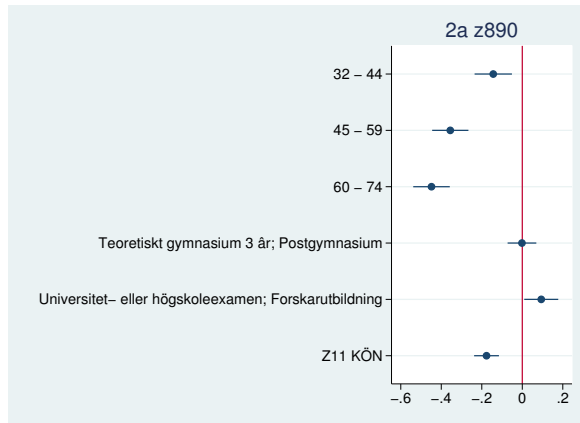


z889 'I prefer to stay in the background'

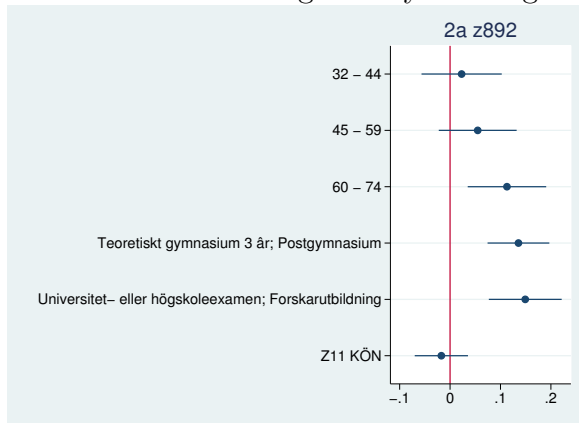


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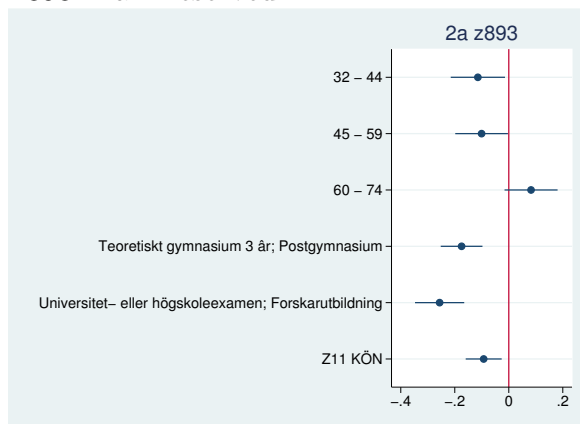
z890 'I tend to find faults with others'



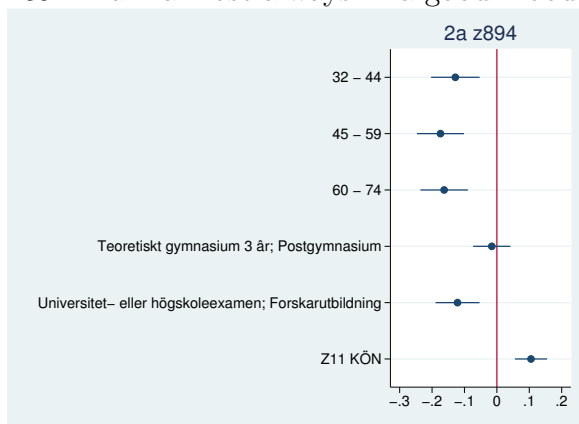
z892 'I am generally trusting'



z893 'I am reserved'



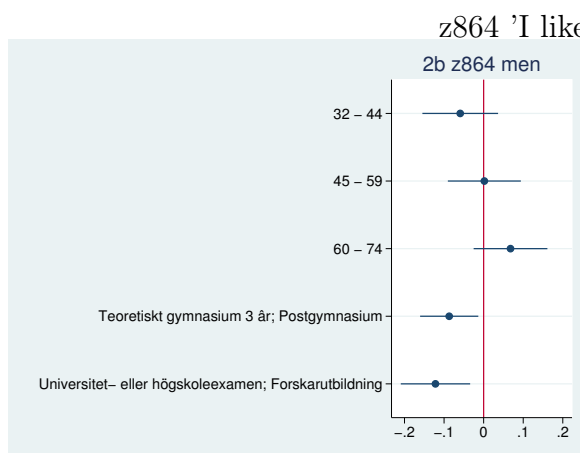
z894 'I am almost always in a good mood'



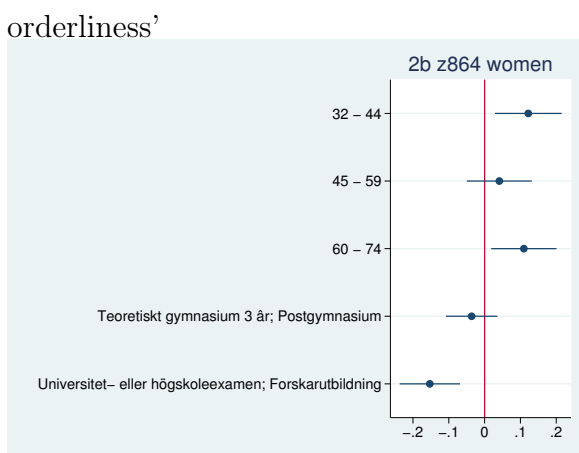
2b Influence of Age (Categorized) on Personality by Gender

The following graphs show the regression coefficients for the categorized age (category 1 as reference) and education (category 1 as reference) on the personality items by gender.

