Prevalence of mental illness, and the demographic and socio-economic conditions that are associated with the self-rated mental health in an adult population in Sweden

A cross-sectional study

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Bakgrund:

Andelen av den svenska befolkningen som rapporterade psykiska problem har ökat under de senaste decennierna och särskilt de senaste åren, vilket bekräftar betydelsen av att monitorera den psykiska hälsan i befolkningen.

Syfte:

Att undersöka förekomsten av psykiska problem i en population av svenska vuxna, och att analysera de oberoende sambanden mellan de demografiska och socioekonomiska förhållandena och mellan självskattat psykiskt välbefinnande och psykisk påfrestning.

Metod:

Studien baseras på den senaste undersökningen Liv och Hälsa (2022) som hade 35 169 deltagare av båda könen och från 55 kommuner i Mellansverige. Deskriptiv statistik användes för att besvara den första forskningsfrågan. Binära logistiska regressionsanalyser gjordes för att besvara den andra forskningsfrågan.

Resultat:

Kvinnor rapporterade sämre resultat för alla mentala variabler. Unga deltagare (18–29) inom varje kön rapporterade de högsta andelarna för de diagnostiserade problemen, för att ha psykisk påfrestning och inte ha bra psykiskt välbefinnande och för de allvarliga symtomen av nästan alla psykiska problem. Faktorer som var starkt och oberoende associerade med psykisk påfrestning och psykiskt välbefinnande var: Att ha blivit förringad under de senaste tre månaderna, att sakna socialt stöd och att sakna ett förvärvsarbete.

Slutsats:

Intressenter bör ägna mer uppmärksamhet åt kvinnors och ungas psykiska hälsa och åt de demografiska och socioekonomiska förhållandena som potentiella områden för intervention och förebyggande insatser. Mer forskning rekommenderas för att förbättra kvinnors och ungas psykiska hälsa och för att få en bättre förståelse av faktorerna som associeras med psykisk hälsa.

KEYWORDS:

ABSTRACT:

Background:

The proportion of the Swedish population that reported mental problems has increased during the last decades and especially the last few years, which confirms the importance of keeping track of mental health in the population.

Aim:

To investigate the prevalence of mental problems in a population of Swedish adults, and to disentangle the independent associations between the demographic and socio-economic conditions and self-rated mental wellbeing and psychological distress.

Method:

The study is based on the most recent Life and Health survey (2022) which had 35 169 responders from both genders and from 55 municipalities in central Sweden. Descriptive statistics was used to answer the first research question. Binary logistic regression analyses were done to answer the second research question.

Results:

Women reported worse results for all of the mental variables. Young participants (18-29) within each gender reported the highest proportions for the diagnosed problems, for having psychological distress and not having good mental wellbeing and for the severe symptoms of almost all of the mental problems. Factors that were strongly and independently associated with psychological distress and with mental wellbeing were: Being belittled in the last three months, lacking social support and lacking a paid job.

Conclusion:

Stake-holders should pay more attention to women's and youth's mental health, and to the demographic and socio-economic conditions as potential areas for intervention and prevention. Further research is recommended to enhance the mental health of women and youths, and to get a better understanding of the factors that are associated with mental health.

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1 BACKGROUND

1.1 Mental health as a dimension of public health

Public health has a lot of definitions, but one of the definitions that comprehensively and simply covers its basic aspects is the definition of Acheson (1988) who defined public health as: "The science and art of preventing disease, prolonging life and promoting health through organised efforts of society."

It is also relevant to define what health is in order to get a better understanding of public health. According to the constitution of the World Health Organization (WHO), health is defined as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (WHO, 1948).

Since mental health is a major part of health based on the WHO definition, it is also a major dimension of public health. In the Swedish context, mental health is considered as one of the health aspects, and mental illness is considered as a significant public health problem (Swedish Public Health Agency, 2020a). There is even an existing evidence in the international literature that mental illness (the negative side of mental health) is a serious public health problem, as mental disorders are prevalent and often comorbid, recur throughout life, are costly to treat and cause premature mortality if untreated (Keyes, 2005).

1.2 Political and institutional public health activities in Sweden, state of the art and challenges.

The general national public health goal in Sweden is to create conditions in the society for a good and equal health in the whole population, and to end the impactable health gaps within a generation; and despite that the public health in Sweden is still good and is getting better for large parts of the population from an international perspective (Swedish Public Health Agency, 2020a), health is distributed unequally in the society, where people with lower socio-economic position have worse conditions for good health compared with people with higher socio-economic position (Region Uppsala, 2022).

In general, inequality in health occurs when there are systematic health differences (in living conditions and habits) between the different social groups in the society. These differences show themselves as a gradient in health and as an accumulation of health problems in some groups with lower socio-economic status. Because of that it is important to focus on the social gradient in health which means that every step in the social hierarchy such as the level of income, education or profession, includes changed health (Swedish Public Health Agency, 2020a).

On the same page it is helpful to study the determinants of health in the society that include interactions between a wide range of factors, all the way from individual factors such as age and gender, to societal factors as in the socio-economic and environmental conditions, see figure 1 (Dahlgren & Whitehead, 1991; Region Uppsala, 2022).

That is also why it is important to do population surveys that can measure the factors above, in order to make decisions that are consistent with the public health policy that aims to have a good and equal health in the society (Region Uppsala, 2022).
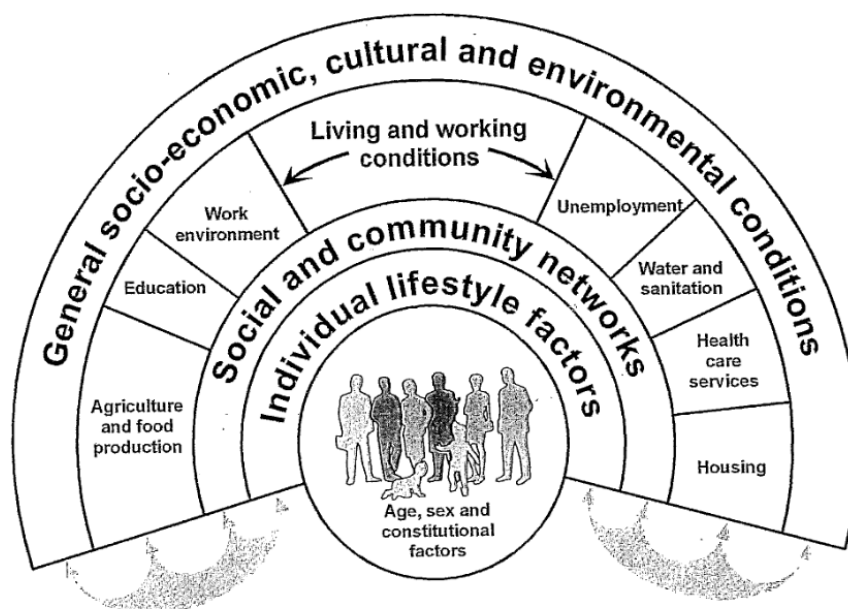

Figure 1: *The main determinants of health. Source: (Dahlgren & Whitehead, 1991)*

1.3 Concepts that are used in the area of mental health

Mental health and mental illness are topics that arouse great interest and commitment, but the concepts and the definitions that are used in this area are unclear which can lead to misunderstanding. Sometimes the same concept is used to describe a wide range of problems, from mild and self-reported problems such as anxiety or sleeping difficulties, to the more difficult diagnosed conditions such as clinical depression or schizophrenia (Swedish Public Health Agency, 2021).

This includes a risk of confusion, of misunderstanding the trends and of getting false conclusions. Because of that, many Swedish authorities including The National Board of Health and Welfare and The Public Health Agency have together presented a model (figure 2) that aims to facilitate the understanding of how the concepts relate to each other, and to describe how these concepts should be used to describe the current situation and development in Sweden. According to that model (figure 2), mental health is a combination of mental wellbeing (the positive sides of mental health) and mental illness, mental illness is then divided to mental problems or psychiatric conditions depending on whether the mental illness meets the clinical requirements for a psychiatric diagnosis (Swedish Public Health Agency, 2021; Sweden's municipalities and regions, 2020).
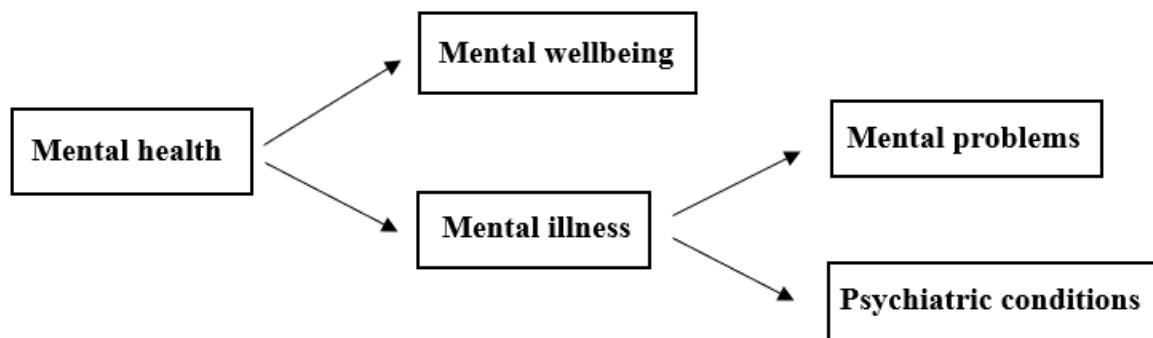

Figure 2: *Model for the concepts within mental health in Sweden. Source: (Swedish Public Health Agency, 2021; Sweden's municipalities and regions, 2020).*

1.3.1 Mental health

The concept of mental health is used when discussions about the area are held on a comprehensive level that includes the whole society. It is a concept that includes both mental wellbeing and mental illness that are different dimensions of the mental health and not each other's opposites, where people who do not have a mental illness can experience low mental wellbeing, or where people with a mental illness can have a good mental wellbeing (Sweden's municipalities and regions, 2020). It is an umbrella concept that include both the positive and the negative sides of the area (Swedish Public Health Agency, 2021).

1.3.2 Mental wellbeing

Mental wellbeing represents the positive side of mental health (Swedish Public Health Agency, 2021). It is not just about the absence of illness or problems, but rather a condition that has a unique value and that includes both wellbeing and functional ability. It is about being able to balance the positive and negative emotions, feel satisfaction with life, have good social relations, develop the inner potential and being able to feel pleasure and happiness. Mental wellbeing is also a basic resource for being able to cope with the difficulties of life (Sweden's municipalities and regions, 2020). To have a mental wellbeing means also that the individual is mostly calm, has a positive view of the future and is interested in things around (Swedish Public Health Agency, 2020a).

1.3.3 Mental illness

Mental illness is a concept that includes conditions that cause suffering either for the individual or for the surrounding environment, and that has various levels of severity and duration. It often comes with difficulties in functioning in daily life, as in the relations with others or in working or studying. These difficulties can vary depending on many factors as the characteristics of the individual, the social context and the type of the mental illness. Mental illness can then be divided into mental problems or psychiatric conditions depending on whether the mental illness meets the clinical requirements for a psychiatric diagnosis (Sweden's municipalities and regions, 2020).

1.3.4 Mental problems

Mental problems are often self-reported problems that can be mild or severe and that can last for long or short periods of time (Swedish Public Health Agency, 2021). They are common in the population and can happen to all people from time to time, as they are often normal reactions to the stresses of life. The mental problems can sometimes cause physical symptoms such as headache, backache or dizziness and they can (depending on their type and severity) affect the ability of managing important and necessary functions in daily life such as working or studying. Examples of the mental problems are: anxiety symptoms, low mood, sleeping difficulties and concentration difficulties (Sweden's municipalities and regions, 2020). Another self-reported mental health problem is psychological distress, which can be about feeling nervous, restless, worthless or having low mood; it can also be about feeling hopeless and that everything is tiring (Swedish Public Health Agency, 2020a).

In the model of mental health concepts (figure 2), the concept of mental problems is used when the problem does not fill the requirements for a psychiatric diagnosis (Swedish Public Health Agency, 2021; Sweden's municipalities and regions, 2020).

1.3.5 Psychiatric conditions

Psychiatric conditions represent the part of mental illness where the requirements for a psychiatric diagnosis are met, and what differentiate them from mental problems is that several criteria should exist to get a diagnosis by a health care professional, that the symptoms must exist for a continuous period of time (usually for 14 days at least) and that the symptoms must decrease the psychological ability to function. And despite that mental problems have usually less impact on the way of functioning than psychiatric conditions, they can in some cases turn and be developed to psychiatric conditions. Psychiatric conditions contain mental diseases and syndromes such as depressive and anxiety syndromes, and development-related mental function deviations such as ADHD (Sweden's municipalities and regions, 2020). The subsequent table (Table 1) shows the main differences between the concepts that were described earlier.

Table 1: *Characteristics of the mental health concepts.*

Concept	Positive side	Negative side	Self-reported	Diagnosis criteria
Mental health	X	X	X	X
Mental wellbeing	X		X	
Mental illness		X	X	X
Mental problems		X	X	
Psychiatric conditions		X		X

1.4 The importance and efficacy of self-rated methods

Self-rated methods are widely used to assess general and mental health of individuals within many age groups. They have shown to be valid independent predictors of mortality (Idler & Benyamini, 1997). They are simple and reliable tools that measure much more than just disease burden and have replaced clinical evaluation in survey studies (Strawbridge & Wallhagen, 1999). The literature shows also that the predictive validity of self-rated health is strong and increasing over time, and that the individuals are becoming better at assessing their own health (Schnittker & Bacak, 2014). A systematic review of the studies that were published between 1966 and 2003 found that individuals who reported poor self-rated health had a two times higher mortality risk compared with individuals who reported excellent self-rated health (DeSalvo et al., 2006).

1.5 Mental health in Sweden

Despite that the majority of the Swedish population reported good general self-rated health, the proportion that reported mental problems has increased during the last decades (Swedish Public Health Agency, 2020b).

