

Title: Problem gambling and the five-factor model of personality: A large population-based study.

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## Abstract

### Aims

Knowledge of the personality characteristics of individuals who develop gambling problems is important for designing targeted prevention efforts. Previous studies of the relationship between the five-factor model of personality and gambling problems were based on small samples not representative of the general population. We estimated differences in Neuroticism, Extroversion, Intellect, Agreeableness and Conscientiousness between non-problem gamblers and individuals with low, moderate and severe gambling problems.

Design: Cross-sectional survey

Setting: Norway

Participants: 10 081 (51.5% female) individuals aged 16 to 74 years (mean age 46.5 years).

Measures: The Problem Gambling Severity Index, The Mini-International Personality Item Pool, and demographic variables. Differences between groups of gamblers were analyzed by ordinary least squares regression models separately for each personality trait adjusting for gender, age, cohabitation, level of education and work status.

### Results

Gamblers with low level, moderate level and severe level of problems differed significantly from non-problem gamblers in Neuroticism ( $b = 0.16, 0.34$  and  $0.66$  respectively, all  $p < .001$ ) and Conscientiousness ( $b = -0.13, -0.27,$  and  $-0.44$  respectively, all  $p < .001$ ). Moderate and severe problem gamblers differed from non-problem gamblers in Agreeableness ( $b = -0.21, p < .001$  and  $b = -0.20, p = .028$  respectively). In addition, gambling problems were

much more prevalent among men than women, and more prevalent among those who live alone, individuals without tertiary education, and among those who are unemployed or on disability pension.

### Conclusions

Higher level of problem gambling severity appears to be associated with higher scores on Neuroticism, and with lower scores on Conscientiousness and Agreeableness.

Problem gambling involves persistent and maladaptive gambling behavior, and it is included in the DSM 5 as Gambling Disorder (1). The prevalence of problem gambling varies with geographical location, type of population and with assessment method. Problem gambling is associated with particular game characteristics (2, 3), and it is more prevalent in places where more such games are available (4, 5). For one commonly used instrument for assessment of gambling problems, the Problem Gambling Severity Index (PGSI) (6), Stucki and Rihs-Middel (7) reported that the weighted mean prevalence rate in the World was 2.4% for moderate problems, and 0.8% for severe problems (also known as problem gambling and pathological gambling). Knowledge of risk-factors for development of gambling problems is vital for targeted prevention. If some groups of individuals are at greater risk, it may be efficient to aim prevention efforts (e.g. school programs, media campaigns and legislation) specifically at such groups. Research has shown that problem gambling is more common among men than women, among young people, and among individuals with lower socio-economic status (8-15). With such knowledge, prevention efforts may be targeted for instance at young males from low socio-economic areas, and targeted prevention may be more effective than prevention efforts targeting the whole population (16).

Problem gambling is also associated with individual factors such as cognitive distortions (17), reinforcement sensitivity and learning (18-20), and motivational factors such as intentions, attitudes and knowledge (21). Several theories suggest that individuals high in Neuroticism (negative emotionality and emotional instability) and with low Conscientiousness (being reliable and organized) have greater risk of developing gambling problems (4, 22). If this is the case, there are clear implications for prevention and treatment. Preventive efforts can be targeted especially at individuals with high Neuroticism and low Conscientiousness. Also, interventions aiming at modifying these personality traits may alter developmental pathways that lead to gambling problems. Furthermore, clinicians may benefit

from focusing on underlying dispositions in treatment of problem gamblers. However, studies that use large samples representative of the general population are needed to reveal the relationship between personality factors and gambling problems, which is the main contribution of the current study.