Men

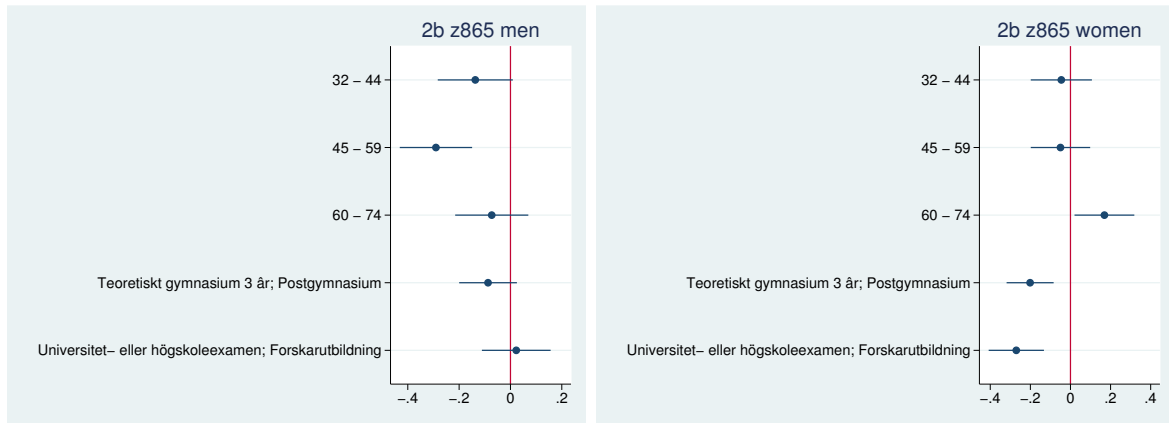


Women

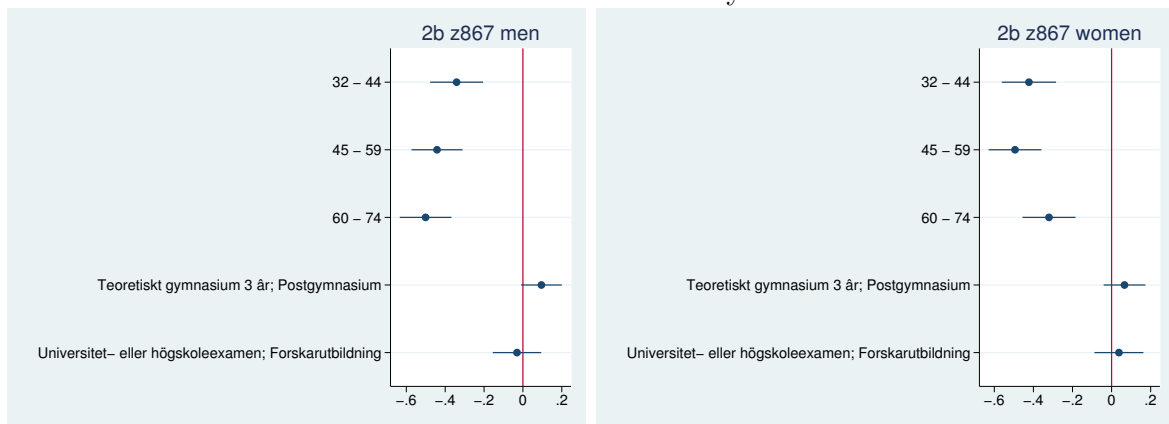


z865 'I do not show feelings to others'

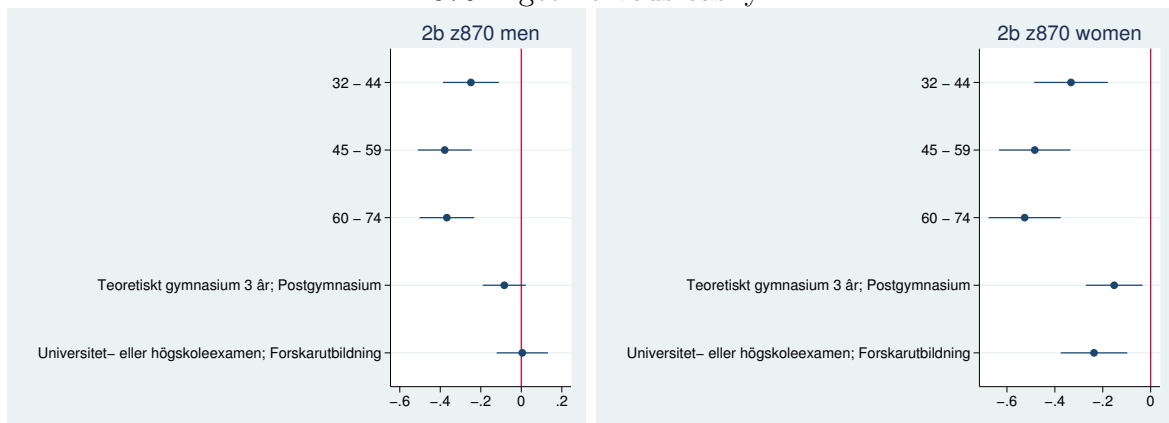
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z867 'I tend to be lazy'

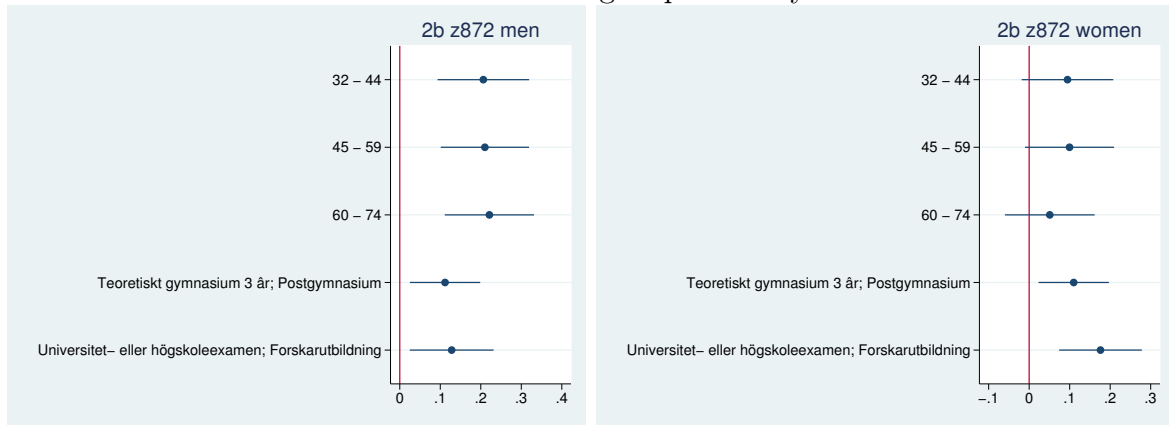


z870 'I get nervous easily'

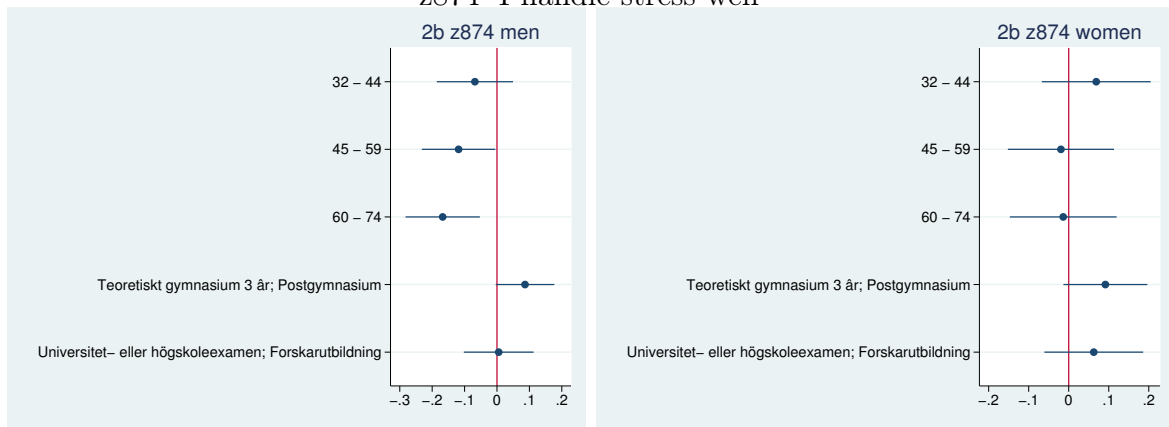


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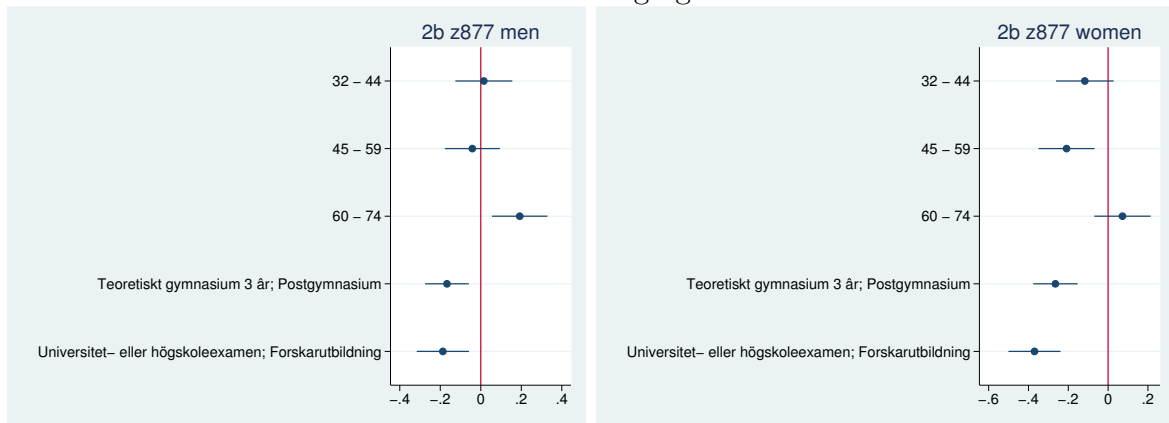
z872 'I like taking responsibility'



z874 'I handle stress well'