A national population survey (Hälsa på lika villkor, Health on equal terms) which was conducted in 2022 showed that a total of 9% of the Swedish population (16-84 years) reported symptoms that indicate a severe psychological distress according to the scoring system of the instrument Kessler 6 (Kessler et al., 2002), which is an increase from 7.3% in 2020 (the first year this was measured). The proportion was higher among women and young people (16-29 years) in comparison with men and elderly (Swedish Public Health Agency, 2023a; 2022).

During the period (2006-2022), the proportion of those reporting anxiety symptoms has increased in all age groups, and the proportion of those reporting stress has increased among young people. And when it comes to suicide, the proportion of deaths per 100 000 inhabitants aged 15 years and older was unchanged during the period (2006-2021) and was in 2021 more than two times higher among men than among women, and was two times higher among people with pre-high school education than among people with post-secondary education (Swedish Public Health Agency, 2023a).

About 200 000 people received care in Sweden in 2019 for common mental disorders (CMDs) such as depression, anxiety and stress disorders. The number of people seeking care has increased over time, and it is unclear if this increase is because of real increases in the need of care or because of the increased awareness and openness, and since 2014, CMDs are among the most common reasons for sick leave in Sweden especially among women (Swedish Public Health Agency, 2020a). A register study which examined sickness absence due to psychiatric diagnoses in Sweden's working population aged 20–69 found that psychiatric diagnoses lead to longer sick leave than most other diseases and the length of sick leave has increased over time. Sickness cases (sick leave) related to mental illness have since the 1990s made up a significant part of all ongoing sickness cases, and in the first quarter of 2020 constituted 41.3% of all ongoing sickness cases (Swedish Social Insurance Agency, 2020).

1.6 Demographic, socio-economic conditions and mental health

Previous research has shown that demographic conditions of the population regarding-gender, age, country of birth and educational level are associated with mental health outcomes of that population. The survey (Health on equal terms 2022) showed that women and young people (16-29 years) reported worse results for psychological wellbeing, anxiety symptoms, stress, suicidal ideation, suicide attempts, severe feeling of loneliness and isolation and for diagnosed depression than men and elderly (65-84 years). However, sleeping difficulties had another direction regarding age, where they were higher among older persons and especially among old women (Swedish Public Health Agency, 2023a; 2023b).

A survey-based study that was conducted in central Sweden also found that being born in another European country or in a country outside Europe was significantly associated with higher odds of being extremely or moderately anxious or depressed, compared to the participants who were born in Sweden, and when adjusted for other demographic and socio-

economic variables (Molarius et al., 2009). The educational level was also associated with mental health in previous research, where low education was significantly associated with psychological distress (Dalgard et al., 2007), and with poor mental self-reported health (Kurspahić Mujčić & Mujčić, 2019).

It has also been known in the scientific field that self-rated health is strongly affected by the individuals' socio-economic conditions and lifestyle factors where poor self-rated health is paired with lower socio-economic conditions and worse lifestyle factors and the opposite for those who have better conditions and habits (Molarius et al., 2009; Oftedal et al., 2019). For example, income level and employment status can be associated with poor mental health, an American study found an inverse association between income and psychological distress, substance use disorders, suicidal ideation and attempts (McMillan et al., 2010). Another study that provided comparable evidence for many countries found that unemployment even with short spells of time has a significant negative effect on mental health for both men and women (Cygan-Rehm et al., 2017).

Two other important socio-economic factors are living situation and having social support, an English study that was based on the National Psychiatric Morbidity Survey from three different years found that the prevalence of common mental disorders (CMDs) was higher in individuals living alone than in those not living alone in all survey years, and that living alone was positively associated with CMDs (Jacob et al., 2019). Results from the Swedish survey (Liv och Hälsa, Life and Health, 2004) found also that poor social support was strongly and independently associated with the mental health symptoms of being extremely or moderately anxious or depressed (Molarius et al., 2009).

1.7 Problem formulation

Despite that there are plenty of studies that observed the characteristics of those who are reporting poor self-rated mental health, or analysed the associations between some of the demographic and socio-economic conditions and the self-rated mental health; there are just a few studies that took many aspects into account or that have been done on a large population sample.

In addition to that and as mentioned earlier, the prevalence of reported mental problems among the Swedish population has increased during the last decades and especially the last few years

which can be explained among other factors by Covid-19 and all its consequences, the hard economic situation in Sweden and in the whole world, the war in Ukraine and the military situation around Sweden. This confirms the importance of getting up to date results and estimates that help to introduce a realistic and up to date image about the current situation to the stake-holders and decision makers, and that is why it was meaningful to perform this study.

1.8 The aim of the study

The aim of this study is to investigate the prevalence of mental illness in a population of Swedish adults and to disentangle the independent associations between the demographic and socio-economic conditions and self-rated mental wellbeing and psychological distress.

1.9 Research questions

-    What is the prevalence of the mental illness in an adult population in Sweden?

-    What are the demographic and socio-economic conditions that are independently associated with self-reported mental wellbeing and psychological distress in an adult population in Sweden?

2 METHODS

2.1 Design

The study was performed using a cross sectional quantitative design and based on data from a population survey Life and Health, 2022 (Region Örebro, 2022). The used design was the most suitable one which allowed the study to reach its aim and to answer its research questions by measuring the exposures and the outcomes in the study participants at the same time (Bonita et al., 2010). The study was also observational, as it assessed the relationship between factors of interest and disease in the population, and as it did not involve any act that affects the outcomes (Petrie & Sabin, 2020).

The chosen design allowed the study to describe the proportion of the participants that reported poor self-rated mental health and their characteristics, it also allowed to analyse the associations between demographic and socio-economic conditions and the self-reported mental wellbeing and psychological distress using descriptive statistics and logistic regression (Nardi, 2018).

2.2 Sample

The sample represented the adult population in 55 municipalities that have about 1.2 million inhabitants in the regions of Uppsala, Sörmland, Värmland, Västmanland and Örebro in central Sweden; the sample consisted of individuals who were 18 years of age and older by the 31st of December 2021 (Region Uppsala, 2022; SCB, 2022a).

Inclusion criteria: Being 18 years of age and older by the 31st of December 2021 and living in one of the 55 municipalities that form the regions above.

Exclusion criteria: Being less than 18 years of age by the 31st of December 2021 and dying, emigrating, having a protected identity or lacking an address before the ID check which was done on the 20th of January 2022.

The Central Bureau of Statistics in Sweden (SCB) retrieved a sampling frame consisting of 1 239 358 people from the Register of the total Population (RTB), version 30 November 2021 which includes information from The Swedish Tax Agency about births, deaths, moves within the country, immigration and emigration (SCB, 2022a).

The sampling frame was stratified by gender (2 groups; men and women), age (5 groups; 18-29, 30-49, 50-69, 70-84, 85+ years) and geographical division (67 groups) based on county and municipality, and based also on subareas within the municipalities of Västerås and Örebro and thus, the total number of stratums was 670. From the sampling frame (1 239 358), a stratified unbound random sample of 78 835 was drawn which means that all objects within a stratum had the same probability of being included in the sample; to compensate for overcoverage, an oversampling of 1% was drawn in all stratum groups (SCB, 2022a).

Before the delivery of the selection file, a check (ID check) was done on the 20th of January 2022 to compare the people in the sample with the latest population registration data to clear out overcoverage in the form of dead, emigrated, people who have protected identities and those who lacked an address; after the check, a total of 78 384 people remained in the sample. The selection file that was delivered to Region Örebro via SCB's delivery portal contained serial numbers, names, addresses and stratum belonging of the participants (SCB, 2022a).

An established statistical calibration method was used to correct the potential deviations in the dropout, with the aim that the results will as much as possible represent the whole population in the area, and not just the people who responded to the survey (Region Uppsala, 2022).

A total of 35 169 participants replied to the survey, 18 856 (53.62%) of them were females and the rest 16 313 (46.38%) were males. The minimum age of the participants for both genders was 18 and the maximum age was 102 years old. The mean age of the whole sample was 59 years old, the standard deviation of the age was 20.14 and the median was 62 years old. See table 2 below for more details about the sample.

Table 2. *Descriptive information about the sample.*

Gender	N	%	Mean age	SD	Min	Median	Max
Females	18 856	53.62	57	20.233	18	60	102
Males	16 313	46.38	60	19.929	18	64	102
Total	35 169	100.00	59	20.141	18	62	102

The survey had a response rate of about 45% which is approximately the same (44%) as for the year 2017 (Region Uppsala, 2022), that also corresponds to an external dropout of the survey of about 55%. The digital version of the survey was used by 19 199 participants, while 15 931 answered the paper one, this information was missing for 39 participants.

There were large differences in response rate between the different age groups, where the lowest response rate was for the age group 18-29 years old, and the highest in the age group 70-84 years old (Region Uppsala, 2022).

2.3 Data collection method

The survey (Life & Health) has been conducted through collaboration between the Swedish regions of Uppsala, Sörmland, Värmland, Västmanland and Örebro. It has now been carried out for the sixth time and previous surveys were carried out in 2000, 2004, 2008, 2012 and 2017 (Region Uppsala, 2022). Life & Health (2022) included 68 questions that aimed to assess the socioeconomic conditions, general and mental health, healthcare consumption as well as lifestyle factors of the population (Region Örebro, 2022).

The questions were divided to the following categories: Health, Dental health, Contacts with healthcare, Physical activity, Eating habits, Tobacco habits, Drug habits, Gambling habits, Alcohol habits, Economic conditions, Security and social relations, Accommodation, Sexual orientation, Work and working life and questions directed to individuals 70 years old and older. The survey is attached in (Appendix 1) at the end of the thesis.

Data on background variables, including geographical location, gender, age, educational level, country of birth and income were obtained from national registers such as the Register of the total Population (RTB), the Education Register, the Income and Taxation Register (IoT) and the Occupational Register (SCB, 2022a; 2022b).

Mental wellbeing of the participants was assessed using questions in the survey that are based on the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS). The scale is a valid instrument that distinguishes mental wellbeing between subgroups in the general population (Ng Fat et al., 2017). The scale showed also adequate internal consistency and reliability in a study that had a population of Norwegian and Swedish managers (Haver et al., 2015). The test-retest one week apart showed an acceptable reliability as well, in a study of a population of deaf British sign language users in the UK (Rogers et al., 2018). The seven statements that form the scale were presented in the survey as follows:

In the last two weeks, I've been: feeling optimistic about the future, feeling useful, feeling relaxed, dealing with problems well, thinking clearly, feeling close to other people, able to make up my own mind about things (NHS Health Scotland, 2008).

For every one of the statements above, the participants could choose: "All the time" which was coded as 5, "Often" coded as 4, "Some of the time" coded as 3, "Rarely" coded as 2, and "None of the time" coded as 1. The total score (raw score) of the statements was then calculated and transformed into a metric score, where a higher raw score matches a higher metric score and a higher mental wellbeing (Stewart-Brown et al., 2009).

In the survey and for the dichotomous SWEMWBS variable, similar cut-off points to those that were used in the national public health report (Hälsa på lika villkor, Health on equal terms 2018) from the Public Health Agency of Sweden were applied, and thus the mental wellbeing of the participants was classified into two categories (as shown in table 3): Not good mental wellbeing if the metric score was < 21 (raw score < 24), and Good mental wellbeing (that merges Good- and Very good mental wellbeing) if the metric score was > 21 (raw score ≥ 24) (Swedish Public Health Agency, 2023c; Stewart-Brown et al., 2009).

Table 3: *Raw score and metric score for good/not good mental wellbeing according to SWEMWBS.*

Mental wellbeing	Raw score	Metric score
Not good	7 – 23	7.00 – 20.73
Good	24 – 35	21.54 – 35.00

The psychological distress of the participants was assessed using questions in the survey that were based on the Kessler Psychological Distress Scale K6. The scale is a short screening instrument that monitors the population prevalence of non-specific psychological distress; and that showed a good reliability (Kessler et al., 2002). The scale also showed a good sensitivity and validity in many population-based surveys (Kessler et al., 2003; Furukawa et al., 2003., Prochaska et al., 2012).

The six questions that form the scale were presented in the survey as follows: In the last month, how often did you feel: worried, without hope, restless, so depressed that nothing could cheer you up, as if everything had been exhausting, useless? (Kessler et al., 2002).

For every one of the questions above, the participants could choose: "All the time" which was coded as 4, "Most of the time" coded as 3, "Certain part of the time" coded as 2, "Small part of the time" coded as 1, and "No part of the time" coded as 0; therefore, the total score for this

question could vary between 0 and 24 where a higher score meets a higher state of psychological distress (Prochaska et al., 2012).

In the survey and for the dichotomous K6 variable, similar cut-offs to those that were used in the study of Prochaska et al. (2012) were applied, and thus the psychological distress of the participants was classified into two categories: Low psychological distress if the score is < 5; and Psychological distress (that merges Psychological- and Severe psychological distress) if the score is ≥ 5.

2.4 Procedure

The answers of the participants were collected in a data file that was compatible with STATA (statistical software) and were ready to view and analyse.

For the question about the employment status, a new variable that merges the two answer options (Long-term sick leave, more than 3 months) and (Disability pension / activity compensation) was created for analysis purposes, and also supported by the literature supporting that long-term sick leave due to mental illness is a predictor of disability pension. A study has shown that sick leave can be an important predictor for the risk of disability pension especially for mental health diagnoses in a Swedish population 16-49 years old (Kivimäki et al., 2007). This conclusion applies also for children, supported by a report from the Swedish public insurance authority which found that receiving care allowance (compensation) can be an indication that a child is going to need support from the social insurance even in adulthood, and that many children who had care allowance have activity compensation or disability pension as young adults (Swedish Social Insurance Agency, 2020). The two answer options Others (e.g. homemaker) and (Laid off) were merged also for analysis purposes.

A new variable was created also for the question about living situation for purposes of analysis, the new variable gathers and categorizes the living situations as following: Living with partner and children, living with partner, single parent, living alone and other.

