## Academic Tables for NFL Player Performance Models

Table 1: Offense Grades Model Results

		Starter Models			On-Field Models		Attempt Models			
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit	
Quarterbacks										
Short Grades Pass	0.021(0.016)	0.029(0.019)	0.030(0.020)	0.032(0.014)**	0.040(0.017)**	0.043(0.017)**	0.007(0.004)	0.007(0.005)	0.006(0.004)	
Medium Grades Pass	-0.014(0.014)	-0.018(0.016)	-0.019(0.016)	-0.003(0.015)	-0.002(0.017)	-0.004(0.018)	0.006(0.004)	0.005(0.004)	0.004(0.004)	
Deep Grades Pass	-0.011(0.013)	-0.016(0.016)	-0.018(0.016)	-0.022(0.013)*	-0.030(0.015)*	-0.031(0.016)*	0.007(0.004)*	0.006(0.004)	0.006(0.003)*	
Running Backs	01011(01010)	0.020(0.020)	01020(01020)	0.022(0.000)	0.000(0.020)	0.002(0.020)	0.007 (0.002)	0.000(0.002)	01000(01000)	
Grades Pass Block	-0.018(0.010)*	-0.023(0.012)*	-0.024(0.013)*	0.012(0.010)	0.013(0.012)	0.014(0.012)	-0.005(0.003)	-0.006(0.003)*	-0.005(0.003)*	
Grades Run	0.011(0.011)	0.014(0.013)	0.014(0.013)	0.010(0.027)	0.011(0.031)	0.010(0.032)	-0.001(0.003)	-0.001(0.003)	-0.000(0.003)	
Short Grades Pass	0.003(0.011)	0.004(0.012)	0.003(0.013)	-0.002(0.010)	-0.001(0.012)	-0.001(0.012)	-0.001(0.003)	-0.000(0.003)	-0.000(0.003)	
Medium Grades Pass	-0.013(0.009)	-0.016(0.011)	-0.017(0.011)	-0.006(0.009)	-0.008(0.010)	-0.008(0.011)	-0.001(0.003)	-0.001(0.003)	-0.001(0.003)	
Deep Grades Pass	-0.004(0.010)	-0.005(0.011)	-0.005(0.011)	-0.003(0.009)	-0.002(0.010)	-0.003(0.011)	0.002(0.003)	0.001(0.003)	0.001(0.002)	
WR1	-0.001(0.010)	-0.000(0.011)	-0.000(0.011)	-0.003(0.003)	-0.002(0.010)	-0.003(0.011)	0.002(0.000)	0.001(0.000)	0.001(0.002)	
Grades Run Block	0.006(0.015)	0.005(0.018)	0.007(0.019)	-0.005(0.021)	-0.007(0.024)	-0.006(0.025)	-0.006(0.004)	-0.006(0.004)	-0.006(0.004)	
Short Grades Pass	0.006(0.013)	0.006(0.015)	0.008(0.016)	0.005(0.021)	0.004(0.019)	0.004(0.020)	-0.001(0.004)	-0.001(0.004)	-0.001(0.003)	
Medium Grades Pass	0.013(0.013)	0.015(0.015)	0.015(0.016)	0.002(0.014)	0.004(0.017)	0.004(0.017)	0.006(0.004)	0.005(0.004)	0.005(0.004)	
Deep Grades Pass	-0.003(0.011)	-0.004(0.013)	-0.004(0.013)	0.002(0.012)	0.005(0.014)	0.005(0.015)	0.002(0.003)	0.003(0.003)	0.003(0.003)	
WR2						/				
Grades Run Block	-0.019(0.017)	-0.021(0.019)	-0.022(0.020)	0.026(0.038)	0.034(0.044)	0.036(0.045)	-0.002(0.004)	-0.002(0.004)	-0.000(0.004)	
Short Grades Pass	-0.013(0.013)	-0.016(0.015)	-0.017(0.016)	0.013(0.026)	0.017(0.030)	0.015(0.031)	0.008(0.004)**	0.008(0.004)**	0.007(0.003)*	
Medium Grades Pass	0.017(0.012)	0.021(0.013)	0.022(0.014)	-0.006(0.020)	-0.010(0.023)	-0.009(0.025)	0.001(0.003)	0.000(0.004)	0.000(0.003)	
Deep Grades Pass	0.001(0.011)	0.003(0.012)	0.002(0.013)	0.010(0.016)	0.017(0.019)	0.016(0.020)	0.000(0.003)	0.000(0.003)	0.000(0.003)	
WR3										
Grades Run Block	-0.006(0.014)	-0.007(0.017)	-0.010(0.017)	0.022(0.030)	0.027(0.035)	0.027(0.036)	-0.001(0.004)	-0.001(0.004)	-0.001(0.003)	
Short Grades Pass	-0.012(0.011)	-0.017(0.013)	-0.017(0.013)	0.004(0.024)	0.004(0.027)	0.008(0.028)	-0.003(0.003)	-0.003(0.003)	-0.002(0.003)	
Medium Grades Pass	0.003(0.010)	0.003(0.012)	0.003(0.012)	0.012(0.020)	0.007(0.022)	0.008(0.023)	0.006(0.003)**	0.006(0.003)*	0.005(0.003)*	
Deep Grades Pass	0.001(0.010)	0.002(0.011)	0.002(0.012)	0.017(0.015)	0.024(0.018)	0.024(0.018)	0.001(0.003)	0.002(0.003)	0.001(0.003)	
TE1										
Grades Pass Block	0.024(0.011)**	0.028(0.013)**	0.030(0.014)**	0.024(0.011)**	0.032(0.013)**	0.033(0.014)**	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)	
Grades Run Block	-0.016(0.015)	-0.019(0.017)	-0.021(0.018)	-0.012(0.013)	-0.016(0.015)	-0.017(0.015)	-0.000(0.004)	0.001(0.005)	0.001(0.004)	
Short Grades Pass	0.006(0.013)	0.005(0.014)	0.005(0.015)	0.000(0.013)	-0.001(0.015)	-0.001(0.015)	0.003(0.004)	0.003(0.004)	0.003(0.003)	
Medium Grades Pass	-0.019(0.011)*	-0.022(0.012)*	-0.024(0.013)*	0.016(0.011)	0.019(0.012)	0.020(0.013)	0.003(0.003)	0.002(0.003)	0.001(0.003)	
Deep Grades Pass	-0.003(0.010)	-0.004(0.011)	-0.003(0.012)	-0.014(0.009)	-0.017(0.011)	-0.018(0.011)	0.001(0.003)	0.002(0.003)	0.002(0.002)	
OL1	0.000(0.010)	0.001(0.011)	0.000(0.012)	0.011(0.000)	0.011(0.011)	0.010(0.011)	0.001(0.000)	0.002(0.000)	0.002(0.002)	
Grades Pass Block	0.015(0.012)	0.019(0.014)	0.020(0.014)	-0.010(0.010)	-0.012(0.011)	-0.012(0.012)	-0.004(0.003)	-0.004(0.003)	-0.004(0.003)	
Grades Run Block	0.009(0.012)	0.012(0.014)	0.011(0.017)	0.007(0.010)	0.009(0.012)	0.012(0.012)	0.001(0.004)	0.000(0.004)	0.001(0.004)	
OL2	0.009(0.014)	0.012(0.010)	0.011(0.017)	0.007(0.010)	0.005(0.012)	0.010(0.012)	0.001(0.004)	0.000(0.004)	0.001(0.004)	
Grades Pass Block	-0.012(0.012)	-0.013(0.013)	-0.014(0.014)	-0.005(0.010)	-0.006(0.011)	-0.006(0.012)	-0.001(0.003)	-0.002(0.003)	-0.002(0.003)	
Grades Run Block	-0.012(0.012)	-0.004(0.016)	-0.004(0.014)	-0.012(0.010)	-0.006(0.011)	-0.017(0.012)	0.004(0.004)	0.005(0.004)	0.005(0.004)	
	-0.003(0.014)	-0.004(0.016)	-0.004(0.017)	-0.012(0.010)	-0.015(0.012)	-0.017(0.012)	0.004(0.004)	0.005(0.004)	0.005(0.004)	
OL3	0.000(0.040)	0.040(0.040)	0.010(0.011)	0.000(0.000)	0.040/0.044)	0.011(0.010)	0.000(0.000)	0.000(0.004)	0.000(0.000)	
