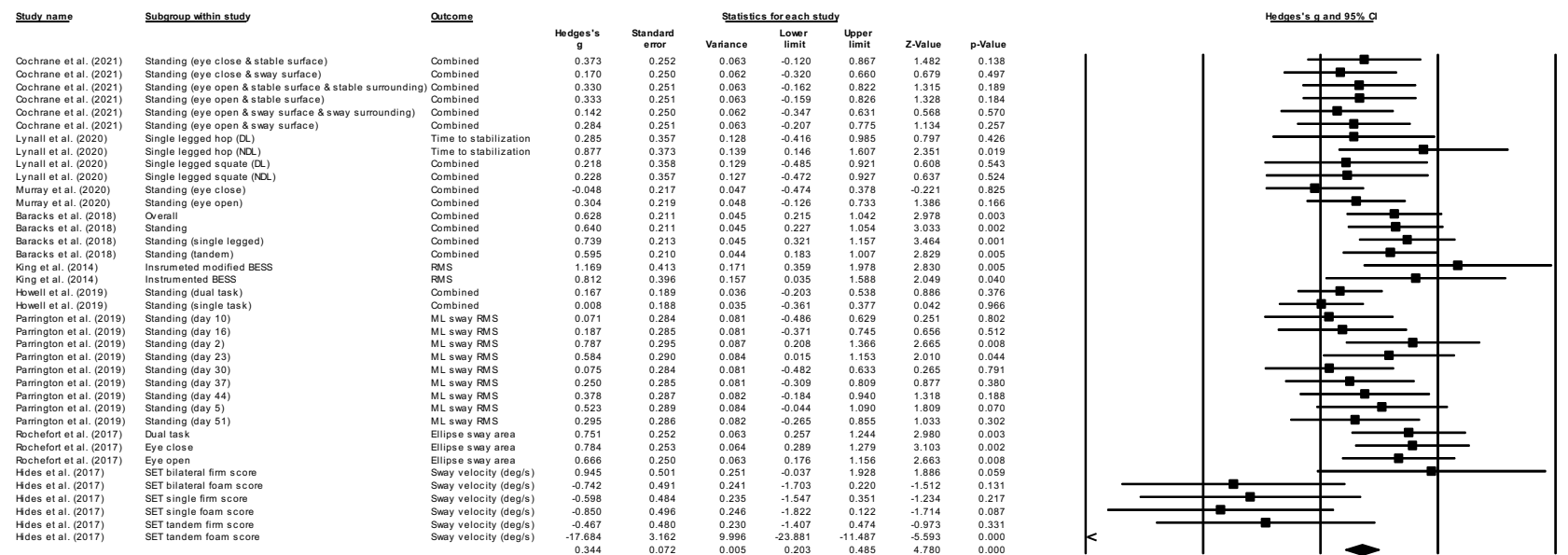