2.5 Ethical considerations

This thesis was done as a part of the project Liv och Hälsa (Life and Health) which has been ethically approved by the Swedish Ethical Review Authority and given the diary number: Dnr

2021-05814- 01. The thesis also followed the Swedish law SFS (2019:504) which contains rules about the responsibility for good research practice and examination of misconduct in research, and which applies to research carried out (among others) by Swedish universities and colleges and other government authorities (The Swedish Parliament, 2019). All data were anonymized from the source and it was impossible to track responses back to responders. The protection of the information and data was taken seriously and was an important part of the thesis as it is important when conducting research in general (Swedish Research Council, 2017).

The data were saved on a safe server which belonged to the university's infrastructure and which was secured with passwords. The computers that were used to access the server and the data were secured with many passwords and protected against theft. The computer that was used to analyse the data was updated continuously to have a good protection against viruses. A special and secured VPN from the university's IT department was used to get a safe access to the data.

The survey itself could awake some undesired and unwanted emotions because it was asking about some questions that can be considered as emotional (such as asking about depression, living alone, drinking habits); but the final aim of the study was to get knowledge which will be beneficial for the whole society because it can help decision-makers to take care of the vulnerable groups in most need of care. Thus, the study was trying to maintain some sort of balance between two important bioethical principles which are: Beneficence which means in brief being beneficial to the participants and to the whole society; and Non-maleficence which means not to harm participants in any means (physically nor psychologically) (Beauchamp & Childress, 2013).

2.6 Analyses

To answer the first research question, descriptive statistics using STATA statistical software version 17 (Stata Corp LLC, 2023) and using the data file were computed to describe the prevalence of the mental problems (diagnosed and self-reported) by gender (women, men and total), and by age group (18-29, 30-49, 50-69, 70-84, 85-). The descriptive information was filled in an Excel file as presented in Appendix 3.

For the second research question, the study used dichotomous variables for the mental scales, and thus the K6 variable had the alternatives (No psychological distress, Psychological distress) and the SWEMWBS variable had the alternatives (Not good mental wellbeing, Good mental wellbeing).

Univariate analysis using Pearson's chi-squared tests were done separately to estimate the association between the outcomes of each one of the mental health scales (K6 and SWEMWBS) and each one of the demographic and socio-economic variables. Only variables that were significantly associated with a studied outcome were included in the multiple logistic regression of that outcome. Then, a logistic analysis using STATA was done and interpreted to evaluate the relationships between the demographic and socio-economic variables (that showed a significant association in the univariate analysis) and the outcomes (Ranganathan et al., 2017).

The reference category for each one of the independent variables was chosen according to the category that reported the best results, which means the category that had the lowest proportion of psychological distress for the K6 scale, and the category that had the highest proportion of good mental wellbeing for the SWEMWBS scale, except for the variables of age group and employment in both models where the first answer was used as a reference category to get a better interpretation.

The chosen confidence interval was: CI = 95%, the significance level was: $\alpha = 5\%$, and a result was considered significant if the p-value was <0.05.

3 RESULTS

There were intern dropouts in the answers of the survey and the mean percentage of the missing data for the dependent mental health variables was (6.14%). See (Appendix 2) for more details about the missing data for the dependent mental health variables.

This thesis presented, analysed and discussed the available data from the questions that were answered and not included the missing ones, because it wanted to give an accurate image that represents the sample based on the actual answers and not on predictions, and because it is impossible to track the participants who missed the answers and ask them again. See (Appendix 3) for the full details of the dependent mental health variables, and see Table 4 below for the demographic and socio-economic characteristics of the sample.

Table 4: *Demographic and socio-economic characteristics of the sample.*

	Females (n=18 856)		Males (n=16 313)		Total (n=35 169)	
	n	**%**	**n**	**%**	**n**	**%**
Age group						
18–29 years	2577	13.67	1873	11.48	4450	12.65
30–49 years	4059	21.53	2876	17.63	6935	19.72
50–69 years	5735	30.41	4926	30.20	10 661	30.31
70–84 years	5105	27.07	5029	30.83	10 134	28.82
85- years	1380	7.32	1609	9.86	2989	8.50
Total	**18 856**	**100.00**	**16 313**	**100.00**	**35 169**	**100.00**
Country of birth						
Sweden	16 400	86.97	14 223	87.20	30 623	87.08
Other northern countries	818	4.34	604	3.70	1422	4.04
Other parts of the world	1638	8.69	1483	9.09	3121	8.88
Total	**18 856**	**100.00**	**16 310**	**100.00**	**35 166**	**100.00**
Educational level						
Pre-high school	2842	16.32	3167	20.93	6009	18.47
High school	7293	41.89	7188	47.50	14 481	44.50
Post-secondary	7274	41.78	4777	31.57	12 051	37.03
Total	**17 409**	**100.00**	**15 132**	**100.00**	**32 541**	**100.00**
Income level						
Low (<60% of the national median)	4498	24.56	2088	13.11	6586	19.24
Middle (60-200% of the national median)	13 193	72.05	12 573	78.96	25 766	75.26
High (>200% of the national median)	620	3.39	1262	7.93	1882	5.50
Total	**18 311**	**100.00**	**15 923**	**100.00**	**34 234**	**100.00**
Employment						
Paid job	7802	44.99	6200	42.19	14 002	43.71
Student	956	5.51	563	3.83	1519	4.74
Unemployed or in a labor market procedure	308	1.78	285	1.94	593	1.85
Long sick leave + disability pension /activity compensation	554	3.19	283	**1.93**	837	2.61

Retiree	7460	43.02	7259	49.40	14 719	45.95
Others (e.g. homemaker + laid off)	261	1.51	104	0.71	365	1.14
Total	**17 341**	**100.00**	**14 694**	**100.00**	**32 035**	**100.00**
Economic hardship 1 (Would you/your household manage to pay an unexpected expense of SEK 13,000 within a month without borrowing or asking for help?)						
Yes	14 645	82.84	13 043	86.84	27 688	84.68
No	3034	17.16	1977	13.16	5011	15.32
Total	**17 679**	**100.00**	**15 020**	**100.00**	**32 699**	**100.00**
Economic hardship 2 (Have you been forced in the last 3 months to limit or retain from a health or dental care visit or from buying a drug prescription?)						
No	16 345	92.57	14 084	93.76	30 429	93.12
Yes	1312	7.43	937	6.24	2249	6.88
Total	**17 657**	**100.00**	**15 021**	**100.00**	**32 678**	**100.00**
Economic hardship 3 (Have you have difficulties in the last 12 months with covering the expenses related to food, rent, household bills and more?)						
No	16 575	89.48	14 700	91.65	31 275	90.49
Yes, one time	963	5.20	731	4.56	1694	4.90
Yes, many times	986	5.32	608	3.79	1594	4.61
Total	**18 524**	**100.00**	**16 039**	**100.00**	**34 563**	**100.00**
Family status						
1 Living with partner and children	2561	14.51	1785	11.95	4346	13.34
2 Living with partner	7618	43.17	7770	52.01	15 388	47.22
3 Single parent	402	2.28	209	1.40	611	1.87
4 Living alone	4727	26.78	3286	22.00	8013	24.59
5 Other	2340	13.26	1889	12.64	4229	12.98
Total	**17 648**	**100.00**	**14 939**	**100.00**	**32 587**	**100.00**
Social support (Can you get help from someone/some people if you have practical problems or are ill?)						
Yes, always	12 423	70.14	9515	63.24	21 938	66.97
Yes, most of the time	4534	25.60	4592	30.52	9126	27.86
No, mostly not	585	3.30	633	4.21	1218	3.72
No never	170	0.96	305	2.03	475	1.45
Total	**17 712**	**100.00**	**15 045**	**100.00**	**32 757**	**100.00**
Functional disability (visual, hearing, mobility impairment or impaired function).						
No	10 216	56.84	9122	59.86	19 338	58.22
Yes	7758	43.16	6117	40.14	13 875	41.78
Total	**17 974**	**100.00**	**15 239**	**100.00**	**33 213**	**100.00**
Belittled (In the last 3 months, have you experienced treatment in a condescending way?)						
No	12 345	66.73	12 583	78.57	24 928	72.23
Yes, once	5 246	28.36	2933	18.31	8179	23.70
Yes, many times	908	4.91	499	3.12	1407	4.08
Total	**18 499**	**100.00**	**16 015**	**100.00**	**34 514**	**100.00**

3.1 The prevalence of the mental illness in the study population (research question 1)

3.1.1 Reported existing diagnosis

Based on the results of the descriptive statistics, it was found that 7.61% of the study population reported that they have a diagnosed depression, with the proportion being higher among women (9.55%) in comparison with men (5.32%).

The youngest group (18-29) reported the largest proportions of a diagnosed depression within the respective genders, the proportion was (15.77%) for young women, and (10.4%) for young men (figure 3).

The results also revealed that 7.96% of the population reported that they have a diagnosed anxiety syndrome, with a higher proportion among women (10.47%) in comparison with men (5.00%).

A similar result was noticed within the respective genders where the youngest group (18-29) reported the largest proportions of a diagnosed anxiety syndrome, the proportion was (22.78%) for young women, and (9.51%) for young men (figure 4).
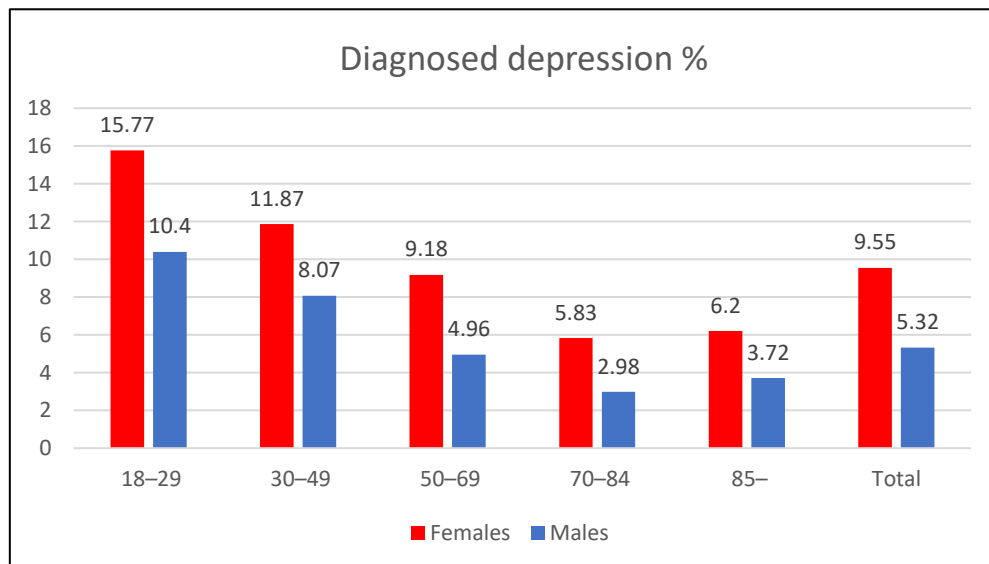
Figure 3: *Proportions of reported diagnosed depression within age groups.*
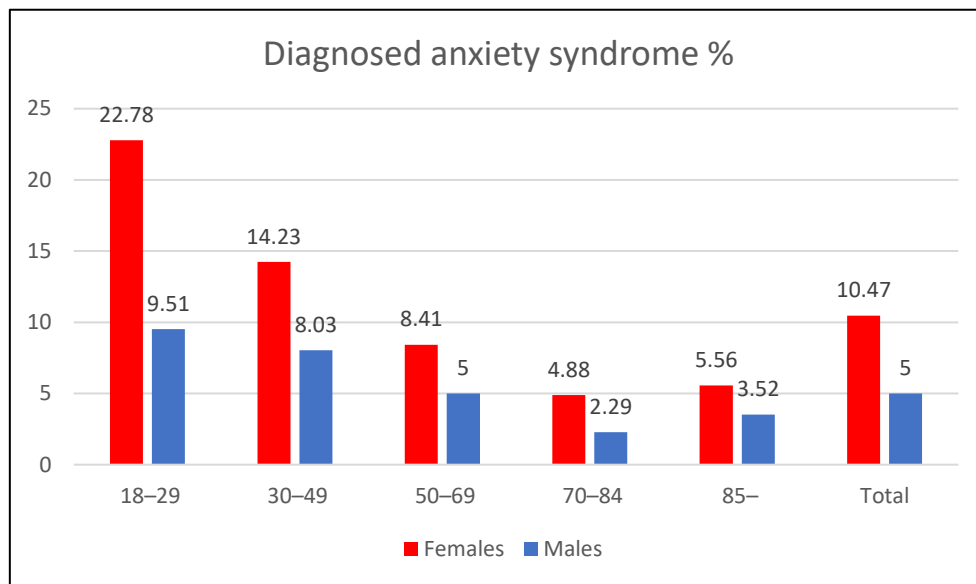
Figure 4: *Proportions of reported diagnosed anxiety syndrome within age groups.*

3.1.2 Self-rated psychological distress and mental wellbeing

It was found in the study that 37.49% of the population has psychological distress according to the Kessler Psychological Distress Scale (K6), with a higher proportion among women (41.8%) than among men (32.41%).

Within the respective genders, the youngest group (18-29) reported the largest proportions of having psychological distress, the proportion was (63.49%) for young women, and (52.4%) for young men (figure 5).

Results from this study also revealed that 15.76% of the population reported that they did not have good mental wellbeing according to the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWS), with a higher proportion of females reporting not having good mental wellbeing (16.95%) compared to men (14.35%).

