**Supplemental Materials**

**Supplemental Table 1**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the total sample*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .89 | .90 |
| VMQ-Recreation | .84  | .84  |
| VMQ-Competition | .75  | .76  |
| VMQ-Cognitive development | .70  | .69  |
| VMQ-Coping | .85  | .85  |
| VMQ-Social interaction | .83  | .83  |
| VMQ-Violent reward | .88  | .88  |
| VMQ-Customization | .86  | .86  |
| VMQ-Fantasy | .86  | .86  |
| BFPTSQ-Openness | .80 | .80 |
| BFPTSQ-Extraversion | .86 | .86 |
| BFPTSQ-Agreeableness | .74 | .71 |
| BFPTSQ-Conscientiousness | .79 | .76 |
| BFPTSQ- Emotional stability | .85 | .85 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 2**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from the United States*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .89 | .90 |
| VMQ-Recreation | .86 | .86 |
| VMQ-Competition | .74 | .75 |
| VMQ-Cognitive development | .70 | .70 |
| VMQ-Coping | .86 | .86 |
| VMQ-Social interaction | .83 | .83 |
| VMQ-Violent reward | .88 | .88 |
| VMQ-Customization | .86 | .86 |
| VMQ-Fantasy | .87 | .87 |
| BFPTSQ-Openness | .80 | .81 |
| BFPTSQ-Extraversion | .86 | .86 |
| BFPTSQ-Agreeableness | .75 | .71 |
| BFPTSQ-Conscientiousness | .78 | .73 |
| BFPTSQ- Emotional stability | .84 | .84 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 3**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from Canada*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .90 | .91 |
| VMQ-Recreation | .84 | .84 |
| VMQ-Competition | .75 | .76 |
| VMQ-Cognitive development | .67 | .68 |
| VMQ-Coping | .86 | .86 |
| VMQ-Social interaction | .84 | .85 |
| VMQ-Violent reward | .88 | .88 |
| VMQ-Customization | .84 | .84 |
| VMQ-Fantasy | .85 | .85 |
| BFPTSQ-Openness | .76 | .77 |
| BFPTSQ-Extraversion | .86 | .87 |
| BFPTSQ-Agreeableness | .73 | .70 |
| BFPTSQ-Conscientiousness | .78 | .75 |
| BFPTSQ- Emotional stability | .85 | .85 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 4**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from Spain*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .89 | .89 |
| VMQ-Recreation | .85 | .85 |
| VMQ-Competition | .79 | .80 |
| VMQ-Cognitive development | .75 | .75 |
| VMQ-Coping | .83 | .83 |
| VMQ-Social interaction | .79 | .80 |
| VMQ-Violent reward | .86 | .87 |
| VMQ-Customization | .84 | .84 |
| VMQ-Fantasy | .85 | .86 |
| BFPTSQ-Openness | .83 | .82 |
| BFPTSQ-Extraversion | .85 | .85 |
| BFPTSQ-Agreeableness | .73 | .72 |
| BFPTSQ-Conscientiousness | .80 | .79 |
| BFPTSQ- Emotional stability | .84 | .85 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 5**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from the Southern Cone (Argentina and Uruguay)*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .89 | .90 |
| VMQ-Recreation | .76 | .77 |
| VMQ-Competition | .72 | .73 |
| VMQ-Cognitive development | .67 | .68 |
| VMQ-Coping | .81 | .81 |
| VMQ-Social interaction | .73 | .77 |
| VMQ-Violent reward | .87 | .88 |
| VMQ-Customization | .88 | .88 |
| VMQ-Fantasy | .88 | .88 |
| BFPTSQ-Openness | .80 | .78 |
| BFPTSQ-Extraversion | .85 | .86 |
| BFPTSQ-Agreeableness | .65 | .62 |
| BFPTSQ-Conscientiousness | .80 | .80 |
| BFPTSQ- Emotional stability | .85 | .85 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 6**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from South Africa*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .87 | .88 |
| VMQ-Recreation | .82 | .82 |
| VMQ-Competition | .72 | .73 |
| VMQ-Cognitive development | .78 | .79 |
| VMQ-Coping | .85 | .85 |
| VMQ-Social interaction | .82 | .83 |
| VMQ-Violent reward | .88 | .89 |
| VMQ-Customization | .83 | .83 |
| VMQ-Fantasy | .86 | .86 |
| BFPTSQ-Openness | .79 | .80 |
| BFPTSQ-Extraversion | .86 | .86 |
| BFPTSQ-Agreeableness | .72 | .68 |
| BFPTSQ-Conscientiousness | .81 | .79 |
| BFPTSQ- Emotional stability | .85 | .85 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 7**