Several small scale studies have investigated the role of the factors included in the five-factor model of personality (also known as the Big 5), which is probably the most studied framework for describing personality (but see (23, 24) for criticism of the model). According to the model, personality can be described as consisting of five domains: Neuroticism (emotional instability), Extroversion (sociability and assertiveness), Intellect (openness and imagination), Agreeableness (being warm, kind and trusting), and Conscientiousness (being reliable and organized) (25). The most consistent finding has been elevated scores on Neuroticism and lower scores on Conscientiousness in pathological gamblers (severe problem gamblers who may need treatment for gambling disorder) compared to non-problem gamblers (26-28). Neuroticism may be linked to gambling problems in that individuals who frequently experience negative emotions gamble in order to alter their mood and to escape from negative emotions (4, 22, 29). Conscientiousness is assumed to be linked to gambling problems because individuals low in Conscientiousness may have difficulties resisting urges, especially during positive or negative mood states (30).

The relationships between Intellect, Agreeableness and gambling problems have shown less consistent results. Two studies have reported low Intellect in individuals with gambling problems (28, 31), while other studies have not (26, 27, 32). Also, two studies have reported a relationship between low Agreeableness and gambling problems (31, 32), while other studies have not (26-28). None of these studies reported a relationship between Extroversion and gambling problems. Studies have also investigated the personality traits Positive emotionality, Negative emotionality and Constraint assessed with the

Multidimensional Personality Questionnaire (33). Negative emotionality has been found to correlate positively with degree of gambling problems (31). In addition, one study found that high scores on Negative emotionality and low scores on Constraint at age 18 years was associated with problem gambling at age 21 years (34). This is relevant for the current investigation as Negative emotionality has been found to be strongly related to Neuroticism, while Constraint is moderately related to Conscientiousness (35).

An important question is whether certain personality predispositions increase the risk of developing gambling problems, or if a reversed causal direction is present. A meta-analysis of test-retest correlations of personality traits over the life course found that personality traits were quite stable in adolescence and early adulthood, and became even more stable in mid- and late adulthood (36). A recent study also found strong consistency in personality type (combination of several traits) membership over four years (37). This supports the idea of a causal relationship where Neuroticism and Conscientiousness, and possibly other personality factors, make people vulnerable to developing gambling problems. Still, research has shown that personality traits can change over time due to negative life events (38). Therefore, it is possible that experiencing gambling problems can lead to, for instance, increased Neuroticism and decreased Agreeableness.

All previous studies of the relationship between the five personality traits and gambling problems have been based on small samples. Large samples are needed to reduce statistical uncertainty, especially for low prevalence phenomena such as severe problem gambling. Comparing individuals who are in treatment with a control group probably inflates the difference in personality between the two groups. Hence, the results cannot be generalized to problem gamblers who are not in treatment, gamblers with sub-clinical gambling problems, or to non-problem gamblers in general. Including individuals with low and moderate level of gambling problems also helps determine whether there is a dose-response relationship

between personality and gambling problems. Against this backdrop, we used data from a large-scale study ( $N > 10\,000$ ) to estimate the relationship between problem gambling status and the five personality factors (Neuroticism, Extroversion, Intellect, Agreeableness and Conscientiousness). Based on previous studies, we hypothesized that higher level of gambling problems would be associated with higher scores on Neuroticism and lower scores on Conscientiousness. We also explored whether level of gambling problems would be associated with increased or decreased levels of Extroversion, Intellect and Agreeableness. As both personality and gambling problems may be dependent on demographic factors, we controlled for possible confounding by including gender, age, cohabitation, level of education and work status in the analyses.

