

## Appendix 12C: ePIRLS 2016 Item Parameters from Item Calibration

### Item Parameters from ePIRLS 2016 Item Calibration

Item	Slope ( $a_j$ )	Location ( $b_j$ )	Guessing ( $c_j$ )	Step 1 ( $d_{j1}$ )	Step 2 ( $d_{j2}$ )	Step 3 ( $d_{j3}$ )
<b>ePIRLS 2016 Items (Estimated Item Parameters):</b>						
E11B01M	0.583 (0.058)	-1.033 (0.241)	0.245 (0.079)			
E11B02M	0.982 (0.077)	-0.918 (0.130)	0.264 (0.063)			
E11B03C	0.681 (0.042)	1.037 (0.051)				
E11B04C	0.539 (0.035)	-0.719 (0.072)				
E11B05M	1.198 (0.092)	0.600 (0.042)	0.137 (0.022)			
E11B06C	0.683 (0.028)	0.348 (0.023)		0.077 (0.043)	-0.077 (0.043)	
E11B07M	0.788 (0.076)	0.364 (0.094)	0.177 (0.040)			
E11B08C	1.126 (0.050)	-0.447 (0.033)				
E11B09C	1.177 (0.050)	-0.226 (0.028)				
E11B10C	0.601 (0.029)	0.941 (0.034)		0.168 (0.045)	-0.168 (0.057)	
E11B11M	1.217 (0.118)	1.007 (0.042)	0.156 (0.019)			
E11B12C	1.035 (0.049)	0.668 (0.027)				
E11B13C	1.191 (0.051)	-0.041 (0.025)				
E11B14C	0.924 (0.046)	0.709 (0.030)				
E11B15C	0.558 (0.025)	0.025 (0.030)		-0.041 (0.057)	0.041 (0.051)	
E11B16C	0.288 (0.014)	-0.274 (0.047)		-0.830 (0.140)	0.375 (0.135)	0.454 (0.106)
E11B17C	0.437 (0.021)	0.436 (0.028)		0.156 (0.081)	0.379 (0.079)	-0.535 (0.078)
E11M01M	1.302 (0.125)	1.040 (0.040)	0.158 (0.018)			
E11M02C	0.805 (0.049)	-1.633 (0.095)				
E11M03C	0.616 (0.036)	-0.470 (0.054)				
E11M04C	1.111 (0.048)	-0.035 (0.026)				
E11M05M	1.493 (0.130)	-0.438 (0.089)	0.458 (0.044)			
E11M06M	0.834 (0.088)	0.213 (0.116)	0.277 (0.046)			
E11M07M	1.300 (0.111)	0.806 (0.039)	0.165 (0.020)			
E11M08C	1.027 (0.047)	-0.448 (0.036)				
E11M09C	0.598 (0.035)	-0.050 (0.044)				
E11M10M	1.349 (0.090)	-0.124 (0.057)	0.200 (0.034)			
E11M11C	0.534 (0.027)	0.779 (0.034)		0.462 (0.049)	-0.462 (0.059)	
E11M12M	1.229 (0.104)	0.195 (0.068)	0.298 (0.034)			
E11M13C	0.900 (0.049)	1.101 (0.042)				