Grades Pass Block	0.008(0.012)	0.010(0.013)	0.012(0.014)	0.008(0.009)	0.010(0.011)	0.011(0.012)	0.002(0.003)	0.003(0.004)	0.002(0.003)	
Grades Run Block	-0.017(0.014)	-0.021(0.016)	-0.023(0.017)	0.003(0.009)	0.005(0.011)	0.005(0.011)	-0.004(0.004)	-0.005(0.004)	-0.004(0.004)	
OL4			/							
Grades Pass Block	0.022(0.012)*	0.027(0.014)*	0.028(0.014)**	0.007(0.010)	0.007(0.011)	0.008(0.012)	-0.003(0.003)	-0.003(0.003)	-0.003(0.003)	
Grades Run Block	-0.005(0.013)	-0.007(0.015)	-0.008(0.015)	-0.013(0.010)	-0.015(0.011)	-0.016(0.011)	-0.000(0.004)	0.001(0.004)	0.000(0.003)	
OL5										
Grades Pass Block	0.031(0.012)**	0.035(0.014)**	0.037(0.015)**	-0.012(0.010)	-0.015(0.012)	-0.016(0.012)	0.001(0.003)	0.003(0.004)	0.002(0.003)	
Grades Run Block	-0.034(0.013)**	-0.042(0.015)***	-0.043(0.016)***	0.010(0.010)	0.011(0.012)	0.012(0.012)	-0.002(0.004)	-0.002(0.004)	-0.002(0.003)	
Perf. Measures										
GIMR	0.043(0.009)***	0.051(0.011)***	0.053(0.012)***	0.040(0.009)***	0.047(0.011)***	0.048(0.012)***				
Control Variables										
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
	No	No	No	No	No	No	No	No	No	
Control Off. Players	110	NO	INO	INO	100	INO	INO	INO	INO	

Note: Marginal effects reported with standard errors in parentheses and significance levels. \* \* p < 0.10, \*\*\* p < 0.05, \*\*\*\* p < 0.01

Table 2: Offense Yards Model Results

		Starter Models			On-Field Models		Attempt Models		
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit
Quarterbacks									
Short Yards	0.017(0.013)	0.019(0.015)	0.019(0.016)	0.020(0.014)	0.023(0.016)	0.023(0.017)	0.003(0.004)	0.002(0.004)	0.002(0.003)
Medium Yards	0.024(0.013)*	0.034(0.015)**	0.034(0.016)**	0.002(0.014)	0.003(0.016)	0.003(0.017)	0.006(0.004)	0.006(0.004)	0.004(0.004)
Deep Yards	-0.036(0.012)***	-0.046(0.014)***	-0.048(0.014)***	-0.018(0.012)	-0.021(0.013)	-0.022(0.014)	0.007(0.004)*	0.006(0.004)	0.005(0.003)
Running Backs	` '				` ′	` ′			
Grades Pass Block	-0.013(0.010)	-0.017(0.011)	-0.017(0.012)	0.012(0.009)	0.013(0.011)	0.014(0.011)	-0.004(0.003)	-0.006(0.003)*	-0.005(0.003)*
Yards	0.001(0.010)	0.003(0.011)	0.002(0.012)	0.018(0.009)**	0.022(0.010)**	0.022(0.011)**	0.006(0.003)*	0.006(0.003)*	0.005(0.003)*
Short Yards	-0.005(0.010)	-0.006(0.011)	-0.006(0.012)	-0.014(0.010)	-0.016(0.011)	-0.015(0.011)	0.001(0.003)	0.002(0.003)	0.002(0.003)
Medium Yards	-0.020(0.009)**	-0.024(0.010)**	-0.025(0.010)**	-0.007(0.008)	-0.009(0.009)	-0.010(0.010)	-0.003(0.002)	-0.006(0.003)**	-0.005(0.003)*
Deep Yards	0.005(0.009)	0.007(0.012)	0.007(0.012)	-0.002(0.009)	-0.004(0.010)	-0.004(0.011)	-0.004(0.003)*	-0.004(0.003)	-0.003(0.002)
WR1									
Grades Run Block	0.008(0.015)	0.007(0.018)	0.008(0.018)	-0.002(0.021)	-0.003(0.024)	-0.002(0.025)	-0.002(0.004)	-0.002(0.004)	-0.002(0.004)
Short Yards	-0.007(0.010)	-0.009(0.012)	-0.009(0.012)	-0.002(0.011)	-0.003(0.012)	-0.003(0.013)	-0.004(0.003)	-0.004(0.003)	-0.004(0.003)
Medium Yards	0.001(0.011)	0.002(0.013)	0.002(0.013)	-0.004(0.011)	-0.003(0.013)	-0.004(0.013)	0.001(0.003)	0.001(0.003)	0.001(0.003)
Deep Yards	0.025(0.010)**	0.031(0.011)***	0.032(0.012)***	0.017(0.010)*	0.021(0.011)*	0.021(0.012)*	0.001(0.003)	0.001(0.003)	0.001(0.003)
WR2	( ,	( )	( )	( ,	( )	( )	( )	( )	( ,
Grades Run Block	-0.021(0.016)	-0.023(0.019)	-0.025(0.020)	0.031(0.038)	0.042(0.044)	0.044(0.046)	0.002(0.004)	0.003(0.004)	0.004(0.004)
Short Yards	-0.013(0.010)	-0.015(0.012)	-0.016(0.012)	-0.001(0.011)	-0.001(0.013)	-0.001(0.014)	0.004(0.003)	0.003(0.003)	0.003(0.003)
Medium Yards	-0.005(0.011)	-0.008(0.013)	-0.008(0.013)	-0.016(0.012)	-0.017(0.014)	-0.019(0.014)	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)
Deep Yards	0.013(0.010)	0.017(0.012)	0.018(0.012)	0.007(0.010)	0.009(0.012)	0.009(0.012)	0.002(0.003)	0.002(0.003)	0.002(0.003)
WR3	0.020(0.020)	***************************************	*****(*******)	0.001(0.020)	**************************************	***************************************	0.00-(0.000)	0.00=(0.000)	()
Grades Run Block	-0.008(0.014)	-0.010(0.016)	-0.011(0.016)	0.022(0.030)	0.026(0.035)	0.025(0.037)	0.002(0.004)	0.002(0.004)	0.002(0.003)
Short Yards	-0.011(0.010)	-0.014(0.012)	-0.014(0.013)	0.010(0.012)	0.010(0.013)	0.012(0.014)	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)
Medium Yards	-0.018(0.011)	-0.022(0.013)*	-0.023(0.013)*	0.003(0.011)	0.003(0.013)	0.003(0.013)	0.004(0.003)	0.003(0.003)	0.003(0.003)
Deep Yards	0.013(0.010)	0.017(0.011)	0.017(0.012)	0.002(0.011)	0.003(0.011)	0.003(0.012)	0.000(0.003)	0.001(0.003)	0.000(0.003)
TE1	0.010(0.010)	0.011(0.011)	0.017(0.012)	0.002(0.010)	0.000(0.011)	0.000(0.012)	0.000(0.000)	0.001(0.000)	0.000(0.000)
Grades Pass Block	0.024(0.011)**	0.030(0.013)**	0.032(0.014)**	0.024(0.011)**	0.032(0.013)**	0.033(0.013)**	-0.001(0.003)	-0.002(0.003)	-0.001(0.003)
Grades Run Block	-0.019(0.014)	-0.025(0.016)	-0.026(0.017)	-0.009(0.011)	-0.012(0.013)	-0.013(0.014)	0.003(0.004)	0.004(0.004)	0.003(0.004)
Short Yards	0.002(0.011)	0.002(0.013)	0.002(0.011)	-0.008(0.011)	-0.012(0.013)	-0.011(0.013)	0.002(0.003)	0.003(0.004)	0.002(0.003)
