

Table S1. Components, and their prices, used in consumer-grade racing simulator setup.

Item	Component Used	Minimum Simulator Requirement	Cost, USD
<i>Consumer-grade personal computer</i>			
Case	Corsair Graphite Series 780T Full Tower Windowed Case	varies	\$144
Power supply	Corsair RM Series RM850	varies	\$150
Processor	Intel Core i7 processor	AMD Athlon X2 2.8 GHz, Intel Core 2 Duo 2.4 GHz	\$350
Hard drive	Samsung 850 EVO solid state drive	15GB space	\$100
Memory	EVGA 16GB DDR3 2400 RAM	2GB RAM	\$80
Motherboard	ASUS Z107-A (ATX)	Varies	\$130
Graphics card	nVidia GeForce GTX1070	DirectX 10.1 compatible (e.g., Nvidia GeForce GT 460)	\$400
Mouse	Standard USB optical mouse	n/a	n/a
Keyboard	Standard USB keyboard	n/a	n/a
<i>Display & Controls</i>			
Television	40" Class LED 1080p HDTV	Any compatible display	\$200
HD cable	High-quality generic HD cable	n/a	\$50
Steering wheel	Thrustmaster T500RS	Any compatible controller	\$600
<i>Software</i>			
OS	Microsoft Windows 10, 64-bit edition	Windows 7 Sp1-10	\$140
Simulator	Assetto Corsa	n/a	\$45
Total racing simulator setup cost (not including keyboard and mouse)			\$2389

GHZ = Gigahertz, GB = Gigabyte, DDR3 = Double Data Rate 3rd generation, RAM = random access memory, ATX = Advanced Technology eXtended, HD = high definition, OS = operating system.

Table S2. Comparison of research simulator and racing simulator outcomes for participants using foot affected by stroke vs. foot unaffected by stroke to operate driving pedal, using chi-squared test or independent samples *t*-test.

Research Simulator Outcomes							
Independent samples <i>t</i> -test					95% CI of the difference		
	F	Sig.	t	df	Sig. (2-tailed)	Lower	Upper
Scenario 1 SDLP	1.022	0.323	-0.666	22	0.513	-1.260	0.648
Scenario 2 mean speed	0.002	0.963	1.384	24	0.179	-2.917	14.786
Scenario 2 max speed	0.03	0.863	0.363	24	0.72	-6.310	8.999
Scenario 3 mean speed	0.116	0.736	1.468	24	0.155	-2.544	15.076
Scenario 4 TTC	0.936	0.343	-0.868	24	0.394	-0.275	0.112
Chi-square test							
				N	Value	df	p
Scenario 2 collision	<i>(Sample too small)</i>			26	0.042	1	0.84
Scenario 2 pedal error	<i>(Sample too small)</i>			24	0	1	1
Scenario 2 excursion	<i>(Sample too small)</i>				1.242a	1	0.27

Racing Simulator Outcomes							
Independent samples <i>t</i> -test					95% CI of the difference		
	F	Sig.	t	df	Sig. (2-tailed)	Lower	Upper
Preferred foot pedal reaction time			-1.85	10	0.094	-2.119	0.196

Silverstone lap 1 time	0.163	0.69	-0.939	23	0.357	-81.298	30.517
Silverstone lap 2 time	0.006	0.938	-0.71	22	0.485	-54.387	26.631
Silverstone lap time delta	2.762	0.111	1.089	22	0.288	-19.413	62.344
Silverstone lap 1 max # tires off track	0.842	0.368	0.429	23	0.672	-1.214	1.848
Silverstone lap 2 max # tires off track	1.103	0.304	0.465	23	0.646	-1.423	2.249
Silverstone total max # tires off track	0.168	0.685	0.525	23	0.604	-2.145	3.605
Monza lap 1 time	4.494	0.046	-2.265	20.2	0.035	-81.404	-3.386
Monza lap 2 time	0.628	0.437	-1.174	20	0.254	-126.575	35.403
Monza lap time delta	1.308	0.266	0.036	20	0.972	-73.520	76.109
Monza lap 1 max # tires off track	2.239	0.149	0.634	22	0.532	-1.123	2.112
Monza lap 2 max # tires off track	0.977	0.335	0.871	20	0.394	-1.317	3.206
Monza total max # tires off track	0.149	0.703	0.84	20	0.411	-2.059	4.836

SDLP = standard deviation of lap position, MPH = miles per hour, TTC = time-to-collision.

