## Academic Tables for NFL Player Performance Models

2025-03-23

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	0.028(0.016)*	0.036(0.019)*	0.037(0.020)*	0.031(0.014)**	0.039(0.017)**	0.041(0.017)**	0.007(0.004)	0.007(0.005)	0.006(0.004)
Medium Grades Pass	-0.014(0.013)	-0.016(0.016)	-0.017(0.016)	-0.002(0.015)	0.001(0.017)	-0.002(0.018)	0.006(0.004)	0.005(0.004)	0.004(0.004)
Deep Grades Pass	-0.013(0.013)	-0.017(0.015)	-0.019(0.016)	-0.021(0.013)	-0.029(0.015)*	-0.029(0.016)*	0.006(0.004)	0.005(0.004)	0.005(0.003)
Running Backs	0.010(0.010)	0.027(0.020)	0.020(0.020)	0.022(0.020)	0.020(0.020)	0.020(0.020)	01000(01001)	***************************************	0.000(0.000)
Grades Pass Block	-0.021(0.010)**	-0.026(0.012)**	-0.027(0.013)**	0.011(0.010)	0.012(0.011)	0.013(0.012)	-0.004(0.003)	-0.006(0.003)*	-0.005(0.003)*
Grades Run	0.012(0.011)	0.015(0.012)	0.016(0.013)	-0.005(0.011)	-0.006(0.013)	-0.007(0.013)	-0.001(0.003)	-0.001(0.003)	-0.000(0.003)
Short Grades Pass	0.004(0.011)	0.005(0.012)	0.004(0.013)	-0.002(0.010)	-0.001(0.012)	-0.001(0.012)	-0.000(0.003)	0.000(0.003)	0.000(0.003)
Medium Grades Pass	-0.015(0.009)	-0.017(0.011)	-0.017(0.011)	-0.005(0.009)	-0.006(0.010)	-0.006(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)	-0.006(0.011)	-0.002(0.009)	-0.003(0.010)	-0.003(0.011)	0.003(0.003)	0.002(0.003)	0.002(0.002)
WR1	0.001(0.010)	0.000(0.011)	0.000(0.011)	0.002(0.000)	0.000(0.010)	0.000(0.011)	0.000(0.000)	0.002(0.000)	0.002(0.002)
Grades Run Block	0.007(0.015)	0.006(0.018)	0.008(0.018)	-0.012(0.019)	-0.016(0.022)	-0.014(0.023)	-0.006(0.004)	-0.006(0.004)	-0.005(0.004)
Short Grades Pass	0.003(0.013)	0.003(0.015)	0.005(0.016)	0.000(0.016)	-0.002(0.018)	-0.002(0.018)	-0.000(0.004)	-0.000(0.004)	-0.001(0.004)
Medium Grades Pass	0.015(0.013)	0.017(0.015)	0.018(0.016)	0.001(0.014)	0.002(0.016)	0.002(0.013)	0.005(0.004)	0.004(0.004)	0.004(0.004)
Deep Grades Pass	0.001(0.013)	0.001(0.013)	0.001(0.013)	0.001(0.014)	0.002(0.010)	0.005(0.014)	0.003(0.004)	0.004(0.004)	0.003(0.003)
WR2	0.001(0.011)	0.001(0.013)	0.001(0.013)	0.002(0.012)	0.003(0.014)	0.003(0.014)	0.003(0.003)	0.004(0.003)	0.003(0.003)
Grades Run Block	-0.021(0.016)	-0.025(0.018)	-0.025(0.018)	0.027(0.036)	0.035(0.042)	0.038(0.043)	-0.001(0.004)	-0.001(0.005)	0.001(0.004)
Short Grades Pass	-0.021(0.016)	-0.025(0.018)	-0.025(0.018)	0.027(0.036)	0.035(0.042)	0.038(0.043)	0.008(0.004)**	0.008(0.004)**	0.001(0.004)
Medium Grades Pass	0.016(0.012)	0.018(0.013)	0.020(0.014)	-0.005(0.020)	-0.009(0.023)	-0.009(0.024)	0.001(0.004)	-0.000(0.004)	-0.000(0.003)
Deep Grades Pass	0.003(0.011)	0.005(0.012)	0.005(0.013)	0.011(0.016)	0.017(0.019)	0.016(0.019)	0.000(0.003)	0.000(0.003)	0.000(0.003)
WR3	/								
Grades Run Block	-0.007(0.014)	-0.008(0.016)	-0.010(0.016)	0.018(0.027)	0.023(0.031)	0.023(0.033)	-0.001(0.004)	-0.001(0.004)	-0.000(0.004)
Short Grades Pass	-0.015(0.011)	-0.019(0.013)	-0.019(0.013)	-0.001(0.020)	0.001(0.023)	0.003(0.024)	-0.003(0.003)	-0.003(0.003)	-0.002(0.003)
Medium Grades Pass	0.008(0.010)	0.009(0.012)	0.009(0.012)	0.011(0.019)	0.007(0.022)	0.007(0.022)	0.006(0.003)*	0.005(0.003)	0.005(0.003)
Deep Grades Pass	0.003(0.010)	0.005(0.011)	0.004(0.012)	0.015(0.015)	0.021(0.017)	0.021(0.018)	0.001(0.003)	0.002(0.003)	0.002(0.003)
TE1									
Grades Pass Block	0.026(0.012)**	0.031(0.013)**	0.033(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	-0.015(0.015)	-0.018(0.017)	-0.020(0.018)	-0.012(0.012)	-0.016(0.014)	-0.017(0.015)	-0.000(0.004)	0.002(0.005)	0.001(0.004)
Short Grades Pass	0.004(0.013)	0.004(0.014)	0.003(0.015)	0.000(0.013)	-0.001(0.014)	-0.001(0.015)	0.003(0.004)	0.002(0.004)	0.002(0.003)
Medium Grades Pass	-0.017(0.011)	-0.020(0.012)	-0.021(0.013)	0.017(0.011)	0.020(0.012)*	0.022(0.012)*	0.002(0.003)	0.002(0.003)	0.001(0.003)
Deep Grades Pass	-0.003(0.010)	-0.004(0.011)	-0.004(0.012)	-0.015(0.009)	-0.018(0.011)*	-0.018(0.011)	0.002(0.003)	0.002(0.003)	0.002(0.003)
OL1									
Grades Pass Block	0.016(0.012)	0.021(0.014)	0.022(0.014)	-0.011(0.009)	-0.013(0.011)	-0.013(0.011)	-0.004(0.003)	-0.004(0.003)	-0.003(0.003)
Grades Run Block	0.004(0.014)	0.006(0.016)	0.004(0.017)	0.006(0.010)	0.007(0.011)	0.009(0.012)	0.001(0.004)	0.000(0.004)	0.000(0.004)
OL2									
Grades Pass Block	-0.008(0.012)	-0.009(0.013)	-0.010(0.014)	-0.005(0.010)	-0.006(0.011)	-0.006(0.011)	-0.000(0.003)	-0.001(0.003)	-0.002(0.003)
Grades Run Block	-0.002(0.014)	-0.003(0.016)	-0.003(0.017)	-0.012(0.010)	-0.015(0.011)	-0.017(0.012)	0.003(0.004)	0.005(0.004)	0.004(0.004)
OL3	( )	( /	( ,	()	( )	( )	( )	( )	( ,
Grades Pass Block	0.009(0.012)	0.009(0.013)	0.011(0.014)	0.007(0.009)	0.009(0.011)	0.010(0.011)	0.001(0.003)	0.001(0.004)	0.001(0.003)
Grades Run Block	-0.015(0.014)	-0.018(0.016)	-0.019(0.017)	0.004(0.009)	0.006(0.011)	0.006(0.011)	-0.004(0.004)	-0.004(0.004)	-0.004(0.004)