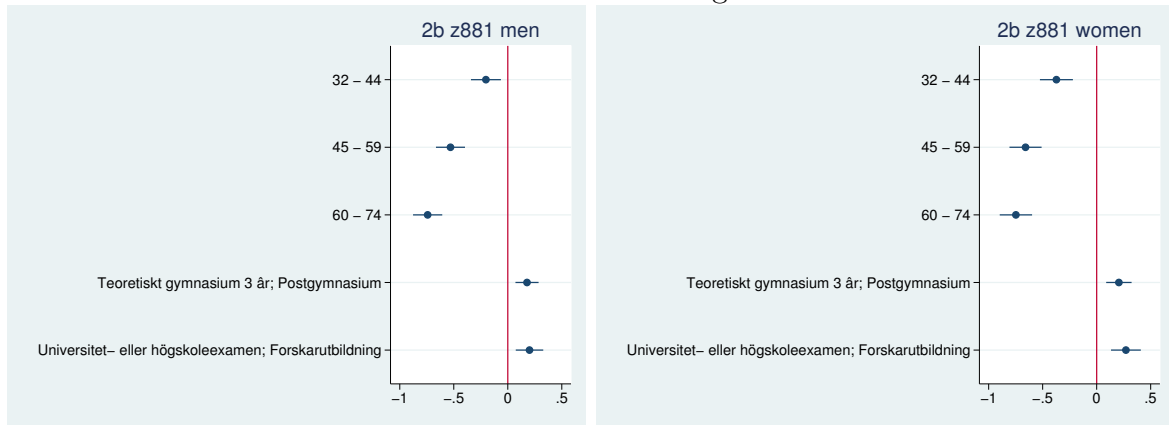


z877 'I do not like changing old habitats'

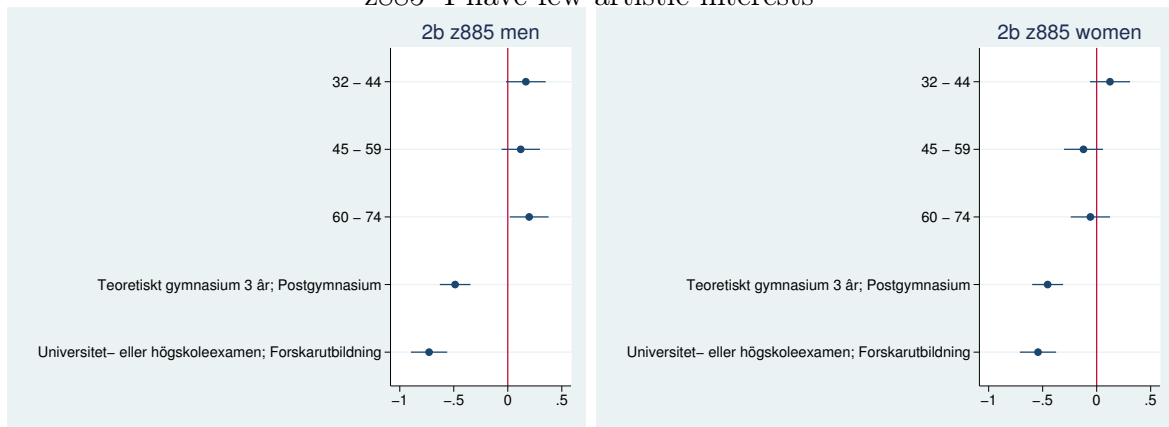


A Appendix

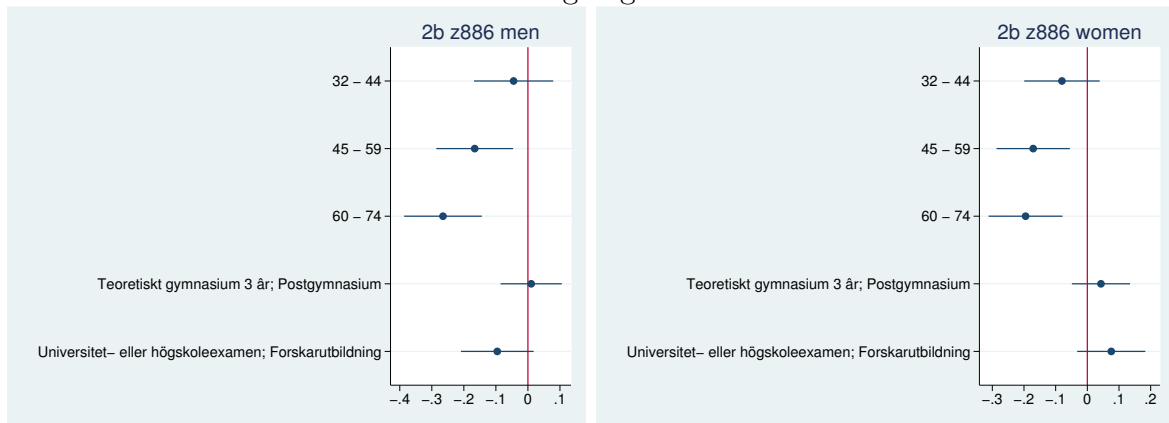
z881 'I have an active imagination'



z885 'I have few artistic interests'

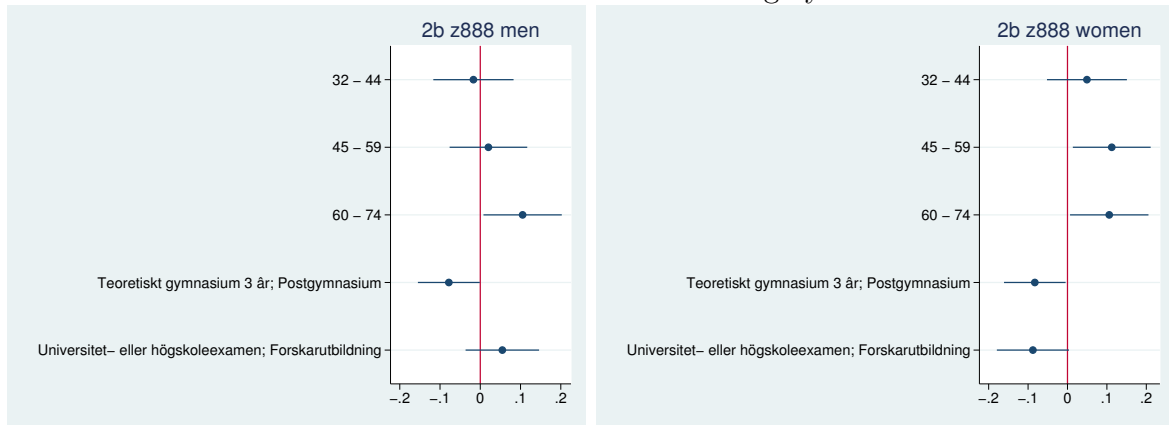


z886 'I am outgoing and sociable'