Table S3. Complete Spearman correlations of clinical psychometric and motor testing to research and racing simulator outcomes.

Clinical Test	rs	p
<i>Trail Making Test Part A</i>		
Highway scenario SDLP	-0.094	p = 0.58
Rural scenario mean speed	0.151	p = 0.35
Rural scenario max speed	-0.087	p = 0.59
Rural scenario passing reaction time	0.300	p = 0.06
Construction scenario mean speed	-0.032	p = 0.85
Urban scenario TTC	-0.117	p = 0.47
Silverstone lap 1 time	0.233	p = 0.15
Silverstone lap 2 time	0.346*	p = 0.04
Silverstone lap 2 max # tires off track	0.079	p = 0.64
Silverstone total max # tires off track	0.096	p = 0.57
Monza lap 1 time	0.201	p = 0.21
Monza lap 2 time	0.452**	p < 0.01
Monza lap 2 max # tires off track	0.094	p = 0.58
Monza total max # tires off track	0.161	p = 0.35
Drag race preferred foot pedal reaction time	-0.104	p = 0.65
<i>Snellgrove Maze Task</i>		
Highway scenario SDLP	0.241	p = 0.15
Rural scenario mean speed	0.158	p = 0.33
Rural scenario max speed	0.132	p = 0.42
Rural scenario passing reaction time	0.337*	p = 0.03
Construction scenario mean speed	-0.040	p = 0.80
Urban scenario TTC	-0.110	p = 0.50
Silverstone lap 1 time	0.175	p = 0.29
Silverstone lap 2 time	0.307	p = 0.07
Silverstone lap 2 max # tires off track	-0.048	p = 0.78
Silverstone total max # tires off track	-0.195	p = 0.24
Monza lap 1 time	0.178	p = 0.29
Monza lap 2 time	0.245	p = 0.15

Monza lap 2 max # tires off track	-0.057	$p = 0.74$
Monza total max # tires off track	-0.129	$p = 0.45$
Drag race preferred foot pedal reaction time	0.423	$p = 0.06$
<i>Rapid Pace Walk</i>		
Highway scenario SDLP	-0.077	$p = 0.65$
Rural scenario mean speed	0.284	$p = 0.08$
Rural scenario max speed	0.149	$p = 0.37$
Rural scenario passing reaction time	0.049	$p = 0.77$
Construction scenario mean speed	0.031	$p = 0.85$
Urban scenario TTC	-0.085	$p = 0.61$
Silverstone lap 1 time	0.236	$p = 0.15$
Silverstone lap 2 time	0.275	$p = 0.11$
Silverstone lap 2 max # tires off track	0.097	$p = 0.57$
Silverstone total max # tires off track	0.160	$p = 0.35$
Monza lap 1 time	-0.018	$p = 0.92$
Monza lap 2 time	0.394*	$p = 0.02$
Monza lap 2 max # tires off track	0.259	$p = 0.13$
Monza total max # tires off track	0.232	$p = 0.18$
Drag race preferred foot pedal reaction time	0.305	$p = 0.18$
<i>Motricity Index, left side</i>		
Highway scenario SDLP	0.061	$p = 0.72$
Rural scenario mean speed	-0.131	$p = 0.42$
Rural scenario max speed	-0.025	$p = 0.88$
Rural scenario passing reaction time	-0.144	$p = 0.37$
Construction scenario mean speed	0.079	$p = 0.63$
Urban scenario TTC	0.049	$p = 0.76$
Silverstone lap 1 time	-0.158	$p = 0.38$
Silverstone lap 2 time	-0.248	$p = 0.14$
Silverstone lap 2 max # tires off track	-0.070	$p = 0.68$
Silverstone total max # tires off track	-0.076	$p = 0.65$
Monza lap 1 time	-0.005	$p = 0.98$
Monza lap 2 time	-0.113	$p = 0.51$
Monza lap 2 max # tires off track	0.208	$p = 0.22$
Monza total max # tires off track	0.226	$p = 0.19$
Drag race preferred foot pedal reaction time	-0.339	$p = 0.13$
<i>Motricity Index, right side</i>		
Highway scenario SDLP	0.075	$p = 0.66$
Rural scenario mean speed	-0.476**	$p < 0.01$
Rural scenario max speed	-0.352*	$p = 0.03$
Rural scenario passing reaction time	-0.588**	$p < 0.01$
Construction scenario mean speed	-0.460**	$p < 0.01$
Urban scenario TTC	0.179	$p = 0.28$
Silverstone lap 1 time	-0.286	$p = 0.08$
Silverstone lap 2 time	-0.094	$p = 0.58$
Silverstone lap 2 max # tires off track	-0.325*	$p < 0.05$
Silverstone total max # tires off track	-0.357*	$p = 0.03$
Monza lap 1 time	0.188	$p = 0.26$
Monza lap 2 time	0.044	$p = 0.80$
Monza lap 2 max # tires off track	0.018	$p = 0.92$
Monza total max # tires off track	-0.008	$p = 0.96$
Drag race preferred foot pedal reaction time	0.077	$p = 0.74$
<i>Jamar grip strength, left side</i>		
Highway scenario SDLP	0.132	$p = 0.43$
Rural scenario mean speed	0.052	$p = 0.75$
Rural scenario max speed	0.075	$p = 0.65$
Rural scenario passing reaction time	0.118	$p = 0.47$
Construction scenario mean speed	0.199	$p = 0.22$
Urban scenario TTC	-0.126	$p = 0.44$

