|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 1: Descriptive Statistics** | | | | | | |
|  | | | | | | |
| **Name** | **Obs** | **Mean** | **St. Dev.** | **Min** | **Median** | **Max** |
|  | | | | | | |
| **Panel A： Working Hours**  Working Hours | 58,467 | 39.79 | 12.98 | 5 | 40 | 95 |
| Part time | 12,894 | 22.08 | 7.75 | 5 | 24 | 34 |
| Standard Full Time | 28,369 | 39.49 | 1.39 | 35 | 40 | 40 |
| Moderate Overtime | 5,500 | 44.95 | 1.78 | 41 | 45 | 48 |
| High Overtime | 9,468 | 53.78 | 4.33 | 49 | 50 | 60 |
| Excessive Overtime | 2,236 | 73.91 | 8.95 | 61 | 70 | 95 |
| **Panel B：Mental Health** |  |  |  |  |  |  |
| Depression Frequency | 58,467 | 0.37 | 0.48 | 0 | 0 | 1 |
| ASAD (Sadness Frequency) | 58467 | 0.33 | 0.71 | 0 | 0 | 4 |
| **Panel C: Control Variables** |  |  |  |  |  |  |
| Education Attainment | 58,467 | 6.08 | 1.28 | 1 | 6 | 8 |
| Marital Status | 58,467 | 2.68 | 1.76 | 1 | 3 | 5 |
| Age | 58,467 | 43.44 | 14.22 | 18 | 43 | 85 |
| Sex | 58467 | 0.5 | 0.5 | 0 | 1 | 1 |
| **Panel D: Mediation Variable** |  |  |  |  |  |  |
| Health Status | 58,467 | 2.07 | 0.92 | 1 | 2 | 5 |
|  | | | | | | |

|  |  |  |
| --- | --- | --- |
| **Table 2: Regression Results** | | |
|  | | |
|  | Dependent variable: | |
|  |  | |
|  | Sadness | Depression |
|  | (1) | (2) |
|  | | |
| Part-time (<35h) | 0.033 | 0.111\* |
|  | (0.021) | (0.065) |
|  |  |  |
| Moderate Overtime (41-48h) | -0.002 | 0.099\*\*\* |
|  | (0.010) | (0.033) |
|  |  |  |
| High Overtime (49-60h) | -0.017 | 0.215\*\*\* |
|  | (0.012) | (0.041) |
|  |  |  |
| Excessive Overtime (>60h) | 0.077\*\*\* | 0.323\*\*\* |
|  | (0.011) | (0.029) |
|  |  |  |
| Age | 0.001\*\*\* | 0.002\*\* |
|  | (0.0003) | (0.001) |
|  |  |  |
| Sex | 0.117\*\*\* | 0.434\*\*\* |
|  | (0.008) | (0.025) |
|  |  |  |
| Education Level | -0.047\*\*\* | 0.040\*\*\* |
|  | (0.003) | (0.009) |
|  |  |  |
| Marital Status | 0.032\*\*\* | 0.104\*\*\* |
|  | (0.002) | (0.007) |
|  |  |  |
| Constant | 0.399\*\*\* | -1.512\*\*\* |
|  | (0.024) | (0.081) |
|  |  |  |
|  | | |
| Model Type | Linear | Logistic |
| Joint test statistic | F = 16.17 | Chi2 = 31.68 |
| Joint test p-value | 0 | 0 |
| Observations | 58,467 | 58,467 |
| Log Likelihood | -71,550.210 |  |
| Akaike Inf. Crit. | 143,118.400 |  |
|  | | |
| Note: The sample covers years 2013 to 2018. The standard errors are reported in parentheses, clustered at individual level. \* denotes *p* < 0.1, \*\* denotes *p* < 0.05, \*\*\* denotes *p* < 0.01. | | |

**Table 3: Mediation Test for Depression**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Working Hour Category** | **Indirect Effect** | **Standard Error** | **Z score** | **P Value** | **Total Effect** | **Proportion Mediated** |
| Excessive overtime | 0.001 | 0.011 | 0.100 | 0.920 | 0.111 | 0.010 |
| High overtime | -0.012 | 0.006 | -2.148 | 0.032 | 0.089 | -0.134 |
| Moderate overtime | 0.013 | 0.007 | 1.852 | 0.064 | 0.219 | 0.057 |
| Part time | 0.021 | 0.005 | 3.766 | 0.000 | 0.368 | 0.056 |