The youngest group (18-29) reported the largest proportions of not having good mental wellbeing within the respective genders as well, the proportion was (27.7%) for young women, and (23.25%) for young men (figure 6).
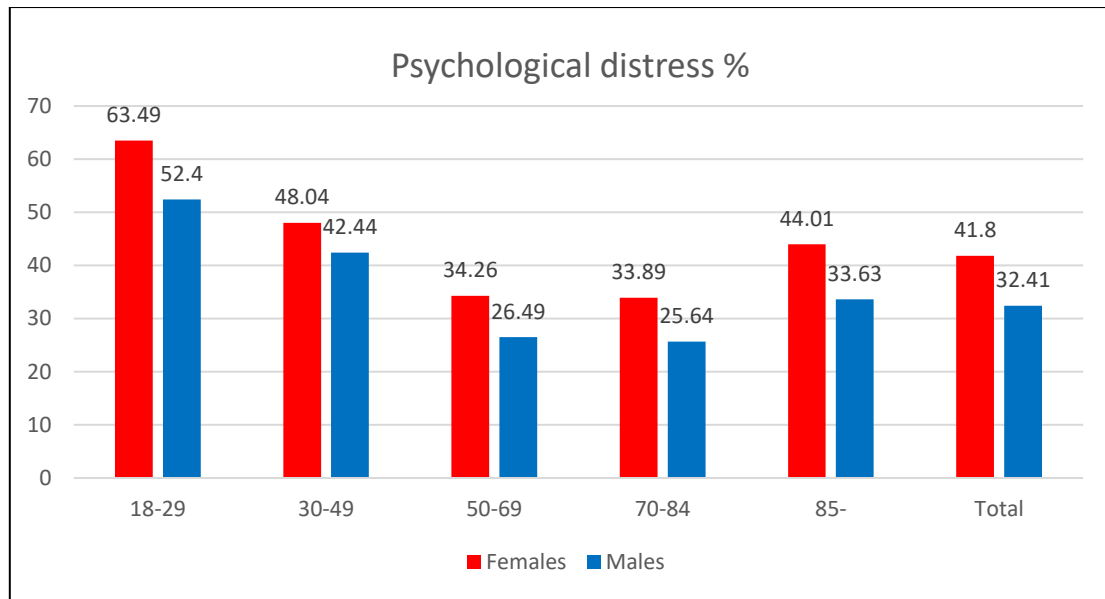
Figure 5: *Proportions of having psychological distress according to (K6) within age groups.*
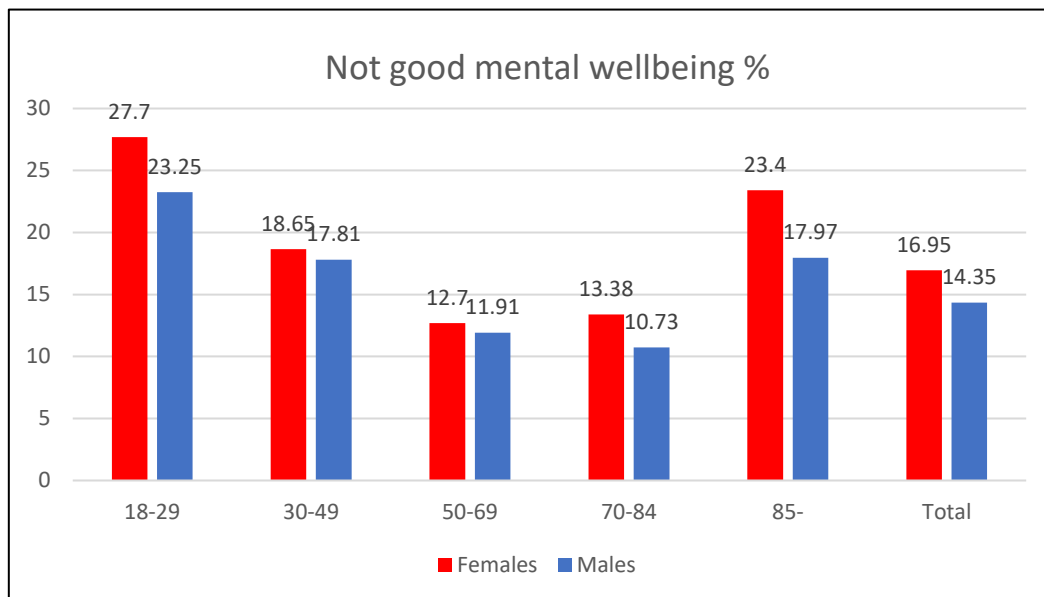
Figure 6: *Proportions of not having good mental wellbeing according to (SWEMWBS) within age groups.*

3.1.3 Self-rated mental problems

Results from this study revealed that the females of the population reported worse results than men for all of the self-rated mental problems that were included in this study (low mood,

anxiety symptoms, stress, sleeping difficulties, suicidal ideation), figure 7 shows the distribution of severe symptoms of the included problems by gender.

The group that reported the largest proportions of severe symptoms for all of the included problems within the respective genders was the youngest group (18-29), except for sleeping difficulties where females 85 years old and older reported the most severe symptoms.
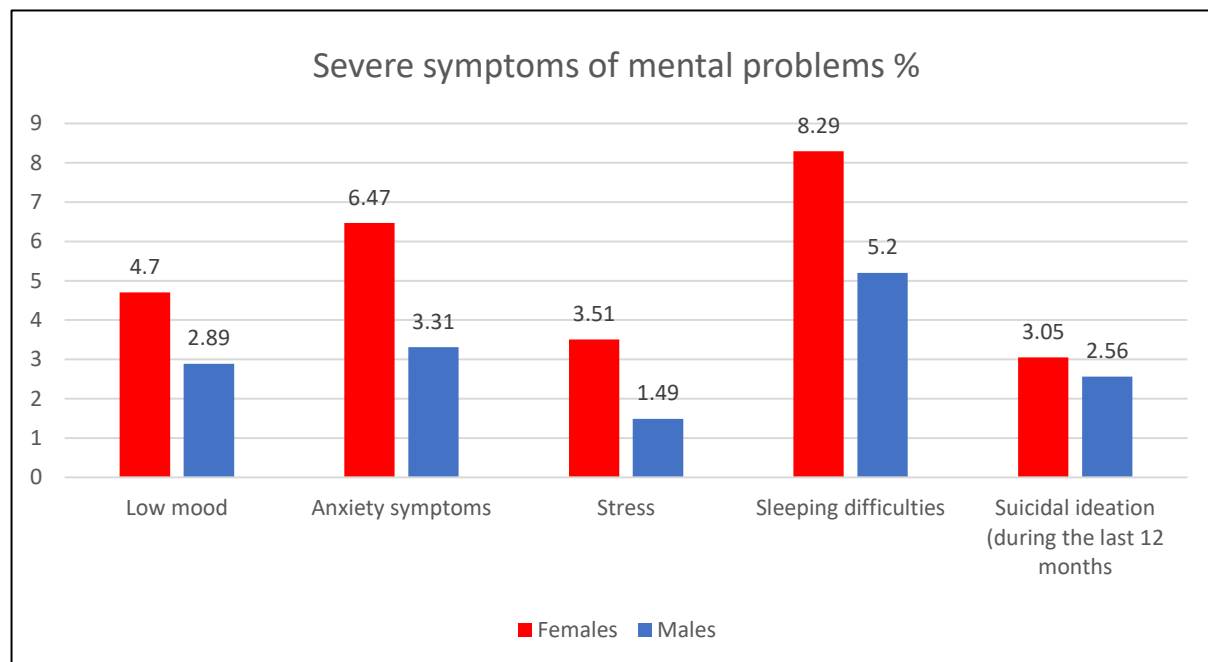
Figure 7: *Proportions of severe symptoms of the self-rated mental problems by gender.*

3.2 The demographic and socio-economic conditions that are independently associated with psychological distress and mental wellbeing in the study population (research question 2)

3.2.1 Kessler Psychological Distress Scale (K6)

3.2.1.1 Univariate analyses

The Pearson's chi-squared test showed a significant association between each one of the demographic and socio-economic variables and psychological distress, except for educational level which did not show a significant association (p = .270) and thus it is the only variable that was not included in the binary logistic regression (Table 5). See (Appendix 4) for more details about the chi-squared tests' values and the p-values.

3.2.1.2 Binary logistic regression analyses

All of the results that are interpreted below are adjusted for the other variables in the model (Table 5).

Based on this model, it was found that women had about 1.26 times higher odds of having psychological distress (OR=1.261; CI=95%; p = .000) compared to men.

It was also found in this study that being in an older age group was significantly associated with lower odds of having psychological distress compared to the reference group 18-29 for all of the alternatives. The strongest association was found in the age group 50-69 (OR=.383; CI=95%; p = .000), and for the age group 70-84 (OR=.384; CI=95%; p = .000) that had both about 0.38 times the odds of having psychological distress compared to the reference.

When it comes to the country of birth, being born in Sweden or in another country in the world was not significantly associated with having psychological distress compared to the reference group (born in another northern country).

Having a lower income level was significantly associated with higher odds of having psychological distress compared to those who had a high-income level (> 200% of the national median). The strongest association was found in the low-income level (< 60% of the national median) with about 1.44 times higher odds of having psychological distress (OR=1.442; CI=95%; p = .000) compared to the high-income level.

Table 5: *Binary logistic regression for K6.*

K6 Psychological distress	Odds ratio	P>|z|	[95% conf. interval]	
Gender				
Men	1 (ref.)			
Women	1.26182	0.000	1.192071	1.335651
Age group				
18-29 years	1 (ref.)			
30-49 years	.752247	0.000	.6636906	.8526195
50-69 years	.3830195	0.000	.3374724	.4347139
70-84 years	.3845851	0.000	.3286605	.4500257
85- years	.4935874	0.000	.4130812	.5897837
Country of birth				
Other northern countries	1 (ref.)			
Sweden	1.031249	**0.656**	.9008077	1.18058
Other parts of the world	1.128207	**0.160**	.9533819	1.33509
Income level				
High (>200% of the national median)	1 (ref.)			
Low (<60% of the national median)	1.442742	0.000	1.248795	1.666811
Middle (60-200% of the national median)	1.245083	0.001	1.098086	1.411758
Employment				
Paid job	1 (ref.)			
Student	1.605497	0.000	1.306243	1.973308
Unemployed or in a labor market procedure	2.002608	0.000	1.590046	2.522214
Long term sick leave + disability pension/ activity compensation	2.762616	0.000	2.272323	3.358699
Retiree	1.044696	**0.407**	.9421263	1.158432
Others (e.g. homemaker + laid off)	.9524369	**0.719**	.730294	1.242152
Economic hardship 1 (unexpected 13 000 SEK)				
Yes	1 (ref.)			
No	1.022481	**0.643**	.9308234	1.123164
Economic hardship 2 (forced, last 3 months)				
No	1 (ref.)			
Yes	1.397387	0.000	1.233798	1.582665
Economic hardship 3 (difficulties, 12 months)				
No	1 (ref.)			
Yes, one time	1.581465	0.000	1.374533	1.81955
Yes, many times	2.226589	0.000	1.885714	2.629084
Living situation				
Living with partner	1 (ref.)			
Living with partner and children	.9459473	**0.281**	.8549857	1.046586
Single parent	1.230482	0.047	1.002446	1.510393
Living alone	1.11198	0.003	1.037624	1.191665
Other	1.154599	0.004	1.046753	1.273558
Social support				
Yes, always	1 (ref.)			
Yes, most of the time	1.968317	0.000	1.853571	2.090167
No, mostly not	3.452903	0.000	2.969787	4.01461
No never	1.63857	0.000	1.288282	2.084101
Functional disability				
No	1 (ref.)			
Yes	2.023	0.000	1.901092	2.152726
Belittled (the last 3 months)				
No	1 (ref.)			
Yes, once	2.699329	0.000	2.531992	2.877725
Yes, many times	5.476472	0.000	4.668328	6.424514
_cons	.1056012	0.000	.0871496	.1279595

Lacking a paid job was significantly associated with higher odds of having psychological distress for all of the situations except for Retiree and Others (e.g. homemaker + laid off) which were not significantly associated with having psychological distress compared to the reference group ($p > 0.05$). The strongest association was found for (Long sick leave + disability pension /activity compensation) with about 2.76 times higher odds of having psychological distress (OR=2.762; CI=95%; $p = .000$) compared to the participants who have a paid job.

Not being able to pay an unexpected expense of 13000 SEK. (Economic hardship 1) was not significantly associated with having psychological distress compared to those who could pay that expense ($p > 0.05$). Being forced in the last 3 months to limit or retain from a health or dental care visit or from buying a drug prescription (Economic hardship 2) was significantly associated with about 1.4 times higher odds of having psychological distress (OR=1.397; CI=95%; $p = .000$) compared to those who did not have the problem. Having difficulties either once or many times in the last 12 months with covering the expenses related to food, rent, household bills and more (Economic hardship 3) was significantly associated with higher odds of having psychological distress. The association was stronger for those who had the difficulties many times where they had about 2.22 times higher odds of having psychological distress (OR=2.226; CI=95%; $p = .000$) compared to the participants who did not have difficulties.

Living as a single parent, living alone and other was also significantly associated with higher odds of having psychological distress compared to living with partner. The strongest association was found for those who are single parents with about 1.23 times higher odds of having psychological distress (OR=1.230; CI=95%; $p = .000$) compared to the participants who live with partner only.

Having less social support was also significantly associated with higher odds of having psychological distress for all of the alternatives compared to those who always had social support (reference). The strongest association was found for the participants who answered (No, mostly not) with about 3.45 times higher odds of having psychological distress (OR=3.452; CI=95%; $p = .000$) compared to the reference group.

Having a functional disability was also significantly associated with over 2 times higher odds of having psychological distress (OR=2.023; CI=95%; $p = .000$), compared to the participants who did not have a functional disability.

And finally, being belittled either once or many times in the last 3 months was significantly associated with higher odds of having psychological distress as well. The strongest association was found for those who have been belittled many times with about 5.47 times higher odds of having psychological distress (OR=5.476; CI=95%; p = .000) compared to the participants who have not been belittled in the last 3 months.

3.2.2 Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS)

3.2.2.1 Univariate analyses

The Pearson's chi-squared test showed a significant association between every one of the demographic and socio-economic variables and mental wellbeing, and thus all of them were included in the binary logistic regression (Table 6). See (Appendix 4) for more details about the chi-squared tests' values and the p-values.

3.2.2.2 Binary logistic regression analyses

All of the results that are interpreted below are adjusted for the other variables in the model (Table 6).

Based on this model, no significant differences were found between men and women in terms of mental wellbeing.