Medium Yards	-0.016(0.011)	-0.019(0.012)	-0.020(0.013)	0.009(0.011)	0.009(0.012)	0.010(0.013)	-0.001(0.003)	-0.002(0.004)	-0.002(0.003)
Deep Yards	-0.008(0.011)	-0.013(0.012)	-0.011(0.012)	-0.004(0.009)	-0.005(0.012)	-0.005(0.011)	-0.001(0.003)	-0.002(0.004)	-0.001(0.003)
OL1	-0.008(0.010)	-0.011(0.011)	-0.011(0.012)	-0.004(0.003)	-0.003(0.010)	-0.003(0.011)	-0.001(0.003)	-0.001(0.003)	-0.001(0.003)
Grades Pass Block	0.014(0.012)	0.017(0.013)	0.019(0.014)	-0.011(0.010)	-0.013(0.011)	-0.013(0.012)	-0.004(0.003)	-0.004(0.003)	-0.003(0.003)
Grades Run Block	0.014(0.012)	0.013(0.016)	0.013(0.014)	0.006(0.010)	0.008(0.012)	0.009(0.012)	0.002(0.004)	0.001(0.004)	0.001(0.004)
OL2	0.010(0.014)	0.015(0.010)	0.010(0.010)	0.000(0.010)	0.000(0.012)	0.005(0.012)	0.002(0.004)	0.001(0.004)	0.001(0.004)
Grades Pass Block	-0.013(0.012)	-0.015(0.013)	-0.016(0.014)	-0.004(0.010)	-0.004(0.011)	-0.005(0.012)	-0.001(0.003)	-0.002(0.003)	-0.002(0.003)
Grades Run Block	-0.003(0.012)	-0.005(0.016)	-0.005(0.014)	-0.013(0.010)	-0.004(0.011)	-0.018(0.012)	0.005(0.004)	0.007(0.004)*	0.006(0.003)*
OL3	-0.000(0.014)	-0.000(0.010)	-0.000(0.011)	-0.010(0.010)	-0.010(0.012)	-0.010(0.012)	0.000(0.004)	0.001(0.004)	0.000(0.000)
Grades Pass Block	0.009(0.012)	0.011(0.014)	0.013(0.014)	0.009(0.009)	0.011(0.011)	0.011(0.011)	0.003(0.003)	0.003(0.004)	0.002(0.003)
Grades Run Block	-0.016(0.014)	-0.020(0.017)	-0.022(0.017)	0.002(0.009)	0.005(0.011)	0.004(0.011)	-0.003(0.004)	-0.004(0.004)	-0.004(0.004)
OL4	-0.010(0.014)	-0.020(0.011)	-0.022(0.011)	0.002(0.003)	0.000(0.011)	0.004(0.011)	-0.003(0.004)	-0.004(0.004)	-0.004(0.004)
Grades Pass Block	0.020(0.012)*	0.024(0.014)*	0.026(0.015)*	0.005(0.010)	0.005(0.011)	0.006(0.012)	-0.002(0.003)	-0.002(0.003)	-0.001(0.003)
Grades Run Block	-0.004(0.013)	-0.006(0.015)	-0.007(0.016)	-0.011(0.010)	-0.013(0.011)	-0.014(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)
OL5	-0.004(0.013)	-0.000(0.013)	-0.007(0.010)	-0.011(0.010)	-0.013(0.011)	-0.014(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)
Grades Pass Block	0.023(0.012)*	0.026(0.014)*	0.027(0.015)*	-0.013(0.010)	-0.016(0.012)	-0.017(0.012)	0.001(0.003)	0.003(0.004)	0.002(0.003)
Grades Pass Block Grades Run Block	-0.027(0.012)**	-0.033(0.015)**	-0.034(0.016)**	0.010(0.010)	0.010(0.012)	0.011(0.012)	-0.000(0.004)	-0.001(0.004)	-0.001(0.003)
Perf. Measures	-0.027(0.013)	-0.055(0.015)	-0.034(0.010)	0.010(0.010)	0.010(0.012)	0.011(0.012)	-0.000(0.004)	-0.001(0.004)	-0.001(0.003)
GIMR	0.040(0.008)***	0.052(0.011)***	0.054(0.012)***	0.035(0.008)***	0.046(0.011)***	0.047(0.012)***			
Control Variables	0.040(0.008)	0.052(0.011)	0.054(0.012)***	0.035(0.008)****	0.046(0.011)	0.047(0.012)***			
Game Situation	V	Yes	V	V	V	V	Yes	Yes	Yes
	Yes		Yes	Yes	Yes	Yes			
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Off. Players	No	No	No	No	No	No	No	No	No

Table 3: Offense Completions Model Results

		Starter Models			On-Field Models		Attempt Models			
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit	
Quarterbacks										
Short Completions	0.022(0.014)	0.026(0.016)*	0.026(0.016)	0.029(0.014)**	0.035(0.016)**	0.035(0.017)**	-0.000(0.004)	-0.000(0.004)	0.001(0.004)	
Medium Completions	0.020(0.014)	0.028(0.016)*	0.028(0.017)*	-0.001(0.015)	-0.000(0.017)	-0.001(0.018)	0.008(0.004)*	0.007(0.004)	0.005(0.004)	
Deep Completions	-0.033(0.012)***	-0.042(0.014)***	-0.043(0.015)***	-0.026(0.012)**	-0.032(0.014)**	-0.032(0.014)**	0.005(0.004)	0.004(0.004)	0.004(0.003)	
Running Backs	( )	( ,	( /	( )	( ,	( )	,	( )	( ,	
Grades Pass Block	-0.014(0.010)	-0.018(0.011)	-0.018(0.012)	0.013(0.010)	0.015(0.011)	0.015(0.011)	-0.004(0.003)	-0.005(0.003)*	-0.004(0.003)*	
Attempts	0.001(0.010)	0.003(0.011)	0.002(0.012)	0.016(0.009)*	0.019(0.010)*	0.019(0.011)*	0.003(0.003)	0.003(0.003)	0.003(0.003)	
Short Receptions	-0.003(0.010)	-0.003(0.012)	-0.003(0.013)	-0.016(0.010)*	-0.019(0.011)*	-0.018(0.011)	0.002(0.003)	0.002(0.003)	0.002(0.003)	
Medium Receptions	-0.015(0.009)*	-0.018(0.010)*	-0.019(0.010)*	-0.008(0.008)	-0.009(0.009)	-0.010(0.010)	-0.004(0.002)	-0.005(0.003)*	-0.004(0.002)*	
Deep Receptions	0.000(0.009)	0.002(0.012)	0.001(0.012)	-0.006(0.009)	-0.007(0.010)	-0.008(0.010)	-0.002(0.003)	-0.002(0.003)	-0.001(0.002)	
WR1	( )	( ,	( ,		( ,	( /	( )	( )	( ,	
Grades Run Block	0.006(0.015)	0.004(0.018)	0.006(0.018)	-0.002(0.021)	-0.004(0.024)	-0.003(0.025)	-0.002(0.004)	-0.002(0.004)	-0.001(0.004)	
Short Receptions	-0.010(0.010)	-0.012(0.012)	-0.012(0.012)	-0.004(0.011)	-0.006(0.012)	-0.006(0.013)	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)	
Medium Receptions	0.008(0.011)	0.011(0.013)	0.011(0.014)	-0.002(0.011)	-0.001(0.013)	-0.001(0.013)	-0.001(0.003)	-0.001(0.003)	-0.000(0.003)	
Deep Receptions	0.020(0.010)**	0.025(0.012)**	0.026(0.012)**	0.014(0.010)	0.018(0.012)	0.018(0.012)	0.001(0.003)	0.001(0.003)	0.000(0.003)	
WR2	0.020(0.020)	*****(******)	***************************************	*****(*****)	**************************************	0.010(0.012)	0.00-(0.000)	0.00-(0.000)	***************************************	