*Internal reliability of the IGDS9-SF, and the VMQ and BFTSQ subscales for the subsample from England*

|  |  |  |
| --- | --- | --- |
|  | α | ω |
| IGDS9-SF | .90 | .91 |
| VMQ-Recreation | .80 | .81 |
| VMQ-Competition | .78 | .78 |
| VMQ-Cognitive development | .69 | .69 |
| VMQ-Coping | .81 | .82 |
| VMQ-Social interaction | .71 | .79 |
| VMQ-Violent reward | .80 | .80 |
| VMQ-Customization | .90 | .91 |
| VMQ-Fantasy | .88 | .88 |
| BFPTSQ-Openness | .79 | .79 |
| BFPTSQ-Extraversion | .87 | .88 |
| BFPTSQ-Agreeableness | .81 | .81 |
| BFPTSQ-Conscientiousness | .81 | .81 |
| BFPTSQ- Emotional stability | .87 | .87 |

*Note.* IGDS9-SF= Internet Gaming Disorder Scale; VMQ= Video gaming Motives Questionnaire; BFPTSQ= Big Five Personality Trait Short Questionnaire.

**Supplemental Table 8***Indirect effects of openness on weekly gaming and disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
| **Openness—Specific indirect effects** | *β* | 99%CI |
| Recreation → Weekly gaming | **.028** | **.017, .041** |
| Competition → Weekly gaming | .001 | -.002, .005 |
| Cognitive development → Weekly gaming | .000 | -.008, .009 |
| Coping → Weekly gaming | .006 | -.001, .014 |
| Social interaction → Weekly gaming | **.011** | **.001, .022** |
| Violent reward → Weekly gaming | -.003 | -.008, .000 |
| Customization → Weekly gaming | -.012 | -.029, .003 |
| Fantasy → Weekly gaming | .015 | -.002, .033 |
| Recreation → Disordered gaming | -.001 | -.009, .008 |
| Competition → Disordered gaming | **.003** | **.001, .009** |
| Cognitive development → Disordered gaming | -.003 | -.012, .005 |
| Coping → Disordered gaming | **.028** | **.017, .042** |
| Social interaction → Disordered gaming | .002 | .000, .007 |
| Violent reward → Disordered gaming | .002 | -.002, .006 |
| Customization → Disordered gaming | -.009 | -.024, .005 |
| Fantasy → Disordered gaming | **.016** | **.001, .033** |
| → Weekly gaming → Disordered gaming | .002 | -.012, .017 |
| Recreation → Weekly gaming → Disordered gaming | **.009** | **.005, .014** |
| Competition → Weekly gaming → Disordered gaming | .000 | -.001, .002 |
| Cognitive development → Weekly gaming → Disordered gaming | .000 | -.003, .003 |
| Coping → Weekly gaming → Disordered gaming | .002 | .000, .005 |
| Social interaction → Weekly gaming → Disordered gaming | .004 | .000, .008 |
| Violent reward → Weekly gaming → Disordered gaming | -.001 | -.003, .000 |
| Customization → Weekly gaming → Disordered gaming | -.004 | -.010, .001 |
| Fantasy → Weekly gaming → Disordered gaming | .005 | -.001, .011 |
| **Openness—Total indirect effects** |  |  |
| → Weekly gaming | **.045** | **.026, .065** |
| → Disordered gaming | **.056** | **.031, .081** |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.