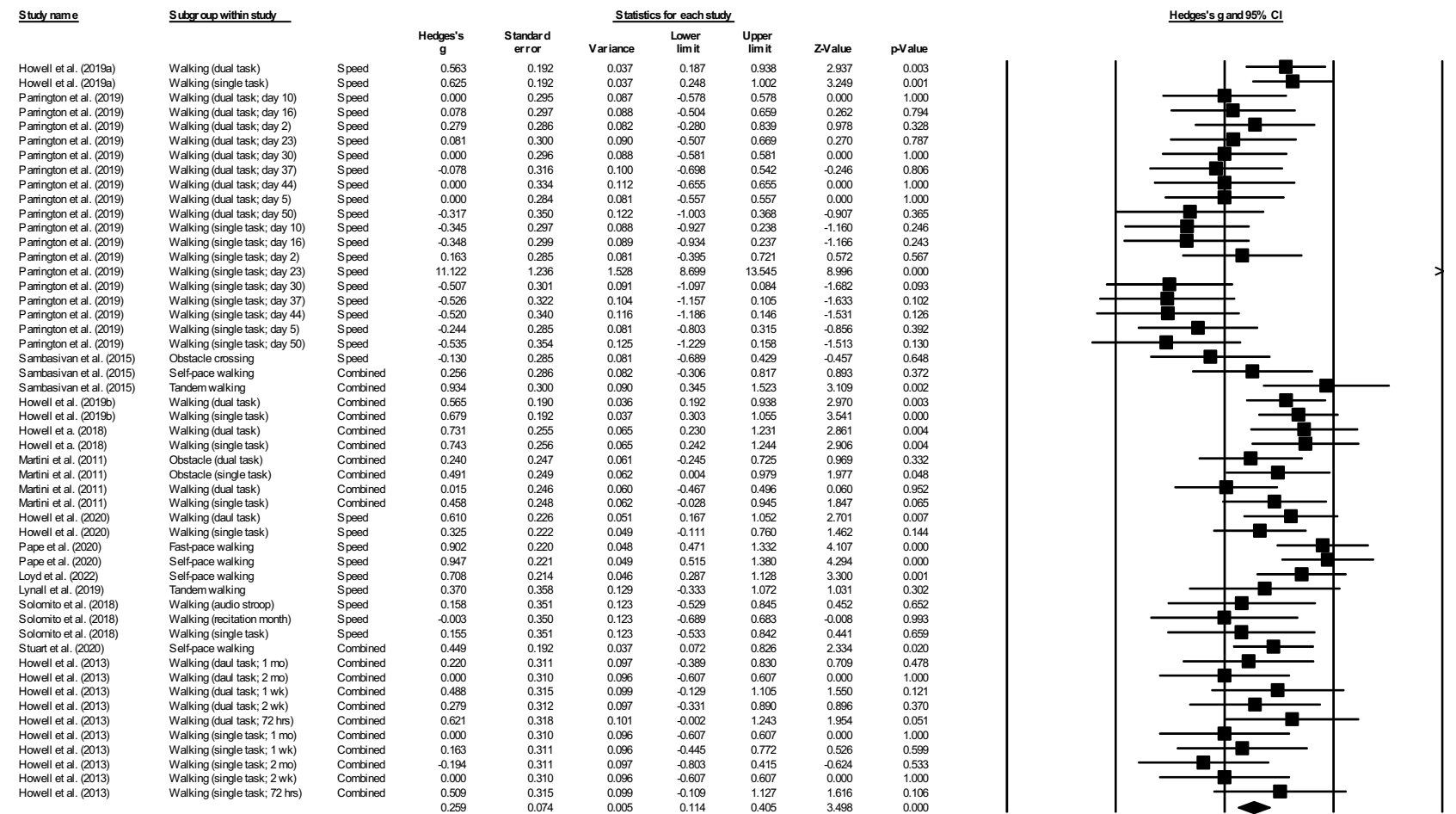


