**Appendix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Selective Attention | Working Memory | Cognitive Flexibility | Inhibition | Cognition Score |
| Game intelligenceSpermans’s *r*CI*n* |  | 0.14 | **0.26** | **0.28** | 0.07 | **0.29** |
|  | -0.04, 0.31119 | **0.11, 0.40****159** | **0.13, 0.42****159** | -0.09, 0.22159 | **0.12, 0.45****119** |

**Appendix 1. Bivariate correlation of executive functions and game intelligence**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Game Intelligence | Selective Attention | Working Memory | Cognitive Flexibility | Inhibition | Cognition Score | RIEA | Sprint (5M) | Sprint (30m) | SquatJump | Counter Movement Jump | Drop Jump | Performance-IAT |
| Game timeSpermans’s *r*CI*n* |  | **0.42** | **0.20** | **0.25** | **0.30** | -0.17 | **0.29** | 0.12 | 0.17 | 0.11 | -0.04 | -0.04 | 0.11 | 0.14 |
|  | **0.25, 0.56** | **0.01, 0.38** | **0.08, 0.40** | **0.14, 0.45** | -0.33, 0.01 | **0.10, 0.46** | -0.14, 0.36 | -0.02, 0.35 | -0.08, 0.30 | -0.30, 0.22 | -0.21, 0.14 | -0.01, 0.28 | -0.16, 0.42 |
|  | **112** | **100** | **131** | **131** | 131 | **100** | 59 | 106 | 106 | 59 | 125 | 125 | 45 |

**Appendix 2. Bivariate correlation of executive functions, physiological abilities and game time**

**Appendix 3. Bivariate correlation of executive functions, physiological abilities and injuries**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Game Intelligence | Selective Attention | Working Memory | Cognitive Flexibility | Inhibition | Cognition Score | RIEA | Sprint (5M) | Sprint (30m) | SquatJump | Counter Movement Jump | Drop Jump | Performance-IAT |
| Contact InjurySpermans’s *r*CI*N* |  | -0.14 | 0.07 | 0.01 | 0.15 | 0.01 | -0.04 | 0.13 | 0.14 | 0.21 | 0.13 | 0.15 | 0.05 | -0.03 |
|  | -0.30, 0.04 | -0.11, 0.25 | -0.15, 0.17 | -0.01, 0.30 | -0.06, 0.26 | -0.22, 0.15 | -0.11, 0.36 | -0.04, 0.31 | 0.03, 0.38 | -0.11, 0.36 | -0.02, 0.31 | -0.12, 0.22 | -0.30, 0.25 |
|  | 127 | 111 | 144 | 144 | 144 | 111 | 65 | 118 | 118 | 69 | 137 | 137 | 51 |
| Noncontact InjurySpermans’s *r*CI*n* |  | 0.07 | -0.04 | **0.20** | 0.13 | **0.30** | 0.12 | 0.16 | 0.16 | 0.10 | 0.08 | **0.25** | **0.18** | -0.19 |
|  | -0.11, 0.24 | -0.22, 0.15 | **0.04, 0.35** | -0.03, 0.29 | **0.14, 0.44** | -0.07, 0.30 | -0.09, 0.39 | -0.02, 0.33 | -0.08, 0.28 | -0.12, 0.31 | **0.09, 0.40** | **0.01, 0.33** | -0.30, 0.25 |
|  | 127 | 111 | **144** | 144 | **144** | 111 | 65 | 118 | 118 | 69 | **137** | **137** | 51 |

