NAS : Seed report

Date: 2017-06-27

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Observations: 1,621  
Variables: 230  
$ software <chr> "Mplus VERSION 7.3", "Mplus VERSION 7.3", "Mplus VERSION 7.3", "Mplus VERSION 7.3", "Mplu...  
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$ time <chr> " 1:04 PM", " 1:10 PM", " 1:29 PM", " 2:00 PM", " 8:54 AM", " 1:41 PM", " 1:33 PM", "12:5...  
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$ ll <dbl> -5629.857, -7127.299, -7323.221, -9769.100, -5099.137, -7619.850, -5943.564, -6837.136, -...  
$ aic <dbl> 11345.714, 14340.597, 14732.442, 19624.200, 10284.275, 15325.700, 11973.128, 13760.272, 1...  
$ bic <dbl> 11513.174, 14508.057, 14899.663, 19791.541, 10451.734, 15493.160, 12140.588, 13927.731, 1...  
$ adj\_bic <dbl> 11376.753, 14371.637, 14763.245, 19655.122, 10315.314, 15356.740, 12004.168, 13791.311, 1...  
$ aaic <dbl> 11357.576, 14352.459, 14744.379, 19636.099, 10296.137, 15337.562, 11984.990, 13772.134, 1...  
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$ ab\_tau\_00\_se <dbl> 4.926, 13.718, 23.064, 107.756, 2.326, 22.895, 6.175, 11.820, 11.155, 14.113, 24.645, 6.1...  
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$ ab\_tau\_11\_pval <dbl> 0.982, 0.464, 0.059, 0.610, 0.923, 0.224, 0.076, 0.726, 0.402, 0.822, 0.010, 0.991, 0.144...  
$ ab\_tau\_01\_est <dbl> 1.036, 6.892, -3.643, -47.703, 0.665, -1.343, -0.411, 5.700, 3.550, 0.407, 0.666, -0.228,...  
$ ab\_tau\_01\_se <dbl> 1.304, 3.884, 4.501, 30.254, 0.666, 5.061, 1.531, 3.100, 3.351, 2.923, 4.239, 1.694, 5.39...  
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$ ab\_tau\_01\_pval <dbl> 0.427, 0.076, 0.418, 0.115, 0.318, 0.791, 0.788, 0.066, 0.289, 0.889, 0.875, 0.893, 0.230...  
$ ab\_tau\_10\_est <dbl> 0.719, -0.921, -8.915, -26.013, -0.162, -7.519, -2.544, 0.486, -1.056, 1.220, -6.960, 0.3...  
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$ ab\_sigma\_00\_est <dbl> 0.492, 0.429, -0.793, -4.350, -0.370, -0.852, -0.237, 1.282, 0.347, 1.103, 0.165, 0.289, ...  
$ ab\_sigma\_00\_se <dbl> 0.917, 2.704, 3.333, 25.362, 0.511, 3.631, 0.881, 2.263, 2.306, 2.256, 2.915, 0.947, 3.20...  
$ ab\_sigma\_00\_wald <dbl> 0.536, 0.159, -0.238, -0.172, -0.725, -0.235, -0.269, 0.567, 0.150, 0.489, 0.057, 0.306, ...  
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$ aa\_tau\_00\_est <dbl> 359.459, 352.089, 363.387, 359.614, 359.772, 361.276, 356.869, 354.922, 357.495, 356.798,...  
$ aa\_tau\_00\_se <dbl> 59.481, 56.294, 56.239, 57.406, 57.737, 58.521, 56.349, 58.408, 57.406, 57.556, 56.811, 7...  
$ aa\_tau\_00\_wald <dbl> 6.043, 6.254, 6.461, 6.264, 6.231, 6.173, 6.333, 6.077, 6.227, 6.199, 6.200, 4.210, 4.162...  
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$ aa\_tau\_11\_wald <dbl> 2.406, 2.539, 2.664, 2.417, 2.573, 2.636, 2.636, 2.572, 2.526, 2.502, 2.624, 0.642, 0.868...  
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$ aa\_tau\_01\_se <dbl> 11.018, 9.447, 9.635, 9.117, 9.321, 9.847, 9.194, 9.429, 9.659, 9.333, 8.798, 14.524, 18....  
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$ a\_sigma\_00\_se <dbl> 5.974, 5.818, 6.013, 6.144, 5.822, 5.866, 5.722, 5.868, 5.719, 5.978, 5.877, 8.715, 9.092...  
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$ bb\_tau\_00\_wald <dbl> 6.156, 7.715, 7.715, 4.381, 5.475, 6.716, 8.185, 5.719, 5.463, 7.457, 8.984, 4.254, 5.818...  
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$ bb\_tau\_11\_se <dbl> 0.031, 0.320, 0.638, 35.706, 0.012, 0.661, 0.061, 0.304, 0.364, 0.461, 0.748, 0.046, 0.66...  
$ bb\_tau\_11\_wald <dbl> 0.429, 1.992, 1.542, 1.490, 0.540, 0.524, 1.849, 0.601, 0.784, 1.844, 3.172, 0.141, 1.946...  
$ bb\_tau\_11\_pval <dbl> 0.668, 0.046, 0.123, 0.136, 0.590, 0.600, 0.064, 0.548, 0.433, 0.065, 0.002, 0.888, 0.052...  
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$ bb\_tau\_10\_pval <dbl> 0.568, 0.187, 0.700, 0.890, 0.243, 0.490, 0.664, 0.499, 0.895, 0.264, 0.030, 0.600, 0.045...  
$ b\_sigma\_00\_est <dbl> 1.893, 17.326, 27.806, 1746.799, 0.819, 40.920, 2.656, 12.843, 15.431, 19.990, 28.133, 1....  
$ b\_sigma\_00\_se <dbl> 0.101, 0.999, 1.570, 81.310, 0.038, 1.843, 0.154, 0.626, 0.847, 1.015, 1.509, 0.133, 1.22...  