Appendix 4. Forrest plots for the postural stability (a), locomotion (b), frontal plane kinematics (c) and kinetics (d), sagittal plane kinematics (e) and kinetics (f), impact loading (g), and trunk movement (h) constructs in the current study.

#### 4a. Postural stability construct related to lateral ankle sprain injury risk

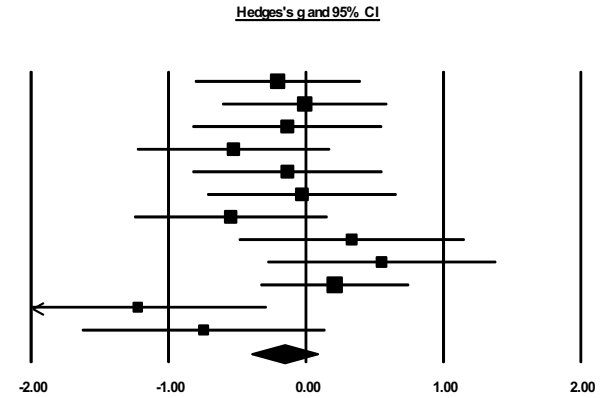


## 4b. Locomotion-related performance construct related to lateral ankle sprain injury risk



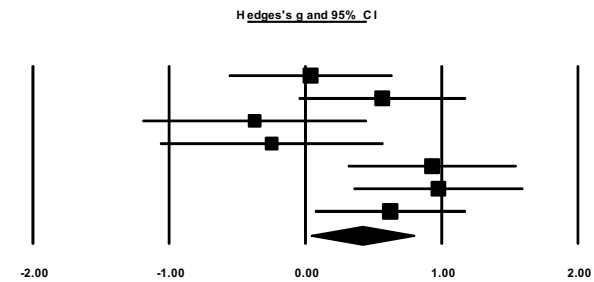
### 4c. Frontal plane kinematics construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Avedesian et al. (2021)	Land and cut (DL)	Knee valgus angle	-0.205	0.311	0.097	-0.815	0.404	-0.661	0.509
Avedesian et al. (2021)	Land and cut (NDL)	Knee valgus angle	-0.009	0.310	0.096	-0.617	0.598	-0.030	0.976
Lynall et al. (2018)	Anticipated cut (DL)	Combined	-0.136	0.356	0.127	-0.833	0.561	-0.383	0.702
Lynall et al. (2018)	Anticipated cut (NDL)	Combined	-0.527	0.362	0.131	-1.236	0.182	-1.457	0.145
Lynall et al. (2018)	Double leg jum	Combined	-0.135	0.356	0.127	-0.833	0.562	-0.381	0.704
Lynall et al. (2018)	Unanticipated cut (DL)	Combined	-0.029	0.355	0.126	-0.726	0.667	-0.082	0.935
Lynall et al. (2018)	Unanticipated cut (NDL)	Combined	-0.548	0.362	0.131	-1.258	0.162	-1.512	0.131
Avedesian et al. (2020)	Drop landing (30 m)	Peak knee angle	0.333	0.423	0.179	-0.495	1.162	0.789	0.430
Avedesian et al. (2020)	Drop landing (60 m)	Peak knee angle	0.551	0.428	0.183	-0.288	1.390	1.288	0.198
Shumski et al. (2021)	Drop landing	Combined	0.210	0.279	0.078	-0.338	0.757	0.751	0.453
Lapointe et al. (2018)	Arrow flanker cut (L)	Peak knee varus angle	-1.224	0.482	0.232	-2.168	-0.280	-2.541	0.011
Lapointe et al. (2018)	Arrow flanker cut (R)	Peak knee varus angle	-0.744	0.455	0.207	-1.637	0.148	-1.636	0.102
			-0.165	0.122	0.015	-0.405	0.075	-1.349	0.177



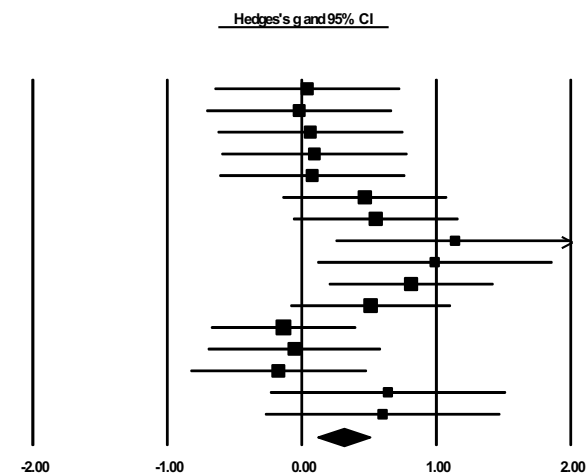
### 4d. Frontal plane kinetics construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Avedesian et al. (2021)	Land and cut (DL)	Peak knee valgus moment	0.039	0.310	0.096	-0.568	0.647	0.127	0.899
Avedesian et al. (2021)	Land and cut (NDL)	Peak knee valgus moment	0.564	0.316	0.100	-0.056	1.184	1.784	0.074
Avedesian et al. (2020)	Drop landing (30 m)	Peak knee abduction moment	-0.373	0.423	0.179	-1.203	0.457	-0.881	0.379
Avedesian et al. (2020)	Drop landing (60 m)	Peak knee abduction moment	-0.247	0.421	0.177	-1.073	0.578	-0.587	0.557
Lee et al. (2021)	Drop landing (30 m) (DL)	Knee varus moment	0.931	0.319	0.102	0.305	1.557	2.915	0.004
Lee et al. (2021)	Drop landing (30 m) (NDL)	Knee varus moment	0.977	0.321	0.103	0.348	1.606	3.044	0.002
Shumski et al. (2021)	Drop landing	Peak knee abduction moment	0.623	0.285	0.081	0.063	1.182	2.182	0.029
			0.409	0.192	0.037	0.032	0.786	2.127	0.033