OL4	0.010(0.011)	0.020(0.020)	0.020(0.021)		***************************************	0.000(0.000)	0.00 = (0.00 =)	***************************************	0.00 - (0.00 -)
Grades Pass Block	0.023(0.012)*	0.025(0.014)*	0.028(0.014)*	0.006(0.010)	0.007(0.011)	0.008(0.012)	-0.003(0.003)	-0.004(0.003)	-0.003(0.003)
Grades Run Block	-0.006(0.013)	-0.008(0.015)	-0.009(0.015)	-0.013(0.010)	-0.014(0.011)	-0.016(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)
OL5	-0.000(0.013)	-0.000(0.010)	-0.009(0.010)	-0.013(0.010)	-0.014(0.011)	-0.010(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)
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	-0.031(0.012)**	-0.037(0.014)**	-0.038(0.016)**	0.012(0.010)	0.011(0.012)	0.012(0.012)	-0.002(0.004)	-0.002(0.004)	-0.002(0.003)
Perf. Measures	-0.031(0.013)	-0.037(0.013)	-0.038(0.010)	0.010(0.010)	0.011(0.012)	0.012(0.012)	-0.002(0.004)	-0.002(0.004)	-0.002(0.003)
GIMR	0.007(0.002)***	0.010(0.003)***	0.010(0.003)***	0.007(0.002)***	0.010(0.003)***	0.010(0.003)***			
	0.007(0.002)****	0.010(0.003)****	0.010(0.003)****	0.007(0.002)****	0.010(0.003)****	0.010(0.003)****			
Control Variables	37	37	37	37	37	37	37	37	37
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

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	0.018(0.013)	0.021(0.015)	0.021(0.016)	0.020(0.014)	0.023(0.016)	0.023(0.017)	0.002(0.004)	0.001(0.004)	0.002(0.003)
Medium Yards	0.028(0.013)**	0.038(0.015)**	0.038(0.016)**	0.004(0.014)	0.006(0.016)	0.006(0.017)	0.006(0.004)	0.005(0.004)	0.004(0.004)
Deep Yards	-0.036(0.012)***	-0.045(0.014)***	-0.046(0.014)***	-0.017(0.012)	-0.021(0.013)	-0.021(0.014)	0.007(0.004)*	0.006(0.004)	0.005(0.003)
Running Backs	( )	( ,	( )	( ,	()	( ,	( ,	( )	( ,
Grades Pass Block	-0.015(0.010)	-0.018(0.011)	-0.019(0.012)	0.009(0.009)	0.010(0.010)	0.010(0.011)	-0.005(0.003)	-0.006(0.003)*	-0.005(0.003)*
Yards	0.002(0.010)	0.004(0.011)	0.003(0.012)	0.016(0.009)*	0.019(0.010)*	0.019(0.011)*	0.005(0.003)*	0.006(0.003)*	0.005(0.003)*
Short Yards	-0.007(0.010)	-0.009(0.011)	-0.008(0.012)	-0.015(0.010)	-0.018(0.011)	-0.017(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	0.003(0.009)	0.005(0.012)	0.004(0.012)	-0.001(0.009)	-0.003(0.010)	-0.003(0.011)	-0.004(0.003)	-0.004(0.003)	-0.003(0.002)
WR1	***************************************	***************************************	***************************************	01002(01000)	0.000(0.020)	01000(01022)	0.00 -(0.000)		0.000(0.002)
Grades Run Block	0.010(0.015)	0.010(0.017)	0.011(0.018)	-0.009(0.019)	-0.013(0.021)	-0.012(0.023)	-0.003(0.004)	-0.002(0.004)	-0.002(0.004)
Short Yards	-0.006(0.010)	-0.007(0.012)	-0.007(0.012)	-0.003(0.013)	-0.003(0.012)	-0.002(0.012)	-0.003(0.003)	-0.002(0.004)	-0.002(0.004)
Medium Yards	-0.001(0.011)	-0.001(0.012)	-0.001(0.012)	-0.004(0.011)	-0.003(0.012)	-0.002(0.012)	0.001(0.003)	0.000(0.003)	0.001(0.003)
Deep Yards	0.027(0.010)***	0.033(0.011)***	0.035(0.012)***	0.017(0.010)*	0.021(0.011)*	0.022(0.012)*	0.001(0.003)	0.002(0.003)	0.001(0.003)
WR2	0.027(0.010)	0.000(0.011)	0.000(0.012)	0.017(0.010)	0.021(0.011)	0.022(0.012)	0.001(0.000)	0.002(0.000)	0.001(0.000)
Grades Run Block	-0.022(0.015)	-0.026(0.017)	-0.027(0.018)	0.041(0.035)	0.050(0.041)	0.055(0.042)	0.002(0.004)	0.002(0.004)	0.003(0.004)
Short Yards	-0.022(0.013)	-0.026(0.017)	-0.011(0.012)	0.000(0.011)	0.000(0.041)	-0.000(0.013)	0.002(0.004)	0.002(0.004)	0.003(0.004)
Medium Yards	-0.008(0.010)	-0.011(0.012)	-0.011(0.012)	-0.016(0.012)	-0.017(0.014)	-0.019(0.014)	-0.003(0.003)	-0.003(0.003)	-0.003(0.003)
Deep Yards	0.016(0.011)	0.020(0.012)*	0.021(0.012)*	0.008(0.012)	0.010(0.012)	0.011(0.012)	0.002(0.003)	0.002(0.003)	0.002(0.003)
WR3	0.010(0.010)	0.020(0.012)	0.021(0.012)	0.008(0.010)	0.010(0.012)	0.011(0.012)	0.002(0.003)	0.002(0.003)	0.002(0.003)
	-0.008(0.013)	0.000(0.015)	0.011(0.010)	0.004(0.004)	0.031(0.029)	0.001(0.000)	0.001(0.004)	0.001(0.004)	0.001(0.003)
Grades Run Block Short Yards		-0.009(0.015)	-0.011(0.016)	0.024(0.024) 0.010(0.012)	0.031(0.029)	0.031(0.030) 0.012(0.014)		0.001(0.004)	-0.002(0.003)
	-0.012(0.011) -0.018(0.011)	-0.015(0.012) -0.022(0.012)*	-0.014(0.012) -0.023(0.013)*	0.010(0.012)	0.010(0.013)	0.012(0.014)	-0.002(0.003) 0.003(0.003)	-0.003(0.003) 0.003(0.003)	0.002(0.003)
Medium Yards									
Deep Yards	0.015(0.010)	0.019(0.011)*	0.019(0.011)*	0.002(0.010)	0.003(0.011)	0.003(0.012)	0.000(0.003)	0.001(0.003)	0.001(0.003)
TE1	0.005(0.014)**	0.000/0.040\**	0.000/0.04 () **	0.004(0.044)**	0.000/0.040\**	0.000/0.040\**	0.004 (0.000)	0.000(0.000)	0.004(0.000)
Grades Pass Block	0.025(0.011)**	0.032(0.013)**	0.033(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	-0.018(0.014)	-0.023(0.016)	-0.025(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	0.003(0.011)	0.003(0.013)	0.003(0.013)	-0.007(0.011)	-0.009(0.012)	-0.010(0.013)	0.002(0.003)	0.003(0.004)	0.001(0.003)