$ b\_sigma\_00\_wald <dbl> 18.769, 17.349, 17.710, 21.483, 21.377, 22.199, 17.228, 20.517, 18.218, 19.700, 18.645, 1...  
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$ b\_gamma\_00\_wald <dbl> 24.347, 27.525, 13.190, 13.031, 92.526, 19.159, 20.425, 35.145, 15.591, 9.996, 13.853, 17...  
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$ b\_gamma\_10\_se <dbl> 0.121, 0.397, 0.542, 3.990, 0.080, 0.551, 0.151, 0.323, 0.373, 0.454, 0.668, 0.174, 0.746...  
$ b\_gamma\_10\_wald <dbl> 0.458, -1.317, 0.774, 0.258, 0.647, -1.349, 1.991, 0.546, -0.197, 2.377, 1.845, 0.613, 0....  
$ b\_gamma\_10\_pval <dbl> 0.647, 0.188, 0.439, 0.796, 0.517, 0.177, 0.046, 0.585, 0.844, 0.017, 0.065, 0.540, 0.355...  
$ er\_tau\_00\_est <dbl> -0.024, 0.095, 0.355, -0.006, 0.142, 0.287, 0.243, 0.154, 0.043, 0.128, 0.209, 0.188, 0.3...  
$ er\_tau\_00\_se <dbl> 0.135, 0.112, 0.105, 0.125, 0.123, 0.116, 0.113, 0.156, 0.123, 0.105, 0.104, 0.178, 0.161...  
$ er\_tau\_00\_wald <dbl> -0.178, 0.844, 3.377, -0.045, 1.153, 2.477, 2.144, 0.993, 0.347, 1.223, 2.013, 1.061, 1.9...  
$ er\_tau\_00\_pval <dbl> 0.858, 0.399, 0.001, 0.964, 0.249, 0.013, 0.032, 0.321, 0.728, 0.221, 0.044, 0.289, 0.052...  
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$ er\_tau\_11\_se <dbl> 1.076, 0.448, 0.475, 0.364, 0.793, 1.156, 0.400, 0.760, 0.751, 0.364, 0.242, 3.452, 0.722...  
$ er\_tau\_11\_wald <dbl> 0.022, 0.737, 1.699, 0.503, 0.098, 0.864, 1.845, 0.346, 0.717, 0.226, 2.729, -0.011, 1.07...  
$ er\_tau\_11\_pval <dbl> 0.982, 0.461, 0.089, 0.615, 0.922, 0.388, 0.065, 0.729, 0.473, 0.821, 0.006, 0.991, 0.282...  
$ er\_sigma\_00\_est <dbl> 0.045, 0.013, -0.019, -0.013, -0.051, -0.017, -0.018, 0.045, 0.011, 0.031, 0.004, 0.025, ...  
$ er\_sigma\_00\_se <dbl> 0.084, 0.082, 0.079, 0.076, 0.071, 0.072, 0.068, 0.079, 0.074, 0.063, 0.069, 0.081, 0.086...  
$ er\_sigma\_00\_wald <dbl> 0.534, 0.159, -0.239, -0.171, -0.721, -0.235, -0.268, 0.566, 0.150, 0.489, 0.057, 0.307, ...  
$ er\_sigma\_00\_pval <dbl> 0.593, 0.874, 0.811, 0.864, 0.471, 0.814, 0.789, 0.571, 0.880, 0.625, 0.955, 0.759, 0.984...  
$ a\_gamma\_01\_est <dbl> -1.560, -1.619, -1.526, -1.572, -1.564, -1.457, -1.497, -1.546, -1.555, -1.559, -1.577, -...  
$ a\_gamma\_01\_se <dbl> 0.366, 0.410, 0.363, 0.376, 0.368, 0.374, 0.368, 0.379, 0.376, 0.381, 0.367, 0.422, 0.422...  
$ a\_gamma\_01\_wald <dbl> -4.262, -3.947, -4.207, -4.183, -4.247, -3.898, -4.069, -4.084, -4.137, -4.091, -4.298, -...  
$ a\_gamma\_01\_pval <dbl> 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.010, 0.006...  
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$ a\_gamma\_11\_se <dbl> 0.103, 0.117, 0.099, 0.107, 0.099, 0.110, 0.099, 0.105, 0.101, 0.103, 0.102, 0.131, 0.142...  
$ a\_gamma\_11\_wald <dbl> -0.729, -0.719, -0.669, -0.737, -0.817, -0.949, -1.057, -0.954, -0.868, -0.725, -0.893, -...  
$ a\_gamma\_11\_pval <dbl> 0.466, 0.472, 0.503, 0.461, 0.414, 0.343, 0.290, 0.340, 0.385, 0.468, 0.372, 0.364, 0.479...  
$ b\_gamma\_01\_est <dbl> -0.053, -0.276, -0.220, 2.646, -0.003, 0.042, -0.031, -0.157, -0.247, -0.144, -0.385, -0....  
$ b\_gamma\_01\_se <dbl> 0.027, 0.098, 0.137, 0.806, 0.017, 0.138, 0.040, 0.071, 0.076, 0.107, 0.154, 0.037, 0.139...  
$ b\_gamma\_01\_wald <dbl> -1.958, -2.807, -1.609, 3.283, -0.196, 0.302, -0.771, -2.229, -3.230, -1.348, -2.507, -0....  
$ b\_gamma\_01\_pval <dbl> 0.050, 0.005, 0.108, 0.001, 0.845, 0.763, 0.440, 0.026, 0.001, 0.178, 0.012, 0.339, 0.177...  
$ b\_gamma\_11\_est <dbl> -0.011, -0.045, -0.030, 0.184, -0.005, -0.028, -0.013, -0.074, -0.006, -0.031, -0.096, -0...  
$ b\_gamma\_11\_se <dbl> 0.007, 0.024, 0.033, 0.262, 0.005, 0.036, 0.011, 0.021, 0.024, 0.030, 0.036, 0.010, 0.036...  
$ b\_gamma\_11\_wald <dbl> -1.566, -1.919, -0.893, 0.703, -1.082, -0.787, -1.182, -3.527, -0.258, -1.019, -2.707, -0...  