Silverstone lap 1 time	0.018	$p = 0.91$
Silverstone lap 2 time	-0.167	$p = 0.32$
Silverstone lap 2 max # tires off track	0.011	$p = 0.95$
Silverstone total max # tires off track	0.157	$p = 0.35$
Monza lap 1 time	-0.258	$p = 0.12$
Monza lap 2 time	-0.106	$p = 0.54$
Monza lap 2 max # tires off track	0.343*	$p = 0.04$
Monza total max # tires off track	0.374*	$p = 0.03$
Drag race preferred foot pedal reaction time	-0.460*	$p = 0.04$
<i>Jamar grip strength, right side</i>		
Highway scenario SDLP	0.150	$p = 0.39$
Rural scenario mean speed	-0.170	$p = 0.31$
Rural scenario max speed	-0.057	$p = 0.74$
Rural scenario passing reaction time	-0.305	$p = 0.07$
Construction scenario mean speed	-0.209	$p = 0.21$
Urban scenario TTC	0.114	$p = 0.50$
Silverstone lap 1 time	-0.208	$p = 0.22$
Silverstone lap 2 time	-0.098	$p = 0.58$
Silverstone lap 2 max # tires off track	-0.127	$p = 0.47$
Silverstone total max # tires off track	-0.128	$p = 0.47$
Monza lap 1 time	-0.028	$p = 0.87$
Monza lap 2 time	0.088	$p = 0.62$
Monza lap 2 max # tires off track	0.132	$p = 0.46$
Monza total max # tires off track	0.121	$p = 0.50$
Drag race preferred foot pedal reaction time	0.181	$p = 0.43$

SDLP = standard deviation of lap position, TTC = time-to-collision.

* $p < 0.05$; ** $p < 0.01$.

Table S4. Complete Spearman correlations of racing simulator to research simulator outcomes.

Racing Simulator Variable	rs	p
<i>Silverstone lap 1 time</i>		
Highway scenario SDLP	-0.228	$p = 0.18$
Rural scenario mean speed	-0.190	$p = 0.25$
Rural scenario max speed	-0.474**	$p < 0.01$
Rural scenario passing reaction time	0.120	$p < 0.466$
Construction scenario mean speed	-0.336*	$p = 0.04$
Urban scenario TTC	0.231	$p = 0.16$
<i>Silverstone lap 2 time</i>		
Highway scenario SDLP	0.035	$p = 0.84$
Rural scenario mean speed	-0.219	$p = 0.19$
Rural scenario max speed	-0.529**	$p < 0.01$
Rural scenario passing reaction time	0.025	$p = 0.83$
Construction scenario mean speed	-0.417*	$p = 0.01$
Urban scenario TTC	0.289	$p = 0.08$
<i>Silverstone lap 2 max # tires off track</i>		
Highway scenario SDLP	0.274	$p = 0.112$
Rural scenario mean speed	0.521**	$p < 0.01$
Rural scenario max speed	0.454**	$p < 0.01$
Rural scenario passing reaction time	0.424**	$p < 0.01$
Construction scenario mean speed	0.340*	$p = 0.04$
Urban scenario TTC	-0.017	$p = 0.92$
<i>Silverstone total max # tires off track</i>		
Highway scenario SDLP	0.114	$p = 0.51$
Rural scenario mean speed	0.396*	$p = 0.01$
Rural scenario max speed	0.311	$p = 0.06$
Rural scenario passing reaction time	0.272	$p = 0.10$
Construction scenario mean speed	0.280	$p = 0.09$