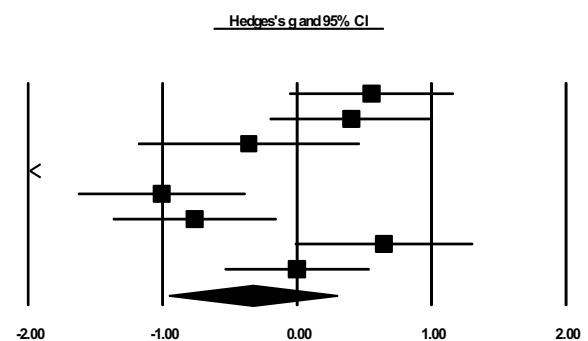
#### 4e. Sagittal plane kinematics construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Lynall et al. (2018)	Anticipated cut (DL)	Combined	0.041	0.355	0.126	-0.656	0.737	0.114	0.909
Lynall et al. (2018)	Anticipated cut (NDL)	Combined	-0.019	0.355	0.126	-0.716	0.678	-0.054	0.957
Lynall et al. (2018)	Double leg jump	Combined	0.064	0.356	0.126	-0.633	0.761	0.180	0.857
Lynall et al. (2018)	Unanticipated cut (DL)	Combined	0.095	0.356	0.127	-0.604	0.793	0.265	0.791
Lynall et al. (2018)	Unanticipated cut (NDL)	Combined	0.077	0.355	0.126	-0.620	0.774	0.217	0.828
Avedesian et al. (2021)	Land and cut (DL)	Combined	0.469	0.315	0.099	-0.149	1.087	1.487	0.137
Avedesian et al. (2021)	Land and cut (NDL)	Combined	0.550	0.317	0.101	-0.071	1.172	1.735	0.083
Avedesian et al. (2020)	Drop landing (30 m)	Combined	1.139	0.456	0.208	0.245	2.033	2.496	0.013
Avedesian et al. (2020)	Drop landing (60 m)	Combined	0.989	0.449	0.202	0.109	1.870	2.202	0.028
Lee et al. (2021)	Drop landing (DL)	Knee flexion displacement	0.813	0.316	0.100	0.195	1.431	2.577	0.010
Lee et al. (2021)	Drop landing (NDL)	Knee flexion displacement	0.512	0.308	0.095	-0.092	1.115	1.662	0.096
Shumski et al. (2021)	Drop landing	Combined	-0.136	0.279	0.078	-0.683	0.410	-0.489	0.625
Dubose et al. (2017)	Jump landing (baseline)	Combined	-0.055	0.332	0.110	-0.705	0.595	-0.167	0.868
Dubose et al. (2017)	Jump landing (post injury)	Combined	-0.173	0.338	0.114	-0.835	0.488	-0.514	0.607
Lapointe et al. (2018)	Arrow flanker cut (L)	Peak knee flexion angle	0.641	0.451	0.203	-0.243	1.525	1.421	0.155
Lapointe et al. (2018)	Arrow flanker cut (R)	Peak knee flexion angle	0.601	0.450	0.202	-0.280	1.483	1.337	0.181
			0.303	0.099	0.010	0.110	0.497	3.070	0.002