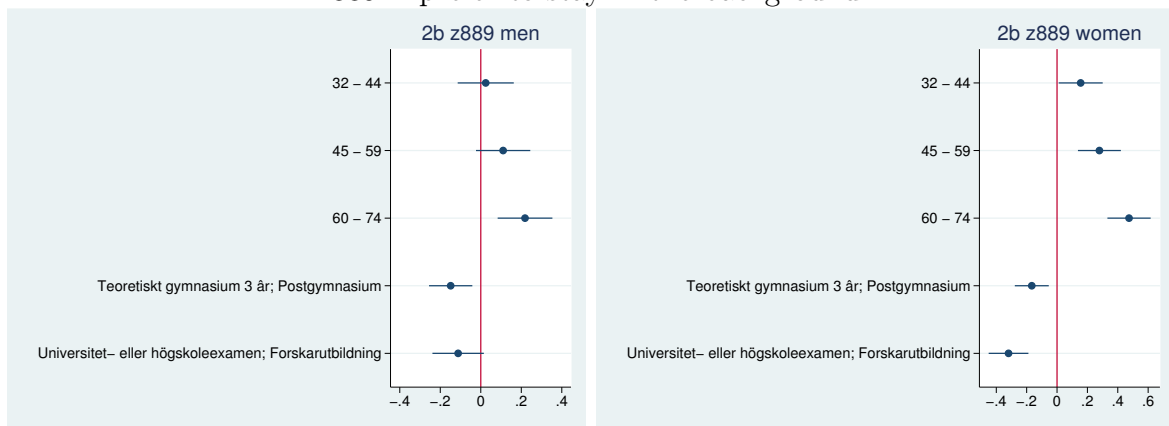


A Appendix

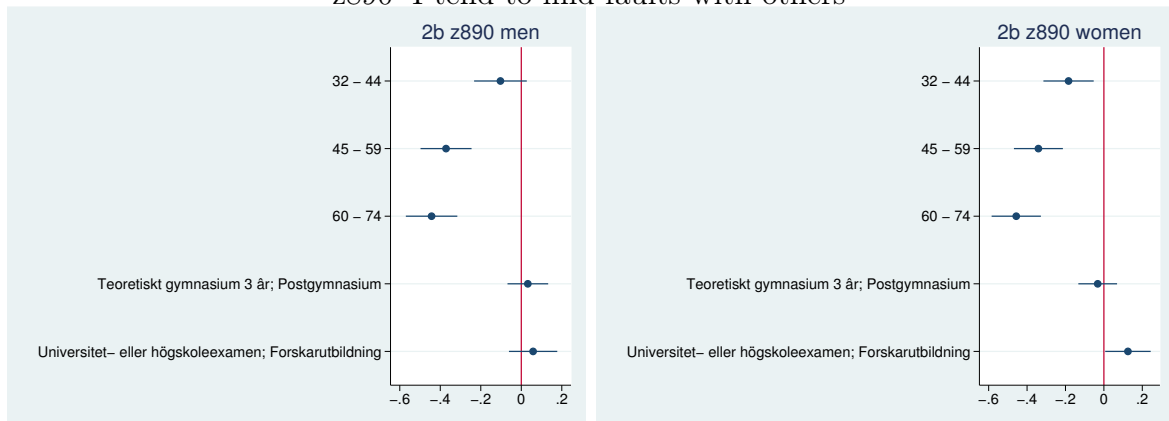
z888 'I deal with tasks thoroughly'



z889 'I prefer to stay in the background'

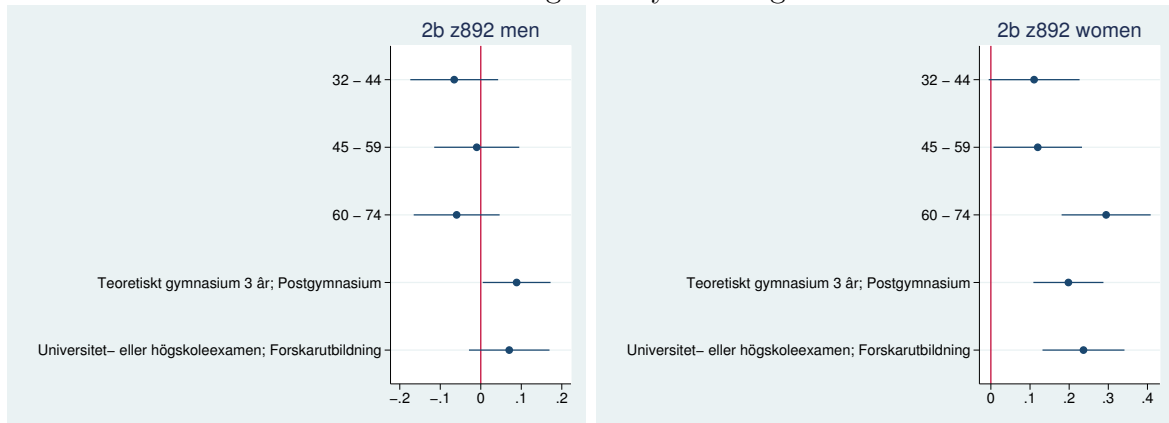


z890 'I tend to find faults with others'

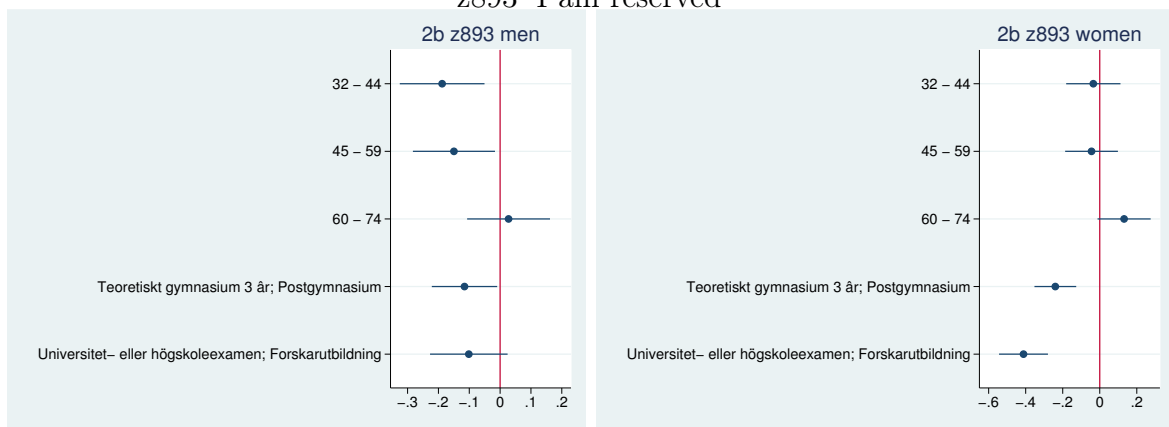


A Appendix

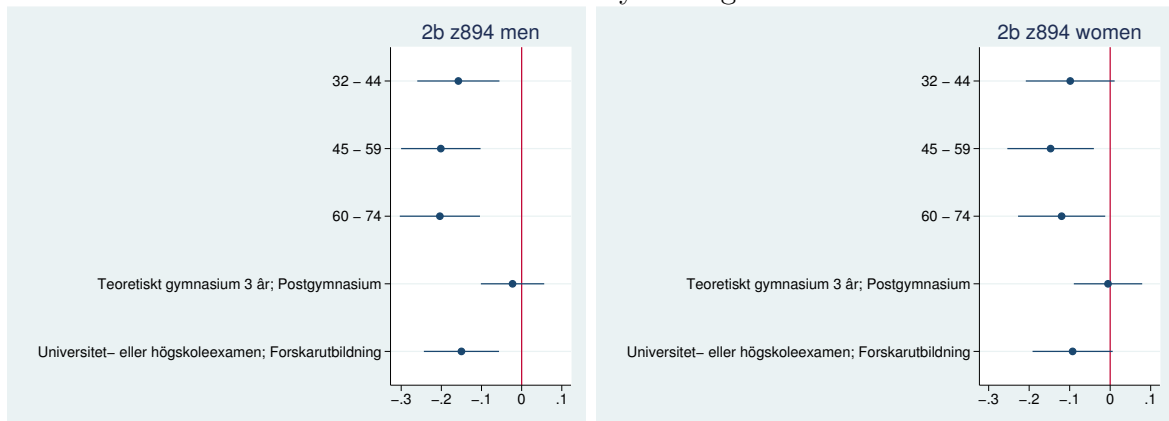
z892 'I am generally trusting'



z893 'I am reserved'



z894 'I am almost always in a good mood'