Grades Run Block	-0.022(0.016)	-0.024(0.019)	-0.026(0.019)	0.032(0.038)	0.043(0.044)	0.044(0.046)	0.003(0.004)	0.003(0.004)	0.004(0.004)	
Short Receptions	-0.015(0.010)	-0.018(0.012)	-0.019(0.012)	-0.006(0.012)	-0.007(0.013)	-0.007(0.014)	0.005(0.003)	0.004(0.003)	0.003(0.003)	
Medium Receptions	-0.001(0.011)	-0.003(0.013)	-0.003(0.013)	-0.010(0.013)	-0.010(0.014)	-0.011(0.015)	-0.003(0.003)	-0.003(0.003)	-0.002(0.003)	
Deep Receptions	0.008(0.011)	0.011(0.012)	0.011(0.012)	0.007(0.010)	0.009(0.012)	0.009(0.012)	0.002(0.003)	0.002(0.003)	0.001(0.003)	
WR3	0.000(0.010)	0.011(0.012)	0.011(0.012)	0.001(0.010)	0.005(0.012)	0.003(0.012)	0.002(0.000)	0.002(0.000)	0.001(0.000)	
Grades Run Block	-0.009(0.014)	-0.010(0.016)	-0.012(0.016)	0.020(0.030)	0.024(0.035)	0.023(0.037)	0.002(0.004)	0.002(0.004)	0.002(0.003)	
Short Receptions	-0.013(0.011)	-0.016(0.012)	-0.012(0.013)	0.013(0.013)	0.014(0.014)	0.016(0.015)	-0.001(0.003)	-0.001(0.003)	-0.001(0.003)	
Medium Receptions	-0.014(0.012)	-0.018(0.013)	-0.019(0.014)	0.004(0.012)	0.004(0.013)	0.003(0.014)	0.003(0.003)	0.002(0.003)	0.002(0.003)	
Deep Receptions	0.007(0.012)	0.010(0.011)	0.010(0.014)	0.004(0.012)	0.007(0.013)	0.008(0.014)	-0.000(0.003)	0.002(0.003)	-0.000(0.003)	
TE1	0.007(0.010)	0.010(0.011)	0.010(0.012)	0.000(0.010)	0.007(0.012)	0.000(0.012)	-0.000(0.003)	0.000(0.003)	-0.000(0.003)	
Grades Pass Block	0.026(0.011)**	0.032(0.013)**	0.034(0.014)**	0.026(0.011)**	0.034(0.013)***	0.036(0.013)***	-0.002(0.003)	-0.002(0.003)	-0.002(0.003)	
Grades Run Block	-0.020(0.011)	-0.026(0.016)	-0.028(0.017)	-0.008(0.011)	-0.012(0.013)	-0.012(0.014)	0.003(0.004)	0.004(0.004)	0.003(0.004)	
Short Receptions	0.001(0.011)	0.002(0.013)	0.001(0.014)	-0.016(0.011)	-0.012(0.013)	-0.012(0.014)	0.004(0.004)	0.004(0.004)	0.003(0.004)	
Medium Receptions	-0.020(0.011)*	-0.025(0.013)*	-0.026(0.013)*	0.008(0.011)	0.009(0.012)	0.010(0.013)	-0.001(0.004)	-0.002(0.004)	-0.002(0.003)	
Deep Receptions	-0.020(0.011)	-0.025(0.013)	-0.020(0.013)	0.003(0.011)	0.005(0.012)	0.001(0.013)	-0.003(0.003)	-0.002(0.004)	-0.002(0.003)	
OL1	-0.004(0.010)	-0.000(0.011)	-0.000(0.012)	0.001(0.009)	0.001(0.011)	0.001(0.011)	-0.003(0.003)	-0.003(0.003)	-0.002(0.003)	
Grades Pass Block	0.014(0.012)	0.018(0.013)	0.019(0.014)	-0.010(0.010)	-0.012(0.011)	-0.013(0.012)	-0.004(0.003)	-0.004(0.003)	-0.003(0.003)	
Grades Run Block	0.014(0.012)	0.014(0.016)	0.013(0.014)	0.007(0.010)	0.009(0.012)	0.010(0.012)	0.002(0.004)	0.001(0.004)	0.001(0.004)	
OL2	0.010(0.014)	0.014(0.010)	0.013(0.017)	0.007(0.010)	0.009(0.012)	0.010(0.012)	0.002(0.004)	0.001(0.004)	0.001(0.004)	
Grades Pass Block	-0.012(0.012)	-0.014(0.013)	-0.015(0.014)	-0.003(0.010)	-0.003(0.011)	-0.004(0.012)	-0.000(0.003)	-0.001(0.003)	-0.002(0.003)	
Grades Run Block	-0.012(0.012)	-0.004(0.016)	-0.004(0.014)	-0.012(0.010)	-0.003(0.011)	-0.017(0.012)	0.005(0.004)	0.007(0.004)*	0.006(0.003)*	
OL3	-0.003(0.014)	-0.004(0.010)	-0.004(0.017)	-0.012(0.010)	-0.013(0.012)	-0.017(0.012)	0.003(0.004)	0.007(0.004)	0.000(0.003)	
Grades Pass Block	0.011(0.012)	0.013(0.014)	0.015(0.014)	0.009(0.009)	0.011(0.011)	0.012(0.012)	0.003(0.003)	0.003(0.004)	0.002(0.003)	
Grades Run Block	-0.016(0.014)	-0.021(0.017)	-0.023(0.017)	0.003(0.009)	0.006(0.011)	0.005(0.011)	-0.003(0.003)	-0.004(0.004)	-0.004(0.004)	
OL4	-0.010(0.014)	-0.021(0.017)	-0.023(0.017)	0.003(0.009)	0.000(0.011)	0.003(0.011)	-0.003(0.004)	-0.004(0.004)	-0.004(0.004)	
Grades Pass Block	0.021(0.012)*	0.025(0.014)*	0.027(0.015)*	0.005(0.010)	0.006(0.011)	0.006(0.019)	-0.002(0.003)	-0.002(0.003)	-0.001(0.003)	
				0.005(0.010) -0.011(0.010)		0.006(0.012)				
Grades Run Block	-0.005(0.013)	-0.008(0.015)	-0.008(0.016)	-0.011(0.010)	-0.013(0.011)	-0.015(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)	
OL5	0.004/0.010)**	0.000/0.014\**	0.029(0.015)**	0.010(0.010)	0.015(0.010)	0.010(0.010)	0.001(0.000)	0.000(0.004)	0.000(0.000)	
Grades Pass Block	0.024(0.012)**	0.028(0.014)**		-0.013(0.010)	-0.015(0.012)	-0.016(0.012)	0.001(0.003)	0.003(0.004)	0.002(0.003)	
Grades Run Block	-0.027(0.013)**	-0.034(0.015)**	-0.034(0.016)**	0.010(0.010)	0.010(0.012)	0.010(0.012)	-0.000(0.004)	-0.001(0.004)	-0.001(0.003)	
Perf. Measures	0.000(0.000)***	0.050(0.011)***	0.051(0.010)***	0.005(0.000)***	0.044/0.011\***	0.040(0.010)***				
GIMR	0.039(0.008)***	0.050(0.011)***	0.051(0.012)***	0.035(0.008)***	0.044(0.011)***	0.046(0.012)***				
Control Variables	37	V	N/	V	V	V	V	N/	N/	
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Control Def. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Control Off. Players	No	No	No	No	No	No	No	No	No	

Table 4: Defense Stops Model Results

		Starter Models			On-Field Models		Attempt Models			
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit	
DL1								-		
Grades Stops	0.010(0.009)	0.011(0.010)	0.013(0.011)	-0.007(0.009)	-0.009(0.010)	-0.009(0.011)	0.001(0.002)	-0.000(0.003)	-0.000(0.002)	
Productivity Stops	-0.017(0.009)*	-0.020(0.010)**	-0.022(0.011)**	-0.004(0.009)	-0.004(0.010)	-0.005(0.011)	-0.001(0.002)	-0.001(0.003)	-0.001(0.002)	
DL2	0.017(0.000)	0.020(0.010)	0.022(0.011)	0.001(0.000)	0.001(0.010)	0.000(0.011)	0.001(0.002)	0.001(0.000)	0.001(0.002)	