It was also found in this study that being in an older age group was significantly associated with higher odds of having good mental wellbeing for all of the alternatives compared to the reference group 18-29, except for the age group of 85 years and older that was not significantly associated with having good mental wellbeing compared to the reference group ($p > 0.05$). The strongest association was found for the age group 70-84 that had over 2 times higher odds of having good mental wellbeing (OR=2.038; CI=95%; p = .000) compared to the reference.

Being born in another northern country, or in another country in the world was not associated with different odds of having good mental wellbeing ($p > 0.05$) compared to the reference group (Born in Sweden).

Table 6: *Binary logistic regression for SWEMWBS.*

SWEMWBS Mental wellbeing	Odds ratio	P>|z|	[95% conf. interval]	
Gender				
Men	1 (ref.)			
Women	1.012383	**0.751**	.9381586	1.092481
Age group				
18-29 years	1 (ref.)			
30-49 years	1.189512	0.026	1.020547	1.386452
50-69 years	2.00477	0.000	1.710038	2.3503
70-84 years	2.038736	0.000	1.660045	2.503815
85- years	1.250473	**0.053**	.9967376	1.568801
Country of birth				
Sweden	1 (ref.)			
Other northern countries	.8957705	**0.217**	.7521871	1.066762
Other parts of the world	.9803165	**0.772**	.8570335	1.121334
Educational level				
Post-secondary	1 (ref.)			
Pre-high school	.8907485	0.042	.7968044	.9957688
High school	.9914658	**0.843**	.9110659	1.078961
Income level				
High (>200% of the national median)	1 (ref.)			
Low (<60% of the national median)	.5430696	0.000	.4354746	.6772487
Middle (60-200% of the national median)	.6527926	0.000	.532732	.7999111
Employment				
Paid job	1 (ref.)			
Student	.5853666	0.000	.4649752	.7369297
Unemployed or in a labor market procedure	.5522587	0.000	.4370283	.6978717
Long term sick leave + disability pension / activity compensation	.351792	0.000	.291799	.4241195
Retiree	.8398767	0.019	.7255627	.9722011
Others (e.g. homemaker + laid off)	.6511575	0.009	.472941	.8965307
Economic hardship 1 (unexpected 13 000 SEK)				
Yes	1 (ref.)			
No	.7919333	0.000	.7084797	.8852171
Economic hardship 2 (forced, last 3 months)				
No	1 (ref.)			
Yes	.8803933	**0.066**	.7684775	1.008608
Economic hardship 3 (difficulties, 12 months)				
No	1 (ref.)			
Yes, one time	.8085587	0.009	.6890449	.948802
Yes, many times	.6005139	0.000	.5080127	.7098582
Living situation				
Living with partner	1 (ref.)			
Living with partner and children	.9870622	**0.851**	.8616056	1.130786
Single parent	1.061936	**0.644**	.8229972	1.370245
Living alone	.8033495	0.000	.7343134	.878876
Other	.8247547	0.003	.7254198	.937692
Social support				
Yes, always	1 (ref.)			
Yes, most of the time	.4674108	0.000	.4323432	.5053227
No, mostly not	.2150219	0.000	.185071	.2498199
No never	.2782699	0.000	.2167792	.3572029
Functional disability				
No	1 (ref.)			
Yes	.4738806	0.000	.4361454	.5148805
Belittled (the last 3 months)				
No	1 (ref.)			
Yes, once	.4154559	0.000	.382568	.451171

Yes, many times	.1851765	0.000	.1593908	.2151336
_cons	41.20381	0.000	32.89006	51.61907

Having a pre-high school education was significantly associated with lower odds (about 0.9 times the odds) of having good mental wellbeing (OR=.890; CI=95%; $p = .042$) compared to the participants who had a post-secondary education (reference). Having a high school education was not significantly associated with having good mental wellbeing compared to the reference (p>0.05).

Having a lower income level was significantly associated with lower odds of having good mental wellbeing compared to the participants who had a high-income (> 200% of the national median). The strongest association was found in the low-income level (< 60% of the national median) that had about 0.54 times the odds of having good mental wellbeing (OR=.543; CI=95%; $p = .000$) compared to the high-income level.

Not having a paid job was significantly associated with lower odds of having good mental wellbeing for all of the other alternatives compared to the participants who had a paid job (reference). The strongest association was found in (Long sick leave + disability pension /activity compensation) that had about 0.35 times the odds of having good mental wellbeing (OR=.351; CI=95%; $p = .000$) compared to the reference group.

Not being able to pay an unexpected expense of 13000 SEK was significantly associated with about 0.8 times the odds of having good mental wellbeing (OR=.791; CI=95%; $p = .000$) compared to those who could pay. Being forced in the last 3 months to limit or retain from a health or dental care visit or from buying a drug prescription was not significantly associated with having good mental wellbeing compared to the participants who have not been forced to retain from health or dental care ($p > 0.05$). Having difficulties either once or many times in the last 12 months with covering the expenses related to food, rent, household bills and more either once or many times was significantly associated with lower odds of having good mental wellbeing, but was stronger for those who had them many times who had about 0.6 times the odds of having good mental wellbeing (OR=.600; CI=95%; $p = .000$) compared to the reference group (no difficulties).

Living alone and other was significantly associated with lower odds of having good mental wellbeing compared to the reference (Living with partner). The strongest association was found

for living alone that had about 0.8 times the odds of having good mental wellbeing (OR=.803; CI=95%; $p = .000$) compared to the participants who live with partner only.

Having less social support was also significantly associated with lower odds of having good mental wellbeing for all of the alternatives compared to those who always had social support (reference). The strongest association was found for the participants who answered "No, mostly not" who had about 0.21 times the odds of having good mental wellbeing (OR=.215; CI=95%; $p = .000$) compared to the reference group.

A similar significant association with mental wellbeing was also found for having a functional disability with about 0.47 times the odds of having good mental wellbeing (OR=.473; CI=95%; $p = .000$), compared to the participants who did not have a functional disability.

Lastly, being belittled either once or many times in the last 3 months was significantly associated with lower odds of having good mental wellbeing, compared to those who did not have the problem (reference). The strongest association was noticed for the participants who had been belittled many times in the last 3 months who had about 0.18 times the odds of having good mental wellbeing (OR=.185; CI=95%; $p = .000$), compared to the reference group.

4 DISCUSSION

It was found in the study that women reported worse results for all of the mental variables, and that young participants (18-29) within the respective genders reported the highest proportions for the diagnosed depression and anxiety syndrome, for having psychological distress and not having good mental wellbeing as well as for the severe symptoms of all kinds of mental problems, except for sleeping difficulties which had a higher proportion among older women. Results from this study also revealed that the factors that were strongly and independently associated with higher odds of having psychological distress and with lower odds of having good mental wellbeing were: Being belittled in the last three months, lacking social support and lacking a paid job.

4.1 Results discussion

It was found in this study that the females of the population reported worse results for all kinds of mental variables (diagnosed or self-rated) than men. They even had higher odds of having psychological distress compared with men, and when adjusted for the other variables. This is in line with results from an earlier version of the survey (Life and health, 2017) where men had generally better mental health than women, and where women reported higher proportion of diagnosed depression, and higher proportions of mild or severe symptoms of mental problems than men (Region Västmanland, 2017). This may be explained by the fact that men and women experience different kinds of mental problems, and while women tend to have more internal disorders than men (as in depression and anxiety), men tend to have more external disorders which can cause problems for others (as in antisocial behaviour or substance abuse) (Rosenfield & Mouzon, 2013).

Results from this study also revealed that young participants reported worse results for the diagnosed depression and anxiety, for having psychological distress and not having good mental wellbeing and for the severe symptoms of the mental problems, except for sleeping difficulties which was worse for older women. Being older was also significantly associated with lower odds of having psychological distress, and with higher odds of having good mental wellbeing except for the group of 85 years and older. The self-reported mental health problems at young age (16-29) have special importance as they include higher risk for later mental illness,

suicide attempts and for many injuries and accidents. There is also an association between these problems and problems with family support and formation; even somatic problems during youth age can predict mental health problems in adulthood (Swedish Public Health Agency, 2020a).

Educational level did not show a significant association with the psychological distress in the univariate analyses and thus it was not included in the binary logistic regression of the K6 scale. This is not in line with some earlier studies, for example the results from a Norwegian survey-based study which found a significant association between low level of education and psychological distress in both genders (Dalgard et al., 2007).

However, the results from this study revealed that having a pre-high school education was associated with lower odds of having good mental wellbeing compared to those who had a post-secondary education. Results from the earlier version of the survey (Life and Health, 2017) also revealed that 73% of those who had a pre-high school education experienced good mental wellbeing compared to 79% among those who had a post-secondary education (Region Västmanland, 2017). Another study from Bosnia and Herzegovina found a significant relationship between low education and poor mental and physical self-reported health (Kurspahić Mujčić & Mujčić, 2019).

It was also found in the study that having a lower income and lacking a paid job were associated with higher odds of having psychological distress (except for retiree and others), and with lower odds of having good mental wellbeing compared to having a high-income level (> 200% of the national median) and having a paid job. A study that analysed data from 3 nationally representative surveys of American adults found an inverse association between income and psychological distress (measured by the Kessler Psychological Distress Scale), with those in the lowest income quartile demonstrating significantly more distress than any of the remaining 3 income quartiles; similar results were found for substance use disorders, suicidal ideation and attempts (McMillan et al., 2010).

Unemployment can affect the mental health of the individual by loss of social relationships, income reduction and by the lower access to care services in some countries. A study that covered four countries found that unemployment had a significant negative effect on mental health in all countries, and that the effect was significant for both men and women. The study also showed that the negative impact on mental health materialises even with short spells of unemployment (Cygan-Rehm et al., 2017).

The social gradient in health can help to understand the underlying mechanisms behind these associations. It includes that every step in the social hierarchy such as the level of income, education or profession, includes changed health. The health problems can also come together in some vulnerable groups, this can be explained by that the differences in resources lead to differences in the risk of illness, to differences in the susceptibility and resistance, and to differences in the socio-economic consequences of illness (Swedish Public Health Agency, 2020a).

Results from this study revealed that living alone had the strongest significant negative association with having good mental wellbeing compared to the other living situations, it was also associated with higher odds of having psychological distress compared to living with partner. There has been a growing interest in the past decades in studying the association between living alone and common mental disorders (CMDs) especially since the proportion of individuals living alone is increasing due to factors such as population ageing and the lowering fertility rates. An English study that was based on a survey from three different years found that the prevalence of CMDs was higher in individuals living alone than in those not living alone in all survey years, and that living alone was positively associated with CMDs (Jacob et al., 2019).

Having a functional disability was also associated with higher odds of having psychological distress and with lower odds of having good mental wellbeing compared to those who did not have a disability. An American epidemiologic study found that persons with a physical disability were at increased risk of having psychiatric and substance disorders, the study found also compelling evidence of a linkage between physical disability and risk for the lifetime occurrence of both psychiatric and substance disorders, and for the past-year occurrence of psychiatric disorders (Turner et al., 2006).

People with some disabilities, migrants, national minorities, single parents and unemployed people can particularly be vulnerable to being exposed for many factors that can negatively affect their health, this can be explained by that these groups have higher risk of illness, or worse access to the care and support services of the society or often by these two factors together (Swedish Public Health Agency, 2020a).

It was also found in this study that lacking a permanent social support (if someone had practical problems or was ill), and having been belittled either once or many times in the last three months were associated with higher odds of having psychological distress, and with lower odds

of having good mental wellbeing. The strongest association in the two regression models was found for being belittled many times in the last three months. This is also consistent with the results from an earlier version of the survey (Liv och Hälsa, 2004), which also found that poor social support and being belittled in the last three months were strongly associated with mental symptoms (being extremely or moderately anxious or depressed), and that the strongest association in the whole study was found for being belittled several times in the last three months (Molarius et al., 2009). Another American study found that poor mental health and low career satisfaction were significantly correlated with experiences of harassment or belittlement among medical students, and that students who reported having been harassed or belittled were significantly more likely to be depressed, stressed, suicidal and to drink alcohol (Frank et al., 2006).

The relationship between having poor social support and position and getting worse health outcomes can be explained by that people with lower social position are often more exposed for many different factors, as social and physical living conditions and lifestyle habits that can negatively affect their health, that is why the effect of a factor is often stronger on people with low social position than on people with high position (Swedish Public Health Agency, 2020a).

4.2 Methods discussion

This thesis was survey-based and had a cross sectional design. The used design was the most suitable one, because it successfully led to answer the research questions that were about describing the prevalence of some mental problems, and analyzing the associations between the exposure (demographic and socio-economic conditions) and the outcomes (having psychological distress and not having good mental wellbeing) at the same time (Bonita et al., 2010).

The survey used the instrument Kessler 6 (K6) which is used since 2020 by the Swedish public health agency to measure the psychological distress (Swedish Public Health Agency, 2021). Mental wellbeing of the participants was measured using Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWS). The two instruments had good validity and reliability in the populations of many earlier studies (Kessler et al., 2003; Furukawa et al., 2003., Prochaska et al., 2012; Ng Fat et al., 2017; Haver et al., 2015; Rogers et al., 2018) and the population of this thesis was not an exception.

4.2.1 Limitations

The study is cross sectional, and despite being useful by giving an overview on the associations between the independent demographic and socio-economic variables and the dependent mental health outcomes, the results could not be used to establish causal conclusions.

Another limitation is that the thesis did not include the lifestyle factors of the participants (e.g. alcohol or gambling habits) in the analysis and did not consider them as confounders that may affect the association between the demographic and socio-economic factors and between the mental outcomes. This may question the internal validity as the results may not completely represent the truth about the studied population (Bonita et al., 2010).

Another limitation is that the thesis used the dichotomous variables of the mental scales which limited the scales' outcomes to only: having or not having psychological distress, and to having or not having good mental wellbeing. That allowed the study to get simple binary logistic regression models that are easy to interpret, but on the other side it limited the study from drawing conclusions about the severe psychological distress that could have a special importance as it is used by some professionals to identify individuals in need of psychiatric

care, and from drawing conclusions about the very good psychological wellbeing; and therefore, this may have also affected the internal validity of this thesis.