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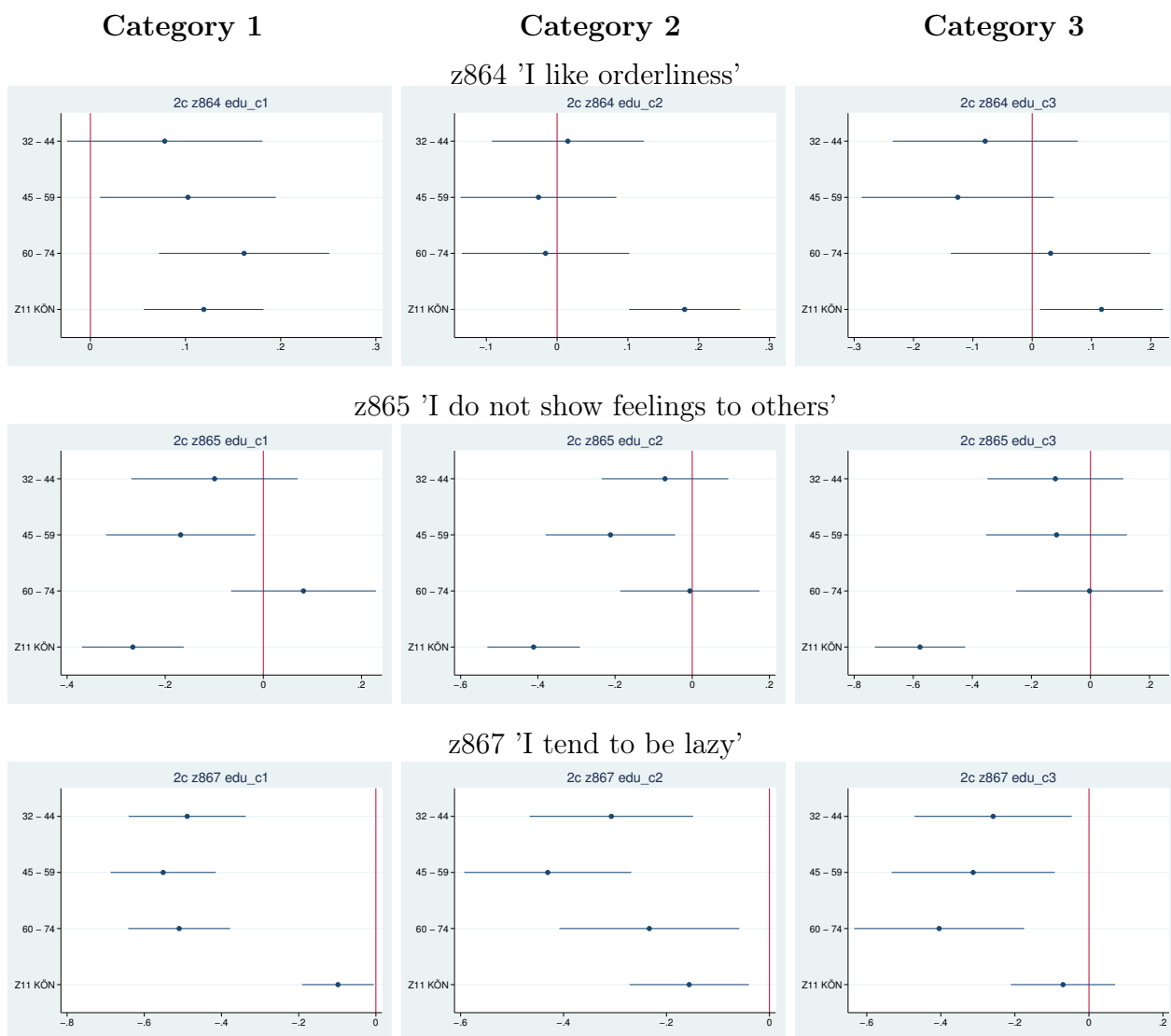
2c Influence of Age (Categorized) on Personality by Education

The following graphs show the regression coefficients for the categorized age (category 1 as reference) and gender (named *z11 Kön*) on the personality items by the following educational categories.

Educational Category 1: no education, preschool, primary school and vocational gymnasium

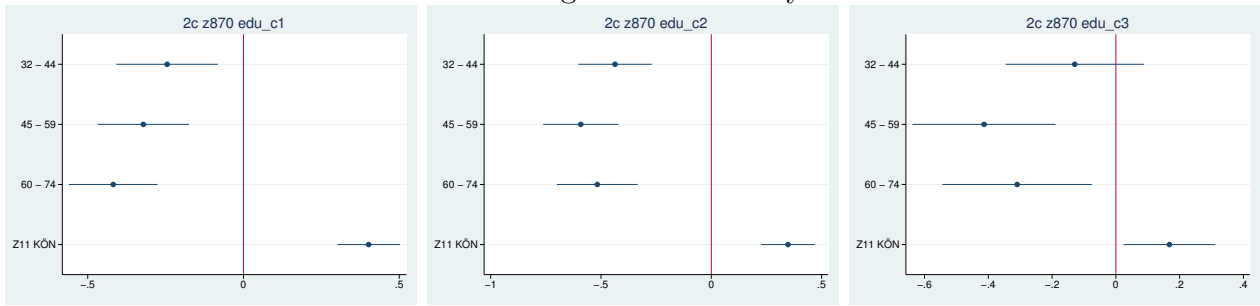
Educational Category 2: theoretical and post-gymnasium