## **Methods**

### **Data**

The data was collected for a project concerning gambling in the general adult population of Norway (39). A random sample of 24 000 residents aged 16 to 74 years was drawn from the Norwegian Population Registry. A large sample was needed to reduce statistical uncertainty, especially for low prevalence phenomena such as severe problem gambling. An information letter and a questionnaire were sent out by postal mail in August of 2013. The questionnaire consisted of five pages with a maximum of 105 question-items (some respondents could skip some questions) and took ten to fifteen minutes to complete. Respondents could choose between completing a paper and pencil questionnaire and a questionnaire online (a subsample of 4 000 were only offered a paper and pencil questionnaire). As an incentive to complete the questionnaire, 200 gift cards each with a value of 500 NOK (about € 50) were drawn among those who completed the survey. One or two reminders including new questionnaires were sent to those who did not respond within the

first or second month, respectively. The gross sample was reduced to 23 124 individuals because of wrong addresses, death or inability to answer due to sickness and disabilities. Completed questionnaires were received by 10 081 persons. Hence, the response rate was 43.6%. The Regional Committees for Medical and Health Research Ethics in Western Norway approved the study (no. 2013/120).

## **Measures**

The Problem Gambling Severity Index (PGSI). The PGSI (6) consists of nine items that are used to assess problem gambling. It was designed for general population studies, and can be used to categorize individuals into several problem gambling categories. Studies have shown that the measure has high internal consistency and test-retest reliability, it has a high degree of overlap with other problem gambling measures, it is correlated with measures of gambling frequency and faulty gambling-related cognitions, and its factor structure is invariant across gender, age groups, income groups and gamblers with different game preferences (6, 40, 41). The Norwegian translation of the PGSI used in the current study has not been subject to such validation study. Example items are “In the last 12 months...” “...have you bet more than you could really afford to lose?”, “...have you felt that you might have a problem with gambling?”, and “...has your gambling caused any financial problems for you or your household”. Respondents indicate agreement on a scale ranging from “never” (coded 0) to “always” (coded 3). Internal consistency (Cronbach’s alpha) for the items was .90. The responses are usually summarized to an index that ranges from 0 to 27. Respondents with a score of zero were categorized as “non-problem gamblers”, those with a score of 1 to 2 were categorized as “low level of problems”, those with a score of 3 to 7 were categorized as “moderate problems”, whereas those with scores 8 and above were categorized as “severe problems”. Only those who had participated in gambling during the last 12 months were



instructed to complete the PGSI. Those who had not gambled in the last 12 months were included in the non-problem gamblers category.

Mini-International Personality Item Pool (MINI-IPIP). The MINI-IPIP (42) measures the five-factor model of personality (Neuroticism, Extroversion, Intellect, Agreeableness and Conscientiousness) and consists of 20 questions, for example “I have frequent mood swings” (N) “I am the life of the party” (E), “I have a vivid imagination”(I), “I sympathize with other’s feelings” (A), and “I get chores done right away” (C). The measure is suitable for epidemiological studies as it is fairly short, but still long enough to get an appropriate number of indicators for each factor. Responses are made on a scale ranging from “very inaccurate” (coded 1) to “very accurate” (coded 5). There are four items for each sub-scale. Internal consistencies (Cronbach’s alpha) for the five sub-scales in the current study were Neuroticism = 0.67; Extroversion = 0.78; Intellect = 0.67; Agreeableness = 0.71; and Conscientiousness = 0.67.

### **Demographic variables**

Respondents indicated their gender (coded 0 = female, 1 = male), age in years, and whether they were cohabiting/married versus single/separated/divorced/widowed (coded 0 = cohabiting, 1 = not cohabiting). They also indicated their level of education as “not completed elementary school”, “elementary school”, “high school”, “occupational education”, “college/university up to 4 years”, “college/university 5 to 6 years” and “phd/doctoral degree”. The responses were dichotomized into 1 = tertiary education (“college/university up to 4 years”, “college/university 5 to 6 years” and “phd/doctoral degree”), and less than tertiary education = 0. Respondents also indicated whether they worked full time (coded 1) or part time (coded 2), were students (coded 3), worked at home/retired (coded 4), or were unemployed/receiving disability pension (coded 5).

Descriptive statistics for the study variables are shown in Table 1.