Grades Stops	-0.007(0.009)	-0.008(0.010)	-0.008(0.011)	0.013(0.009)	0.016(0.010)	0.015(0.011)	0.003(0.002)	0.002(0.002)	0.002(0.002)	
Productivity Stops	-0.012(0.009)	-0.014(0.010)	-0.016(0.011)	-0.015(0.009)	-0.018(0.010)*	-0.018(0.011)*	-0.005(0.002)*	-0.004(0.003)	-0.003(0.002)	
DL3	( ,	( ,	( ,	( ,	( /	( ,	( ,	( )	( ,	
Grades Stops	-0.011(0.009)	-0.014(0.010)	-0.014(0.011)	0.008(0.010)	0.008(0.012)	0.008(0.012)	0.002(0.002)	0.002(0.002)	0.001(0.002)	
Productivity Stops	-0.005(0.009)	-0.005(0.010)	-0.006(0.011)	-0.007(0.010)	-0.007(0.011)	-0.008(0.012)	-0.003(0.002)	-0.003(0.003)	-0.002(0.002)	
DL4		( ,	, , , ,	( ,	,	,	( )		( ,	
Grades Stops	-0.002(0.009)	-0.003(0.010)	-0.005(0.011)	-0.004(0.010)	-0.005(0.012)	-0.005(0.012)	-0.001(0.003)	-0.002(0.003)	-0.002(0.002)	
Productivity Stops	-0.010(0.009)	-0.012(0.011)	-0.012(0.011)	-0.023(0.010)**	-0.027(0.011)**	-0.029(0.012)**	-0.002(0.003)	-0.002(0.003)	-0.002(0.002)	
LB1	( ,	( ,	( ,	( ,	( )	( ,	( ,	( )	( ,	
Grades Stops	-0.007(0.009)	-0.008(0.011)	-0.008(0.011)	-0.002(0.010)	-0.001(0.011)	-0.002(0.012)	0.004(0.003)	0.004(0.003)	0.003(0.002)	
Zone Stops	-0.014(0.010)	-0.016(0.011)	-0.018(0.012)	-0.004(0.010)	-0.005(0.012)	-0.006(0.012)	-0.002(0.003)	-0.003(0.003)	-0.002(0.002)	
Man Stops	-0.002(0.009)	-0.002(0.010)	-0.003(0.011)	-0.002(0.009)	-0.001(0.010)	-0.001(0.011)	-0.001(0.003)	0.000(0.003)	0.000(0.002)	
LB2										
Grades Stops	-0.001(0.010)	-0.002(0.011)	-0.002(0.012)	-0.019(0.011)*	-0.023(0.012)*	-0.024(0.013)*	0.001(0.003)	0.001(0.003)	0.001(0.002)	
Zone Stops	0.003(0.010)	0.004(0.012)	0.004(0.012)	0.009(0.011)	0.011(0.012)	0.012(0.013)	0.002(0.003)	0.002(0.003)	0.002(0.002)	
Man Stops	-0.010(0.009)	-0.011(0.011)	-0.012(0.011)	-0.013(0.010)	-0.015(0.011)	-0.016(0.011)	-0.001(0.002)	-0.001(0.003)	-0.000(0.002)	
LB3	( ,	( ,	( ,	( /	( ,	( )	( ,	( )	( ,	
Grades Stops	-0.004(0.010)	-0.003(0.012)	-0.003(0.012)	-0.008(0.013)	-0.010(0.015)	-0.011(0.015)	-0.000(0.003)	-0.000(0.003)	-0.000(0.003)	
Zone Stops	-0.005(0.010)	-0.006(0.011)	-0.006(0.012)	0.010(0.011)	0.012(0.012)	0.013(0.013)	-0.001(0.003)	-0.001(0.003)	-0.000(0.002)	
Man Stops	-0.028(0.009)***	-0.033(0.011)***	-0.034(0.011)***	-0.003(0.009)	-0.001(0.011)	-0.002(0.011)	0.003(0.003)	0.003(0.003)	0.003(0.002)	
LB4	( ,	,	( ,		( ,	( ,		( )	,	
Grades Stops	-0.002(0.010)	-0.001(0.012)	-0.001(0.013)	0.001(0.013)	0.000(0.015)	-0.001(0.016)	0.003(0.003)	0.003(0.003)	0.004(0.003)	
Zone Stops	0.001(0.010)	-0.000(0.012)	0.000(0.012)	0.001(0.011)	0.002(0.013)	0.003(0.014)	0.001(0.003)	0.000(0.003)	-0.001(0.003)	
Man Stops	0.005(0.009)	0.006(0.011)	0.005(0.012)	0.001(0.009)	0.001(0.010)	0.001(0.011)	0.000(0.003)	0.000(0.003)	0.000(0.002)	
CB1	()	0.000(0.022)	0.000(0.01-2)	0.002(0.000)	0.002(0.020)	0.002(0.022)	0.000(0.000)	0.000(0.000)	( <u>-</u> )	
Grades Stops	0.017(0.009)*	0.022(0.010)**	0.022(0.011)**	0.018(0.009)*	0.020(0.011)*	0.022(0.011)*	-0.000(0.002)	-0.001(0.003)	-0.001(0.002)	
Zone Stops	0.002(0.009)	0.002(0.011)	0.003(0.011)	0.011(0.009)	0.012(0.011)	0.014(0.011)	0.004(0.003)	0.005(0.003)*	0.004(0.002)*	
Man Stops	0.006(0.009)	0.006(0.011)	0.005(0.011)	0.012(0.009)	0.013(0.010)	0.014(0.011)	-0.003(0.002)	-0.002(0.003)	-0.002(0.002)	
CB2										
Grades Stops	-0.003(0.009)	-0.002(0.010)	-0.002(0.011)	-0.001(0.009)	-0.000(0.011)	-0.000(0.011)	-0.000(0.003)	0.001(0.003)	0.000(0.002)	
Zone Stops	0.001(0.009)	0.000(0.011)	-0.000(0.011)	0.002(0.009)	0.003(0.011)	0.003(0.011)	-0.001(0.003)	-0.002(0.003)	-0.001(0.002)	
Man Stops	-0.015(0.009)*	-0.019(0.010)*	-0.020(0.011)*	0.002(0.009)	0.001(0.011)	0.000(0.011)	-0.001(0.002)	-0.000(0.003)	-0.001(0.002)	
CB3	` ′	` ′			` ′			` ′		
Grades Stops	-0.010(0.009)	-0.013(0.011)	-0.014(0.011)	-0.003(0.010)	-0.005(0.011)	-0.006(0.011)	0.005(0.003)*	0.005(0.003)*	0.004(0.002)*	
Zone Stops	0.007(0.009)	0.009(0.011)	0.009(0.011)	0.001(0.011)	0.001(0.012)	0.002(0.013)	-0.003(0.002)	-0.004(0.003)	-0.004(0.002)*	
Man Stops	0.024(0.009)***	0.027(0.011)**	0.029(0.011)***	0.006(0.009)	0.006(0.010)	0.008(0.011)	-0.004(0.002)	-0.001(0.003)	-0.001(0.002)	
S1										
Grades Stops	-0.002(0.010)	-0.003(0.011)	-0.004(0.011)	-0.004(0.010)	-0.004(0.011)	-0.005(0.012)	0.003(0.003)	0.003(0.003)	0.002(0.002)	
Zone Stops	-0.006(0.010)	-0.006(0.011)	-0.006(0.011)	-0.001(0.009)	-0.001(0.011)	-0.002(0.011)	-0.001(0.003)	-0.001(0.003)	-0.001(0.002)	
Man Stops	0.005(0.009)	0.004(0.011)	0.005(0.011)	0.008(0.010)	0.009(0.011)	0.010(0.012)	-0.003(0.003)	-0.003(0.003)	-0.003(0.002)	
S2										
Grades Stops	0.003(0.010)	0.004(0.011)	0.004(0.012)	0.018(0.010)*	0.022(0.012)*	0.023(0.012)*	0.001(0.003)	0.001(0.003)	0.001(0.002)	
Zone Stops	0.007(0.010)	0.009(0.011)	0.008(0.012)	-0.005(0.010)	-0.005(0.012)	-0.006(0.012)	0.001(0.003)	0.002(0.003)	0.002(0.002)	
Man Stops	0.017(0.009)*	0.020(0.011)*	0.021(0.011)*	-0.003(0.009)	-0.004(0.011)	-0.005(0.011)	-0.000(0.003)	-0.000(0.003)	0.000(0.002)	
S3	( /	( )	( ,		( ,	,	( )		( )	
Grades Stops	-0.012(0.010)	-0.013(0.011)	-0.015(0.012)	-0.004(0.011)	-0.005(0.013)	-0.005(0.014)	0.004(0.003)	0.004(0.003)	0.004(0.002)	