**Supplemental Table 9***Indirect effects of extraversion on weekly gaming and disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
| **Extraversion—Specific indirect effects** | *β* | 99%CI |
| Recreation → Weekly gaming | **-.010** | **-.019, -.004** |
| Competition → Weekly gaming | .001 | -.003, .006 |
| Cognitive development → Weekly gaming | .000 | -.002, .001 |
| Coping → Weekly gaming | -.004 | -.011, .001 |
| Social interaction → Weekly gaming | -.004 | -.016, .005 |
| Violent reward → Weekly gaming | .002 | .000, .006 |
| Customization → Weekly gaming | .005 | -.001, .014 |
| Fantasy → Weekly gaming | -.008 | -.019, .001 |
| Recreation → Disordered gaming | .000 | -.003, .004 |
| Competition → Disordered gaming | **.004** | **.001, .010** |
| Cognitive development → Disordered gaming | .000 | -.001, .004 |
| Coping → Disordered gaming | **-.021** | **-.034, -.011** |
| Social interaction → Disordered gaming | -.001 | -.005, .001 |
| Violent reward → Disordered gaming | -.001 | -.005, .001 |
| Customization → Disordered gaming | .004 | -.002, .011 |
| Fantasy → Disordered gaming | **-.009** | **-.019, -.001** |
| → Weekly gaming → Disordered gaming | **-.021** | **-.037, -.006** |
| Recreation → Weekly gaming → Disordered gaming | **-.003** | **-.006, -.001** |
| Competition → Weekly gaming → Disordered gaming | .000 | -.001, .002 |
| Cognitive development → Weekly gaming → Disordered gaming | .000 | -.001, .000 |
| Coping → Weekly gaming → Disordered gaming | -.001 | -.004, .000 |
| Social interaction → Weekly gaming → Disordered gaming | -.001 | -.005, .002 |
| Violent reward → Weekly gaming → Disordered gaming | .001 | .000, .002 |
| Customization → Weekly gaming → Disordered gaming | .002 | .000, .005 |
| Fantasy → Weekly gaming → Disordered gaming | -.003 | -.006, .000 |
| **Extraversion—Total indirect effects** |  |  |
| → Weekly gaming | **-.019** | **-.037, -.002** |
| → Disordered gaming | **-.049** | **-.076, -.025** |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.

**Supplemental Table 10***Indirect effects of agreeableness on weekly gaming and disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
| **Agreeableness—Specific indirect effects** | *β* | 99%CI |
| Recreation → Weekly gaming | .006 | .000, .013 |
| Competition → Weekly gaming | -.002 | -.009, .004 |
| Cognitive development → Weekly gaming | .000 | -.005, .004 |
| Coping → Weekly gaming | -.002 | -.007, .000 |
| Social interaction → Weekly gaming | -.008 | -.019, .001 |
| Violent reward → Weekly gaming | .007 | -.001, .017 |
| Customization → Weekly gaming | .001 | -.001, .006 |
| Fantasy → Weekly gaming | -.001 | -.006, .001 |
| Recreation → Disordered gaming | .000 | -.003, .002 |
| Competition → Disordered gaming | **-.007** | **-.014, -.002** |
| Cognitive development → Disordered gaming | .001 | -.003, .006 |
| Coping → Disordered gaming | **-.011** | **-.023, -.001** |
| Social interaction → Disordered gaming | -.002 | -.006, .000 |
| Violent reward → Disordered gaming | -.004 | -.013, .004 |
| Customization → Disordered gaming | .001 | -.001, .005 |
| Fantasy → Disordered gaming | -.001 | -.007, .001 |
| → Weekly gaming → Disordered gaming | **-.018** | **-.034, -.003** |
| Recreation → Weekly gaming → Disordered gaming | .002 | .000, .004 |
| Competition → Weekly gaming → Disordered gaming | -.001 | -.003, .001 |
| Cognitive development → Weekly gaming → Disordered gaming | .000 | -.001, .002 |
| Coping → Weekly gaming → Disordered gaming | -.001 | -.002, .000 |
| Social interaction → Weekly gaming → Disordered gaming | -.003 | -.006, .000 |
| Violent reward → Weekly gaming → Disordered gaming | .002 | .000, .006 |
| Customization → Weekly gaming → Disordered gaming | .000 | .000, .002 |
| Fantasy → Weekly gaming → Disordered gaming | .000 | -.002, .000 |
| **Agreeableness—Total indirect effects** |  |  |
| → Weekly gaming | .001 | -.016, .018 |
| → Disordered gaming | **-.041** | **-.067, -.015** |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.