Medium Yards	-0.014(0.011)	-0.018(0.012)	-0.018(0.013)	0.008(0.010)	0.008(0.012)	0.008(0.012)	-0.000(0.003)	-0.002(0.004)	-0.001(0.003)
Deep Yards	-0.010(0.010)	-0.013(0.011)	-0.013(0.012)	-0.004(0.009)	-0.005(0.010)	-0.005(0.011)	-0.001(0.003)	-0.001(0.003)	-0.001(0.003)
OL1									
Grades Pass Block	0.013(0.012)	0.017(0.013)	0.018(0.014)	-0.011(0.010)	-0.014(0.011)	-0.014(0.012)	-0.004(0.003)	-0.004(0.003)	-0.003(0.003)
Grades Run Block	0.006(0.014)	0.008(0.016)	0.007(0.016)	0.006(0.010)	0.007(0.012)	0.008(0.012)	0.001(0.004)	0.000(0.004)	0.000(0.004)
OL2									
Grades Pass Block	-0.008(0.012)	-0.010(0.013)	-0.011(0.014)	-0.004(0.010)	-0.005(0.011)	-0.005(0.012)	-0.001(0.003)	-0.002(0.003)	-0.002(0.003)
Grades Run Block	-0.004(0.014)	-0.004(0.016)	-0.004(0.016)	-0.013(0.010)	-0.017(0.011)	-0.018(0.012)	0.004(0.004)	0.006(0.004)	0.006(0.004)
OL3									
Grades Pass Block	0.010(0.012)	0.011(0.013)	0.013(0.014)	0.008(0.009)	0.010(0.011)	0.010(0.011)	0.001(0.003)	0.001(0.004)	0.001(0.003)
Grades Run Block	-0.014(0.014)	-0.018(0.016)	-0.019(0.017)	0.003(0.009)	0.006(0.011)	0.005(0.011)	-0.004(0.004)	-0.004(0.004)	-0.004(0.004)
OL4									
Grades Pass Block	0.020(0.012)*	0.023(0.014)	0.025(0.015)*	0.005(0.010)	0.005(0.011)	0.006(0.012)	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)
Grades Run Block	-0.006(0.013)	-0.007(0.015)	-0.009(0.016)	-0.012(0.010)	-0.014(0.011)	-0.015(0.011)	0.000(0.004)	0.001(0.004)	0.001(0.003)
OL5									
Grades Pass Block	0.022(0.012)*	0.025(0.014)*	0.026(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	-0.023(0.013)*	-0.029(0.015)*	-0.029(0.016)*	0.010(0.010)	0.011(0.012)	0.011(0.012)	-0.001(0.004)	-0.002(0.004)	-0.002(0.003)
Perf. Measures									
GIMR	0.007(0.002)***	0.008(0.002)***	0.008(0.002)***	0.007(0.002)***	0.008(0.002)***	0.008(0.002)***			
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
Control Off. Players	No	No	No	No	No	No	No	No	No
Control On. 1 layers	110	110	110	110	110	110	110	110	110

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	0.023(0.014)*	0.028(0.016)*	0.027(0.016)*	0.029(0.014)**	0.035(0.016)**	0.035(0.017)**	-0.001(0.004)	-0.001(0.004)	0.000(0.004)
Medium Completions	0.024(0.014)*	0.034(0.016)**	0.033(0.017)**	0.001(0.015)	0.003(0.017)	0.002(0.017)	0.008(0.004)*	0.006(0.004)	0.005(0.004)
Deep Completions	-0.033(0.012)***	-0.041(0.014)***	-0.042(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	-0.017(0.010)*	-0.020(0.011)*	-0.021(0.012)*	0.010(0.009)	0.011(0.010)	0.012(0.011)	-0.004(0.003)	-0.006(0.003)*	-0.005(0.003)*
Attempts	0.001(0.010)	0.003(0.011)	0.003(0.012)	0.014(0.009)	0.017(0.010)	0.017(0.011)	0.003(0.003)	0.003(0.003)	0.003(0.003)
Short Receptions	-0.003(0.010)	-0.004(0.012)	-0.004(0.012)	-0.017(0.010)*	-0.020(0.011)*	-0.019(0.011)*	0.002(0.003)	0.003(0.003)	0.003(0.003)
Medium Receptions	-0.016(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	-0.002(0.009)	-0.000(0.011)	-0.001(0.012)	-0.005(0.009)	-0.006(0.010)	-0.007(0.010)	-0.001(0.003)	-0.001(0.003)	-0.001(0.002)
WR1									
Grades Run Block	0.008(0.015)	0.007(0.017)	0.008(0.018)	-0.009(0.019)	-0.013(0.022)	-0.012(0.023)	-0.003(0.004)	-0.003(0.004)	-0.002(0.004)
Short Receptions	-0.007(0.011)	-0.009(0.012)	-0.009(0.012)	-0.003(0.011)	-0.005(0.012)	-0.005(0.013)	-0.002(0.003)	-0.002(0.003)	-0.002(0.003)
Medium Receptions	0.005(0.011)	0.006(0.013)	0.007(0.014)	-0.003(0.011)	-0.001(0.013)	-0.002(0.013)	-0.002(0.003)	-0.002(0.003)	-0.001(0.003)
Deep Receptions	0.023(0.010)**	0.027(0.012)**	0.029(0.012)**	0.015(0.010)	0.018(0.012)	0.018(0.012)	0.001(0.003)	0.001(0.003)	0.001(0.003)
WR2	( ,	( )	( ,	()	( )	( ,	( )	( )	( ,
Grades Run Block	-0.022(0.015)	-0.026(0.017)	-0.027(0.018)	0.043(0.034)	0.052(0.040)	0.055(0.042)	0.002(0.004)	0.003(0.004)	0.003(0.004)
Short Receptions	-0.011(0.010)	-0.012(0.012)	-0.013(0.012)	-0.004(0.012)	-0.005(0.013)	-0.005(0.014)	0.005(0.003)*	0.004(0.003)	0.003(0.003)
Medium Receptions	-0.004(0.011)	-0.006(0.013)	-0.005(0.013)	-0.011(0.013)	-0.011(0.014)	-0.013(0.015)	-0.003(0.003)	-0.004(0.003)	-0.003(0.003)
Deep Receptions	0.011(0.010)	0.014(0.012)	0.014(0.012)	0.008(0.010)	0.010(0.012)	0.010(0.012)	0.002(0.003)	0.002(0.003)	0.002(0.003)
WR3	0.022(0.020)	***************************************	*****(*********************************	***************************************	**************************************	*****(***********)	0.00-(0.000)	0.00=(0.000)	***************************************
Grades Run Block	-0.008(0.013)	-0.010(0.015)	-0.011(0.016)	0.020(0.024)	0.027(0.029)	0.027(0.030)	0.000(0.004)	0.001(0.004)	0.001(0.003)
Short Receptions	-0.013(0.011)	-0.016(0.012)	-0.016(0.013)	0.013(0.012)	0.014(0.014)	0.016(0.015)	-0.000(0.003)	-0.001(0.003)	-0.001(0.003)