Zone Stops	-0.009(0.009)	-0.010(0.011)	-0.011(0.011)	0.000(0.011)	-0.001(0.012)	-0.000(0.013)	-0.001(0.003)	-0.001(0.003)	-0.001(0.002)	
Man Stops	-0.002(0.009)	-0.003(0.010)	-0.002(0.011)	0.012(0.010)	0.015(0.011)	0.016(0.012)	-0.006(0.003)**	-0.005(0.003)**	-0.005(0.002)**	
Perf. Measures	( )	( /	( )	(	( /	()	()	(/	(	
GIMR	0.045(0.009)***	0.055(0.011)***	0.057(0.012)***	0.040(0.009)***	0.049(0.011)***	0.051(0.012)***				
Control Variables	( )	( /			( ,					
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Control Def. Players	No	No	No	No	No	No	No	No	No	
Control Del. 1 layers	110	110	110	110	110	110	110	140	110	

Note: Marginal effects reported with standard errors in parentheses and significance levels. \*\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 5: Defense Grades Model Results

		Starter Models			On-Field Models		Attempt Models			
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit	
DL1								-		
Grades Run Defense	0.033(0.013)**	0.039(0.015)***	0.041(0.016)***	-0.004(0.011)	-0.005(0.013)	-0.004(0.013)	-0.002(0.004)	-0.004(0.004)	-0.003(0.004)	
Grds Pass Rush Def	-0.016(0.012)	-0.019(0.014)	-0.021(0.015)	-0.015(0.011)	-0.017(0.013)	-0.019(0.013)	-0.005(0.004)	-0.003(0.004)	-0.003(0.003)	
DL2	0.010(0.012)	0.010(0.011)	0.021(0.010)	0.010(0.011)	0.011(0.010)	0.010(0.010)	0.000(0.001)	0.000(0.001)	0.000(0.000)	
Grades Run Defense	-0.002(0.014)	-0.004(0.015)	-0.003(0.016)	0.018(0.021)	0.023(0.024)	0.023(0.025)	0.003(0.004)	0.004(0.004)	0.004(0.004)	
Grds Pass Rush Def	0.005(0.013)	0.005(0.015)	0.004(0.015)	-0.014(0.021)	-0.019(0.024)	-0.019(0.025)	0.000(0.004)	0.001(0.004)	0.000(0.003)	
DL3	01000(01020)	0.000(0.020)	0.00 -(0.010)	0.00-2(0.00-2)	***************************************	0.010(0.020)	0.000(0.002)	0.002(0.002)	()	
Grades Run Defense	-0.023(0.013)*	-0.030(0.015)**	-0.031(0.016)*	-0.006(0.039)	-0.012(0.043)	-0.008(0.045)	-0.001(0.004)	-0.000(0.004)	-0.001(0.004)	
Grds Pass Rush Def	0.003(0.013)	0.006(0.015)	0.006(0.015)	0.014(0.038)	0.021(0.043)	0.017(0.045)	0.001(0.004)	0.001(0.004)	0.000(0.003)	
DL4	( )	( )	( /	( )	()	( ,	( ,	( ,	( )	
Grades Run Defense	-0.003(0.013)	-0.004(0.015)	-0.005(0.016)	-0.031(0.049)	-0.042(0.054)	-0.043(0.056)	0.001(0.004)	-0.000(0.004)	0.000(0.004)	
Grds Pass Rush Def	-0.011(0.013)	-0.013(0.015)	-0.013(0.016)	-0.000(0.049)	0.004(0.055)	0.003(0.057)	0.001(0.004)	0.004(0.004)	0.003(0.004)	
LB1	( ,	( ,	( )	,	( )		( ,	( ,	( )	
Grades Run Defense	-0.006(0.012)	-0.005(0.014)	-0.006(0.014)	0.004(0.011)	0.004(0.013)	0.004(0.013)	0.002(0.004)	0.001(0.004)	0.001(0.003)	
Man Grades Cov Def	-0.003(0.009)	-0.005(0.011)	-0.005(0.012)	0.003(0.008)	0.006(0.010)	0.005(0.010)	0.003(0.003)	0.003(0.003)	0.003(0.003)	
Zone Grades Cov Def	-0.012(0.011)	-0.016(0.013)	-0.016(0.013)	-0.003(0.011)	-0.005(0.012)	-0.005(0.013)	-0.007(0.003)**	-0.007(0.003)**	-0.006(0.003)*	
LB2										
Grades Run Defense	0.031(0.011)***	0.039(0.013)***	0.040(0.014)***	-0.011(0.023)	-0.010(0.026)	-0.012(0.027)	0.006(0.004)	0.006(0.004)*	0.006(0.003)*	
Man Grades Cov Def	-0.010(0.010)	-0.013(0.011)	-0.014(0.012)	0.005(0.013)	0.007(0.015)	0.006(0.016)	-0.002(0.003)	-0.002(0.003)	-0.002(0.002)	
Zone Grades Cov Def	-0.001(0.011)	-0.000(0.012)	-0.001(0.013)	0.016(0.018)	0.018(0.021)	0.018(0.022)	-0.008(0.003)**	-0.007(0.003)**	-0.006(0.003)**	
LB3	()	(	( )	(	( )	()	()	()	()	
Grades Run Defense	0.004(0.012)	0.005(0.014)	0.006(0.014)	-0.070(0.046)	-0.086(0.052)*	-0.087(0.055)	-0.006(0.004)	-0.005(0.004)	-0.005(0.003)	
Man Grades Cov Def	-0.011(0.010)	-0.013(0.012)	-0.013(0.012)	0.019(0.019)	0.022(0.021)	0.023(0.022)	0.000(0.003)	0.002(0.003)	0.002(0.003)	
Zone Grades Cov Def	0.011(0.012)	0.012(0.013)	0.012(0.014)	-0.049(0.029)*	-0.059(0.035)*	-0.061(0.036)*	0.000(0.003)	-0.001(0.003)	-0.001(0.003)	
LB4	0.011(0.012)	0.012(0.010)	0.012(0.011)	0.010(0.020)	0.000(0.000)	0.001(0.000)	0.000(0.000)	0.001(0.000)	0.001(0.000)	
Grades Run Defense	0.005(0.012)	0.005(0.014)	0.005(0.015)	0.069(0.055)	0.086(0.061)	0.087(0.064)	-0.004(0.003)	-0.005(0.003)	-0.005(0.003)*	
Man Grades Cov Def	0.015(0.012)	0.020(0.014)	0.021(0.014)	-0.001(0.018)	-0.004(0.021)	-0.003(0.022)	0.002(0.003)	0.001(0.003)	0.002(0.003)	
Zone Grades Cov Def	0.004(0.013)	0.004(0.015)	0.005(0.015)	-0.002(0.030)	0.002(0.036)	0.002(0.037)	0.005(0.003)	0.008(0.004)**	0.006(0.003)**	
CB1	0.001(0.010)	0.004(0.010)	0.000(0.010)	-0.002(0.000)	0.002(0.000)	0.002(0.001)	0.000(0.000)	0.000(0.004)	0.000(0.003)	
Grades Run Defense	0.029(0.013)**	0.034(0.015)**	0.036(0.016)**	-0.007(0.018)	-0.007(0.021)	-0.007(0.022)	-0.001(0.004)	-0.002(0.004)	-0.001(0.004)	
Man Grades Cov Def	-0.013(0.012)	-0.018(0.014)	-0.018(0.014)	-0.036(0.015)**	-0.042(0.017)**	-0.045(0.017)***	0.001(0.004)	0.001(0.004)	0.001(0.003)	
Zone Grades Cov Def	-0.010(0.012)	-0.011(0.014)	-0.011(0.015)	-0.027(0.017)	-0.032(0.017)*	-0.032(0.020)	0.001(0.004)	0.001(0.004)	-0.000(0.004)	
CB2	-0.010(0.013)	-0.011(0.010)	-0.011(0.010)	-0.021(0.011)	-0.002(0.013)	-0.032(0.020)	0.000(0.004)	0.001(0.004)	-0.000(0.004)	
Grades Run Defense	-0.052(0.013)***	-0.061(0.016)***	-0.064(0.016)***	-0.026(0.022)	-0.029(0.025)	-0.030(0.026)	-0.001(0.004)	-0.001(0.004)	-0.001(0.004)	
