Appendix (The detailed statistical results of the chi-square test).

| Variable | Chatting | Drinking | Yawning | Going to the toilet | Using smart phones | Smoking | Leaving the post without permission |
|---|---|---|---|---|---|---|---|
| **Duty, n (%)** | | | | | | | |
| **Navigating officer** | 78(32.2%) | 47(19.4%) | 9(3.7%) | 5(2.1%) | 28(11.6%) | 20(8.3%) | 55(22.7%) |
| **Sailor** | 121(54.5%) | 35(15.8%) | 40(18.0%) | 7(3.2%) | 3(1.4%) | 11(5.0%) | 5(2.3%) |
| **P** | 0.002 | 0.185 | <0.001 | 0.564 | <0.001 | 0.106 | <0.001 |
| **Navigation direction, n (%)** | | | | | | | |
| **Upstream** | 95(45.0%) | 40(19.0%) | 17(8.1%) | 8(3.8%) | 14(6.6%) | 17(8.1%) | 20(9.5%) |
| **Downstream** | 104(41.1%) | 42(16.6%) | 32(12.6%) | 4(1.6%) | 17(6.7%) | 14(5.5%) | 40(15.8%) |
| **P** | 0.523 | 0.825 | 0.032 | 0.248 | 0.590 | 0.590 | 0.010 |
| **Navigation scenario, n (%)** | | | | | | | |
| **Without tasks** | 93(36.8%) | 50(19.8%) | 30(11.9%) | 12(4.7%) | 20(7.9%) | 21(8.3%) | 27(10.7%) |
| **Perform tasks** | 106(50.2%) | 32(15.2%) | 19(9.0%) | 0(0%) | 11(5.2%) | 10(4.7%) | 33(15.6%) |
| **P** | 0.357 | 0.047 | 0.116 | | 0.106 | 0.048 | 0.439 |
| **Day-night, n (%)** | | | | | | | |
| **Daytime** | 135(44.4%) | 58(19.1%) | 23(7.6%) | 9(3.0%) | 27(8.9%) | 14(4.6%) | 38(12.5%) |
| **Nighttime** | 64(40.0%) | 24(15.0%) | 26(16.3%) | 3(1.9%) | 4(2.5%) | 17(10.6%) | 22(13.8%) |
| **P** | <0.001 | <0.001 | 0.668 | 0.083 | <0.001 | 0.590 | 0.039 |
| **Vision, n (%)** | | | | | | | |
| **Fine** | 146(48.5%) | 50(16.6%) | 41(13.6%) | 8(2.7%) | 16(5.3%) | 16(5.3%) | 24(8.0%) |
| **Presbyopia** | 53(32.5%) | 32(19.6%) | 8(4.9%) | 4(2.5%) | 15(9.2%) | 15(9.2%) | 36(22.1%) |
| **P** | <0.001 | <0.001 | <0.001 | 0.248 | 0.140 | 0.002 | <0.001 |
| **Young** | 121(54.5%) | 35(15.8%) | 40(18.0%) | 7(3.2%) | 3(1.4%) | 11(5.0%) | 5(2.3%) |
| **Middle age** | 8(32.2%) | 47(19.4%) | 9(3.7%) | 5(2.1%) | 28(11.6%) | 20(8.3%) | 55(22.7%) |
| **P** | 0.002 | 0.185 | <0.001 | 0.564 | <0.001 | 0.106 | <0.001 |
| **Health condition, n (%)** | | | | | | | |
| **Better** | 54(35.5%) | 27(17.8%) | 5(3.3%) | 4(2.6%) | 13(8.6%) | 15(9.9%) | 34(22.4%) |
| **Average** | 29(30.5%) | 21(22.1%) | 4(4.2%) | 1(1.1%) | 14(14.7%) | 5(5.3%) | 21(22.1%) |
| **Fine** | 116(53.5%) | 34(15.7%) | 40(18.4%) | 7(3.2%) | 4(1.8%) | 11(5.1%) | 5(2.3%) |
| **P** | <0.001 | 0.213 | <0.001 | 0.105 | 0.053 | 0.086 | <0.001 |