$ b\_gamma\_11\_pval <dbl> 0.117, 0.055, 0.372, 0.482, 0.279, 0.431, 0.237, 0.000, 0.797, 0.308, 0.007, 0.374, 0.201...  
$ a\_gamma\_02\_est <dbl> 0.593, 0.559, 0.544, 0.521, 0.626, 0.581, 0.613, 0.596, 0.597, 0.601, 0.512, 0.745, 0.616...  
$ a\_gamma\_02\_se <dbl> 0.592, 0.555, 0.541, 0.571, 0.592, 0.573, 0.560, 0.565, 0.574, 0.591, 0.546, 0.682, 0.712...  
$ a\_gamma\_02\_wald <dbl> 1.002, 1.007, 1.004, 0.912, 1.057, 1.014, 1.096, 1.056, 1.039, 1.017, 0.937, 1.092, 0.865...  
$ a\_gamma\_02\_pval <dbl> 0.316, 0.314, 0.315, 0.362, 0.290, 0.311, 0.273, 0.291, 0.299, 0.309, 0.349, 0.275, 0.387...  
$ a\_gamma\_12\_est <dbl> 0.117, 0.142, 0.122, 0.133, 0.108, 0.120, 0.104, 0.122, 0.104, 0.117, 0.138, -0.102, -0.0...  
$ a\_gamma\_12\_se <dbl> 0.167, 0.159, 0.153, 0.160, 0.176, 0.170, 0.163, 0.164, 0.179, 0.163, 0.151, 0.188, 0.191...  
$ a\_gamma\_12\_wald <dbl> 0.700, 0.897, 0.796, 0.829, 0.617, 0.708, 0.636, 0.743, 0.584, 0.717, 0.915, -0.540, -0.3...  
$ a\_gamma\_12\_pval <dbl> 0.484, 0.370, 0.426, 0.407, 0.537, 0.479, 0.524, 0.457, 0.559, 0.473, 0.360, 0.589, 0.725...  
$ b\_gamma\_02\_est <dbl> 0.282, 0.683, 1.293, -6.580, 0.129, 1.652, 0.292, 0.081, 0.683, 0.949, 1.563, 0.187, 0.90...  
$ b\_gamma\_02\_se <dbl> 0.043, 0.135, 0.211, 1.168, 0.025, 0.195, 0.060, 0.099, 0.113, 0.155, 0.231, 0.054, 0.224...  
$ b\_gamma\_02\_wald <dbl> 6.535, 5.048, 6.127, -5.634, 5.175, 8.487, 4.900, 0.815, 6.033, 6.122, 6.773, 3.489, 4.03...  
$ b\_gamma\_02\_pval <dbl> 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.000, 0.415, 0.000, 0.000, 0.000, 0.000, 0.000...  
$ b\_gamma\_12\_est <dbl> -0.001, 0.059, 0.052, 0.049, -0.001, 0.061, -0.014, 0.034, 0.040, -0.077, -0.007, -0.007,...  
$ b\_gamma\_12\_se <dbl> 0.014, 0.042, 0.061, 0.364, 0.008, 0.062, 0.015, 0.034, 0.035, 0.045, 0.060, 0.015, 0.058...  
$ b\_gamma\_12\_wald <dbl> -0.064, 1.428, 0.840, 0.133, -0.139, 0.987, -0.939, 1.019, 1.149, -1.720, -0.122, -0.482,...  
$ b\_gamma\_12\_pval <dbl> 0.949, 0.153, 0.401, 0.894, 0.890, 0.324, 0.348, 0.308, 0.250, 0.086, 0.903, 0.630, 0.380...  
$ a\_gamma\_03\_est <dbl> 0.099, 0.107, 0.132, 0.083, 0.103, 0.138, 0.164, 0.161, 0.110, 0.106, 0.099, 0.083, 0.163...  
$ a\_gamma\_03\_se <dbl> 0.285, 0.278, 0.279, 0.287, 0.280, 0.281, 0.278, 0.277, 0.287, 0.276, 0.293, 0.450, 0.417...  
$ a\_gamma\_03\_wald <dbl> 0.349, 0.384, 0.475, 0.288, 0.367, 0.493, 0.589, 0.581, 0.382, 0.385, 0.337, 0.185, 0.391...  
$ a\_gamma\_03\_pval <dbl> 0.727, 0.701, 0.635, 0.773, 0.713, 0.622, 0.556, 0.561, 0.702, 0.700, 0.736, 0.853, 0.695...  
$ a\_gamma\_13\_est <dbl> 0.039, 0.034, 0.040, 0.041, 0.031, 0.030, 0.014, 0.028, 0.027, 0.034, 0.024, 0.022, -0.01...  
$ a\_gamma\_13\_se <dbl> 0.066, 0.079, 0.068, 0.075, 0.066, 0.065, 0.062, 0.076, 0.073, 0.066, 0.067, 0.144, 0.130...  
$ a\_gamma\_13\_wald <dbl> 0.586, 0.432, 0.591, 0.549, 0.477, 0.456, 0.218, 0.367, 0.376, 0.510, 0.359, 0.151, -0.11...  
$ a\_gamma\_13\_pval <dbl> 0.558, 0.666, 0.555, 0.583, 0.634, 0.648, 0.827, 0.713, 0.707, 0.610, 0.719, 0.880, 0.910...  
$ b\_gamma\_03\_est <dbl> -0.005, -0.105, -0.169, 0.402, 0.010, -0.001, 0.075, 0.070, 0.051, -0.013, 0.132, -0.001,...  
$ b\_gamma\_03\_se <dbl> 0.033, 0.099, 0.156, 0.996, 0.021, 0.151, 0.046, 0.083, 0.090, 0.118, 0.191, 0.067, 0.155...  
$ b\_gamma\_03\_wald <dbl> -0.137, -1.067, -1.085, 0.404, 0.472, -0.006, 1.631, 0.843, 0.567, -0.111, 0.695, -0.020,...  