**Supplemental Table 11***Indirect effects of conscientiousness on weekly gaming and disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
| **Conscientiousness—Specific indirect effects** | *Β* | 99%CI |
| Recreation → Weekly gaming | -.002 | -.009, .005 |
| Competition → Weekly gaming | .000 | -.001, .002 |
| Cognitive development → Weekly gaming | .000 | -.002, .002 |
| Coping → Weekly gaming | -.003 | -.008, .000 |
| Social interaction → Weekly gaming | **-.016** | **-.029, -.006** |
| Violent reward → Weekly gaming | .004 | .000, .011 |
| Customization → Weekly gaming | -.001 | -.006, .001 |
| Fantasy → Weekly gaming | -.003 | -.010, .000 |
| Recreation → Disordered gaming | .000 | -.001, .002 |
| Competition → Disordered gaming | .000 | -.003, .004 |
| Cognitive development → Disordered gaming | .000 | -.001, .004 |
| Coping → Disordered gaming | **-.013** | **-.025, -.002** |
| Social interaction → Disordered gaming | -.003 | -.009, .001 |
| Violent reward → Disordered gaming | -.002 | -.008, .003 |
| Customization → Disordered gaming | -.001 | -.005, .001 |
| Fantasy → Disordered gaming | -.004 | -.010, .000 |
| → Weekly gaming → Disordered gaming | **-.016** | **-.031, -.002** |
| Recreation → Weekly gaming → Disordered gaming | -.001 | -.003, .002 |
| Competition → Weekly gaming → Disordered gaming | .000 | .000, .001 |
| Cognitive development → Weekly gaming → Disordered gaming | .000 | -.001, .001 |
| Coping → Weekly gaming → Disordered gaming | -.001 | -.003, .000 |
| Social interaction → Weekly gaming → Disordered gaming | **-.005** | **-.010, -.002** |
| Violent reward → Weekly gaming → Disordered gaming | .001 | .000, .004 |
| Customization → Weekly gaming → Disordered gaming | .000 | -.002, .000 |
| Fantasy → Weekly gaming → Disordered gaming | -.001 | -.003, .000 |
| **Conscientiousness—Total indirect effects** |  |  |
| → Weekly gaming | **-.021** | **-.037, -.004** |
| → Disordered gaming | **-.045** | **-.069, -.021** |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.

**Supplemental Table 12***Indirect effects of emotional stability on weekly gaming and disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
| **Emotional stability—Specific indirect effects** | *β* | 99%CI |
| Recreation → Weekly gaming | **-.010** | **-.018, -.003** |
| Competition → Weekly gaming | .000 | -.004, .001 |
| Cognitive Development → Weekly gaming | .000 | -.003, .002 |
| Coping → Weekly gaming | -.004 | -.011, .001 |
| Social interaction → Weekly gaming | .002 | -.009, .013 |
| Violent reward → Weekly gaming | -.001 | -.006, .001 |
| Customization → Weekly gaming | .004 | -.001, .011 |
| Fantasy → Weekly gaming | -.003 | -.010, .000 |
| Recreation → Disordered gaming | .000 | -.003, .004 |
| Competition → Disordered gaming | -.001 | -.005, .002 |
| Cognitive development → Disordered gaming | .001 | -.001, .004 |
| Coping → Disordered gaming | **-.020** | **-.034, -.009** |
| Social interaction → Disordered gaming | .000 | -.002, .004 |
| Violent reward → Disordered gaming | .001 | -.001, .004 |
| Customization → Disordered gaming | .003 | -.001, .009 |
| Fantasy → Disordered gaming | -.003 | -.010, .000 |
| → Weekly gaming → Disordered gaming | .000 | -.016, .016 |
| Recreation → Weekly gaming → Disordered gaming | **-.003** | **-.006, -.001** |
| Competition → Weekly gaming → Disordered gaming | .000 | -.001, .000 |
| Cognitive development → Weekly gaming → Disordered gaming | .000 | .000, .001 |
| Coping → Weekly gaming → Disordered gaming | -.001 | -.004, .000 |
| Social interaction → Weekly gaming → Disordered gaming | .001 | -.002, .005 |
| Violent reward → Weekly gaming → Disordered gaming | .000 | -.002, .000 |
| Customization → Weekly gaming → Disordered gaming | .001 | .000, .003 |
| Fantasy → Weekly gaming → Disordered gaming | -.001 | -.003, .000 |
| **Emotional stability—Total indirect effects** |  |  |
| → Weekly gaming | -.013 | -.030, .004 |
| → Disordered gaming | -.025 | -.050, .001 |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.

**Supplemental Table 13***Indirect effects of video gaming motives on disordered gaming (M1)*

|  |  |  |
| --- | --- | --- |
|  | *β* | 99%-CI |
| Recreation → Weekly gaming → Disordered gaming | **.046** | **.029, .065** |
| Competition → Weekly gaming → Disordered gaming | .006 | -.011, .023 |
| Cognitive development → Weekly gaming → Disordered gaming | .001 | -.015, .016 |
| Coping → Weekly gaming → Disordered gaming | .014 | -.004, .033 |
| Social interaction → Weekly gaming → Disordered gaming | **.071** | **.048, .095** |
| Violent reward → Weekly gaming → Disordered gaming | -.017 | -.036, .002 |
| Customization → Weekly gaming → Disordered gaming | -.015 | -.036, .004 |
| Fantasy → Weekly gaming → Disordered gaming | .019 | -.002, .042 |

*Note*. The significant associations in **bold** were determined by 99% bias-corrected standardized bootstrapped confidence intervals (based on 10000 bootstrapped samples) that did not contain zero.