Medium Receptions	-0.014(0.012)	-0.019(0.013)	-0.019(0.014)	0.004(0.012)	0.004(0.013)	0.003(0.014)	0.002(0.003)	0.002(0.003)	0.001(0.003)
Deep Receptions	0.010(0.010)	0.013(0.011)	0.013(0.012)	0.006(0.010)	0.007(0.012)	0.007(0.012)	0.000(0.003)	0.001(0.003)	0.001(0.003)
TE1	0.010(0.010)	0.010(0.011)	0.010(0.012)	0.000(0.010)	0.001(0.012)	0.001(0.012)	0.000(0.000)	0.001(0.000)	0.001(0.000)
Grades Pass Block	0.026(0.011)**	0.033(0.013)**	0.035(0.014)**	0.026(0.011)**	0.034(0.013)***	0.035(0.013)***	-0.002(0.003)	-0.002(0.003)	-0.002(0.003)
Grades Run Block	-0.018(0.014)	-0.023(0.016)	-0.025(0.017)	-0.008(0.011)	-0.011(0.013)	-0.012(0.014)	0.003(0.004)	0.004(0.004)	0.003(0.004)
Short Receptions	0.001(0.012)	0.002(0.013)	0.002(0.014)	-0.015(0.011)	-0.018(0.012)	-0.019(0.013)	0.003(0.004)	0.004(0.004)	0.002(0.003)
Medium Receptions	-0.017(0.011)	-0.022(0.013)*	-0.023(0.013)*	0.008(0.011)	0.008(0.012)	0.009(0.013)	-0.000(0.004)	-0.001(0.004)	-0.001(0.003)
Deep Receptions	-0.006(0.010)	-0.009(0.011)	-0.009(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)
OL1	0.000(0.010)	0.000(0.011)	0.000(0.012)	0.001(0.000)	0.001(0.011)	0.001(0.011)	0.000(0.000)	0.000(0.000)	0.002(0.000)
Grades Pass Block	0.014(0.012)	0.017(0.013)	0.018(0.014)	-0.011(0.010)	-0.013(0.011)	-0.014(0.012)	-0.004(0.003)	-0.004(0.003)	-0.003(0.003)
Grades Run Block	0.006(0.014)	0.008(0.016)	0.008(0.016)	0.006(0.010)	0.007(0.012)	0.009(0.012)	0.002(0.004)	0.000(0.004)	0.001(0.004)
OL2	0.000(0.00-5)	0.000(0.020)	***************************************	***************************************	*****(*** <del>-</del> )	***************************************	0.00=(0.00-)	0.000(0.00-)	0.00-(0.00-)
Grades Pass Block	-0.008(0.012)	-0.010(0.013)	-0.010(0.014)	-0.003(0.010)	-0.004(0.011)	-0.004(0.012)	-0.000(0.003)	-0.002(0.003)	-0.002(0.003)
Grades Run Block	-0.003(0.014)	-0.004(0.016)	-0.004(0.016)	-0.012(0.010)	-0.016(0.011)	-0.017(0.012)	0.004(0.004)	0.006(0.004)	0.006(0.004)*
OL3	0.000(0.011)	0.001(0.010)	0.001(0.010)	0.012(0.010)	0.010(0.011)	0.011(0.012)	0.001(0.001)	0.000(0.001)	0.000(0.001)
Grades Pass Block	0.011(0.012)	0.012(0.013)	0.014(0.014)	0.008(0.009)	0.010(0.011)	0.010(0.011)	0.001(0.003)	0.001(0.004)	0.001(0.003)
Grades Run Block	-0.014(0.014)	-0.018(0.016)	-0.019(0.017)	0.003(0.009)	0.006(0.011)	0.006(0.011)	-0.003(0.004)	-0.004(0.004)	-0.004(0.004)
OL4	0.011(0.011)	0.010(0.010)	0.010(0.011)	0.000(0.000)	0.000(0.011)	0.000(0.011)	0.000(0.001)	0.001(0.001)	0.001(0.001)
Grades Pass Block	0.021(0.012)*	0.024(0.014)*	0.026(0.015)*	0.005(0.010)	0.006(0.011)	0.007(0.012)	-0.002(0.003)	-0.003(0.003)	-0.002(0.003)
Grades Run Block	-0.006(0.013)	-0.008(0.015)	-0.009(0.016)	-0.012(0.010)	-0.014(0.011)	-0.015(0.011)	0.001(0.004)	0.002(0.004)	0.001(0.003)
OL5	-0.000(0.010)	-0.000(0.010)	-0.003(0.010)	-0.012(0.010)	-0.014(0.011)	-0.010(0.011)	0.001(0.004)	0.002(0.004)	0.001(0.000)
Grades Pass Block	0.024(0.012)**	0.027(0.014)*	0.029(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	-0.024(0.012)*	-0.029(0.014)	-0.030(0.016)*	0.009(0.010)	0.010(0.012)	0.010(0.012)	-0.001(0.003)	-0.002(0.004)	-0.002(0.003)
Perf. Measures	-0.024(0.013)	-0.023(0.010)	-0.000(0.010)	0.005(0.010)	0.010(0.012)	0.010(0.012)	-0.001(0.004)	-0.002(0.004)	-0.002(0.003)
GIMR	0.008(0.002)***	0.010(0.003)***	0.010(0.003)***	0.008(0.002)***	0.010(0.003)***	0.010(0.003)***			
Control Variables	0.000(0.002)	0.010(0.003)	0.010(0.003)	0.000(0.002)	0.010(0.003)	0.010(0.003)			
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	Yes Yes	Yes Yes	Yes No	Yes No	Yes No
Season/Team FE									
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	-0.002(0.009)	-0.003(0.010)	-0.002(0.011)	-0.007(0.009)	-0.009(0.010)	-0.009(0.011)	0.002(0.003)	0.002(0.003)	0.002(0.002)
Productivity Stops	0.016(0.009)*	0.019(0.010)*	0.020(0.011)*	-0.004(0.009)	-0.003(0.010)	-0.004(0.010)	-0.001(0.003)	-0.001(0.003)	-0.001(0.002)
DL2	0.020(0.000)	0.020(0.020)	***************************************	***************************************	0.000(0.020)	0.00 =(0.0=0)	0.002(0.000)	***************************************	0.00-(0.00-)
Grades Stops	0.008(0.009)	0.010(0.010)	0.009(0.011)	0.011(0.009)	0.014(0.011)	0.013(0.011)	0.002(0.003)	0.002(0.003)	0.001(0.002)
Productivity Stops	-0.001(0.009)	-0.000(0.010)	-0.000(0.010)	-0.014(0.009)	-0.017(0.010)	-0.017(0.011)	-0.006(0.003)**	-0.005(0.003)*	-0.004(0.002)*
DL3	0.001(0.000)	0.000(0.010)	0.000(0.010)	0.011(0.000)	0.011(0.010)	0.011(0.011)	0.000(0.000)	0.000(0.000)	0.001(0.002)
Grades Stops	-0.005(0.009)	-0.006(0.010)	-0.006(0.011)	0.007(0.011)	0.007(0.013)	0.006(0.013)	-0.001(0.003)	-0.002(0.003)	-0.002(0.002)
Productivity Stops	0.001(0.009)	0.000(0.010)	0.001(0.011)	-0.008(0.010)	-0.009(0.011)	-0.010(0.012)	-0.001(0.003)	0.001(0.003)	0.000(0.002)