$ b\_gamma\_03\_pval <dbl> 0.891, 0.286, 0.278, 0.686, 0.637, 0.995, 0.103, 0.399, 0.570, 0.912, 0.487, 0.984, 0.910...  
$ b\_gamma\_13\_est <dbl> 0.003, 0.017, 0.055, -0.100, -0.002, 0.001, -0.026, -0.038, -0.006, -0.011, -0.036, 0.008...  
$ b\_gamma\_13\_se <dbl> 0.011, 0.027, 0.038, 0.406, 0.007, 0.040, 0.011, 0.023, 0.022, 0.035, 0.042, 0.014, 0.045...  
$ b\_gamma\_13\_wald <dbl> 0.266, 0.624, 1.439, -0.247, -0.339, 0.027, -2.322, -1.632, -0.262, -0.320, -0.849, 0.588...  
$ b\_gamma\_13\_pval <dbl> 0.790, 0.533, 0.150, 0.805, 0.735, 0.978, 0.020, 0.103, 0.793, 0.749, 0.396, 0.556, 0.256...  
$ a\_gamma\_04\_est <dbl> 3.229, 3.448, 3.130, 3.058, 3.298, 3.621, 3.340, 2.720, 3.240, 3.171, 3.267, -6.226, -5.5...  
$ a\_gamma\_04\_se <dbl> 2.548, 2.695, 2.551, 2.757, 2.667, 2.793, 2.671, 2.553, 2.499, 2.804, 2.471, 4.538, 4.712...  
$ a\_gamma\_04\_wald <dbl> 1.267, 1.279, 1.227, 1.109, 1.237, 1.297, 1.251, 1.066, 1.296, 1.131, 1.322, -1.372, -1.1...  
$ a\_gamma\_04\_pval <dbl> 0.205, 0.201, 0.220, 0.267, 0.216, 0.195, 0.211, 0.287, 0.195, 0.258, 0.186, 0.170, 0.242...  
$ a\_gamma\_14\_est <dbl> -0.296, -0.286, -0.286, -0.258, -0.293, -0.336, -0.344, -0.331, -0.310, -0.297, -0.305, 1...  
$ a\_gamma\_14\_se <dbl> 0.844, 0.861, 0.838, 0.855, 0.840, 0.846, 0.864, 0.854, 0.881, 0.861, 0.845, 1.431, 1.514...  
$ a\_gamma\_14\_wald <dbl> -0.351, -0.332, -0.342, -0.302, -0.348, -0.397, -0.399, -0.387, -0.352, -0.346, -0.362, 1...  
$ a\_gamma\_14\_pval <dbl> 0.725, 0.740, 0.733, 0.763, 0.728, 0.691, 0.690, 0.698, 0.725, 0.730, 0.718, 0.193, 0.297...  
$ b\_gamma\_04\_est <dbl> 0.046, 0.424, 1.068, -5.129, 0.157, 0.474, 0.238, -1.122, 0.625, 0.531, 1.070, 0.631, 2.9...  
$ b\_gamma\_04\_se <dbl> 0.169, 0.607, 0.980, 5.395, 0.171, 1.019, 0.332, 0.434, 0.478, 0.523, 1.060, 0.393, 1.695...  
$ b\_gamma\_04\_wald <dbl> 0.269, 0.698, 1.089, -0.951, 0.918, 0.465, 0.718, -2.587, 1.307, 1.017, 1.009, 1.605, 1.7...  
$ b\_gamma\_04\_pval <dbl> 0.788, 0.485, 0.276, 0.342, 0.358, 0.642, 0.473, 0.010, 0.191, 0.309, 0.313, 0.109, 0.086...  
$ b\_gamma\_14\_est <dbl> 0.014, -0.054, 0.012, -0.257, -0.006, 0.122, -0.006, 0.042, -0.162, -0.114, 0.164, -0.157...  
$ b\_gamma\_14\_se <dbl> 0.083, 0.238, 0.316, 2.204, 0.046, 0.338, 0.090, 0.205, 0.237, 0.217, 0.350, 0.111, 0.413...  
$ b\_gamma\_14\_wald <dbl> 0.174, -0.225, 0.038, -0.117, -0.132, 0.361, -0.065, 0.204, -0.685, -0.524, 0.469, -1.407...  
$ b\_gamma\_14\_pval <dbl> 0.862, 0.822, 0.970, 0.907, 0.895, 0.718, 0.948, 0.838, 0.494, 0.600, 0.639, 0.159, 0.237...  
$ a\_gamma\_05\_est <dbl> -7.408, -7.502, -6.707, -7.242, -7.348, -7.841, -7.427, -6.916, -7.302, -7.269, -6.843, -...  
$ a\_gamma\_05\_se <dbl> 3.489, 3.331, 3.153, 3.632, 3.274, 3.206, 3.287, 3.223, 3.177, 3.427, 3.375, 4.631, 4.785...  
$ a\_gamma\_05\_wald <dbl> -2.124, -2.252, -2.127, -1.994, -2.244, -2.445, -2.260, -2.146, -2.299, -2.121, -2.027, -...  
$ a\_gamma\_05\_pval <dbl> 0.034, 0.024, 0.033, 0.046, 0.025, 0.014, 0.024, 0.032, 0.022, 0.034, 0.043, 0.662, 0.565...  
$ a\_gamma\_15\_est <dbl> 0.592, 0.577, 0.487, 0.629, 0.544, 0.639, 0.554, 0.589, 0.538, 0.544, 0.371, 0.622, 0.763...  
$ a\_gamma\_15\_se <dbl> 1.251, 1.234, 1.193, 1.258, 1.354, 1.276, 1.252, 1.333, 1.265, 1.275, 1.180, 1.259, 1.260...  
$ a\_gamma\_15\_wald <dbl> 0.473, 0.468, 0.408, 0.500, 0.402, 0.501, 0.443, 0.442, 0.425, 0.427, 0.314, 0.494, 0.605...  
$ a\_gamma\_15\_pval <dbl> 0.636, 0.640, 0.683, 0.617, 0.688, 0.617, 0.658, 0.659, 0.671, 0.670, 0.753, 0.621, 0.545...  