Man Grades Cov Def	-0.009(0.013)	-0.009(0.014)	-0.009(0.014)	0.008(0.018)	0.008(0.021)	0.008(0.022)	-0.001(0.004)	-0.001(0.004)	-0.001(0.004)	
Zone Grades Cov Def	0.029(0.012)**	0.035(0.015)**	0.036(0.015)**	-0.011(0.023)	-0.015(0.026)	-0.014(0.028)	0.002(0.004)	0.002(0.003)	0.001(0.003)	
CB3	0.029(0.012)	0.000(0.010)	0.030(0.013)	-0.011(0.023)	-0.013(0.020)	-0.014(0.020)	0.002(0.004)	0.002(0.004)	0.001(0.003)	
Grades Run Defense	0.009(0.012)	0.011(0.014)	0.011(0.014)	-0.025(0.038)	-0.030(0.044)	-0.032(0.046)	-0.005(0.004)	-0.003(0.004)	-0.003(0.003)	
Man Grades Cov Def	0.004(0.012)	0.004(0.013)	0.006(0.014)	-0.023(0.038)	-0.030(0.044)	-0.032(0.040)	0.005(0.003)	0.006(0.004)*	0.005(0.003)*	
Zone Grades Cov Def	-0.003(0.013)	-0.003(0.014)	-0.004(0.014)	0.005(0.035)	0.006(0.039)	0.007(0.041)	-0.002(0.004)	-0.004(0.004)	-0.003(0.004)	
S1	-0.003(0.013)	-0.003(0.014)	-0.004(0.013)	0.003(0.033)	0.000(0.033)	0.007(0.041)	-0.002(0.004)	-0.004(0.004)	-0.003(0.004)	
Grades Run Defense	-0.027(0.014)*	-0.032(0.016)*	-0.033(0.017)*	-0.016(0.016)	-0.019(0.018)	-0.021(0.019)	-0.000(0.004)	-0.002(0.005)	0.000(0.004)	
Man Grades Cov Def	0.007(0.014)	0.007(0.016)	0.007(0.017)	0.001(0.013)	0.001(0.016)	0.000(0.017)	-0.002(0.004)	-0.002(0.003)	-0.001(0.004)	
Zone Grades Cov Def	0.007(0.014)	0.007(0.016)	0.007(0.017)	0.012(0.013)	0.001(0.016)	0.000(0.017)	0.001(0.004)	-0.002(0.004)	-0.001(0.004)	
Zone Grades Cov Def	0.015(0.013)	0.019(0.019)	0.020(0.016)	0.012(0.013)	0.010(0.019)	0.010(0.016)	0.001(0.004)	-0.000(0.004)	-0.001(0.004)	
Grades Run Defense	-0.022(0.015)	-0.026(0.017)	0.027(0.010)	-0.011(0.030)	-0.016(0.034)	-0.015(0.035)	0.004(0.004)	0.002/0.005)	0.002(0.004)	
			-0.027(0.018)					0.003(0.005)		
Man Grades Cov Def	0.017(0.014)	0.020(0.016)	0.020(0.017)	-0.006(0.025)	-0.005(0.030)	-0.007(0.032)	0.005(0.004)	0.006(0.004)	0.005(0.004)	
Zone Grades Cov Def	-0.002(0.015)	-0.001(0.017)	-0.001(0.018)	-0.002(0.027)	-0.002(0.031)	-0.000(0.033)	0.002(0.004)	0.004(0.005)	0.004(0.004)	
S3	0.000(0.045)	0.040/0.045	0.000(0.04=;	0.000(0.04:)	0.000(0.054)	0.000(0.085)	0.000/0.00*	0.004(0.007)	0.000(0.05=)	
Grades Run Defense	0.009(0.013)	0.010(0.015)	0.009(0.015)	0.003(0.044)	0.002(0.051)	0.000(0.055)	0.002(0.004)	0.004(0.004)	0.003(0.003)	
Man Grades Cov Def	-0.026(0.012)**	-0.032(0.014)**	-0.032(0.015)**	-0.010(0.043)	-0.009(0.049)	-0.010(0.051)	-0.005(0.004)	-0.005(0.004)	-0.005(0.003)	
Zone Grades Cov Def	0.008(0.014)	0.010(0.016)	0.012(0.017)	0.013(0.047)	0.013(0.055)	0.016(0.059)	0.002(0.004)	0.000(0.004)	0.001(0.004)	
Perf. Measures										
GIMR	0.047(0.009)***	0.055(0.011)***	0.057(0.012)***	0.042(0.009)***	0.049(0.011)***	0.051(0.012)***				
Control Variables										
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
DI D	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Player Presence										
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Note: Marginal effects reported with standard errors in parentheses and significance levels. \*\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table 6: Defense Tackles Model Results

		Starter Models			On-Field Models		Attempt Models			
Variable	Starter LPM	Starter Probit	Starter Logit	On-Field LPM	On-Field Probit	On-Field Logit	Attempt LPM	Attempt Probit	Attempt Logit	
DL1										
Grades Tackles	0.012(0.009)	0.013(0.010)	0.014(0.011)	-0.007(0.009)	-0.009(0.010)	-0.009(0.011)	0.003(0.002)	0.002(0.003)	0.002(0.002)	
Productivity Sacks	-0.014(0.009)	-0.016(0.010)	-0.017(0.011)	-0.009(0.009)	-0.010(0.010)	-0.011(0.011)	-0.002(0.002)	-0.002(0.003)	-0.002(0.002)	
DL2										
Grades Tackles	-0.011(0.009)	-0.012(0.010)	-0.012(0.011)	0.018(0.009)**	0.021(0.010)**	0.021(0.011)*	0.003(0.002)	0.002(0.002)	0.002(0.002)	
Productivity Sacks	-0.009(0.009)	-0.011(0.010)	-0.012(0.010)	-0.010(0.009)	-0.011(0.010)	-0.011(0.011)	-0.005(0.002)**	-0.005(0.003)*	-0.004(0.002)*	
DL3										
Grades Tackles	-0.015(0.009)*	-0.019(0.010)*	-0.020(0.011)*	0.001(0.011)	0.001(0.012)	-0.000(0.013)	0.003(0.002)	0.004(0.003)	0.003(0.002)	
Productivity Sacks	-0.007(0.009)	-0.008(0.010)	-0.008(0.011)	0.000(0.010)	0.001(0.011)	0.001(0.012)	-0.006(0.002)**	-0.005(0.003)*	-0.005(0.002)**	
DL4										
Grades Tackles	0.002(0.009)	0.002(0.011)	0.000(0.011)	0.001(0.011)	0.001(0.012)	0.000(0.013)	-0.001(0.003)	-0.002(0.003)	-0.001(0.002)	
Productivity Sacks	-0.008(0.009)	-0.009(0.010)	-0.009(0.011)	-0.020(0.010)**	-0.023(0.011)**	-0.025(0.012)**	-0.004(0.002)	-0.004(0.003)	-0.004(0.002)	
LB1		/								
Grades Tackles	-0.004(0.011)	-0.005(0.013)	-0.005(0.013)	0.011(0.011)	0.013(0.013)	0.013(0.014)	0.004(0.003)	0.004(0.003)	0.003(0.003)	
Man Tackles	-0.004(0.011)	-0.005(0.012)	-0.006(0.013)	-0.003(0.011)	-0.003(0.012)	-0.003(0.013)	0.001(0.003)	0.000(0.003)	0.001(0.003)	
Zone Tackles	-0.008(0.012)	-0.008(0.014)	-0.009(0.014)	-0.014(0.013)	-0.017(0.015)	-0.017(0.015)	-0.001(0.003)	-0.001(0.004)	-0.000(0.003)	
LB2	0.001(0.011)	0.001(0.010)	0.004 (0.044)	0.000(0.010)**	0.001/0.015/99	0.000(0.015)**	0.004 (0.000)	0.004 (0.000)	0.000(0.000)	