## **Analysis**

Separate ordinary least squares regression models were computed to assess the differences in each of the five personality factors between the PGSI categories (low level of problems, moderate problems and severe problems), and the “non-problem” category serving as the reference group. Gender, age, cohabitation, level of education, and work status were also included to adjust the estimates for possible confounding. Age in ten-year increments was entered as a continuous variable, work status was included as a categorical variable with full time work as the reference category, and gender, cohabitation, and level of education were entered as dichotomous variables.

To estimate the prevalence of problem gambling in the Norwegian population, inverse probability weights were used in order to adjust for selection bias caused by differences in response rates between different gender and age groups. The distribution of the Norwegian population in five-year age groups for both genders, and the 19 Norwegian counties was obtained from Statistics Norway. The sample was weighted in order to match the gender, age and county distribution of the Norwegian population. Weights were not used in the regression analysis.

## **Results**

### **Prevalence of gambling problems using the PGSI categories**

The number of respondents in each problem gambling category is shown in Table 1. After applying inverse probability weights, the prevalence in the Norwegian adult population was estimated to be 7.6% (95% CI: 7.1, 8.2) for low level of problems, 2.3% (95% CI: 2.0,

2.6) for moderate problems and 0.6% (95% CI: 0.5, 0.8) for severe problems. Descriptive statistics for these three groups are also shown in Table 1. Men were overrepresented in all three problem gambler categories. On average, gamblers with moderate problems were about five years younger than the non-problem gamblers, but gamblers with low level of problems and severe problems were about the same age on average as the non-problem gamblers. A higher proportion of gamblers with moderate or severe problems lived alone compared to the non-problem gamblers. Also, the proportions with tertiary level of education were smaller in all the problem gambling groups. Finally, the unemployment/disability-rate increased with greater gambling problems.

### **Personality traits associated with gambling problems**

The estimates from the regression models are shown in Table 2. In the adjusted model, level of Neuroticism was higher with increased severity of gambling problems. Level of Extroversion and Intellect were only weakly, and not statistically significantly, related to gambling problem status. Level of Agreeableness was lower in the moderate and severe problems categories compared to the non-problem gamblers, but the low level of problems category was only negligibly different from non-problem gamblers. Conscientiousness was lower with greater problem gambling severity. The relationship between personality trait and gambling problems was stronger for Neuroticism than for Conscientiousness, and smaller yet for Agreeableness.

Compared to women, men scored lower on Neuroticism, Extroversion, Agreeableness and Conscientiousness, but slightly higher on Intellect. Older age was associated with lower scores on Neuroticism, Extroversion, Intellect and Conscientiousness, however age was not significantly associated with Agreeableness. Living alone was associated with slightly lower scores on Neuroticism and Conscientiousness and slightly higher scores on Intellect. Tertiary

level of education was associated with slightly lower Neuroticism scores, and with higher scores on Extroversion, Intellect and Agreeableness. The differences between students and those who worked full time were quite small. Full time workers scored lower on Neuroticism and higher on Conscientiousness compared to the other work status groups.

### **Discussion**

As proposed in theoretical work (4, 22), we found that problem gambling was associated with higher scores on Neuroticism and lower scores on Conscientiousness. This is consistent with findings from previous smaller scale studies (26-28, 31, 32). It has been suggested that some people gamble in order to relieve emotional problems (4, 29), and problem gambling probably also causes emotional problems, especially in emotionally vulnerable people. Conscientiousness involves the ability to resist urges and impulses (25). It is therefore not surprising that low Conscientiousness is associated with gambling problems. A large population-based sample reduces selection bias and decreases statistical uncertainty, therefore, the current study provides an important contribution to the field. Our results showed that the strength of the associations, for both Neuroticism and Conscientiousness, increased with greater problem severity, which to our knowledge has not been reported previously. This is an important contribution as a dose-response relationship is an important indicator of association between variables (43).