$ b\_gamma\_05\_est <dbl> 0.032, 0.180, 0.373, 10.502, -0.088, -0.502, -0.458, 0.677, -1.074, -0.349, -2.538, 0.103...  
$ b\_gamma\_05\_se <dbl> 0.246, 1.245, 1.481, 7.628, 0.160, 1.327, 0.499, 1.188, 0.982, 1.105, 2.065, 0.364, 1.249...  
$ b\_gamma\_05\_wald <dbl> 0.130, 0.145, 0.252, 1.377, -0.553, -0.378, -0.917, 0.569, -1.094, -0.316, -1.229, 0.283,...  
$ b\_gamma\_05\_pval <dbl> 0.897, 0.885, 0.801, 0.169, 0.580, 0.705, 0.359, 0.569, 0.274, 0.752, 0.219, 0.778, 0.238...  
$ b\_gamma\_15\_est <dbl> -0.005, 0.061, -0.307, 1.438, -0.074, -0.150, 0.003, -0.040, 0.429, -0.207, 0.034, 0.023,...  
$ b\_gamma\_15\_se <dbl> 0.098, 0.286, 0.274, 2.146, 0.044, 0.459, 0.114, 0.255, 0.277, 0.299, 0.489, 0.123, 0.363...  
$ b\_gamma\_15\_wald <dbl> -0.054, 0.213, -1.121, 0.670, -1.670, -0.327, 0.028, -0.156, 1.551, -0.694, 0.069, 0.185,...  
$ b\_gamma\_15\_pval <dbl> 0.957, 0.832, 0.262, 0.503, 0.095, 0.744, 0.978, 0.876, 0.121, 0.488, 0.945, 0.853, 0.703...  
$ a\_gamma\_06\_est <dbl> -15.337, -15.443, -14.884, -15.466, -15.279, -14.366, -15.462, -15.587, -15.511, -15.515,...  
$ a\_gamma\_06\_se <dbl> 4.733, 4.569, 4.342, 4.533, 4.391, 4.481, 4.293, 4.343, 4.528, 4.457, 4.403, 5.302, 5.488...  
$ a\_gamma\_06\_wald <dbl> -3.240, -3.380, -3.428, -3.412, -3.480, -3.206, -3.602, -3.589, -3.426, -3.481, -3.642, -...  
$ a\_gamma\_06\_pval <dbl> 0.001, 0.001, 0.001, 0.001, 0.001, 0.001, 0.000, 0.000, 0.001, 0.000, 0.000, 0.015, 0.019...  
$ a\_gamma\_16\_est <dbl> 0.763, 0.926, 0.788, 0.717, 0.838, 0.733, 0.792, 0.742, 0.956, 0.901, 0.964, 0.047, 0.183...  
$ a\_gamma\_16\_se <dbl> 1.465, 1.392, 1.277, 1.367, 1.340, 1.361, 1.259, 1.347, 1.418, 1.378, 1.326, 1.414, 1.476...  
$ a\_gamma\_16\_wald <dbl> 0.521, 0.665, 0.617, 0.525, 0.625, 0.539, 0.629, 0.551, 0.675, 0.654, 0.727, 0.033, 0.124...  
$ a\_gamma\_16\_pval <dbl> 0.602, 0.506, 0.537, 0.600, 0.532, 0.590, 0.529, 0.582, 0.500, 0.513, 0.467, 0.973, 0.901...  
$ b\_gamma\_06\_est <dbl> -0.816, -3.795, -4.495, 28.854, -0.338, -2.910, -1.367, -1.202, 0.161, -4.179, -4.654, -0...  
$ b\_gamma\_06\_se <dbl> 0.393, 1.261, 1.848, 11.310, 0.213, 1.746, 0.540, 1.006, 1.124, 1.405, 2.010, 0.494, 1.70...  
$ b\_gamma\_06\_wald <dbl> -2.078, -3.009, -2.431, 2.551, -1.587, -1.667, -2.529, -1.195, 0.143, -2.975, -2.315, -1....  
$ b\_gamma\_06\_pval <dbl> 0.038, 0.003, 0.015, 0.011, 0.112, 0.095, 0.011, 0.232, 0.886, 0.003, 0.021, 0.166, 0.149...  
$ b\_gamma\_16\_est <dbl> -0.013, -0.005, -0.198, 0.133, 0.014, 0.243, 0.164, -0.257, -0.271, 0.643, -0.750, 0.155,...  
$ b\_gamma\_16\_se <dbl> 0.101, 0.339, 0.400, 3.870, 0.070, 0.468, 0.141, 0.270, 0.319, 0.367, 0.506, 0.140, 0.496...  
$ b\_gamma\_16\_wald <dbl> -0.128, -0.014, -0.495, 0.034, 0.195, 0.519, 1.163, -0.954, -0.850, 1.750, -1.484, 1.113,...  
$ b\_gamma\_16\_pval <dbl> 0.898, 0.989, 0.621, 0.973, 0.845, 0.604, 0.245, 0.340, 0.395, 0.080, 0.138, 0.266, 0.984...  
$ process\_a <chr> "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "...  
$ process\_b <chr> "bnt", "categories", "fas", "trailsb", "mmse", "waisvocab", "digit\_tot", "word\_im", "logi...  
$ process\_b\_cell <chr> "bnt", "cat", "fas", "trailsb", "mmse", "waisvoc", "digit\_tot", "freerecall", "logic\_tot"...  
$ process\_b\_row <chr> "boston naming test", "categories", "f-a-s phonemic words", "switching", "mini mental sta...  
$ process\_b\_domain <chr> "semantic memory", "fluency", "fluency", "executive function", "mental status", "semantic...  
$ outcome\_count <int> 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,...  
$ cr\_levels\_est <dbl> -0.024086300, 0.094892406, 0.355315956, -0.005662834, 0.141538728, 0.286858037, 0.2425718...  