**Table 4: Mediation Test for Sadness**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Working Hour Category** | **Indirect Effect** | **Standard Error** | **Z score** | **P Value** | **Total Effect** | **Proportion Mediated** |
| Excessive overtime | 0.000 | 0.004 | 0.100 | 0.920 | 0.032 | 0.011 |
| High overtime | -0.004 | 0.002 | -2.146 | 0.032 | -0.06 | 0.592 |
| Moderate overtime | 0.004 | 0.002 | 1.850 | 0.064 | -0.017 | -0.234 |
| Part time | 0.007 | 0.002 | 3.757 | 0.000 | 0.088 | 0.075 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Table 5: Heterogeneity Analysis by Sex** | | | | | | |
|  | | | | |  |  |
|  | | | Dependent variable: | | | |
|  | | | Depression | | Sadness | |
|  | | | Female | Male | Female | Male |
|  | | | (1) | (2) | (1) | (2) |
|  | | | | |  |  |
| Excessive Overtime | | 0.035 | | 0.254\*\* | 0.018 | 0.061 |
|  | | | (0.079) | (0.111) | (0.024) | (0.039) |
|  | | |  |  |  |  |
| High Overtime | | | 0.034 | 0.210\*\*\* | -0.016 | 0.021 |
|  | | | (0.045) | (0.052) | (0.012) | (0.017) |
|  | | |  |  |  |  |
| Moderate Overtime | | | 0.160\*\*\* | 0.283\*\*\* | -0.021 | -0.010 |
|  | | | (0.056) | (0.056) | (0.014) | (0.018) |
|  | | |  |  |  |  |
| Part time | | | 0.306\*\*\* | 0.331\*\*\* | 0.068\*\*\* | 0.083\*\*\* |
|  | | | (0.049) | (0.036) | (0.017) | (0.014) |
|  | | |  |  |  |  |
| Age | | | 0.002\* | 0.001 | 0.001\*\*\* | 0.001\*\*\* |
|  | | | (0.001) | (0.001) | (0.0003) | (0.0005) |
|  | | |  |  |  |  |
| Education Level | | | 0.060\*\*\* | 0.014 | -0.031\*\*\* | -0.068\*\*\* |
|  | | | (0.012) | (0.014) | (0.004) | (0.005) |
|  | | |  |  |  |  |
| Marital Status | | | 0.130\*\*\* | 0.076\*\*\* | 0.029\*\*\* | 0.033\*\*\* |
|  | | | (0.011) | (0.010) | (0.003) | (0.004) |
|  | | |  |  |  |  |
| Constant | | | -1.695\*\*\* | -0.849\*\*\* | 0.321\*\*\* | 0.636\*\*\* |
|  | | | (0.112) | (0.114) | (0.029) | (0.040) |
|  | | | | |  |  |
| Chi-square | | | 10.76 | 24.36 | 6.71 | 9.25 |
| p-value | | | 0 | 0 | 0 | 0 |
| Observations | | | 29212 | 29240 | 29212 | 29240 |
|  | | | | |  |  |
| Note: The sample covers years 2013 to 2018. The standard errors are reported in parentheses, clustered at individual level. \* denotes *p* < 0.1, \*\* denotes *p* < 0.05, \*\*\* denotes *p* < 0.01. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table 6: Heterogeneity Analysis by Education** | | | | | |
|  | | | |  |  |
|  | | *Dependent variable:* | | | |
|  | | Depression | | Sadness | |
|  | | Low Edu | High Edu | Low Edu | High Edu |
|  | | (1) | (2) | (1) | (2) |
|  | | | |  |  |
| Excessive Overtime | | 0.009 | 0.036 | 0.004 | 0.019 |
|  | | (0.083) | (0.095) | (0.028) | (0.029) |
|  | |  |  |  |  |
| High Overtime | | -0.007 | 0.053 | -0.029\* | -0.016 |
|  | | (0.044) | (0.049) | (0.015) | (0.012) |
|  | |  |  |  |  |
| Moderate Overtime | | 0.145\*\*\* | 0.214\*\*\* | -0.039\*\* | -0.009 |
|  | | (0.051) | (0.062) | (0.016) | (0.016) |
|  | |  |  |  |  |
| Part time | | 0.382\*\*\* | 0.380\*\*\* | 0.105\*\*\* | 0.059\*\*\* |
|  | | (0.035) | (0.052) | (0.014) | (0.014) |
|  | |  |  |  |  |
| Age | | 0.003\*\* | 0.0001 | 0.002\*\*\* | 0.001\*\* |
|  | | (0.001) | (0.001) | (0.0004) | (0.0004) |
|  | |  |  |  |  |
| Sex | | 0.078\*\*\* | 0.184\*\*\* | -0.033\*\*\* | -0.015 |
|  | | (0.016) | (0.036) | (0.006) | (0.010) |
|  | |  |  |  |  |
| Marital | | 0.090\*\*\* | 0.129\*\*\* | 0.035\*\*\* | 0.026\*\*\* |
|  | | (0.009) | (0.011) | (0.003) | (0.003) |
|  | |  |  |  |  |
| Constant | | -1.487\*\*\* | -2.353\*\*\* | 0.353\*\*\* | 0.250\*\*\* |
|  | | (0.112) | (0.272) | (0.037) | (0.076) |
|  | | | |  |  |
| Chi-square | | 31.9 | 15.88 | 21.34 | 6.23 |
| p-value | | 0 | 0 | 0 | 0 |
| Observations | | 36349 | 22095 | 36349 | 22095 |
|  | | | |  |  |
| Note: The sample covers years 2013 to 2018. The standard errors are reported in parentheses, clustered at individual level. \* denotes *p* < 0.1, \*\* denotes *p* < 0.05, \*\*\* denotes *p* < 0.01. | | | | |