**Item Parameters from ePIRLS 2016 Item Calibration (Continued)**

<b>Item</b>	<b>Slope (<math>a_j</math>)</b>	<b>Location (<math>b_j</math>)</b>	<b>Guessing (<math>c_j</math>)</b>	<b>Step 1 (<math>d_{j1}</math>)</b>	<b>Step 2 (<math>d_{j2}</math>)</b>	<b>Step 3 (<math>d_{j3}</math>)</b>
E11M14C	0.616 (0.020)	0.530 (0.019)		-0.450 (0.059)	0.651 (0.062)	-0.200 (0.054)
E11M15C	0.967 (0.048)	-0.702 (0.046)				
E11M16C	0.753 (0.023)	0.164 (0.021)		-0.567 (0.048)	0.567 (0.046)	
E11M17C	0.432 (0.019)	0.526 (0.034)		-0.628 (0.071)	0.628 (0.074)	
E11M18C	0.902 (0.045)	0.470 (0.029)				
E11M19M	1.376 (0.116)	0.658 (0.043)	0.190 (0.024)			
E11M20C	0.818 (0.050)	1.169 (0.049)				
E11R01M	0.829 (0.068)	-0.314 (0.115)	0.203 (0.050)			
E11R02C	0.588 (0.037)	-1.276 (0.094)				
E11R03C	0.493 (0.024)	0.179 (0.032)		0.396 (0.058)	-0.396 (0.055)	
E11R04M	1.662 (0.137)	0.861 (0.031)	0.187 (0.017)			
E11R05C	0.666 (0.037)	-0.313 (0.046)				
E11R06C	0.718 (0.042)	-0.861 (0.067)				
E11R07C	0.994 (0.033)	0.400 (0.017)		-0.065 (0.032)	0.065 (0.032)	
E11R08C	0.757 (0.041)	0.647 (0.035)				
E11R09C	0.680 (0.037)	0.111 (0.037)				
E11R10M	1.084 (0.097)	0.085 (0.087)	0.316 (0.040)			
E11R11C	0.682 (0.029)	0.437 (0.024)		0.214 (0.042)	-0.214 (0.043)	
E11R12M	1.749 (0.122)	0.048 (0.045)	0.274 (0.029)			
E11R13M	0.756 (0.087)	0.130 (0.148)	0.306 (0.053)			
E11R14C	0.829 (0.041)	-0.094 (0.035)				
E11R15C	1.247 (0.053)	0.064 (0.024)				
E11R16C	0.787 (0.042)	0.236 (0.033)				
E11T01M	0.758 (0.099)	0.451 (0.134)	0.315 (0.048)			
E11T02C	1.158 (0.060)	-1.152 (0.053)				
E11T03M	0.865 (0.080)	0.387 (0.081)	0.176 (0.036)			
E11T04M	1.404 (0.093)	-0.439 (0.065)	0.217 (0.040)			
E11T05C	0.863 (0.032)	-0.356 (0.025)		0.085 (0.044)	-0.085 (0.034)	
E11T06C	1.013 (0.045)	0.182 (0.026)				
E11T07M	0.977 (0.131)	1.320 (0.065)	0.175 (0.022)			
E11T08C	0.734 (0.038)	-0.060 (0.037)				
E11T09C	0.934 (0.050)	1.070 (0.040)				
E11T10C	1.102 (0.048)	0.269 (0.024)				
E11T11M	0.946 (0.061)	-0.456 (0.078)	0.120 (0.038)			
E11T12M	0.737 (0.074)	-0.451 (0.180)	0.296 (0.067)			

**Item Parameters from ePIRLS 2016 Item Calibration (Continued)**

<b>Item</b>	<b>Slope (<math>a_j</math>)</b>	<b>Location (<math>b_j</math>)</b>	<b>Guessing (<math>c_j</math>)</b>	<b>Step 1 (<math>d_{j1}</math>)</b>	<b>Step 2 (<math>d_{j2}</math>)</b>	<b>Step 3 (<math>d_{j3}</math>)</b>
E11T13M	1.468 (0.127)	0.433 (0.051)	0.323 (0.027)			
E11T14C	0.805 (0.043)	0.678 (0.034)				
E11T15M	1.955 (0.121)	0.282 (0.030)	0.166 (0.020)			
E11T16M	1.270 (0.095)	-0.502 (0.086)	0.275 (0.049)			
E11T17C	1.082 (0.048)	0.169 (0.025)				
E11T18C	0.975 (0.049)	0.732 (0.030)				
E11Z01M	0.969 (0.098)	-0.248 (0.136)	0.411 (0.052)			
E11Z02C	0.511 (0.023)	0.260 (0.029)		-0.043 (0.057)	0.043 (0.056)	
E11Z03M	0.816 (0.079)	0.220 (0.102)	0.211 (0.043)			
E11Z04C	1.068 (0.053)	-0.954 (0.049)				
E11Z05M	0.627 (0.068)	-0.082 (0.174)	0.225 (0.060)			
E11Z06C	1.356 (0.055)	0.229 (0.020)				
E11Z07M	1.403 (0.099)	0.081 (0.052)	0.228 (0.030)			
E11Z08M	1.133 (0.100)	0.261 (0.072)	0.284 (0.034)			
E11Z09C	0.620 (0.041)	1.212 (0.064)				
E11Z10M	1.202 (0.090)	0.344 (0.051)	0.175 (0.027)			
E11Z11M	1.238 (0.091)	-0.650 (0.091)	0.272 (0.051)			
E11Z12C	0.784 (0.039)	-0.083 (0.035)				
E11Z13M	1.429 (0.097)	-0.369 (0.064)	0.232 (0.039)			
E11Z14C	0.884 (0.034)	-0.498 (0.028)		0.134 (0.047)	-0.134 (0.033)	
E11Z15M	1.291 (0.101)	0.193 (0.059)	0.255 (0.032)			
E11Z16C	0.880 (0.033)	0.146 (0.020)		0.151 (0.036)	-0.151 (0.033)	
E11Z17C	0.710 (0.042)	0.838 (0.042)				
E11Z18M	1.180 (0.096)	0.145 (0.069)	0.245 (0.036)			
E11Z19C	1.035 (0.040)	0.599 (0.018)		0.338 (0.028)	-0.338 (0.032)	
E11Z20C	0.963 (0.037)	0.072 (0.020)		0.214 (0.036)	-0.214 (0.031)	