$ cr\_levels\_z <dbl> -0.024090959, 0.095178776, 0.371514771, -0.005662895, 0.142495413, 0.295139195, 0.2475049...  
$ cr\_levels\_ztest <dbl> -0.4570938, 1.8058903, 7.0293893, -0.1072965, 2.7036604, 5.5998725, 4.6960768, 2.9544600,...  
$ cr\_levels\_zpval <dbl> 0.9807801, 0.9241728, 0.7102542, 0.9954817, 0.8866887, 0.7678875, 0.8045174, 0.8762587, 0...  
$ cr\_levels\_zeta\_lo <dbl> -0.127390131, -0.008120396, 0.267927456, -0.109105837, 0.039196241, 0.191840023, 0.144205...  
$ cr\_levels\_zeta\_hi <dbl> 0.07920821, 0.19847795, 0.47510209, 0.09778005, 0.24579458, 0.39843837, 0.35080415, 0.259...  
$ cr\_levels\_ci95\_lo <dbl> -0.126705469, -0.008120217, 0.261695277, -0.108674954, 0.039176180, 0.189520755, 0.143214...  
$ cr\_levels\_ci95\_hi <dbl> 0.07904298, 0.19591212, 0.44231247, 0.09746961, 0.24096146, 0.37861198, 0.33708851, 0.253...  
$ cr\_slopes\_est <dbl> 0.02314786, 0.32989072, 0.80678349, 0.18301032, 0.08130736, 0.99767766, 0.73754894, 0.262...  
$ cr\_slopes\_z <dbl> 0.02315200, 0.34270562, 1.11774605, 0.18509556, 0.08148725, 3.37858170, 0.94508305, 0.269...  
$ cr\_slopes\_ztest <dbl> 0.4392783, 6.5023820, 21.1487478, 3.5070602, 1.5461118, 64.1040806, 17.9316901, 5.1093374...  
$ cr\_slopes\_zpval <dbl> 6.604599e-01, 7.905803e-11, 2.833641e-99, 4.530866e-04, 1.220776e-01, 0.000000e+00, 6.672...  
$ cr\_slopes\_zeta\_lo <dbl> -0.080147172, 0.239406450, 1.014158736, 0.081652615, -0.021811924, 3.275282527, 0.8417838...  
$ cr\_slopes\_zeta\_hi <dbl> 0.12645117, 0.44600479, 1.22133337, 0.28853850, 0.18478642, 3.48188087, 1.04838222, 0.372...  
$ cr\_slopes\_ci95\_lo <dbl> -0.079976001, 0.234935039, 0.767476637, 0.081471635, -0.021808465, 0.997145465, 0.6867527...  
$ cr\_slopes\_ci95\_hi <dbl> 0.12578147, 0.41860941, 0.84004705, 0.28078910, 0.18271152, 0.99811072, 0.78117660, 0.356...  
$ cr\_resid\_est <dbl> 0.045031127, 0.012962367, -0.018933785, -0.013068031, -0.051435107, -0.016811754, -0.0182...  
$ cr\_resid\_z <dbl> 0.045061602, 0.012963093, -0.018936048, -0.013068775, -0.051480538, -0.016813338, -0.0182...  
$ cr\_resid\_ztest <dbl> 0.85498378, 0.24595740, -0.35828683, -0.24761794, -0.97677453, -0.31901065, -0.34596330, ...  
$ cr\_resid\_zpval <dbl> 0.39256013, 0.80571521, 0.72012867, 0.80443003, 0.32868079, 0.74971843, 0.72937030, 0.393...  
$ cr\_resid\_zeta\_lo <dbl> -0.05823757, -0.09033608, -0.12252336, -0.11651172, -0.15477971, -0.12011251, -0.12153304...  
$ cr\_resid\_zeta\_hi <dbl> 0.14836077, 0.11626227, 0.08465127, 0.09037417, 0.05181863, 0.08648583, 0.08506531, 0.148...  
$ cr\_resid\_ci95\_lo <dbl> -0.05817182, -0.09009115, -0.12191392, -0.11598735, -0.15355543, -0.11953820, -0.12093819...  
$ cr\_resid\_ci95\_hi <dbl> 0.14728175, 0.11574125, 0.08444965, 0.09012893, 0.05177230, 0.08627085, 0.08486072, 0.147...

Observations: 63,345  
Variables: 22  
$ study\_name <chr> "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas", "eas",...  
$ model\_number <chr> "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", "b1", ...  
$ subgroup <chr> "female", "female", "female", "female", "female", "female", "female", "female", "female", ...  
$ model\_type <chr> "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", ...  
$ process\_a <chr> "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "gait", "g...  
$ process\_b <chr> "block", "block", "block", "block", "block", "block", "block", "block", "block", "block", ...  
$ process\_b\_cell <chr> "block", "block", "block", "block", "block", "block", "block", "block", "block", "block", ...  
$ process\_b\_row <chr> "block design", "block design", "block design", "block design", "block design", "block des...  
$ process\_b\_domain <chr> "fluid reasoning", "fluid reasoning", "fluid reasoning", "fluid reasoning", "fluid reasoni...  
$ subject\_count <int> 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, 563, ...  
$ parameter\_count <int> 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21...  
$ wave\_count <int> 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, ...  
$ ll <dbl> -8545.247, -8545.247, -8545.247, -8545.247, -8545.247, -8545.247, -8545.247, -8545.247, -8...  
$ aic <dbl> 17132.49, 17132.49, 17132.49, 17132.49, 17132.49, 17132.49, 17132.49, 17132.49, 17132.49, ...  
$ bic <dbl> 17223.49, 17223.49, 17223.49, 17223.49, 17223.49, 17223.49, 17223.49, 17223.49, 17223.49, ...  
$ process <chr> "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "aa", "aa", "aa", "a...  
$ coefficient <chr> "gamma", "gamma", "gamma", "gamma", "gamma", "gamma", "gamma", "gamma", "gamma", "gamma", ...  
$ subindex <chr> "00", "01", "02", "03", "04", "05", "06", "10", "11", "12", "13", "14", "15", "16", "00", ...  