4.2.2 Strengths

This is a unique study describing the current mental health status of the population of mid Sweden, and investigating the associations between demographic and socioeconomic factors and mental outcomes using the most recent (Life and Health) survey data. Another strength is that the study analysed the associations between multiple and diverse factors that are related to the demographic, economic and social characteristics of the population and between some mental health outcomes, and thus it was taking many aspects into account at once.

The sample of this thesis included more than 35 000 participants that represent the adult population in 55 municipalities in central Sweden. The municipalities that were involved varied in size and population from cities to rural and small villages and had altogether more than 1,2 million inhabitants. This can be used as a reason for generalizing the results to the whole population in Sweden, beside that the results of this study were consistent with results from other surveys that were representative of the whole Swedish population such as Health on equal terms 2022 (Swedish Public Health Agency, 2023a).

4.2.3 Conclusion

Stake-holders should pay more attention to enhance the mental health of women and youths, who had worse results for almost all of the studied mental problems. They should pay more attention also to the factors that are associated with mental health such as the demographic and socio-economic conditions, as potential areas for intervention and prevention, rather than focusing solely on treatment aspects or the economic consequences of that problem. This can help to design interventions, give recommendations and make decisions that can more successfully and durably enhance the mental health to get a healthier society.

Further research is recommended about the mental health of women and youths and how to enhance it, and to get a better understanding of the factors that are associated with mental health, especially studies that can establish causal relationships between risk factors and mental health outcomes.

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Appendix 1: Life and Health survey, 2022. Source: (Region Örebro, 2022).

Hälsa

1. Hur bedömer du ditt allmänna hälsotillstånd?

☐ Mycket bra
☐ Bra
☐ Någorlunda
☐ Dåligt
☐ Mycket dåligt

2. a) Har du någon långvarig sjukdom, besvär efter olycksfall, någon nedsatt funktion eller annat långvarigt hälsoproblem?

☐ Nej

☐ Ja → **b) Medför dessa besvär att din arbetsförmåga är nedsatt eller hindrar dig i dina andra dagliga sysselsättningar?**

　　　☐ Nej, inte alls
　　　☐ Ja, i någon mån
　　　☐ Ja, i hög grad

3. Kan du utan svårighet se och urskilja vanlig text i en dagstidning?

☐ Ja, utan glasögon
☐ Ja, med glasögon
☐ Nej

4. Kan du utan svårighet höra vad som sägs i samtal mellan flera personer?

☐ Ja, utan hörapparat
☐ Ja, med hörapparat
☐ Nej

5. Kan du springa en kortare sträcka (ca 100 m)?

☐ Ja → *Gå vidare till fråga 7*
☐ Nej

6. Är du på grund av ditt hälsotillstånd begränsad i någon av följande aktiviteter?

Sätt ett kryss på varje rad.

	Ja	Nej
Kan du gå upp ett trappsteg utan besvär? *t.ex. stiga på buss eller tåg*	☐	☐
Kan du ta en kortare promenad (ca 5 min) i någorlunda rask takt?	☐	☐
Behöver du hjälpmedel eller hjälp av någon annan person för att förflytta dig utomhus?	☐	☐

7. Har du någon/några av följande <u>diagnosticerade</u> sjukdomar:

a) Högt blodtryck?

☐ Nej
☐ Ja

b) Astma?

☐ Nej
☐ Ja

c) KOL (Kroniskt Obstruktiv Lungsjukdom)?

☐ Nej
☐ Ja

d) Diabetes?

☐ Nej → *Gå vidare till fråga 9*
☐ Ja

8. Vilken typ av diabetes har du?

☐ Typ 1 diabetes
☐ Typ 2 diabetes
☐ Annan typ av diabetes
☐ Vet ej typ av diabetes

9. Har du något/några av följande besvär eller symtom:

a) Värk i skuldror, nacke eller axlar?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

b) Ryggsmärtor, ryggvärk, höftsmärtor eller ischias?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

c) Värk eller smärtor i händer, armbågar, ben eller knän?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

d) Huvudvärk eller migrän?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

e) Nedstämdhet?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

f) Ängslan, oro eller ångest?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

g) Sömnsvårigheter?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

h) Öronsus (tinnitus)?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

i) Inkontinens (urinläckage)?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

j) Återkommande mag-/tarmbesvär?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

10. **Känner du dig för närvarande stressad?**
Med stress menas ett tillstånd då man känner sig spänd, rastlös, nervös, orolig eller okoncentrerad.

☐ Inte alls
☐ I viss mån
☐ Ganska mycket
☐ Väldigt mycket

11. **I vilken utsträckning har du under de senaste 12 månaderna varit orolig för att själv bli allvarligt sjuk i covid-19?**

☐ Inte alls
☐ I viss mån
☐ Ganska mycket
☐ Väldigt mycket

12. **I vilken utsträckning har du under de senaste 12 månaderna varit orolig för att någon närstående ska bli allvarligt sjuk i covid-19?**

☐ Inte alls
☐ I viss mån
☐ Ganska mycket
☐ Väldigt mycket

13. Ange här hur väl påståendena nedan stämmer överens med hur du upplevt din situation <u>de senaste 2 veckorna</u>.

Sätt ett kryss på varje rad.

	Alltid	Oftast	Ibland	Sällan	Aldrig
Jag har haft en positiv syn på framtiden	☐	☐	☐	☐	☐
Jag har känt att jag har varit till nytta	☐	☐	☐	☐	☐
Jag har känt mig lugn	☐	☐	☐	☐	☐
Jag har hanterat problem på ett bra sätt	☐	☐	☐	☐	☐
Jag har tänkt på ett klart sätt	☐	☐	☐	☐	☐
Jag har känt mig nära andra människor	☐	☐	☐	☐	☐
Jag har själv kunnat bestämma mig om saker och ting	☐	☐	☐	☐	☐

14. Har du någon/några av följande <u>diagnosticerade</u> sjukdomar:

a) Depression?
☐ Nej
☐ Ja

b) Ångestsyndrom (t.ex. panikångestattacker, generaliserat ångestsyndrom, annat ångestsyndrom)**?**
☐ Nej
☐ Ja

15. Följande frågor handlar om hur du känt dig under <u>de senaste 30 dagarna</u>.

För varje fråga, vänligen markera den ruta som bäst beskriver hur ofta du hade denna känsla.

Under den senaste månaden, hur ofta har du känt dig...	Hela tiden	Mesta delen av tiden	Viss del av tiden	Liten del av tiden	Ingen del av tiden
...orolig?	☐	☐	☐	☐	☐
...utan hopp?	☐	☐	☐	☐	☐
...rastlös?	☐	☐	☐	☐	☐
...så pass nedstämd att inget kunnat muntra upp dig?	☐	☐	☐	☐	☐
...som att allt varit ansträngande?	☐	☐	☐	☐	☐
...värdelös?	☐	☐	☐	☐	☐

16. Har du någon gång kommit i den situationen att du allvarligt övervägt att ta ditt liv?

☐ Nej, aldrig
☐ Ja, för mer än 12 månader sedan
☐ Ja, under de senaste 12 månaderna

17. Hur lång är du?
Svara i hela centimeter. ☐☐☐ cm

18. Hur mycket väger du?
Svara i hela kilo. Om du är gravid ange
hur mycket du brukar väga. ☐☐☐ kg

19. a) Vill du förändra din vikt?

☐ Nej ☐ *Gå vidare till fråga 20*
☐ Ja, jag vill gå ner i vikt
☐ Ja, jag vill gå upp i vikt

b) Om du vill förändra din vikt, tror du att du kan klara det själv?

☐ Ja
☐ Nej, jag behöver stöd

Tandhälsa

20. Hur tycker du att din tandhälsa är?

☐ Mycket bra
☐ Ganska bra
☐ Varken bra eller dålig
☐ Ganska dålig
☐ Mycket dålig

Kontakter med vården

21. a) Har du under *de senaste 3 månaderna* besökt vården för egna besvär eller sjukdom?

☐ Nej ☐ *Gå vidare till fråga 22*
☐ Ja, fysiskt vårdbesök
☐ Ja, digitalt vårdbesök (videosamtal eller telefonsamtal)

b) Vid ditt/dina vårdbesök diskuterade ni:
Sätt minst ett kryss på varje rad.

	Nej	Ja, vid fysiskt besök på <u>vårdcentral eller</u> <u>motsvarande</u>	Ja, vid fysiskt besök på <u>sjukhus</u>	Ja, vid <u>digitalt</u> <u>besök</u>
Motionsvanor?	☐	☐	☐	☐
Matvanor?	☐	☐	☐	☐
Rökvanor?	☐	☐	☐	☐
Snusvanor?	☐	☐	☐	☐
Alkoholvanor?	☐	☐	☐	☐

Fysisk aktivitet

Matvanor

Om din aktivitet varierar under året, försök ta något slags genomsnitt. Fråga 22 handlar om regelbunden motion och träningsaktiviteter som gör att du blir andfådd och svettas medan fråga 23 handlar om måttligt ansträngande fysisk aktivitet som får dig att andas något kraftigare än normalt t.ex. promenader i rask takt, trädgårdsarbete, cykling eller simning.

22. Hur mycket tid ägnar du en vanlig vecka åt <u>fysisk träning</u> som får dig att bli andfådd, till exempel löpning, motionsgymnastik eller bollsport?

- ☐ 0 minuter/ingen tid
- ☐ Mindre än 30 minuter
- ☐ 30–59 minuter (0,5–1 timme)
- ☐ 60–89 minuter (1–1,5 timmar)
- ☐ 90–119 minuter (1,5–2 timmar)
- ☐ 2 timmar eller mer

23. Hur mycket tid ägnar du en vanlig vecka åt <u>vardagsaktiviteter</u>, till exempel promenader, cykling eller trädgårdsarbete?

Räkna samman all tid.

- ☐ 0 minuter/ingen tid
- ☐ Mindre än 30 minuter
- ☐ 30–59 minuter (0,5–1 timme)
- ☐ 60–89 minuter (1–1,5 timmar)
- ☐ 90–149 minuter (1,5–2,5 timmar)
- ☐ 150–299 minuter (2,5–5 timmar)
- ☐ 5 timmar eller mer

24. Hur mycket <u>sitter</u> du under ett normalt dygn?

- ☐ Mer än 12 timmar 10–
- ☐ 12 timmar
- ☐ 7–9 timmar
- ☐ 4–6 timmar
- ☐ 1–3 timmar
- ☐ Mindre än 1 timme
- ☐ Sitter eller ligger mer än 12 timmar per dygn på grund av funktionsnedsättning

25. Hur ofta äter du grönsaker och rotfrukter?

Gäller alla typer av grönsaker, baljväxter och rotfrukter (utom potatis). Gäller färska, frysta, konserverade, stuvade grönsaksjuicer, grönsakssoppor m.m.

- ☐ 3 gånger per dag eller oftare
- ☐ 2 gånger per dag
- ☐ 1 gång per dag
- ☐ 5–6 gånger per vecka
- ☐ 3–4 gånger per vecka
- ☐ 1–2 gånger per vecka
- ☐ Mindre än 1 gång per vecka eller aldrig

Tobaksvanor

26. a) Röker du?

- ☐ Nej   ☐ *Gå vidare till fråga 27*
- ☐ Ja, ibland
- ☐ Ja, dagligen

b) Vill du sluta röka?

- ☐ Ja, och jag tror att jag kan klara det själv
- ☐ Ja, men jag behöver stöd
- ☐ Nej

27. a) Använder du snus som innehåller tobak (portion- eller lössnus)?

- ☐ Nej
- ☐ Ja, ibland
- ☐ Ja, dagligen

b) Använder du tobaksfritt nikotinsnus (nikotinpåsar/"vitt snus")?

- ☐ Nej
- ☐ Ja, ibland
- ☐ Ja, dagligen

Fråga till dig som snusar, övriga ☐ *Gå till fråga 28*
c) Vill du sluta snusa?

- ☐ Ja, och jag tror att jag kan klara det själv
- ☐ Ja, men jag behöver stöd
- ☐ Nej

Drogvanor

Alkoholvanor

28. Har du någon gång använt cannabis (t.ex. hasch eller marijuana)?

☐ Nej
☐ Ja, för mer än 12 månader sedan
☐ Ja, under de senaste 12 månaderna
☐ Ja, under de senaste 30 dagarna

29. Har du någon gång använt receptbelagda mediciner (narkotikaklassade läkemedel t.ex. Tramadol eller bensodiazepiner) på annat sätt än läkare ordinerat?

Det vill säga att du tagit sådana läkemedel utan läkares ordination, oftare än vad läkare ordinerat eller större mängd än vad läkare ordinerat.

☐ Nej
☐ Ja, för mer än 12 månader sedan
☐ Ja, under de senaste 12 månaderna
☐ Ja, under de senaste 30 dagarna

Spelvanor

30. Har du någon gång under de senaste 12 månaderna spelat för mer än du verkligen har råd att förlora?

Med spel menas till exempel trisslott, bingolotto, kasinospel, tips, spel på hästar eller liknande och spel om pengar över Internet såsom poker eller vadslagning.

☐ Nej
☐ Ja

Med "alkohol" menas folköl, mellan-/starköl, alkoholstark cider, vin, starkvin och sprit.
Besvara frågorna så noggrant och ärligt som möjligt.

Med ett "glas" menas:

50 cl folköl	33 cl starköl	10-15 cl vitt eller rött vin	5-8 cl starkvin	4 cl sprit t ex whisky

31. Hur ofta har du druckit alkohol under de senaste 12 månaderna?

☐ 4 gånger/vecka eller mer 2–
☐ 3 gånger/vecka
☐ 2–4 gånger/månad
☐ 1 gång/månad eller mer sällan

☐ Aldrig ☐ *Gå vidare till fråga 34*

32. Hur många "glas" (se exempel) dricker du en typisk dag då du dricker alkohol?

☐ 1–2
☐ 3–4
☐ 5–6
☐ 7–9
☐ 10 eller fler
☐ Vet inte

33. Hur ofta dricker du sex "glas" eller fler vid samma tillfälle?

☐ Dagligen eller nästan varje dag
☐ Varje vecka
☐ Varje månad
☐ Mer sällan än en gång i månaden
☐ Aldrig

Ekonomiska förhållanden

34. Skulle du/ditt hushåll inom en månad klara av att betala en oväntad utgift på 13 000 kronor utan att låna eller be om hjälp?