Educational Category 3: university and postgraduate education

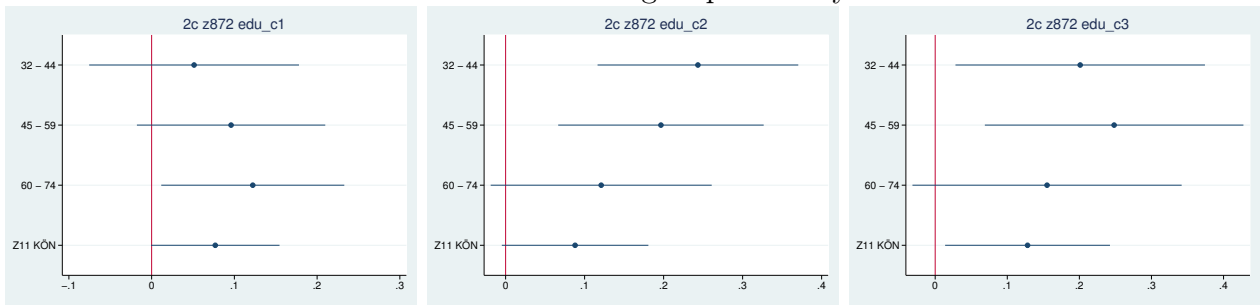


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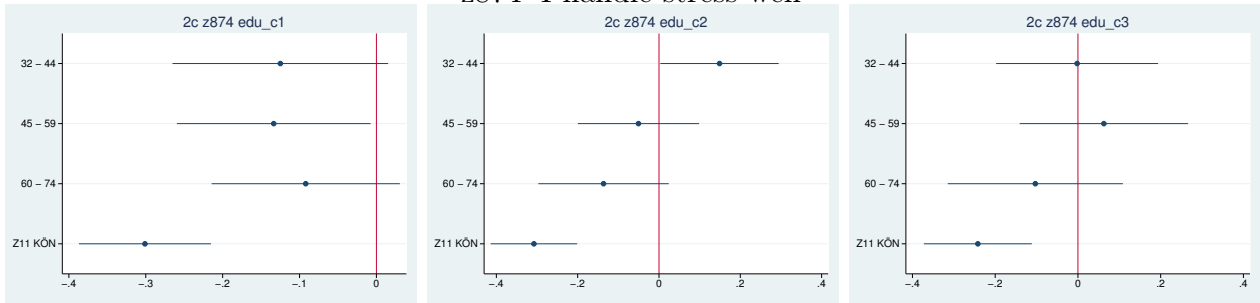
z870 'I get nervous easily'



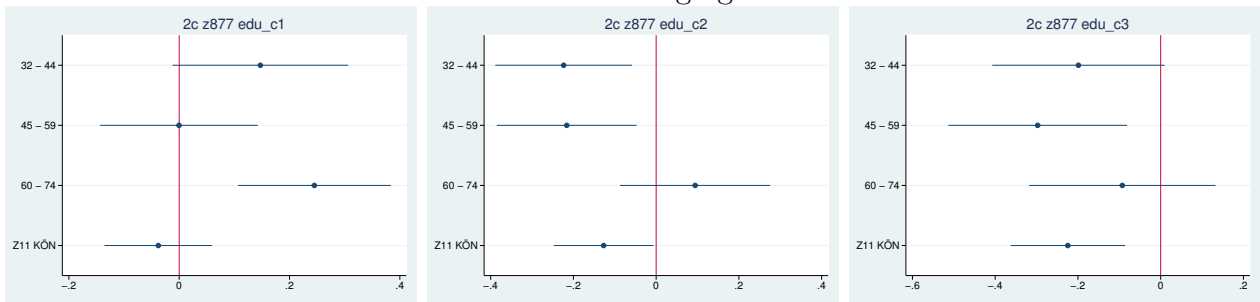
z872 'I like taking responsibility'



z874 'I handle stress well'

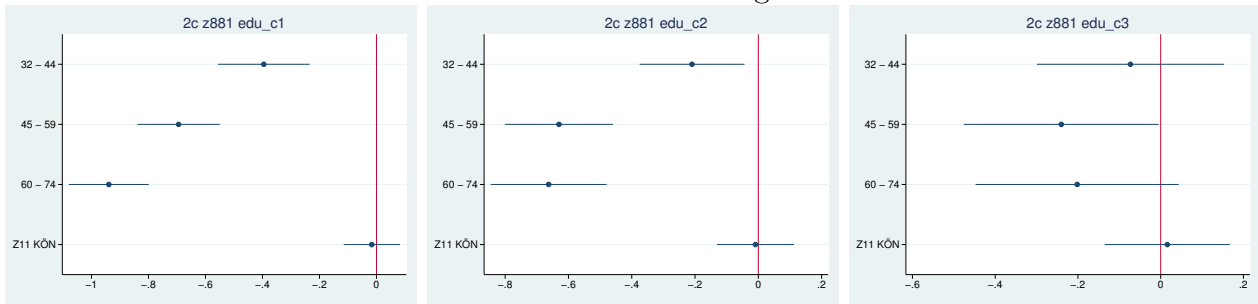


z877 'I do not like changing old habitats'

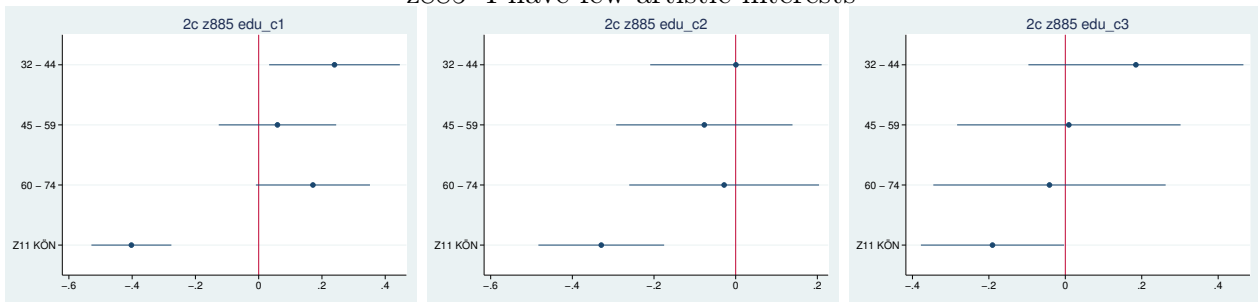


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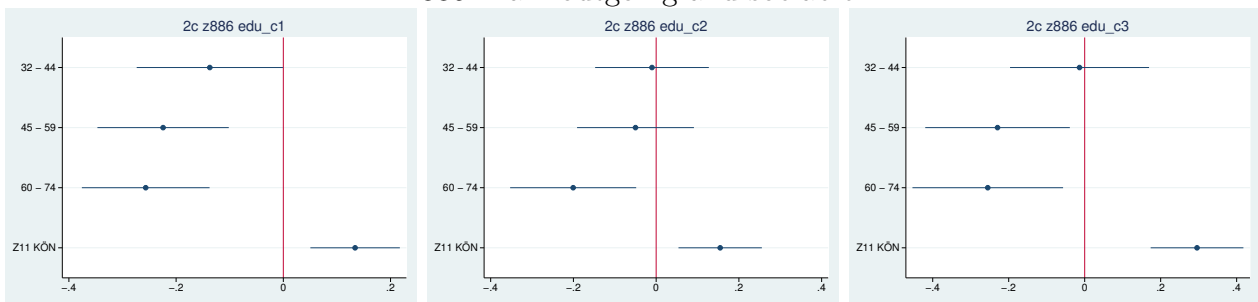
z881 'I have an active imagination'



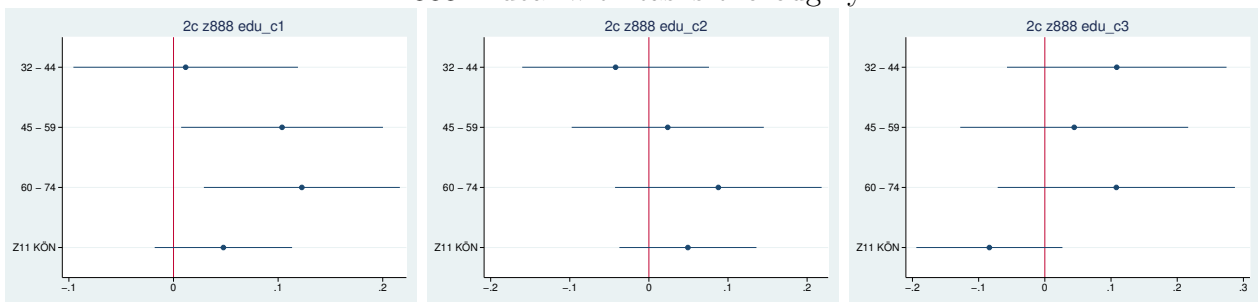
z885 'I have few artistic interests'



z886 'I am outgoing and sociable'