$ est <dbl> 106.265, -1.552, NaN, NaN, NaN, NaN, NaN, -2.691, -0.048, NaN, NaN, NaN, NaN, NaN, 401.241...  
$ pval <dbl> 0.000, 0.000, NaN, NaN, NaN, NaN, NaN, 0.000, 0.429, NaN, NaN, NaN, NaN, NaN, 0.000, 0.761...  
$ se <dbl> 2.845, 0.285, NaN, NaN, NaN, NaN, NaN, 0.516, 0.061, NaN, NaN, NaN, NaN, NaN, 54.968, 7.17...  
$ wald <dbl> 37.353, -5.447, NaN, NaN, NaN, NaN, NaN, -5.211, -0.792, NaN, NaN, NaN, NaN, NaN, 7.300, -...

Observations: 39  
Variables: 4  
$ type <chr> "Fixed Effect", "Fixed Effect", "Fixed Effect", "Fixed Effect", "Fixed Effect", "Fixed Effect", "...  
$ process <chr> "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "a", "b", "b", "b", "b", "b", "b...  
$ full\_name <chr> "a\_gamma\_00", "a\_gamma\_10", "a\_gamma\_01", "a\_gamma\_02", "a\_gamma\_03", "a\_gamma\_04", "a\_gamma\_05",...  
$ label <chr> "Level", "Slope", "Level \* age", "Level \* education", "Level \* height", "Level \* smoking", "Level...

Observations: 80  
Variables: 7  
$ study\_name <chr> "map", "map", "nas", "octo", "satsa", "nas", "eas", "eas", "map", "octo", "satsa", "...  
$ process\_b <chr> "digit\_o", "digit\_b", "digit\_b", "digit\_b", "digit\_b", "digit\_b\_tot", "digit\_tot", "...  
$ process\_b\_domain <chr> "working memory", "working memory", "working memory", "working memory", "working mem...  
$ process\_b\_domain\_new <chr> "attention and working memory", "attention and working memory", "attention and worki...  
$ response <chr> NA, NA, NA, NA, NA, NA, "working", NA, NA, NA, NA, NA, "delayed", "delayed", NA, "de...  
$ process\_b\_label <chr> "Digit Ordering", "Digit Span Backward", "Digit Span Backward", "Digit Span Backward...  
$ process\_b\_domain\_label <chr> "Attention & Working Memory", "Attention & Working Memory", "Attention & Working Mem...

# Available models

Study **NAS** have contributed the following outcome pairs to the IASLA-2015-Portland model pool: NULL

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| fev | animals | 5.590909 |
| fev | digit\_b | 5.590909 |
| fev | digit\_b\_tot | 5.590909 |
| fev | fig\_copy | 5.590909 |
| fev | mmse | 5.590909 |
| fev | pat\_comp | 5.590909 |
| fev | word\_de | 5.590909 |
| fev | word\_im | 5.590909 |

study\_name subgroup model\_type process\_a process\_b n\_models ----------- --------- ----------- ---------- ---------- ---------

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| nas | male | 0 | fev | animals | 0.9318182 |
| nas | male | 0 | fev | digit\_b | 0.9318182 |
| nas | male | 0 | fev | digit\_b\_tot | 0.9318182 |
| nas | male | 0 | fev | fig\_copy | 0.9318182 |
| nas | male | 0 | fev | mmse | 0.9318182 |
| nas | male | 0 | fev | pat\_comp | 0.9318182 |
| nas | male | 0 | fev | word\_de | 0.9318182 |
| nas | male | 0 | fev | word\_im | 0.9318182 |
| nas | male | a | fev | animals | 0.9318182 |
| nas | male | a | fev | digit\_b | 0.9318182 |
| nas | male | a | fev | digit\_b\_tot | 0.9318182 |
| nas | male | a | fev | fig\_copy | 0.9318182 |
| nas | male | a | fev | mmse | 0.9318182 |
| nas | male | a | fev | pat\_comp | 0.9318182 |
| nas | male | a | fev | word\_de | 0.9318182 |
| nas | male | a | fev | word\_im | 0.9318182 |
| nas | male | ae | fev | animals | 0.9318182 |
| nas | male | ae | fev | digit\_b | 0.9318182 |
| nas | male | ae | fev | digit\_b\_tot | 0.9318182 |
| nas | male | ae | fev | fig\_copy | 0.9318182 |
| nas | male | ae | fev | mmse | 0.9318182 |
| nas | male | ae | fev | pat\_comp | 0.9318182 |
| nas | male | ae | fev | word\_de | 0.9318182 |
| nas | male | ae | fev | word\_im | 0.9318182 |
| nas | male | aeh | fev | animals | 0.9318182 |
| nas | male | aeh | fev | digit\_b | 0.9318182 |
| nas | male | aeh | fev | digit\_b\_tot | 0.9318182 |
| nas | male | aeh | fev | fig\_copy | 0.9318182 |
| nas | male | aeh | fev | mmse | 0.9318182 |
| nas | male | aeh | fev | pat\_comp | 0.9318182 |
| nas | male | aeh | fev | word\_de | 0.9318182 |
| nas | male | aeh | fev | word\_im | 0.9318182 |
| nas | male | aehplus | fev | animals | 0.9318182 |
| nas | male | aehplus | fev | digit\_b | 0.9318182 |
| nas | male | aehplus | fev | digit\_b\_tot | 0.9318182 |
| nas | male | aehplus | fev | fig\_copy | 0.9318182 |