☐ Ja
☐ Nej

35. Har det under <u>de senaste 12 månaderna</u> hänt att du haft svårigheter att klara de löpande utgifterna för mat, hyra, räkningar med mera?

☐ Nej
☐ Ja, vid ett tillfälle
☐ Ja, vid flera tillfällen

36. Fanns det ekonomiska svårigheter i familjen under din uppväxt?

☐ Ja, under hela uppväxten
☐ Ja, under en stor del av uppväxten
☐ Ja, under en mindre del av uppväxten
☐ Nej

37. Har det under <u>de senaste 3 månaderna</u> hänt att du tvingats begränsa eller avstå något av följande av ekonomiska skäl?

Flera alternativ kan anges.

☐ Ja, sjukvårdsbesök
☐ Ja, läkemedelsuttag
☐ Ja, tandvårdsbesök
☐ Inte avstått något av ovanstående

Trygghet och sociala relationer

38. Tycker du att man i allmänhet kan lita på de flesta människor?

☐ Ja
☐ Nej

39. Har du någon du kan dela dina innersta känslor med och anförtro dig åt?

☐ Ja
☐ Nej

40. Kan du få hjälp av någon/några personer om du har praktiska problem eller är sjuk?

Till exempel få råd, låna saker, hjälp med matinköp, reparationer eller liknande.

☐ Ja, alltid
☐ Ja, för det mesta
☐ Nej, för det mesta inte
☐ Nej, aldrig

41. Har du omvårdnad av någon anhörig eller vän som är långvarigt sjuk eller har andra nedsatta funktioner?

☐ Nej
☐ Ja

42. Har du under de senaste 3 månaderna upplevt att någon behandlat dig på ett nedlåtande sätt?

☐ Nej
☐ Ja, någon gång
☐ Ja, flera gånger

43. Upplever du besvär av ensamhet och isolering?

☐ Nej
☐ Ja, lätta besvär
☐ Ja, svåra besvär

44. Händer det att du avstår från att gå ut ensam av rädsla för att bli överfallen, rånad eller på annat sätt ofredad?

☐ Nej
☐ Ja, ibland
☐ Ja, ofta

45. a) Har du under de senaste 12 månaderna blivit utsatt för fysiskt våld?

☐ Nej ☐ *Gå vidare till fråga 46*
☐ Ja

b) Var skedde våldet?
Flera alternativ kan anges.

☐ På arbetsplatsen/i arbetet/i skolan
☐ I hemmet
☐ I annans bostad
☐ I bostadsområdet
☐ På allmän plats/på nöjesställe
☐ På eller i anslutning till tåg, buss eller annat färdmedel
☐ Någon annanstans

46. Har du under de senaste 12 månaderna blivit utsatt för hot eller hotelser om våld så att du blev rädd?

☐ Ja
☐ Nej

47. Vilket förtroende har du för följande institutioner/politiker i samhället?

Sätt ett kryss på varje rad.

	Mycket stort	Ganska stort	Inte särskilt stort	Inget alls	Har ingen åsikt
Hälso- och sjukvården	☐	☐	☐	☐	☐
Äldreomsorgen	☐	☐	☐	☐	☐
Barnomsorgen	☐	☐	☐	☐	☐
Skolan	☐	☐	☐	☐	☐
Polisen	☐	☐	☐	☐	☐
Arbetsförmedlingen	☐	☐	☐	☐	☐
Försäkringskassan	☐	☐	☐	☐	☐
Riksdagen	☐	☐	☐	☐	☐
Politikerna i din region	☐	☐	☐	☐	☐
Politikerna i din kommun	☐	☐	☐	☐	☐
Folkhälsomyndigheten	☐	☐	☐	☐	☐

48. Hur många timmar per vecka i genomsnitt lägger du ned på arbete i hemmet (som inte är yrkesarbete)?

Exempelvis sköta barn, vårda anhöriga, handla, laga mat, sköta ekonomin, tvätta, städa, underhålla bil, hus och trädgård.

☐ 0–2 timmar/vecka
☐ 3–10 timmar/vecka
☐ 11–20 timmar/vecka
☐ 21–30 timmar/vecka
☐ 31 timmar/vecka eller mer

49. Upplever du att hemarbetet är betungande?

☐ Aldrig
☐ Sällan
☐ Ibland
☐ För det mesta
☐ Alltid

50. Har du under de senaste 12 månaderna regelbundet deltagit i aktiviteter tillsammans med andra?

Exempelvis sport, musik/teater, studiecirkel, religiös sammankomst, sångkör, politisk förening eller annan föreningsverksamhet.

☐ Ja
☐ Nej

51. Hur ser du på framtiden för din personliga del?

☐ Mycket optimistiskt
☐ Ganska optimistiskt
☐ Varken optimistiskt eller pessimistiskt
☐ Ganska pessimistiskt
☐ Mycket pessimistiskt

Boende

52. a) Vem/vilka bor du tillsammans med under större delen av veckan?

Du kan ange flera alternativ.

☐ Ingen
☐ Föräldrar/syskon
☐ Make/maka/sambo/partner
☐ Barn under 18 år
☐ Barn 18 år eller äldre
☐ Andra vuxna

Fråga till dig med barn under 18 år:

52. b) Behöver du stöd i din roll som förälder?

(stöd från t.ex. mödra-/barnavårdscentraler, familjecentraler, elevhälsan, föreningslivet eller annan aktör)

☐ Ja, och jag får det stöd jag har behov av
☐ Ja, men jag skulle behöva mer stöd
☐ Nej

53. Hur bor du?

☐ Villa (småhus)
☐ Radhus/kedjehus/parhus
☐ Lägenhet (flerbostadshus)　　　　　☐ *Gå vidare till fråga 55*
☐ Särskilt boende (t.ex. äldreboende, gruppboende)
☐ Annat

54. Vilket ägarförhållande (upplåtelseform) gäller för ditt boende?

☐ Äganderätt/bostadsrätt
☐ Hyresrätt – förstahandskontrakt
☐ Hyr mitt boende – ej förstahandskontrakt
☐ Annat (t.ex. inneboende)

Här följer två påståenden som ger uttryck för social sammanhållning eller tillit till människor i det område där man bor.

55. I vilken utsträckning stämmer följande påståenden in på det område där du bor?

a) Man kan lita på människorna som bor i det här området.

☐ Stämmer mycket väl
☐ Stämmer ganska väl
☐ Stämmer inte särskilt väl
☐ Stämmer inte alls

b) I det här området kan man känna sig säker och trygg för att inte bli angripen eller utsatt för hot.

☐ Stämmer mycket väl
☐ Stämmer ganska väl
☐ Stämmer inte särskilt väl
☐ Stämmer inte alls

56. Om du tänker på de senaste 12 månaderna i eller i närheten av din bostad. I vilken utsträckning besväras du av...

Med "i eller i närheten av din bostad" menas inomhus samt utomhus alldeles i närheten, som t.ex. på balkong, på innergård, i trädgård eller vid entrén.

Sätt ett kryss på varje rad.	Väldigt mycket	Mycket	Måttligt	Ganska lite	Inte alls
... buller eller andra ljud från trafik (t.ex. väg-/tågtrafik)?	☐	☐	☐	☐	☐
... buller eller andra ljud från vägarbete, renhållning eller liknande?	☐	☐	☐	☐	☐
... grannar?	☐	☐	☐	☐	☐
... fukt och/eller mögel?	☐	☐	☐	☐	☐
... dålig inomhusluft (t.ex. torr eller unken luft)?	☐	☐	☐	☐	☐
... bilavgaser?	☐	☐	☐	☐	☐
... andras tobaksrök?	☐	☐	☐	☐	☐

57. Hur ofta är du utomhus i park, natur- eller grönområden (t.ex. går promenader eller cyklar)?

☐ Varje dag
☐ Några gånger per vecka
☐ Några gånger per månad
☐ Någon eller några gånger under året
☐ Aldrig

Sexuell läggning

58. Hur definierar du din sexuella läggning?

- [ ] Heterosexuell
- [ ] Bisexuell
- [ ] Homosexuell
- [ ] Annat
- [ ] Jag vet inte

Arbete och arbetsliv

59. Vilken är din huvudsakliga sysselsättning?

Välj det alternativ som stämmer bäst in på din huvudsakliga sysselsättning. Om du för tillfället är t.ex. föräldraledig väljer du det du är föräldraledig ifrån.

- [ ] Förvärvsarbetande – fast-/tillsvidareanställning
- [ ] Förvärvsarbetande – tillfällig anställning (t.ex. projektanställning, timanställning)
- [ ] Förvärvsarbetande – egen företagare
- [ ] Studerande
- [ ] Permitterad
- [ ] Arbetslös eller i en arbetsmarknadsåtgärd
- [ ] Långtidssjukskriven, mer än 3 månader
- [ ] Har sjuk-/aktivitetsersättning
- [ ] Ålderspensionär
- [ ] Annat (t.ex. hemmafru/hemmaman)

Frågor till dig som förvärvsarbetar (gäller även dig som är föräldraledig, tjänstledig eller sjukskriven).

Du som inte förvärvsarbetar [ ] *Gå vidare till fråga 66*

60. Känner du att din huvudsakliga sysselsättning tar så mycket av din tid att det påverkar privatlivet negativt?

- [ ] Ofta
- [ ] Ibland
- [ ] Sällan
- [ ] Aldrig

61. Hur trivs du med ditt nuvarande arbete?

- [ ] Mycket bra
- [ ] Ganska bra
- [ ] Varken bra eller dåligt
- [ ] Ganska dåligt
- [ ] Mycket dåligt

62. Är du orolig för att förlora ditt arbete inom det närmaste året?

- [ ] Ja
- [ ] Nej

63. Hur ofta förekommer följande inslag i ditt arbete?

a) Jag är utsatt för buller/störande ljud (måste höja rösten vid samtal)

- [ ] Varje dag
- [ ] Några dagar i veckan
- [ ] Mera sällan
- [ ] Aldrig

b) Jag utför upprepade och ensidiga arbetsrörelser

- [ ] Varje dag
- [ ] Några dagar i veckan
- [ ] Mera sällan
- [ ] Aldrig

64. Pendlar du till din arbetsplats?

Med pendling menas att din arbetsplats ligger i en annan kommun än din hemort.

- [ ] Nej
- [ ] Ja

65. Hur många dagar har du under de senaste 12 månaderna varit borta från arbetet på grund av dålig hälsa?

- [ ] Inga dagar
- [ ] 1–7 dagar
- [ ] 8–30 dagar
- [ ] Fler än 30 dagar

Till dig som är 70 år och äldre

Du som är yngre, gå vidare till nästa sida och hoppa över frågorna nedan.

66. Har du någon gång under <u>de senaste 12 månaderna</u> fallit omkull och skadat dig?

- ☐ Nej
- ☐ Ja, en gång
- ☐ Ja, flera gånger

67. Har du god aptit?

- ☐ Alltid
- ☐ Ofta
- ☐ Sällan
- ☐ Aldrig

68. a) Använder du några receptbelagda läkemedel?

- ☐ Nej
- ☐ Ja

Om ja

b) Hur många olika sorters receptbelagda läkemedel använder du?

- ☐ 1–4 stycken
- ☐ 5–9 stycken
- ☐ 10 stycken eller fler

Till sist

Finns det någon annan fråga som är viktig för dig eller har du några andra synpunkter på undersökningen?

....

....

....

....

....

....

....

....

....

....

....

....

Ett hjärtligt tack
för din medverkan!

Det ifyllda formuläret skickar du tillbaka i det bifogade svarskuvertet.
Du behöver inte använda frimärken.

Kontakta oss gärna:

Frågor om datainsamlingen eller för att avböja deltagande:

Institutet för kvalitetsindikatorer (Indikator)
Tel. 031-730 31 20   E-post: info@indikator.org

Frågor om undersökningens syfte:

Region Uppsala   livohalsa@regionuppsala.se
Region Sörmland   livohalsa@regionsormland.se
Region Västmanland   livohalsa@regionvastmanland.se
Region Värmland   livohalsa@regionvarmland.se
Region Örebro län   livohalsa@regionorebrolan.se

Har du förlorat ditt svarskuvert? Skicka enkäten portofritt till: FRISVAR Institutet för kvalitetsindikatorer 204 65 081 400 99 GÖTEBORG

Appendix 2: Missing data for the dependent mental health variables.

	Females (n=18 856)		Males (n=16 313)		Total (n=35 169)	
	n	%	n	%	n	%
Depression	1078	5.72	1230	7.54	2308	6.56
Anxiety syndrom	1097	5.82	1238	7.59	2335	6.64
Psychological distress	1292	6.85	1422	8.72	2714	7.72
Mental wellbeing	1219	6.46	1345	8.24	2564	7.29
Low mood	992	5.26	1158	7.10	2150	6.11
Anxiety symptoms	202	1.07	153	0.94	355	1.01
Stressed	993	5.27	1153	7.07	2146	6.10
Sleeping difficulties	962	5.10	1148	7.04	2110	6.00
Suicidal ideation	1254	6.65	1516	9.29	2770	7.88

Appendix 3: Mental health problems by gender and age group.