**Appendix 4. Detailed injury information of all sustained injuries**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Injury mechanism** | **Injury type –** **Main grouping** | **Injury type –** **Category** | **Injury location - Main grouping**  | **Injury location - Category** |
| Contact | Contusions | Hematoma/contusion/bruise | Lower limbs | ankle |
| Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Contact | Fractures and bone stress | Fracture | Upper limbs | finger |
| Contact | Contusions | Hematoma/contusion/bruise | Lower limbs | foot |
| Contact | Contusions | Hematoma/contusion/bruise | Lower limbs | foot |
| Contact | Contusions | Hematoma/contusion/bruise | Lower limbs | knee |
| Contact | Joint (nonbone) & ligament | Dislocation/ subluxation | Lower limbs | knee |
| Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | knee |
| Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | lower leg |
| Contact | Muscle & tendon | Tendon injury/rupture/tendinosis/bursitis | Lower limbs | thigh |
| Non-Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Non-Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Non-Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Non-Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | ankle |
| Non-Contact | Fractures and bone stress | Other bone injuries | Lower limbs | hip/groin |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | hip/groin |
| Non-Contact | Fractures and bone stress | Other bone injuries | Lower limbs | knee |
| Non-Contact | Fractures and bone stress | Other bone injuries | Lower limbs | knee |
| Non-Contact | Joint (nonbone) & ligament | Lesion of menicsus or cartilage | Lower limbs | knee |
| Non-Contact | Joint (nonbone) & ligament | Sprain/ ligament injury | Lower limbs | knee |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Trunk | lower back |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | lower leg |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | lower leg |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | lower leg |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |
| Non-Contact | Muscle & tendon | Muscle rupture/tear/strain/cramps | Lower limbs | thigh |

**Appendix 5. Descriptive injury information of all sustained injuries**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Injury mechanism** | **%** | **Injury type –** **Main grouping** | **%** | **Injury type –** **Category** | **%** | **Injury location - Main grouping**  | **%** |
| Non-Contact | 61% | Muscle & tendon | 55% | Muscle rupture/tear/strain/cramps | 55% | Lower limbs | 95% |
| Joint (nonbone) & ligament | 30% | Sprain/ ligament injury | 25% | Trunk | 5% |
| Lesion of menicsus or cartilage | 5% |  |  |
| Fractures and bone stress | 15% | Other bone injuries | 15% |  |  |
| Contact | 39% | Joint (nonbone) & ligament | 46% | Sprain/ ligament injury | 38% | Lower limbs | 92% |
| Dislocation/ subluxation | 8% | Upper limbs | 8% |
| Contusions | 31% | Hematoma/contusion/bruise | 31% |  |  |
| Muscle & tendon | 15% | Muscle rupture/tear/strain/cramps | 8% |  |  |
| Tendon injury/rupture/tendinosis/bursitis | 8% |  |  |
| Fractures and bone stress | 8% | Fracture | 8% |   |   |

**Appendix 6. Descriptive injury information relating to the specific correlations**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Injury mechanism** | **Injury type - Main grouping** | **% of total** | **Injury type –** **Category** | **% of total** | **Injury location - Main grouping**  | **% of total** | **Injury location - Category** | **% of total** |
| Non-Contact a) | Muscle & tendon | 50% | Muscle rupture/tear/strain/cramps | 50% | Lower limbs | 92% | Thigh | 33% |
| Joint (nonbone) & ligament | 33% | Joint (nonbone) & ligament | 33% | Trunk | 8% | Knee | 25% |
| Fractures and bone stress | 17% | Other bone injuries | 17% |   |  | Ankle | 25% |
|  |  |  |  |   |  | Hip/Groin | 8% |
|  |  |  |  |   |  | Lower back | 8% |
| Non-Contact b) | Joint (nonbone) & ligament | 50% | Joint (nonbone) & ligament | 50% | Lower limbs | 100% | Ankle | 38% |
| Muscle & tendon | 38% | Muscle rupture/tear/strain/cramps | 38% |   |  | Knee | 25% |
| Fractures and bone stress | 13% | Other bone injuries | 13% |   |  | Thigh | 25% |
|   |   |   |   |   |   | Hip/Groin | 13% |
| Contact | Joint (nonbone) & ligament | 50% | Sprain/ ligament injury | 42% | Lower limbs | 92% | Ankle | 42% |
| Dislocation/ subluxation | 8% | Upper limbs | 8% | Knee | 25% |
| Contusions | 33% | Hematoma/contusion/bruise | 33% |   |  | Foot | 17% |
| Muscle & tendon | 8% | Tendon injury/rupture/tendinosis/bursitis | 8% |   |  | Thigh | 8% |
| Fractures and bone stress | 8% | Fracture | 8% |   |   | Finger | 8% |

 *Note:* The injury mechanisms Non-Contact a) and Contact relate to the correlation with sprint 30-meter and Non-Contact b) to performance-IAT