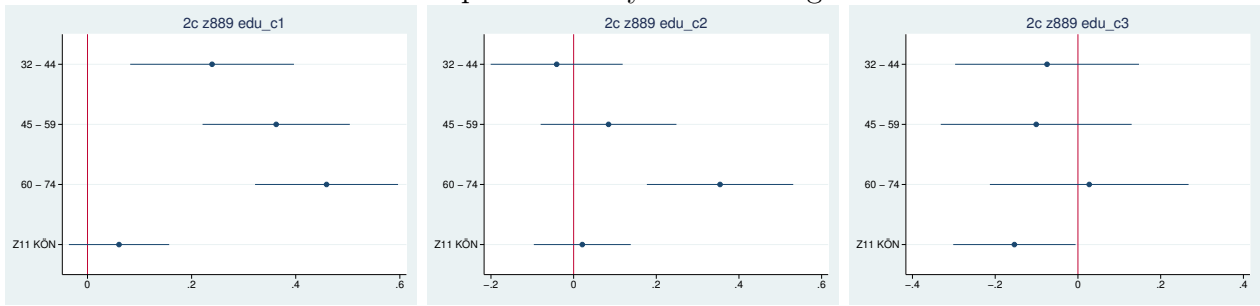


z888 'I deal with tasks thoroughly'

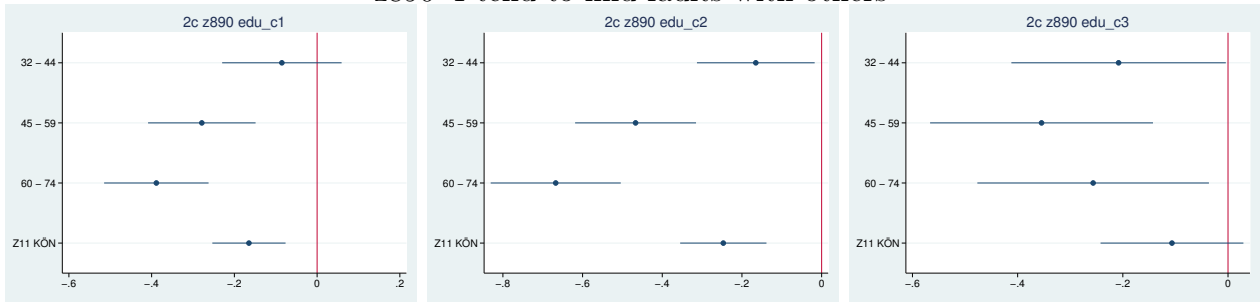


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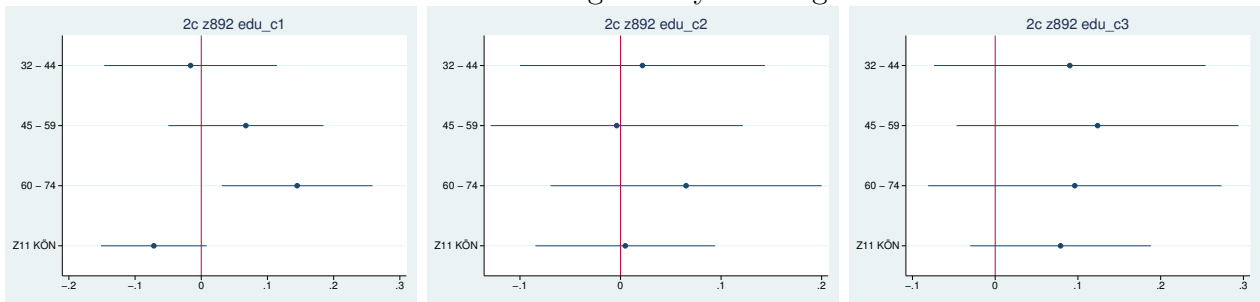
z889 'I prefer to stay in the background'



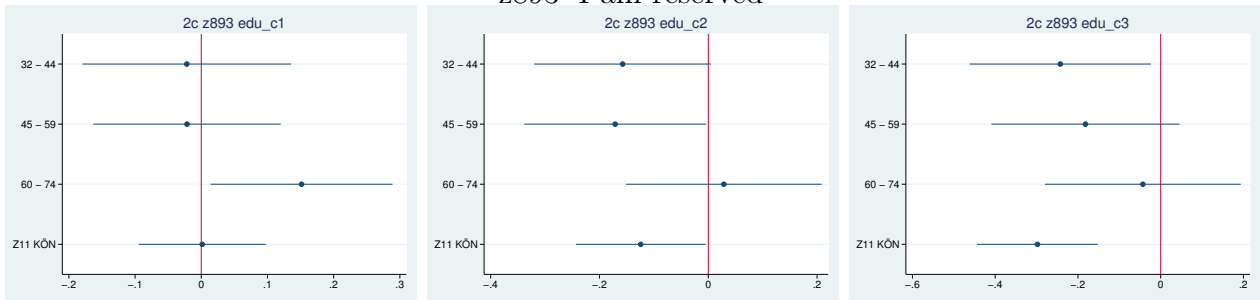
z890 'I tend to find faults with others'



z892 'I am generally trusting'

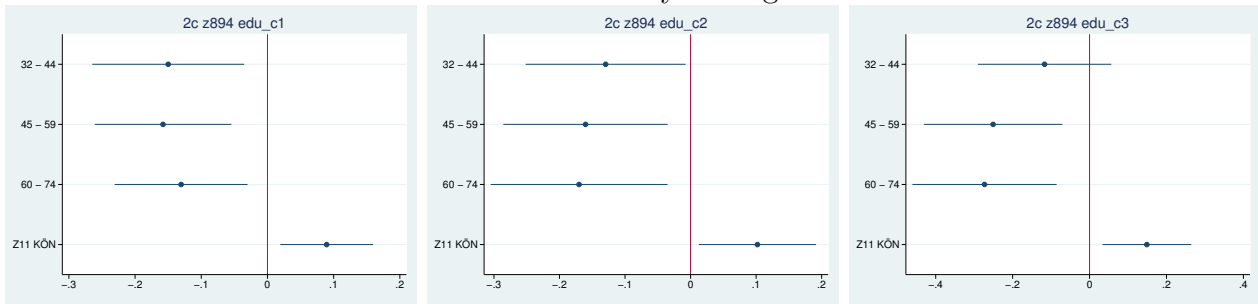


z893 'I am reserved'



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z894 'I am almost always in a good mood'



A.3 Personality Traits and the Labor Market Outcome

The following tables show the results of several simultaneous quantile regressions about the effect of personality traits and gender on the natural logarithm of wage controlled for years of education, work experience and squared work experience.