DL4	0.001(0.000)	0.000(0.010)	0.001(0.011)	0.000(0.010)	0.000(0.011)	0.010(0.012)	0.001(0.000)	0.001(0.000)	0.000(0.002)
Grades Stops	-0.008(0.009)	-0.011(0.011)	-0.011(0.011)	-0.000(0.011)	-0.000(0.013)	0.000(0.014)	-0.000(0.003)	-0.002(0.003)	-0.001(0.002)
Productivity Stops	-0.003(0.009)	-0.004(0.010)	-0.004(0.011)	-0.021(0.010)**	-0.025(0.012)**	-0.027(0.012)**	-0.005(0.003)**	-0.004(0.003)*	-0.004(0.002)
LB1	-0.003(0.003)	-0.004(0.010)	-0.004(0.010)	-0.021(0.010)	-0.020(0.012)	-0.021(0.012)	-0.000(0.000)	-0.004(0.003)	-0.004(0.002)
Grades Stops	0.033(0.010)***	0.040(0.011)***	0.041(0.011)***	-0.001(0.010)	-0.001(0.011)	-0.002(0.012)	0.003(0.003)	0.003(0.003)	0.003(0.003)
Zone Stops	-0.010(0.010)	-0.010(0.011)	-0.010(0.011)	-0.001(0.010)	-0.003(0.012)	-0.002(0.012)	0.000(0.003)	0.001(0.003)	0.001(0.003)
Man Stops	0.007(0.009)	0.008(0.011)	0.008(0.011)	-0.003(0.010)	-0.003(0.012)	-0.000(0.012)	-0.003(0.003)	-0.003(0.003)	-0.002(0.002)
LB2	0.007(0.009)	0.008(0.011)	0.008(0.011)	-0.001(0.009)	-0.001(0.010)	-0.000(0.011)	-0.003(0.003)	-0.003(0.003)	-0.002(0.002)
Grades Stops	0.012(0.010)	0.016(0.011)	0.016(0.012)	-0.018(0.010)*	-0.020(0.012)*	-0.022(0.012)*	0.002(0.003)	0.004(0.003)	0.003(0.003)
Zone Stops	-0.008(0.010)	-0.011(0.011)	-0.011(0.012)	0.011(0.010)	0.012(0.012)	0.013(0.012)	-0.002(0.003)	-0.003(0.003)	-0.003(0.003)
Man Stops	0.018(0.009)*	0.023(0.011)**	0.024(0.011)**	-0.013(0.010)	-0.015(0.011)	-0.016(0.011)	0.001(0.003)	-0.000(0.003)	0.000(0.002)
LB3	/	/	/			/			
Grades Stops	0.019(0.010)*	0.022(0.012)*	0.023(0.012)*	-0.010(0.013)	-0.012(0.014)	-0.013(0.015)	0.001(0.003)	0.002(0.003)	0.002(0.003)
Zone Stops	-0.004(0.010)	-0.003(0.011)	-0.004(0.012)	0.010(0.011)	0.011(0.012)	0.011(0.013)	-0.002(0.003)	-0.002(0.003)	-0.002(0.003)
Man Stops	-0.004(0.009)	-0.004(0.011)	-0.004(0.011)	-0.002(0.009)	-0.001(0.011)	-0.002(0.011)	-0.000(0.003)	-0.000(0.003)	0.000(0.002)
LB4									
Grades Stops	0.002(0.011)	0.004(0.012)	0.003(0.013)	-0.001(0.013)	-0.003(0.014)	-0.004(0.015)	-0.001(0.003)	0.000(0.003)	-0.001(0.003)
Zone Stops	-0.010(0.010)	-0.014(0.012)	-0.013(0.012)	-0.000(0.011)	0.001(0.013)	0.002(0.014)	0.002(0.003)	0.001(0.003)	0.001(0.003)
Man Stops	0.010(0.009)	0.012(0.011)	0.012(0.011)	0.000(0.009)	0.000(0.010)	0.001(0.011)	-0.003(0.003)	-0.002(0.003)	-0.002(0.003)
CB1									
Grades Stops	-0.008(0.009)	-0.009(0.010)	-0.010(0.010)	0.017(0.009)*	0.019(0.011)*	0.021(0.011)*	0.002(0.003)	0.003(0.003)	0.003(0.002)
Zone Stops	-0.018(0.009)**	-0.022(0.011)**	-0.023(0.011)**	0.011(0.009)	0.013(0.011)	0.014(0.011)	0.003(0.003)	0.003(0.003)	0.002(0.002)
Man Stops	0.005(0.009)	0.006(0.010)	0.006(0.010)	0.012(0.009)	0.014(0.010)	0.014(0.011)	-0.004(0.003)	-0.004(0.003)	-0.004(0.002)
CB2									
Grades Stops	0.004(0.009)	0.004(0.010)	0.005(0.010)	0.001(0.009)	0.001(0.011)	0.002(0.011)	-0.004(0.003)	-0.004(0.003)	-0.004(0.002)
Zone Stops	-0.001(0.009)	-0.002(0.010)	-0.002(0.011)	0.002(0.009)	0.004(0.011)	0.003(0.011)	0.003(0.003)	0.003(0.003)	0.003(0.002)
Man Stops	-0.014(0.009)	-0.016(0.010)	-0.016(0.010)	0.001(0.009)	0.000(0.010)	-0.000(0.011)	0.004(0.003)	0.004(0.003)	0.003(0.002)
CB3									
Grades Stops	-0.020(0.009)**	-0.023(0.010)**	-0.024(0.011)**	0.000(0.009)	-0.001(0.011)	-0.001(0.011)	-0.001(0.003)	-0.000(0.003)	-0.000(0.002)
Zone Stops	0.000(0.009)	0.002(0.011)	0.002(0.011)	0.004(0.010)	0.006(0.012)	0.007(0.012)	0.002(0.003)	0.002(0.003)	0.001(0.002)
Man Stops	-0.008(0.009)	-0.011(0.010)	-0.011(0.011)	0.010(0.009)	0.010(0.010)	0.012(0.011)	0.006(0.003)**	0.006(0.003)**	0.006(0.002)**
S1									
Grades Stops	-0.001(0.010)	0.001(0.011)	0.001(0.012)	-0.003(0.010)	-0.003(0.011)	-0.005(0.012)	0.005(0.003)*	0.006(0.003)**	0.005(0.003)*
Zone Stops	-0.005(0.009)	-0.007(0.011)	-0.007(0.011)	-0.002(0.009)	-0.002(0.011)	-0.003(0.011)	0.002(0.003)	0.001(0.003)	0.001(0.003)
Man Stops	0.002(0.009)	0.002(0.011)	0.002(0.011)	0.008(0.010)	0.009(0.011)	0.010(0.011)	-0.006(0.003)**	-0.006(0.003)**	-0.005(0.002)**
S2									
Grades Stops	0.008(0.010)	0.011(0.011)	0.011(0.012)	0.018(0.010)*	0.022(0.012)*	0.023(0.012)*	0.002(0.003)	0.001(0.003)	0.001(0.003)
Zone Stops	-0.000(0.009)	-0.001(0.011)	0.000(0.011)	-0.006(0.010)	-0.005(0.012)	-0.006(0.012)	0.003(0.003)	0.004(0.003)	0.003(0.002)
Man Stops	-0.003(0.009)	-0.003(0.010)	-0.003(0.011)	-0.004(0.009)	-0.006(0.011)	-0.007(0.011)	-0.000(0.003)	-0.001(0.003)	-0.001(0.002)
S3	( ,	,	, , , ,	( ,	( )	( )	( )	( )	( ,
Grades Stops	0.017(0.010)*	0.020(0.011)*	0.021(0.012)*	-0.005(0.011)	-0.006(0.013)	-0.007(0.013)	-0.002(0.003)	-0.002(0.003)	-0.001(0.003)
Zone Stops	-0.009(0.010)	-0.011(0.011)	-0.012(0.012)	0.002(0.011)	0.001(0.012)	0.001(0.013)	0.001(0.003)	0.000(0.003)	0.000(0.003)
Man Stops	-0.007(0.009)	-0.011(0.011)	-0.009(0.011)	0.013(0.010)	0.016(0.011)	0.017(0.012)	0.001(0.003)	0.002(0.003)	0.001(0.003)