	Women											All		Men											All	
	18–29 years		30–49 years		50–69 years		70–84 years		85– years				18–29 years		30–49 years		50–69 years		70–84 years		85– years			
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Diagnosed depression																										
No	2056	84.23	3362	88.13	4945	90.82	4568	94.17	1150	93.80	16 081	90.45	1422	89.60	2414	91.93	4392	95.04	4630	97.02	1422	96.28	14 280	94.68
Yes	385	15.77	453	11.87	500	9.18	283	5.83	76	6.20	1697	9.55	165	10.40	212	8.07	229	4.96	142	2.98	55	3.72	803	5.32
Total	2441	100.00	3815	100.00	5445	100.00	4851	100.00	1226	100.00	17 778	100.00	1587	100.00	2626	100.00	4621	100.00	4772	100.00	1477	100.00	15 083	100.00
Diagnosed anxiety syndrom																										
No	1881	77.22	3273	85.77	4991	91.59	4598	95.12	1156	94.44	15 899	89.53	1436	90.49	2416	91.97	4389	95.00	4656	97.71	1424	96.48	14 321	95.00
Yes	555	22.78	543	14.23	458	8.41	236	4.88	68	5.56	1860	10.47	151	9.51	211	8.03	231	5.00	109	2.29	52	3.52	754	5.00
Total	2436	100.00	3816	100.00	5449	100.00	4834	100.00	1224	100.00	17 759	100.00	1587	100.00	2627	100.00	4620	100.00	4765	100.00	1476	100.00	15 075	100.00
Psychological distress (K6)																										
No psychological distress	880	36.51	1975	51.96	3563	65.74	3155	66.11	650	55.99	10 223	58.20	744	47.60	1493	57.56	3378	73.51	3495	74.36	955	66.37	10 065	67.59
Psychological distress	1530	63.49	1826	48.04	1857	34.26	1617	33.89	511	44.01	7341	41.80	819	52.40	1101	42.44	1217	26.49	1205	25.64	484	33.63	4826	32.41
Total	2410	100.00	3801	100.00	5420	100.00	4772	100.00	1161	100.00	17 564	100.00	1563	100.00	2594	100.00	4595	100.00	4700	100.00	1439	100.00	14 891	100.00
Mental wellbeing (SWEMWBS)																										
Not good mental wellbeing	674	27.70	712	18.65	690	12.70	639	13.38	275	23.40	2990	16.95	368	23.25	466	17.81	548	11.91	507	10.73	259	17.97	2148	14.35
Good mental wellbeing	1759	72.30	3105	81.35	4745	87.30	4138	86.62	900	76.60	14 647	83.05	1215	76.75	2151	82.19	4053	88.09	4219	89.27	1182	82.03	12 820	85.65
Total	2433	100.00	3817	100.00	5435	100.00	4777	100.00	1175	100.00	17 637	100.00	1583	100.00	2617	100.00	4601	100.00	4726	100.00	1441	100.00	14 968	100.00
Low mood																										
No	1264	51.59	2468	64.27	3809	69.72	3366	69.10	765	61.69	11 672	65.34	1019	63.85	1867	70.56	3591	77.68	3775	78.93	1109	73.59	11 361	74.97
Yes, mild symptoms	892	36.41	1168	30.42	1475	27.00	1391	28.56	427	34.44	5353	29.97	455	28.51	664	25.09	926	20.03	940	19.65	371	24.62	3356	22.14
Yes, severe symptoms	294	12.00	204	5.31	179	3.28	114	2.34	48	3.87	839	4.70	122	7.64	115	4.35	106	2.29	68	1.42	27	1.79	438	2.89
Total	2450	100.00	3840	100.00	5463	100.00	4871	100.00	1240	100.00	17 864	100.00	1596	100.00	2646	100.00	4623	100.00	4783	100.00	1507	100.00	15 155	100.00
Anxiety symptoms																										
No	922	36.07	2261	56.12	3760	66.15	3307	65.59	780	58.08	11 030	59.13	1037	56.11	1922	67.51	3787	77.43	3971	79.60	1178	74.32	11 895	73.61
Yes, mild symptoms	1157	45.27	1448	35.94	1705	30.00	1597	31.67	510	37.97	6417	34.40	637	34.47	776	27.26	985	20.14	956	19.16	376	23.72	3730	23.08
Yes, severe symptoms	477	18.66	320	7.94	219	3.85	138	2.74	53	3.95	1207	6.47	174	9.42	149	5.23	119	2.43	62	1.24	31	1.96	535	3.31
Total	2556	100.00	4029	100.00	5684	100.00	5042	100.00	1343	100.00	18 654	100.00	1848	100.00	2847	100.00	4891	100.00	4989	100.00	1585	100.00	16 160	100.00
Stressed																										
Not at all	455	18.57	989	25.84	2320	42.43	2689	55.08	660	53.40	7113	39.82	494	30.88	911	34.55	2530	54.63	3285	68.57	964	64.22	8184	53.98
To some extent	1155	47.14	1978	51.69	2494	45.61	1881	38.53	493	39.89	8001	44.79	797	49.81	1321	50.09	1784	38.52	1371	28.62	480	31.98	5753	37.95
Pretty much	610	24.90	647	16.91	529	9.67	261	5.35	75	6.07	2122	11.88	250	15.63	322	12.21	267	5.77	111	2.32	47	3.13	997	6.58
Very much	230	9.39	213	5.57	125	2.29	51	1.04	8	0.65	627	3.51	59	3.69	83	3.15	50	1.08	24	0.50	10	0.67	226	1.49
Total	2450	100.00	3827	100.00	5468	100.00	4882	100.00	1236	100.00	17 863	100.00	1600	100.00	2637	100.00	4631	100.00	4791	100.00	1501	100.00	15 160	100.00
Sleeping difficulties																										
No	1542	62.81	2437	63.45	2793	51.06	2487	50.90	589	47.42	9848	55.04	1038	64.92	1868	70.62	3037	65.57	3202	66.89	941	62.65	10 086	66.51
Yes, mild symptoms	704	28.68	1125	29.29	2185	39.95	2009	41.12	540	43.48	6563	36.68	445	27.83	633	23.93	1356	29.27	1375	28.72	482	32.09	4291	28.30
Yes, severe symptoms	209	8.51	279	7.26	492	8.99	390	7.98	113	9.10	1483	8.29	116	7.25	144	5.44	239	5.16	210	4.39	79	5.26	788	5.20
Total	2455	100.00	3841	100.00	5470	100.00	4886	100.00	1242	100.00	17 894	100.00	1599	100.00	2645	100.00	4632	100.00	4787	100.00	1502	100.00	15 165	100.00
Suicidal ideation																										
No, never	1727	71.75	3182	83.96	4874	90.04	4528	94.53	1145	95.26	15 456	87.81	1178	76.10	2209	85.22	4193	91.93	4482	95.93	1371	96.28	13 433	90.78
Yes, for more than 12 months ago	460	19.11	482	12.72	438	8.09	200	4.18	30	2.50	1 610	9.15	263	16.99	286	11.03	278	6.10	130	2.78	28	1.97	985	6.66
Yes, during the last 12 months	220	9.14	126	3.32	101	1.87	62	1.29	27	2.25	536	3.05	107	6.91	97	3.74	90	1.97	60	1.28	25	1.76	379	2.56
Total	2407	100.00	3790	100.00	5413	100.00	4790	100.00	1202	100.00	17 602	100.00	1548	100.00	2592	100.00	4561	100.00	4672	100.00	1424	100.00	14 797	100.00

Continue appendix 3

	Total										All	
	18–29 years		30–49 years		50–69 years		70–84 years		85– years			
	n	%	n	%	n	%	n	%	n	%	n	%
Diagnosed depression												
No	3478	86.35	5776	89.68	9337	92.76	9198	95.58	2572	95.15	**30 361**	**92.39**
Yes	550	13.65	665	10.32	729	7.24	425	4.42	131	4.85	**2500**	**7.61**
Total	**4028**	**100.00**	**6441**	**100.00**	**10 066**	**100.00**	**9623**	**100.00**	**2703**	**100.00**	**32 861**	**100.00**
Diagnosed anxiety syndrom												
No	3317	82.45	5689	88.30	9380	93.16	9254	96.41	2580	95.56	**30 220**	**92.04**
Yes	706	17.55	754	11.70	689	6.84	345	3.59	120	4.44	**2614**	**7.96**
Total	**4023**	**100.00**	**6443**	**100.00**	**10 069**	**100.00**	**9599**	**100.00**	**2700**	**100.00**	**32 834**	**100.00**
Psychological distress (K6)												
No psychological distress	1624	40.88	3468	54.23	6941	69.31	6650	70.21	1605	61.73	**20 288**	**62.51**
Psychological distress	2349	59.12	2927	45.77	3074	30.69	2822	29.79	995	38.27	**12 167**	**37.49**
Total	**3973**	**100.00**	**6395**	**100.00**	**10 015**	**100.00**	**9472**	**100.00**	**2600**	**100.00**	**32 455**	**100.00**
Mental wellbeing (SWEMWBS)												
Not good mental wellbeing	1042	25.95	1178	18.31	1238	12.34	1146	12.06	534	20.41	**5138**	**15.76**
Good mental wellbeing	2974	74.05	5256	81.69	8798	87.66	8357	87.94	2082	79.59	**27 467**	**84.24**
Total	**4016**	**100.00**	**6434**	**100.00**	**10 036**	**100.00**	**9503**	**100.00**	**2616**	**100.00**	**32 605**	**100.00**
Low mood												
No	2283	56.43	4335	66.84	7400	73.37	7141	73.97	1874	68.22	**23 033**	**69.76**
Yes, mild symptoms	1347	33.29	1832	28.25	2401	23.81	2331	24.15	798	29.05	**8709**	**26.38**
Yes, severe symptoms	416	10.28	319	4.92	285	2.83	182	1.89	75	2.73	**1277**	**3.87**
Total	**4046**	**100.00**	**6486**	**100.00**	**10 086**	**100.00**	**9654**	**100.00**	**2747**	**100.00**	**33 019**	**100.00**
Anxiety symptoms												
No	1959	44.48	4183	60.83	7547	71.37	7278	72.56	1958	66.87	**22 925**	**65.85**
Yes, mild symptoms	1794	40.74	2224	32.34	2690	25.44	2553	25.45	886	30.26	**10 147**	**29.15**
Yes, severe symptoms	651	14.78	469	6.82	338	3.20	200	1.99	84	2.87	**1742**	**5.00**
Total	**4404**	**100.00**	**6876**	**100.00**	**10 575**	**100.00**	**10 031**	**100.00**	**2928**	**100.00**	**34 814**	**100.00**
Stressed												
Not at all	949	23.43	1900	29.39	4850	48.02	5974	61.76	1624	59.34	**15 297**	**46.32**
To some extent	1952	48.20	3299	51.04	4278	42.36	3252	33.62	973	35.55	**13 754**	**41.65**
Pretty much	860	21.23	969	14.99	796	7.88	372	3.85	122	4.46	**3119**	**9.44**
Very much	289	7.14	296	4.58	175	1.73	75	0.78	18	0.66	**853**	**2.58**
Total	**4050**	**100.00**	**6464**	**100.00**	**10 099**	**100.00**	**9673**	**100.00**	**2737**	**100.00**	**33 023**	**100.00**
Sleeping difficulties												
No	2580	63.64	4305	66.37	5830	57.71	5689	58.81	1530	55.76	**19 934**	**60.30**
Yes, mild symptoms	1149	28.34	1758	27.10	3541	35.05	3384	34.98	1022	37.24	**10 854**	**32.83**
Yes, severe symptoms	325	8.02	423	6.52	731	7.24	600	6.20	192	7.00	**2271**	**6.87**
Total	**4054**	**100.00**	**6486**	**100.00**	**10 102**	**100.00**	**9673**	**100.00**	**2744**	**100.00**	**33 059**	**100.00**
Suicidal ideation												
No, never	2905	73.45	5391	84.47	9067	90.91	9010	95.22	2516	95.81	**28 889**	**89.17**
Yes, for more than 12 months ago	723	18.28	768	12.03	716	7.18	330	3.49	58	2.21	**2595**	**8.01**
Yes, during the last 12 months	327	8.27	223	3.49	191	1.91	122	1.29	52	1.98	**915**	**2.82**
Total	**3955**	**100.00**	**6382**	**100.00**	**9974**	**100.00**	**9462**	**100.00**	**2626**	**100.00**	**32 399**	**100.00**

Appendix 4: Pearson's chi-squared tests for the K6 and SWEMWBS scales.

Demographic and socio-economic variables	Pearson's chi-squared test / K6
Gender	(chi^2(1)=303.0043; p = .000)
Age group	(chi^2(4)=1.4e+03; p = .000)
Country of birth	(chi^2(2)=128.9832; p = .000)
Educational level	(chi^2(2)=2.6209; p = 0.270)
Income level	(chi^2(2)=429.2469; p = .000)
Employment	(chi^2(5)=1.4e+03; p = .000)
Economic hardship 1 (unexpected 13 000 SEK)	(chi^2(1)=1.0e+03; p = .000)
Economic hardship 2 (forced, the last 3 months)	(chi^2(1)=922.3404; p = .000)
Economic hardship 3 (difficulties last 12 months)	(chi^2(2)=1.5e+03; p = .000)
Living situation	(chi^2(4)=694.5303; p = .000)
Social support	(chi^2(3)=1.5e+03; p = .000)
Functional disability	(chi^2(1)=472.8993; p = .000)
Belittled (the last 3 months)	(chi^2(2)=3.1e+03; p = .000)

Demographic and socio-economic variables	Pearson's chi-squared test / SWEMWBS
Gender	(chi^2(1)=41.3056; p = .000)
Age group	(chi^2(4)=574.7336; p = .000)
Country of birth	(chi^2(2)=68.7403; p = .000)
Educational level	(chi^2(2)=58.1109; p = .000)
Income level	chi^2(2)=381.5644; p = .000)
Employment	(chi^2(5)=1.2e+03; p = .000)
Economic hardship 1 (unexpected 13 000 SEK)	(chi^2(1)=1.1e+03; p = .000)
Economic hardship 2 (forced, the last 3 months)	(chi^2(1)=771.9331; p = .000)
Economic hardship 3 (difficulties last 12 months)	(chi^2(2)=1.3e+03; p = .000)
Living situation	(chi^2(4)=548.3032; p = .000)
Social support	(chi^2(3)=1.9e+03; p = .000)
Functional disability	(chi2(1) = 607.1639; p = .000)
Belittled (the last 3 months)	(chi^2(2)=2.1e+03; p = .000)