Our study is also important because the results indicate that gambling problems are associated with lower level of Agreeableness, which has previously only been found in two studies (31, 32). Problem gambling has been linked to psychopathy and criminal behavior, which suggests that less agreeable persons may be drawn to gambling and develop gambling problems (44). Addictive problems also typically causes interpersonal conflict, which people

with high scores on Agreeableness normally are motivated to avoid, hence high score on Agreeableness may as such be a protective factor for development of addictions (45).

An important implication of our study is that it may be more effective to target prevention efforts at individuals with high scores on Neuroticism and low scores on Conscientiousness and Agreeableness rather than at the whole population. For instance, personality screening of young people may help to identify whom may benefit from learning effective coping skills. Designing effective targeted prevention for gambling problems should be a focus for future research. Although some have proved effective for tobacco-, alcohol- and substance use (46), more work is needed to design effective targeted prevention for gambling problems (47). Since the personality profiles associated with development of gambling problems are similar to those associated with development of tobacco-, alcohol- and substance use (34), a focus on gambling problems may be included with targeted efforts to prevent tobacco- and substance use (47). Also, treatment professionals may benefit from knowing that problem gamblers are likely to differ from the average person in terms of personality. Better clinical results may be achieved by focusing on the underlying personality dispositions, for instance by attempting to reduce negative emotions and increase conscientiousness.

In our study, the estimated prevalence was 7.6% for low level of problems, 2.3% for moderate problems and 0.6% for severe problems. This is lower than previous Norwegian prevalence studies, suggesting a downward trend in gambling problems in Norway, probably due to more strict regulations (see (48) for an overview of gambling regulations in Norway and previous prevalence estimates). Our study indicates that the prevalence of problem gambling in Norway in 2013 was slightly lower than the mean prevalence rate globally (7).

Gambling problems at all levels were much higher for men compared to women. Young age, living alone, low level of education and unemployment was also associated with higher prevalence of gambling problems. This is in line with previous findings (8-15), and is important knowledge that can be used in targeting prevention efforts at high risk groups, and for designing treatment programs and protocols.

### **Limitations and suggestions for future research**

Since the study was cross sectional, causal claims based on the results should be made carefully. A relationship in which personality is a cause of gambling problems is theoretically plausible because personality appears to be quite stable over time (37). However, since personality may change as a result of negative life events (38), it is also possible that gambling problems can cause high neuroticism and low conscientiousness and agreeableness. A transactional relationship is also conceivable where personality causes gambling problems, which in turn modulates personality. Experimental studies that manipulate the personality of individuals or that induce gambling problems are both unpractical and unethical. Longitudinal studies of personality and gambling problems would be a welcome addition to the field, as they permit investigation of directionality. Such studies could also investigate if the longitudinal associations are different for different types of gambling. Future studies should investigate if sub-groups of gamblers (e.g. treatment seeking vs. not treatment seeking, gamblers with vs. without comorbidity) differ in terms of personality traits. It would also be of interest in future studies to investigate whether personality traits consistently predict different types of addictions, or if such associations are more specific.

Criticism against the five-factor model of personality has been raised (23, 24). Some argue for the existence of a General Factor of Personality reflecting a mix of different traits (hard-working, sociability and emotional stability) (49). Future studies should investigate how

this trait relates to gambling behavior. We did not consider the role of mental health and substance use in the current study because such information was not collected. It would be interesting to investigate whether substance use and mental health may moderate or mediate the relationship between personality and gambling.

Considering the problem with decreasing response rates in surveys, the response rate of 43.6% obtained in the current study could be regarded as acceptable (50). Reasons for non-response are difficult to ascertain, but lack of time, lack of interest in the survey topic, and difficulties in reaching certain groups (e.g. young people, individuals with no fixed address, those who work off-shore) are good candidates. It may also be the case that individuals with gambling problems do not wish to take part in, or will conceal their problems in a population survey (51). This would have led to deflated estimates of problem gambling in the current study. To reduce the effect of different response rates in different gender and age groups, we used inverse probability weights for the prevalence estimation. The Norwegian translation of the PGSI has not been subject to validation studies, therefore such studies would be an asset to researchers who analyze Norwegian data. Moreover, the PGSI has received criticism, especially regarding lack of validity for the low-risk and moderate risk categories (52).