Perf. Measures	0.001 (0.000)	3.010(0.011)	3.000(0.011)	3.010(0.010)	3.010(0.011)	3.011(0.012)	2.001(0.000)	3.002(0.000)	3.001(0.000)
GIMR	0.008(0.003)***	0.009(0.004)**	0.010(0.003)***	0.007(0.003)***	0.008(0.004)**	0.009(0.003)***			
Control Variables	(0.000)	(0.00 x)		(0.000)		(0.000)			
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	Yes Yes
Season/Team FE	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Coach FE	Yes No	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: 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	0.002(0.015)	0.002(0.018)	0.001(0.018)	-0.004(0.011)	-0.005(0.013)	-0.004(0.013)	-0.006(0.004)	-0.005(0.005)	-0.004(0.004)
Grds Pass Rush Def	0.009(0.015)	0.013(0.017)	0.014(0.018)	-0.015(0.011)	-0.019(0.013)	-0.020(0.013)	0.008(0.004)*	0.009(0.004)*	0.008(0.004)**
DL2	0.000(0.020)	***************************************	0.011(0.010)	01010(01011)	0.010(0.010)	0.0-0(0.0-0)	0.000(0.00-)	0.000(0.00-)	01000(0100-)
Grades Run Defense	0.025(0.015)*	0.031(0.017)*	0.031(0.018)*	0.006(0.024)	0.010(0.027)	0.008(0.028)	-0.002(0.004)	-0.002(0.005)	-0.001(0.004)
Grds Pass Rush Def	-0.017(0.014)	-0.020(0.011)	-0.022(0.017)	-0.019(0.023)	-0.025(0.026)	-0.024(0.028)	-0.003(0.004)	-0.003(0.004)	-0.004(0.004)
DL3	-0.017(0.014)	-0.020(0.010)	-0.022(0.011)	-0.013(0.020)	-0.020(0.020)	-0.024(0.020)	-0.000(0.004)	-0.000(0.004)	-0.004(0.004)
Grades Run Defense	-0.005(0.015)	-0.007(0.017)	-0.007(0.018)	-0.014(0.042)	-0.020(0.047)	-0.019(0.048)	-0.004(0.004)	-0.007(0.005)	-0.006(0.004)
Grds Pass Rush Def	0.003(0.015)	0.006(0.017)	0.005(0.017)	-0.001(0.042)	0.006(0.051)	-0.019(0.048)	0.001(0.004)	0.004(0.004)	0.003(0.004)
	0.003(0.013)	0.000(0.017)	0.003(0.017)	-0.001(0.043)	0.000(0.031)	-0.002(0.055)	0.001(0.004)	0.004(0.004)	0.003(0.004)
DL4	0.012(0.015)	0.010(0.017)	0.014(0.017)	0.040(0.051)	0.059(0.050)	0.055(0.000)	0.000(0.004)	0.000(0.005)	-0.001(0.004)
Grades Run Defense		0.012(0.017)	0.014(0.017)	-0.042(0.051)	-0.053(0.058)	-0.055(0.060)		-0.002(0.005)	
Grds Pass Rush Def	-0.004(0.015)	-0.003(0.017)	-0.005(0.017)	-0.019(0.053)	-0.019(0.060)	-0.024(0.062)	-0.002(0.004)	0.000(0.005)	-0.001(0.004)
LB1									
Grades Run Defense	0.028(0.013)**	0.034(0.015)**	0.035(0.016)**	0.006(0.010)	0.006(0.012)	0.006(0.012)	0.001(0.004)	0.000(0.004)	-0.000(0.003)
Man Grades Cov Def	-0.022(0.009)**	-0.028(0.011)**	-0.028(0.012)**	0.005(0.008)	0.007(0.010)	0.006(0.010)	0.002(0.003)	0.003(0.003)	0.003(0.003)
Zone Grades Cov Def	-0.007(0.012)	-0.008(0.014)	-0.008(0.015)	-0.002(0.010)	-0.004(0.011)	-0.003(0.012)	-0.005(0.004)	-0.004(0.004)	-0.004(0.003)
LB2									
Grades Run Defense	0.027(0.013)**	0.034(0.015)**	0.035(0.016)**	-0.015(0.017)	-0.016(0.020)	-0.017(0.020)	0.002(0.004)	0.004(0.004)	0.003(0.004)
Man Grades Cov Def	-0.011(0.010)	-0.013(0.012)	-0.014(0.012)	0.004(0.013)	0.006(0.015)	0.006(0.016)	-0.001(0.003)	-0.002(0.003)	-0.001(0.003)
Zone Grades Cov Def	-0.014(0.012)	-0.017(0.013)	-0.017(0.014)	0.014(0.017)	0.014(0.019)	0.015(0.020)	0.002(0.003)	0.003(0.003)	0.002(0.003)
LB3									
Grades Run Defense	-0.004(0.013)	-0.004(0.015)	-0.005(0.016)	-0.034(0.036)	-0.038(0.042)	-0.042(0.043)	-0.002(0.004)	-0.003(0.004)	-0.003(0.003)
Man Grades Cov Def	0.018(0.011)	0.021(0.013)*	0.022(0.013)*	0.019(0.019)	0.022(0.021)	0.023(0.022)	0.005(0.003)*	0.004(0.003)	0.004(0.003)
Zone Grades Cov Def	-0.001(0.012)	-0.002(0.014)	-0.001(0.015)	-0.042(0.028)	-0.050(0.032)	-0.054(0.034)	0.005(0.004)	0.006(0.004)*	0.005(0.003)*
LB4	-0.001(0.012)	-0.002(0.014)	-0.001(0.010)	-0.042(0.020)	-0.000(0.002)	-0.004(0.004)	0.000(0.004)	0.000(0.004)	0.000(0.000)
Grades Run Defense	-0.029(0.012)**	-0.033(0.013)**	-0.036(0.014)***	0.033(0.040)	0.034(0.045)	0.036(0.047)	0.002(0.003)	0.002(0.004)	0.002(0.003)
Man Grades Cov Def	0.023(0.012)**	0.029(0.013)**	0.030(0.014)**	-0.003(0.018)	-0.006(0.021)	-0.006(0.022)	-0.000(0.003)	-0.001(0.003)	-0.000(0.003)
Zone Grades Cov Def	0.003(0.012)	0.004(0.015)	0.005(0.014)	-0.003(0.013)	-0.000(0.021)	-0.003(0.036)	-0.001(0.004)	-0.001(0.003)	-0.002(0.003)
CB1	0.003(0.013)	0.004(0.013)	0.003(0.010)	-0.004(0.029)	-0.002(0.055)	-0.005(0.050)	-0.001(0.004)	-0.002(0.004)	-0.002(0.003)
	0.010(0.015)	0.015(0.015)	0.015(0.010)	0.009(0.016)	0.012(0.018)	0.010(0.010)	0.000(0.004)	-0.002(0.004)	-0.002(0.004)
Grades Run Defense	-0.013(0.015)	-0.015(0.017)	-0.015(0.018)			0.012(0.019)	-0.002(0.004)		
Man Grades Cov Def	-0.010(0.013)	-0.014(0.015)	-0.013(0.015)	-0.029(0.014)**	-0.034(0.016)**	-0.036(0.016)**	0.000(0.004)	0.001(0.004)	0.001(0.003)
Zone Grades Cov Def CB2	0.008(0.015)	0.011(0.017)	0.010(0.017)	-0.012(0.015)	-0.014(0.017)	-0.014(0.018)	0.000(0.004)	-0.001(0.004)	-0.001(0.004)
Grades Run Defense	0.034(0.014)**	0.042(0.016)***	0.044(0.017)***	-0.020(0.020)	-0.022(0.023)	-0.024(0.023)	-0.008(0.004)*	-0.005(0.004)	-0.006(0.004)