Grades Tackles	-0.001(0.011)	-0.001(0.013)	-0.001(0.014)	-0.026(0.013)**	-0.031(0.015)**	-0.032(0.015)**	0.001(0.003)	0.001(0.003)	0.002(0.003)	
Man Tackles	-0.007(0.011)	-0.007(0.012)	-0.008(0.013)	0.004(0.011)	0.004(0.012)	0.004(0.013)	0.001(0.003)	0.002(0.003)	0.001(0.003)	
Zone Tackles LB3	-0.005(0.013)	-0.006(0.014)	-0.005(0.015)	0.011(0.012)	0.013(0.014)	0.013(0.015)	-0.000(0.003)	-0.002(0.003)	-0.001(0.003)	
	0.000(0.010)	0.000(0.014)	0.000(0.015)	0.017(0.010)	0.000(0.010)	0.000(0.010)	0.000(0.000)	0.001(0.000)	0.001(0.009)	
Grades Tackles Man Tackles	-0.006(0.012) -0.020(0.011)*	-0.006(0.014) -0.022(0.013)*	-0.006(0.015) -0.024(0.013)*	-0.017(0.016) 0.007(0.011)	-0.022(0.018) 0.010(0.012)	-0.022(0.018) 0.009(0.013)	-0.002(0.003) 0.004(0.003)	-0.001(0.003) 0.004(0.003)	-0.001(0.003) 0.004(0.003)	
Zone Tackles	0.007(0.011)**	0.007(0.015)	0.008(0.015)	0.007(0.011)	0.010(0.012)	0.009(0.013)	-0.004(0.003)	-0.001(0.003)	-0.001(0.003)	
LB4	0.007(0.013)	0.007(0.013)	0.008(0.013)	0.010(0.014)	0.011(0.010)	0.012(0.010)	-0.001(0.003)	-0.001(0.004)	-0.001(0.003)	
Grades Tackles	-0.003(0.012)	-0.003(0.013)	-0.004(0.014)	-0.002(0.015)	-0.004(0.018)	-0.005(0.018)	0.001(0.003)	0.001(0.003)	0.002(0.003)	
Man Tackles	0.008(0.012)	0.010(0.012)	0.010(0.013)	-0.014(0.011)	-0.018(0.012)	-0.018(0.013)	0.001(0.003)	0.002(0.003)	0.002(0.003)	
Zone Tackles	-0.001(0.011)	-0.000(0.012)	0.000(0.013)	0.015(0.013)	0.020(0.012)	0.021(0.016)	-0.001(0.003)	-0.002(0.003)	-0.001(0.003)	
CB1	-0.001(0.011)	-0.000(0.013)	0.000(0.014)	0.010(0.010)	0.020(0.010)	0.021(0.010)	-0.001(0.000)	-0.000(0.000)	-0.001(0.000)	
Grades Tackles	0.006(0.009)	0.008(0.010)	0.008(0.011)	0.006(0.009)	0.006(0.011)	0.006(0.011)	0.001(0.003)	0.001(0.003)	0.001(0.002)	
Man Tackles	0.005(0.010)	0.005(0.012)	0.006(0.011)	0.025(0.010)**	0.029(0.012)**	0.030(0.011)	-0.003(0.003)	-0.003(0.003)	-0.002(0.003)	
Zone Tackles	0.001(0.010)	0.001(0.011)	0.000(0.012)	0.006(0.010)	0.008(0.012)	0.009(0.012)	0.002(0.003)	0.002(0.003)	0.002(0.002)	
CB2	0.001(0.010)	0.001(0.011)	0.000(0.012)	0.000(0.010)	0.000(0.012)	0.005(0.012)	0.002(0.000)	0.002(0.000)	0.002(0.002)	
Grades Tackles	-0.006(0.009)	-0.007(0.011)	-0.007(0.011)	0.001(0.010)	0.002(0.012)	0.003(0.012)	0.002(0.003)	0.003(0.003)	0.002(0.002)	
Man Tackles	0.011(0.010)	0.013(0.011)	0.014(0.012)	0.007(0.010)	0.007(0.012)	0.007(0.013)	-0.002(0.003)	-0.001(0.003)	-0.002(0.003)	
Zone Tackles	-0.007(0.010)	-0.008(0.011)	-0.009(0.012)	-0.002(0.011)	-0.002(0.012)	-0.003(0.013)	0.003(0.003)	0.002(0.003)	0.002(0.002)	
CB3	0.001(0.010)	0.000(0.011)	0.000(0.012)	0.002(0.011)	0.002(0.012)	0.000(0.010)	0.000(0.000)	0.002(0.000)	0.002(0.002)	
Grades Tackles	-0.003(0.010)	-0.004(0.012)	-0.004(0.012)	-0.004(0.012)	-0.006(0.013)	-0.005(0.014)	0.002(0.003)	0.001(0.003)	0.001(0.002)	
Man Tackles	0.017(0.010)*	0.019(0.012)	0.019(0.012)	-0.012(0.012)	-0.014(0.013)	-0.014(0.014)	0.001(0.003)	0.002(0.003)	0.002(0.003)	
Zone Tackles	0.005(0.010)	0.007(0.011)	0.008(0.012)	-0.004(0.013)	-0.005(0.015)	-0.005(0.015)	-0.002(0.003)	-0.002(0.003)	-0.002(0.002)	
S1	· · · · · ·									
Grades Tackles	-0.003(0.010)	-0.004(0.011)	-0.005(0.012)	0.006(0.010)	0.007(0.011)	0.007(0.012)	0.000(0.003)	-0.001(0.003)	-0.001(0.002)	
Man Tackles	-0.007(0.010)	-0.008(0.011)	-0.009(0.012)	0.004(0.010)	0.003(0.012)	0.005(0.012)	-0.004(0.003)	-0.003(0.003)	-0.002(0.003)	
Zone Tackles	0.005(0.010)	0.007(0.011)	0.007(0.012)	-0.001(0.010)	-0.001(0.011)	-0.002(0.012)	-0.002(0.003)	-0.002(0.003)	-0.002(0.002)	
S2										
Grades Tackles	0.001(0.010)	0.004(0.011)	0.003(0.012)	0.008(0.012)	0.009(0.013)	0.010(0.014)	0.003(0.003)	0.004(0.003)	0.003(0.002)	
Man Tackles	0.010(0.010)	0.012(0.012)	0.013(0.012)	-0.001(0.011)	0.001(0.013)	-0.000(0.013)	-0.002(0.003)	-0.003(0.003)	-0.003(0.003)	
Zone Tackles	0.000(0.010)	-0.000(0.011)	-0.001(0.012)	-0.001(0.012)	-0.002(0.014)	-0.002(0.014)	-0.003(0.003)	-0.002(0.003)	-0.001(0.003)	
S3										
Grades Tackles	-0.008(0.010)	-0.010(0.012)	-0.010(0.013)	0.015(0.013)	0.018(0.015)	0.019(0.016)	0.003(0.003)	0.003(0.003)	0.003(0.003)	
Man Tackles	-0.006(0.010)	-0.007(0.012)	-0.007(0.012)	-0.004(0.013)	-0.005(0.015)	-0.005(0.015)	-0.003(0.003)	-0.002(0.003)	-0.003(0.003)	
Zone Tackles	-0.004(0.011)	-0.005(0.012)	-0.005(0.013)	-0.006(0.014)	-0.008(0.016)	-0.009(0.017)	-0.001(0.003)	-0.001(0.003)	-0.001(0.003)	
Perf. Measures										
GIMR	0.040(0.009)***	0.048(0.011)***	0.050(0.012)***	0.035(0.009)***	0.043(0.011)***	0.044(0.012)***				
Control Variables										
Game Situation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Coach Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Team Stats	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Coach FE	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	
Player Presence	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	
Control Off. Players	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Control Def. Players	No	No	No	No	No	No	No	No	No	
Note:										

Note: Marginal effects reported with standard errors in parentheses and significance levels. \* \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01