We used the MINI-IPIP, a short version of the International Personality Item Pool (53) to measure the five personality factors. Abbreviated scales are associated with weaker psychometric properties (54), which is reflected in the relatively low Cronbach's alpha for some of the factors. Hence our estimates may have been affected by measurement error, and should thus be replicated in studies that use the unabbreviated version.

## **Conclusion**

This large population-based study found that gambling problems were associated with higher scores on Neuroticism, and lower scores on Conscientiousness and Agreeableness. In

addition, gambling problems were much more prevalent among men than women, and more prevalent among those who live alone, those with low level of education and those who are unemployed or on disability pension. Knowledge of such individual characteristics is important for designing targeted prevention efforts and treatment protocols.



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Table 1. Descriptive statistics (mean (SD) / proportion) for the study variables for the total sample, and within each problem gambling category.

	Total sample ( <i>N</i> = 10 052)	No problems ( <i>N</i> = 9 054)	Low level of problems ( <i>N</i> = 740)	Moderate problems ( <i>N</i> = 201)	Severe problems ( <i>N</i> = 57)
<b>Personality:</b>					
Neuroticism	2.52 (0.84)	2.50 (0.84)	2.65 (0.80)	2.83 (0.81)	3.20 (0.91)
Extroversion	3.50 (0.87)	3.51 (0.86)	3.50 (0.86)	3.40 (0.92)	3.34 (1.00)
Intellect	3.43 (0.83)	3.43 (0.83)	3.43 (0.80)	3.45 (0.80)	3.31 (0.66)
Agreeableness	4.16 (0.69)	4.18 (0.68)	4.07 (0.69)	3.84 (0.84)	3.79 (0.77)
Conscientiousness	3.97 (0.75)	4.00 (0.74)	3.82 (0.75)	3.57 (0.82)	3.45 (0.87)
<b>Gender:</b>					
Female	51.5%	53.3%	38.9%	25.9%	28.1%
Male	48.4%	46.7%	61.1%	74.1%	71.9%
<b>Age</b>	46.51 (15.86)	46.57 (15.85)	45.98 (15.38)	40.56 (14.79)	44.68 (15.72)
<b>Cohabitation:</b>					
Yes	70.8%	71.4%	68.7%	53.0%	58.9%
No	29.2%	28.6%	31.3%	47.0%	41.1%
<b>Level of education</b>					
Less than tertiary	54.6%	53.1%	67.2%	65.7%	82.1%
Tertiary	45.4%	46.9%	32.8%	34.3%	17.9%
<b>Work status</b>					
Full time	54%	54%	54%	55%	40%
Part time	10%	10%	10%	8%	2%
Student	10%	10%	8%	12%	13%
Works at home/retired	15%	15%	12%	6%	16%
Unemployed/disability etc.	11%	10%	17%	20%	29%

Table 2. The five personality factors regressed separately on level of gambling problems and demographic covariates.