Man Grades Cov Def	-0.014(0.012)	-0.019(0.014)	-0.019(0.014)	0.008(0.018)	0.009(0.021)	0.009(0.022)	-0.004(0.004)	-0.004(0.004)	-0.003(0.003)
Zone Grades Cov Def	-0.011(0.014)	-0.014(0.016)	-0.015(0.017)	-0.007(0.021)	-0.008(0.024)	-0.008(0.025)	0.002(0.004)	0.000(0.004)	0.001(0.004)
CB3									
Grades Run Defense	-0.018(0.012)	-0.025(0.014)*	-0.024(0.014)*	0.033(0.033)	0.042(0.037)	0.042(0.039)	-0.005(0.004)	-0.006(0.004)*	-0.006(0.003)*
Man Grades Cov Def	0.019(0.012)	0.026(0.014)*	0.027(0.015)*	0.001(0.030)	0.005(0.033)	0.006(0.034)	0.011(0.004)***	0.010(0.004)***	0.009(0.003)***
Zone Grades Cov Def	-0.011(0.013)	-0.012(0.016)	-0.014(0.016)	0.027(0.034)	0.031(0.038)	0.032(0.040)	0.002(0.004)	0.004(0.004)	0.004(0.004)
S1	0.011(0.010)	0.01=(0.010)	0.01-(0.010)	***************************************	0.002(0.000)	····(·····)	0.00=(0.00-)	***************************************	0.00-(0.00-)
Grades Run Defense	0.002(0.016)	0.003(0.018)	0.004(0.019)	-0.020(0.013)	-0.023(0.015)	-0.024(0.016)	-0.003(0.005)	-0.004(0.005)	-0.002(0.004)
Man Grades Cov Def	-0.006(0.014)	-0.005(0.016)	-0.007(0.017)	-0.000(0.013)	-0.001(0.015)	-0.002(0.016)	-0.003(0.004)	-0.005(0.004)	-0.005(0.004)
Zone Grades Cov Def	-0.005(0.014)	-0.007(0.017)	-0.007(0.017)	0.013(0.012)	0.018(0.014)	0.018(0.015)	0.006(0.004)	0.006(0.004)	0.006(0.004)
S2	-0.003(0.014)	-0.007(0.017)	-0.007(0.017)	0.013(0.012)	0.010(0.014)	0.010(0.013)	0.000(0.004)	0.000(0.004)	0.000(0.004)
	0.000(0.015)	0.011/0.010	0.010(0.010)	0.004(0.007)	0.000(0.000)	0.000(0.001)	0.000(0.005)	0.004(0.005)	0.000(0.004)
Grades Run Defense	-0.009(0.015)	-0.011(0.018)	-0.012(0.019)	-0.004(0.027)	-0.006(0.030)	-0.008(0.031)	-0.002(0.005)	-0.004(0.005)	-0.003(0.004)
Man Grades Cov Def	-0.008(0.013)	-0.009(0.015)	-0.009(0.016)	-0.008(0.025)	-0.010(0.030)	-0.010(0.031)	0.003(0.004)	0.003(0.004)	0.002(0.004)
Zone Grades Cov Def	-0.005(0.014)	-0.007(0.016)	-0.007(0.016)	0.006(0.026)	0.010(0.030)	0.011(0.032)	0.002(0.005)	0.002(0.005)	0.003(0.004)
S3									
Grades Run Defense	-0.007(0.013)	-0.007(0.015)	-0.007(0.016)	0.010(0.044)	0.012(0.053)	0.010(0.056)	-0.002(0.004)	-0.001(0.004)	-0.000(0.003)
Man Grades Cov Def	-0.003(0.013)	-0.004(0.015)	-0.005(0.016)	-0.017(0.043)	-0.016(0.049)	-0.017(0.051)	0.004(0.004)	0.003(0.004)	0.003(0.003)
Zone Grades Cov Def	0.020(0.015)	0.024(0.017)	0.025(0.018)	0.017(0.047)	0.016(0.055)	0.019(0.059)	-0.005(0.004)	-0.004(0.004)	-0.005(0.004)
Perf. Measures									
GIMR	0.008(0.002)***	0.009(0.002)***	0.010(0.002)***	0.008(0.002)***	0.009(0.002)***	0.009(0.002)***			
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
	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
						105	1 05	105	105
Control Off. Players Control Def. Players	No	No	No	No	No	No	No	No	No

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	-0.004(0.009)	-0.005(0.010)	-0.005(0.011)	-0.009(0.009)	-0.010(0.010)	-0.011(0.010)	0.001(0.003)	0.001(0.003)	0.001(0.002)
Productivity Sacks	0.011(0.009)	0.014(0.010)	0.014(0.011)	-0.006(0.009)	-0.007(0.010)	-0.008(0.011)	0.000(0.003)	0.000(0.003)	-0.000(0.002)
DL2	0.011(0.003)	0.014(0.010)	0.014(0.011)	-0.000(0.003)	-0.007(0.010)	-0.000(0.011)	0.000(0.000)	0.000(0.000)	-0.000(0.002)
Grades Tackles	0.010(0.009)	0.012(0.010)	0.012(0.011)	0.016(0.009)*	0.020(0.011)*	0.020(0.011)*	0.002(0.003)	0.002(0.003)	0.001(0.002)
Productivity Sacks	-0.000(0.009)	0.001(0.010)	-0.000(0.011)	-0.009(0.009)	-0.010(0.010)	-0.010(0.011)	-0.006(0.003)**	-0.005(0.003)*	-0.005(0.002)*
DL3	-0.000(0.009)	0.001(0.010)	-0.000(0.010)	-0.009(0.009)	-0.010(0.010)	-0.010(0.011)	-0.000(0.003)	-0.003(0.003)	-0.003(0.002)
Grades Tackles	-0.006(0.009)	-0.008(0.010)	-0.008(0.011)	0.001(0.012)	-0.000(0.013)	-0.001(0.014)	0.002(0.003)	0.001(0.003)	0.001(0.002)
Productivity Sacks	-0.002(0.009)	-0.002(0.010)	-0.002(0.011)	-0.001(0.012)	-0.000(0.013)	-0.001(0.014)	-0.002(0.003)	-0.001(0.003)	-0.001(0.002)
DL4	-0.002(0.009)	-0.002(0.010)	-0.002(0.010)	-0.001(0.010)	-0.000(0.011)	-0.001(0.012)	-0.002(0.003)	-0.001(0.003)	-0.001(0.002)
Grades Tackles	-0.009(0.010)	-0.013(0.011)	-0.012(0.011)	0.008(0.012)	0.010(0.014)	0.010(0.014)	-0.000(0.003)	-0.002(0.003)	-0.001(0.002)
Productivity Sacks	-0.002(0.010)	-0.013(0.011)	-0.003(0.011)	-0.017(0.010)*	-0.020(0.014)	-0.020(0.012)*	-0.006(0.003)**	-0.002(0.003)*	-0.001(0.002)*
LB1	-0.002(0.009)	-0.002(0.010)	-0.003(0.011)	-0.017(0.010)	-0.020(0.011)	-0.020(0.012)	-0.000(0.003)	-0.004(0.003)	-0.004(0.002)
Grades Tackles	0.021(0.012)*	0.025(0.014)*	0.026(0.014)*	0.012(0.011)	0.015(0.013)	0.015(0.014)	0.004(0.003)	0.004(0.003)	0.004(0.003)
Man Tackles	0.005(0.011)	0.006(0.012)	0.007(0.013)	-0.003(0.011)	-0.004(0.012)	-0.004(0.013)	-0.004(0.003)	-0.004(0.003)	-0.004(0.003)