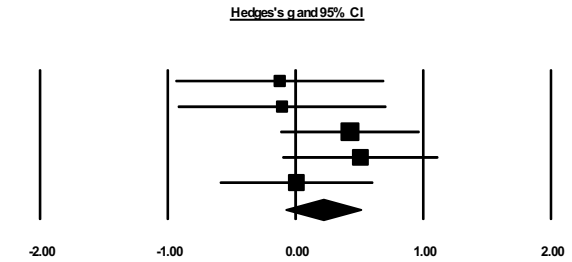
#### 4f. Sagittal plane kinetics construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Avedesian et al. (2021)	Land and cut (DL)	Peak knee flexion moment	0.553	0.316	0.100	-0.066	1.173	1.751	0.080
Avedesian et al. (2021)	Land and cut (NDL)	Peak knee flexion moment	0.404	0.313	0.098	-0.210	1.018	1.289	0.197
Avedesian et al. (2020)	Drop landing (30 m)	Combined	-0.358	0.423	0.179	-1.188	0.472	-0.845	0.398
Avedesian et al. (2020)	Drop landing (60 m)	Combined	-5.096	1.130	1.277	-7.311	-2.881	-4.509	0.000
Lee et al. (2021)	Drop landing (DL)	Peak knee extension moment	-1.006	0.322	0.104	-1.637	-0.375	-3.123	0.002
Lee et al. (2021)	Drop landing (NDL)	Peak knee extension moment	-0.761	0.314	0.099	-1.377	-0.146	-2.425	0.015
Dubose et al. (2017)	Jump landing	Combined	0.646	0.341	0.117	-0.023	1.315	1.892	0.059
Shumski et al. (2021)	Drop landing	Peak knee flexion moment	0.000	0.278	0.078	-0.546	0.546	0.000	1.000
			-0.337	0.318	0.101	-0.961	0.286	-1.060	0.289



### 4g. Impact loading construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Avedesian et al. (2020)	Drop landing (30 m)	Vertical GRF	-0.123	0.420	0.176	-0.946	0.700	-0.294	0.769
Avedesian et al. (2020)	Drop landing (60 m)	Vertical GRF	-0.105	0.420	0.176	-0.928	0.717	-0.251	0.802
Shumski et al. (2021)	Drop landing	Combined	0.426	0.282	0.079	-0.126	0.978	1.511	0.131
Avedesian et al. (2021)	Land and cut (DL)	Peak GRF	0.507	0.315	0.099	-0.110	1.125	1.610	0.107
Avedesian et al. (2021)	Land and cut (NDL)	Peak GRF	0.007	0.310	0.096	-0.600	0.615	0.023	0.982
			0.208	0.150	0.023	-0.086	0.502	1.388	0.165



### 4h. Trunk movement construct related to anterior cruciate ligament injury risk

Study name	Subgroup within study	Outcome	Statistics for each study						
			Hedges's g	Standard error	Variance	Lower limit	Upper limit	Z-Value	p-Value
Lynall et al. (2018)	Anticipated cut (DL)	Combined	0.365	0.360	0.130	-0.341	1.071	1.013	0.311
Lynall et al. (2018)	Anticipated cut (NDL)	Combined	0.116	0.368	0.136	-0.606	0.838	0.314	0.753
Lynall et al. (2018)	Double leg jump	Combined	0.296	0.358	0.128	-0.405	0.998	0.828	0.407
Lynall et al. (2018)	Unanticipated cut (DL)	Combined	0.450	0.360	0.130	-0.256	1.156	1.250	0.211
Lynall et al. (2018)	Unanticipated cut (NDL)	Combined	0.299	0.358	0.128	-0.402	1.000	0.835	0.404
			0.307	0.161	0.026	-0.009	0.623	1.902	0.057