	<b>Neuroticism</b>		<b>Extroversion</b>		<b>Intellect</b>		<b>Agreeableness</b>		<b>Conscientiousness</b>	
	b (95% CI)	P	b (95% CI)	P	b (95% CI)	P	b (95% CI)	P	b (95% CI)	P
<i>Unadjusted model</i>										
<b>Gambling problem status:</b>										
No problems	reference		reference		reference		reference		reference	
Low level of problems	0.15 (0.09, 0.22)	<.001	-0.00 (-0.07, 0.06)	.893	0.00 (-0.06, 0.07)	.941	-0.11 (-0.16, -0.05)	<.001	-0.19 (-0.24, -0.13)	<.001
Moderate problems	0.33 (0.21, 0.45)	<.001	-0.11 (-0.23, 0.02)	.088	0.02 (-0.10, 0.13)	.799	-0.34 (-0.44, -0.24)	<.001	-0.43 (-0.53, -0.32)	<.001
Severe problems	0.70 (0.47, 0.93)	<.001	-0.17 (-0.40, 0.07)	.165	-0.12 (-0.35, 0.10)	.282	-0.39 (-0.57, -0.20)	<.001	-0.56 (-0.76, -0.35)	<.001
<i>Adjusted model</i>										
<b>Gambling problem status:</b>										
No problems	reference		reference		reference		reference		reference	
Low level of problems	0.16 (0.10, 0.23)	<.001	0.03 (-0.04, 0.09)	.436	0.01 (-0.05, 0.08)	.620	-0.02 (-0.07, 0.03)	.388	-0.13 (-0.19, -0.08)	<.001
Moderate problems	0.34 (0.22, 0.45)	<.001	-0.06 (-0.19, 0.06)	.312	-0.06 (-0.17, 0.06)	.319	-0.21 (-0.31, -0.12)	<.001	-0.28 (-0.38, -0.17)	<.001
Severe problems	0.66 (0.43, 0.89)	<.001	-0.06 (-0.30, 0.18)	.618	-0.10 (-0.32, 0.13)	.408	-0.20 (-0.38, -0.02)	.028	-0.44 (-0.64, -0.23)	<.001
<b>Gender:</b>										
Female	reference		reference		reference		reference		reference	
Male	-0.26 (-0.29, -0.22)	<.001	-0.13 (-0.17, -0.09)	<.001	0.17 (0.13, 0.20)	<.001	-0.41 (-0.43, -0.38)	<.001	-0.28 (-0.31, -0.25)	<.001
<b>Age*</b>										
	-0.07 (-0.09, -0.06)	<.001	-0.06 (-0.07, -0.04)	<.001	-0.08 (-0.09, -0.07)	<.001	-0.00 (-0.02, 0.01)	.496	0.08 (0.06, 0.09)	<.001
<b>Cohabitation:</b>										
Yes	reference		reference		reference		reference		reference	
No	-0.07 (-0.11, -0.03)	.001	-0.04 (-0.08, 0.00)	.078	0.10 (0.06, 0.14)	<.001	0.01 (-0.02, 0.04)	.533	-0.09 (-0.12, -0.05)	<.001
<b>Level of education:</b>										
Less than tertiary	reference		reference		reference		reference		reference	
Tertiary	-0.10 (-0.14, -0.07)	<.001	0.13 (0.10, 0.17)	<.001	0.37 (0.33, 0.40)	<.001	0.17 (0.15, 0.20)	<.001	0.03 (-0.00, 0.06)	.069
<b>Work status:</b>										
Full time	reference		reference		reference		reference		reference	
Part time	0.11 (0.05, 0.17)	<.001	-0.10 (-0.16, -0.04)	.001	0.01 (-0.04, 0.07)	.628	0.07 (0.03, 0.12)	.002	-0.06 (-0.11, -0.01)	.027
Student	0.01 (-0.06, 0.07)	.884	-0.03 (-0.10, 0.05)	.467	0.09 (0.03, 0.16)	.006	0.11 (0.05, 0.16)	<.001	-0.12 (-0.18, -0.06)	<.001
Works at home/retired	0.17 (0.11, 0.22)	<.001	-0.06 (-0.13, -0.00)	.041	-0.02 (-0.08, 0.03)	.423	-0.07 (-0.12, -0.03)	.002	-0.20 (-0.25, -0.15)	<.001
Unemployed/disability etc.	0.40 (0.34, 0.46)	<.001	-0.16 (-0.22, -0.10)	<.001	0.04 (-0.02, 0.09)	.178	-0.02 (-0.06, 0.03)	.397	-0.21 (-0.26, -0.16)	<.001

Note: Age coded in 10-year increments.