Zone Tackles	-0.008(0.012)	-0.009(0.014)	-0.010(0.015)	-0.013(0.013)	-0.016(0.015)	-0.015(0.015)	0.000(0.004)	0.002(0.004)	0.001(0.003)
LB2							/	/> /-	
Grades Tackles	-0.002(0.012)	-0.001(0.013)	-0.001(0.014)	-0.024(0.012)*	-0.028(0.014)**	-0.029(0.015)**	0.007(0.003)*	0.009(0.004)**	0.007(0.003)**
Man Tackles	0.007(0.011)	0.010(0.012)	0.010(0.013)	0.003(0.011)	0.003(0.012)	0.003(0.013)	-0.006(0.003)*	-0.007(0.003)**	-0.005(0.003)*
Zone Tackles	-0.001(0.012)	-0.003(0.014)	-0.003(0.015)	0.012(0.012)	0.014(0.014)	0.014(0.015)	-0.001(0.004)	-0.002(0.004)	-0.002(0.003)
LB3									
Grades Tackles	0.026(0.012)**	0.030(0.014)**	0.030(0.014)**	-0.018(0.016)	-0.022(0.018)	-0.023(0.018)	0.002(0.004)	0.002(0.004)	0.002(0.003)
Man Tackles	-0.001(0.010)	-0.001(0.012)	-0.001(0.013)	0.006(0.011)	0.009(0.012)	0.009(0.013)	-0.001(0.003)	-0.001(0.003)	0.000(0.003)
Zone Tackles	-0.017(0.013)	-0.019(0.014)	-0.019(0.015)	0.009(0.014)	0.010(0.016)	0.010(0.016)	-0.000(0.004)	-0.001(0.004)	-0.001(0.003)
LB4									
Grades Tackles	-0.018(0.012)	-0.020(0.014)	-0.022(0.014)	-0.002(0.015)	-0.005(0.017)	-0.005(0.018)	-0.001(0.004)	-0.001(0.004)	-0.001(0.003)
Man Tackles	0.008(0.011)	0.009(0.012)	0.010(0.012)	-0.016(0.011)	-0.019(0.012)	-0.019(0.013)	-0.004(0.003)	-0.005(0.003)	-0.004(0.003)
Zone Tackles	0.009(0.011)	0.010(0.013)	0.012(0.013)	0.015(0.013)	0.019(0.016)	0.020(0.016)	0.004(0.003)	0.003(0.003)	0.003(0.003)
CB1									
Grades Tackles	-0.013(0.009)	-0.014(0.010)	-0.015(0.011)	0.004(0.009)	0.005(0.010)	0.005(0.011)	0.002(0.003)	0.002(0.003)	0.002(0.002)
Man Tackles	-0.006(0.010)	-0.007(0.012)	-0.008(0.012)	0.023(0.010)**	0.027(0.012)**	0.028(0.012)**	-0.001(0.003)	0.000(0.003)	-0.000(0.003)
Zone Tackles	-0.015(0.010)	-0.017(0.011)	-0.017(0.011)	0.005(0.010)	0.007(0.011)	0.008(0.012)	0.003(0.003)	0.003(0.003)	0.003(0.003)
CB2									
Grades Tackles	0.021(0.009)**	0.025(0.010)**	0.026(0.011)**	0.001(0.010)	0.003(0.012)	0.003(0.012)	-0.005(0.003)**	-0.005(0.003)	-0.004(0.002)
Man Tackles	-0.009(0.010)	-0.010(0.011)	-0.010(0.012)	0.008(0.010)	0.009(0.012)	0.009(0.012)	-0.002(0.003)	-0.002(0.003)	-0.002(0.003)
Zone Tackles	-0.015(0.010)	-0.017(0.011)	-0.018(0.011)	-0.003(0.010)	-0.003(0.012)	-0.004(0.012)	0.002(0.003)	0.002(0.003)	0.003(0.003)
CB3									
Grades Tackles	-0.012(0.009)	-0.014(0.011)	-0.015(0.011)	0.002(0.011)	0.002(0.013)	0.002(0.013)	0.001(0.003)	0.002(0.003)	0.002(0.003)
Man Tackles	-0.010(0.010)	-0.013(0.012)	-0.012(0.012)	-0.007(0.011)	-0.008(0.013)	-0.008(0.013)	0.004(0.003)	0.003(0.003)	0.003(0.003)
Zone Tackles	-0.009(0.010)	-0.009(0.012)	-0.010(0.012)	0.002(0.013)	0.003(0.014)	0.003(0.015)	-0.001(0.003)	0.000(0.003)	-0.000(0.003)
S1	0.000(0.020)	******(**********)	***************************************	0.00=(0.0-0)	*****(*****)	***************************************	0.002(0.000)	***************************************	()
Grades Tackles	0.009(0.010)	0.012(0.011)	0.012(0.012)	0.004(0.010)	0.005(0.011)	0.005(0.012)	0.004(0.003)	0.005(0.003)*	0.004(0.003)
Man Tackles	0.007(0.010)	0.009(0.012)	0.008(0.012)	0.003(0.010)	0.002(0.012)	0.004(0.012)	0.004(0.003)	0.004(0.003)	0.004(0.003)
Zone Tackles	-0.017(0.009)*	-0.021(0.011)*	-0.022(0.011)*	-0.001(0.010)	-0.001(0.011)	-0.002(0.012)	-0.003(0.003)	-0.003(0.003)	-0.003(0.002)
S2	-0.017(0.003)	-0.021(0.011)	-0.022(0.011)	-0.001(0.010)	-0.001(0.011)	-0.002(0.012)	-0.003(0.003)	-0.003(0.003)	-0.000(0.002)
Grades Tackles	0.001(0.010)	0.002(0.011)	0.002(0.012)	0.008(0.012)	0.010(0.013)	0.010(0.014)	0.002(0.003)	0.001(0.003)	0.001(0.003)
Man Tackles	0.005(0.010)	0.002(0.011)	0.002(0.012)	-0.001(0.011)	0.001(0.013)	-0.001(0.014)	-0.002(0.003)	-0.003(0.003)	-0.001(0.003)
Zone Tackles	-0.006(0.010)	-0.007(0.011)	-0.008(0.012)	-0.001(0.011)	-0.004(0.014)	-0.001(0.013)	-0.002(0.003)	-0.003(0.003)	-0.001(0.003)
S3	-0.000(0.010)	-0.007(0.011)	-0.008(0.012)	-0.002(0.012)	-0.004(0.014)	-0.004(0.014)	-0.003(0.003)	-0.003(0.003)	-0.003(0.003)
	0.009(0.011)	0.010(0.010)	0.010(0.012)	0.014(0.012)	0.019(0.015)	0.010(0.016)	0.000(0.003)	0.001/0.002\	0.000(0.000)
Grades Tackles	0.008(0.011)	0.010(0.012)	0.010(0.012)	0.014(0.013)	0.018(0.015)	0.019(0.016)	-0.000(0.003)	-0.001(0.003)	-0.000(0.003)
Man Tackles	-0.012(0.010)	-0.015(0.012)	-0.015(0.012)	-0.004(0.013)	-0.005(0.015)	-0.004(0.016)	0.003(0.003)	0.003(0.003)	0.003(0.003)
Zone Tackles	-0.003(0.011)	-0.004(0.013)	-0.005(0.013)	-0.008(0.014)	-0.011(0.016)	-0.012(0.017)	-0.001(0.003)	0.000(0.004)	-0.001(0.003)
Perf. Measures	0.00#(0.000) *****	0.000(0.000)****	0.000(0.000)****	0.000(0.000)****	0.000(0.000)***	0.000(0.000)****			
GIMR	0.007(0.002)***	0.009(0.002)***	0.009(0.003)***	0.006(0.002)***	0.008(0.002)***	0.008(0.003)***			
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 Det. Players  Note:	No	INO	INO	INO	NO	No	NO	NO	N

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