Urban scenario TTC	-0.082	$p = 0.62$
<i>Monza lap 1 time</i>		
Highway scenario SDLP	-0.126	$p = 0.47$
Rural scenario mean speed	-0.379*	$p = 0.02$
Rural scenario max speed	-0.604**	$p < 0.01$
Rural scenario passing reaction time	0.023	$p = 0.89$
Construction scenario mean speed	-0.611**	$p < 0.01$
Urban scenario TTC	0.728**	$p < 0.01$
<i>Monza lap 2 time</i>		
Highway scenario SDLP	-0.138	$p = 0.44$
Rural scenario mean speed	-0.265	$p = 0.12$
Rural scenario max speed	-0.490**	$p < 0.01$
Rural scenario passing reaction time	-0.082	$p = 0.64$
Construction scenario mean speed	-0.492**	$p < 0.01$
Urban scenario TTC	0.495**	$p < 0.01$
<i>Monza lap 2 max # tires off track</i>		
Highway scenario SDLP	0.251	$p = 0.16$
Rural scenario mean speed	0.092	$p = 0.59$
Rural scenario max speed	0.149	$p = 0.39$
Rural scenario passing reaction time	-0.100	$p = 0.56$
Construction scenario mean speed	0.118	$p = 0.49$
Urban scenario TTC	-0.006	$p = 0.97$
<i>Monza total max # tires off track</i>		
Highway scenario SDLP	0.298	$p = 0.09$
Rural scenario mean speed	0.305	$p = 0.07$
Rural scenario max speed	0.335*	$p < 0.05$
Rural scenario passing reaction time	-0.084	$p = 0.63$
Construction scenario mean speed	0.247	$p = 0.15$
Urban scenario TTC	-0.202	$p = 0.24$
<i>Drag race preferred foot pedal reaction time</i>		
Highway scenario SDLP	0.440*	$p < 0.05$
Rural scenario mean speed	0.062	$p = 0.79$
Rural scenario max speed	-0.021	$p = 0.93$
Rural scenario passing reaction time	0.248	$p = 0.28$
Construction scenario mean speed	-0.356	$p = 0.11$
Urban scenario TTC	0.290	$p = 0.20$

SDLP = standard deviation of lap position, TTC = time-to-collision. * $p < 0.05$; ** $p < 0.01$.

Table S5. Research simulator variables in the binary logistic regression Model 1b (with outliers replaced).

		Low- Versus High-Risk Fitness-to-Drive Screen						95% CI	
		B	SE	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1	Scenario 1 SDLP	-8.988	7.835	1.316	1	0.251	0.000	0.000	582.735
	Scenario 2 maximum speed (MPH)	-.122	0.098	1.555	1	0.212	0.885	0.731	1.072
	Scenario 2 reaction time (sec)	1.532	0.909	2.839	1	0.092	4.628	0.779	27.498
	Scenario 2 road excursion (y/n)	2.602	8.262	0.099	1	0.753	13.488	---	---
	Scenario 2 collision (y/n)	0.340	8.001	0.002	1	0.966	1.404	---	---
	Scenario 4 TTC	-15.202	9.943	2.338	1	0.126	0.000	0.000	72.640
	Constant	13.741	13.236	1.078	1	0.299	994046.145	---	---

SDLP = standard deviation of lap position, MPH = miles per hour, TTC = time-to-collision.

Table S6. Racing simulator variables in the binary logistic regression (outliers replaced) Model 2b.

		Low-Versus High-Risk Fitness-to-Drive Screen						95% CI	
		B	SE	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1	Monza Lap 2 Time (sec)	0.028	0.02	1.77	1	0.18	1.028	0.987	1.071
	Silverstone Lap 2 Time (sec)	0.01	0.02	0.187	1	0.67	1.010	0.965	1.057
	Monza Total Max Tires Off Track	-0.047	0.276	0.029	1	0.87	0.954	0.555	1.640
	Silverstone Total Max Tires Off Track	-0.242	0.246	0.967	1	0.33	0.785	0.485	1.271
	Constant	-9.60	4.27	5.05	1	0.03	0.000		