Table 17: Simultaneous Quantile Regression of Wage, Gender and Personality

	q10	q25	q50	q75	q90	q95
women	-0.316* (0.192)	-0.580*** (0.143)	-0.640*** (0.169)	-0.780*** (0.246)	-0.934*** (0.312)	-0.981* (0.520)
z615	0.012*** (0.002)	0.012*** (0.002)	0.011*** (0.002)	0.011*** (0.003)	0.012*** (0.004)	0.014*** (0.005)
z615_sqr	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000** (0.000)
z342	0.021*** (0.003)	0.027*** (0.003)	0.034*** (0.003)	0.042*** (0.004)	0.046*** (0.005)	0.058*** (0.008)
z885	0.005 (0.010)	0.008 (0.006)	-0.002 (0.006)	0.001 (0.011)	-0.002 (0.017)	0.011 (0.026)
z877	-0.014 (0.012)	-0.013 (0.011)	-0.022 (0.016)	-0.027* (0.016)	-0.024 (0.023)	-0.004 (0.025)
z881	-0.024*** (0.007)	-0.019*** (0.005)	-0.032*** (0.008)	-0.040*** (0.011)	-0.037*** (0.014)	-0.032 (0.019)
z867	0.002 (0.017)	-0.015 (0.010)	-0.015 (0.010)	-0.027** (0.013)	-0.012 (0.030)	-0.030 (0.034)
z888	0.003 (0.014)	-0.003 (0.012)	-0.012 (0.012)	-0.036* (0.019)	-0.017 (0.018)	-0.053** (0.027)
z872	0.028 (0.024)	0.037*** (0.014)	0.083*** (0.020)	0.109*** (0.016)	0.151*** (0.025)	0.182*** (0.029)
z864	0.011 (0.022)	0.013 (0.021)	0.002 (0.019)	0.019 (0.023)	-0.077* (0.040)	-0.082** (0.036)
z886	-0.024 (0.022)	-0.023* (0.012)	-0.031** (0.014)	-0.023* (0.013)	-0.012 (0.023)	-0.030 (0.026)
z893	-0.026* (0.014)	-0.026** (0.013)	-0.026* (0.014)	-0.028* (0.016)	-0.001 (0.023)	0.010 (0.035)
z889	-0.004 (0.006)	0.003 (0.005)	-0.004 (0.007)	-0.020* (0.012)	-0.034** (0.017)	-0.064*** (0.018)
z865	-0.002 (0.012)	-0.008 (0.009)	-0.016 (0.010)	-0.007 (0.014)	-0.030 (0.023)	-0.034 (0.028)

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Table 17: Simultaneous Quantile Regression of Wage, Gender and Personality

	q10	q25	q50	q75	q90	q95
z890	0.013 (0.013)	-0.008 (0.013)	0.003 (0.013)	0.006 (0.023)	0.025 (0.025)	-0.008 (0.041)
z892	0.010 (0.010)	0.007 (0.008)	0.011 (0.009)	0.013 (0.010)	0.027 (0.018)	0.006 (0.017)
z870	-0.020* (0.011)	-0.013 (0.012)	-0.010 (0.013)	-0.012 (0.017)	-0.012 (0.022)	-0.007 (0.027)
z874	-0.005 (0.014)	-0.017 (0.017)	-0.011 (0.015)	-0.006 (0.019)	0.010 (0.041)	0.041 (0.035)
z894	-0.026 (0.025)	-0.033** (0.016)	-0.064*** (0.018)	-0.078*** (0.018)	-0.102*** (0.036)	-0.093** (0.042)
woxz885	0.001 (0.011)	0.004 (0.006)	0.010 (0.007)	0.003 (0.013)	0.020 (0.019)	0.032 (0.024)
woxz877	0.009 (0.014)	-0.003 (0.014)	-0.006 (0.019)	-0.004 (0.020)	-0.040 (0.026)	-0.057* (0.031)
woxz864	-0.012 (0.023)	-0.005 (0.020)	0.009 (0.019)	0.017 (0.019)	0.124*** (0.029)	0.125*** (0.039)
woxz867	0.008 (0.020)	0.019** (0.010)	0.011 (0.013)	0.022 (0.019)	-0.000 (0.037)	0.003 (0.044)
woxz872	-0.003 (0.023)	-0.001 (0.020)	-0.034 (0.026)	-0.084*** (0.021)	-0.099** (0.039)	-0.122*** (0.044)
woxz886	0.025 (0.024)	0.021 (0.013)	-0.003 (0.017)	0.009 (0.027)	-0.019 (0.037)	0.001 (0.043)
woxz893	0.017 (0.017)	0.021 (0.015)	0.009 (0.014)	0.038** (0.017)	-0.007 (0.026)	-0.005 (0.044)
woxz865	-0.001 (0.016)	0.012 (0.016)	0.013 (0.013)	0.001 (0.018)	0.014 (0.025)	0.017 (0.036)
woxz890	-0.004 (0.017)	0.012 (0.015)	0.021 (0.017)	0.034 (0.028)	0.008 (0.034)	0.058 (0.044)
woxz874	0.009 (0.022)	0.027 (0.023)	0.020 (0.022)	0.014 (0.025)	-0.009 (0.045)	-0.022 (0.050)
woxz870	0.028* (0.016)	0.022 (0.016)	0.024 (0.015)	0.010 (0.017)	0.044* (0.025)	0.035 (0.038)
woxz894	0.018 (0.028)	0.006 (0.017)	0.042* (0.023)	0.054** (0.027)	0.045 (0.039)	0.037 (0.052)

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Table 17: Simultaneous Quantile Regression of Wage, Gender and Personality

	q10	q25	q50	q75	q90	q95
woxz876	-0.010 (0.010)	-0.013* (0.007)	-0.020** (0.009)	-0.009 (0.015)	0.002 (0.019)	0.010 (0.018)
woxz880	-0.006 (0.011)	-0.002 (0.011)	0.019** (0.009)	0.031*** (0.010)	0.026 (0.017)	-0.003 (0.030)
woxz883	0.008 (0.011)	0.017* (0.009)	0.009 (0.010)	0.018 (0.020)	0.028 (0.022)	0.052 (0.033)
woxz891	-0.002 (0.011)	0.001 (0.009)	0.007 (0.008)	0.032** (0.013)	0.040 (0.026)	0.023 (0.025)
woxz868	-0.002 (0.009)	0.011 (0.007)	0.014* (0.008)	0.005 (0.013)	0.012 (0.016)	0.026 (0.027)
Constant	4.637*** (0.128)	4.788*** (0.154)	4.997*** (0.135)	5.103*** (0.184)	5.298*** (0.406)	5.385*** (0.539)
Observations	2,114	2,114	2,114	2,114	2,114	2,114

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

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Table 16: Simultaneous Quantile Regression of Wage, Gender and Personality - Complete Results

	Model 1		Model 2	
women	-0.154***	(0.013)	-0.612***	(0.170)
z615	0.013***	(0.002)	0.013***	(0.002)
z615_sqr	-0.000***	(0.000)	-0.000***	(0.000)
z342	0.031***	(0.002)	0.037***	(0.002)
z885			0.010	(0.007)
z877			-0.027***	(0.009)
z881			-0.030***	(0.007)
z867			-0.010	(0.010)
z888			-0.019*	(0.010)
z872			0.096***	(0.012)
z864			-0.014	(0.014)
z886			-0.031**	(0.012)
z893			-0.024**	(0.011)
z889			-0.014*	(0.008)
z865			-0.017*	(0.009)
z890			0.008	(0.010)
z892			0.008	(0.009)
z870			-0.013	(0.010)
z874			-0.007	(0.013)
z894			-0.053***	(0.014)
woxz885			0.003	(0.010)
woxz877			0.000	(0.014)
woxz864			0.029	(0.020)
woxz867			0.001	(0.014)
woxz872			-0.051***	(0.019)
woxz886			0.012	(0.019)
woxz893			0.019	(0.015)
woxz865			0.012	(0.013)
woxz890			0.016	(0.015)
woxz874			0.019	(0.017)
woxz870			0.023	(0.015)
woxz894			0.025	(0.020)
woxz876			-0.013	(0.010)
woxz880			0.009	(0.013)
woxz883			0.016	(0.012)
woxz891			0.011	(0.010)
woxz868			0.004	(0.011)
Constant	4.619***	(0.029)	4.966***	(0.130)
Observations	2,580		2,114	
R-squared	0.155		0.263	

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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