| nas | male | aehplus | fev | mmse | 0.9318182 |
| nas | male | aehplus | fev | pat\_comp | 0.9318182 |
| nas | male | aehplus | fev | word\_de | 0.9318182 |
| nas | male | aehplus | fev | word\_im | 0.9318182 |
| nas | male | full | fev | animals | 0.9318182 |
| nas | male | full | fev | digit\_b | 0.9318182 |
| nas | male | full | fev | digit\_b\_tot | 0.9318182 |
| nas | male | full | fev | fig\_copy | 0.9318182 |
| nas | male | full | fev | mmse | 0.9318182 |
| nas | male | full | fev | pat\_comp | 0.9318182 |
| nas | male | full | fev | word\_de | 0.9318182 |
| nas | male | full | fev | word\_im | 0.9318182 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *fev*; Process (b): *animals*, *digit\_b*, *digit\_b\_tot*, *fig\_copy*, *mmse*, *pat\_comp*, *word\_de*, *word\_im*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | animals | digit\_b | digit\_b\_tot | fig\_copy | mmse | pat\_comp | word\_de | word\_im | mean(sd) |
| a | Level | 26.37 (0.52) <.01 | 26.42 (0.52) <.01 | 26.41 (0.52) <.01 | 26.42 (0.52) <.01 | 26.41 (0.52) <.01 | 26.50 (0.53) <.01 | 26.40 (0.52) <.01 | 26.41 (0.52) <.01 | 26.42(0.04) |
| a | Slope | -0.23 (0.04) <.01 | -0.24 (0.04) <.01 | -0.24 (0.04) <.01 | -0.24 (0.04) <.01 | -0.24 (0.04) <.01 | -0.27 (0.04) <.01 | -0.24 (0.04) <.01 | -0.24 (0.04) <.01 | -0.24(0.01) |
| a | Level \* age | -0.23 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.23 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24(0.00) |
| a | Level \* education | 0.12 (0.06) .04 | 0.12 (0.06) .05 | 0.12 (0.06) .05 | 0.12 (0.06) .05 | 0.12 (0.06) .05 | 0.12 (0.06) .06 | 0.12 (0.06) .05 | 0.12 (0.06) .05 | 0.12(0.00) |
| a | Level \* height | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30(0.00) |
| a | Level \* smoking | -2.14 (0.32) <.01 | -2.16 (0.32) <.01 | -2.16 (0.32) <.01 | -2.16 (0.32) <.01 | -2.17 (0.32) <.01 | -2.19 (0.32) <.01 | -2.16 (0.32) <.01 | -2.16 (0.32) <.01 | -2.16(0.01) |
| a | Level \* cardio | -1.04 (0.35) <.01 | -1.02 (0.35) <.01 | -1.02 (0.35) <.01 | -1.03 (0.35) <.01 | -1.01 (0.35) <.01 | -1.08 (0.35) <.01 | -1.02 (0.35) <.01 | -1.02 (0.35) <.01 | -1.03(0.02) |
| a | Level \* diabetes | -0.88 (0.56) .12 | -0.91 (0.55) .10 | -0.91 (0.55) .10 | -0.91 (0.56) .10 | -0.88 (0.56) .11 | -1.04 (0.55) .06 | -0.90 (0.56) .11 | -0.90 (0.56) .11 | -0.92(0.05) |
| a | Slope \* age | -0.00 (0.00) .18 | -0.00 (0.00) .20 | -0.00 (0.00) .20 | -0.00 (0.00) .17 | -0.00 (0.00) .17 | -0.00 (0.00) .17 | -0.00 (0.00) .20 | -0.00 (0.00) .17 | -0.00(0.00) |
| a | Slope \* education | 0.01 (0.00) .11 | 0.01 (0.00) .07 | 0.01 (0.00) .07 | 0.01 (0.00) .07 | 0.01 (0.00) .07 | 0.01 (0.00) .07 | 0.01 (0.00) .08 | 0.01 (0.00) .07 | 0.01(0.00) |
| a | Slope \* height | -0.00 (0.00) .31 | -0.00 (0.00) .25 | -0.00 (0.00) .25 | -0.00 (0.00) .26 | -0.00 (0.00) .26 | -0.00 (0.00) .28 | -0.00 (0.00) .26 | -0.00 (0.00) .26 | -0.00(0.00) |
| a | Slope \* smoking | -0.01 (0.02) .59 | -0.01 (0.02) .78 | -0.01 (0.02) .76 | -0.00 (0.02) .81 | -0.00 (0.02) .80 | 0.00 (0.02) .95 | -0.00 (0.02) .80 | -0.00 (0.02) .81 | -0.01(0.00) |
| a | Slope \* cardio | -0.04 (0.02) .14 | -0.04 (0.02) .12 | -0.04 (0.02) .10 | -0.04 (0.02) .15 | -0.04 (0.03) .10 | -0.03 (0.03) .32 | -0.04 (0.02) .12 | -0.04 (0.02) .11 | -0.04(0.01) |
| a | Slope \* diabetes | -0.09 (0.05) .07 | -0.09 (0.05) .09 | -0.09 (0.05) .09 | -0.09 (0.05) .09 | -0.09 (0.05) .08 | -0.05 (0.05) .37 | -0.09 (0.05) .08 | -0.09 (0.05) .08 | -0.08(0.01) |
| b | Level | 15.97 (0.57) <.01 | 4.37 (0.18) <.01 | 3.65 (0.28) <.01 | 13.88 (0.61) <.01 | 27.08 (0.21) <.01 | 6.06 (0.19) <.01 | 5.40 (0.23) <.01 | 16.95 (0.46) <.01 | --- |
| b | Slope | -0.09 (0.06) .14 | -0.01 (0.02) .54 | -0.01 (0.02) .77 | -0.17 (0.07) .02 | -0.10 (0.03) <.01 | 0.07 (0.03) .01 | -0.07 (0.02) .01 | -0.16 (0.05) <.01 | --- |
| b | Level \* age | -0.14 (0.02) <.01 | -0.02 (0.01) .01 | -0.04 (0.01) <.01 | -0.15 (0.02) <.01 | -0.06 (0.01) <.01 | 0.07 (0.01) <.01 | -0.07 (0.01) <.01 | -0.16 (0.02) <.01 | --- |
| b | Level \* education | 0.34 (0.06) <.01 | 0.09 (0.02) <.01 | 0.17 (0.03) <.01 | 0.32 (0.07) <.01 | 0.12 (0.02) <.01 | -0.04 (0.02) .02 | 0.11 (0.02) <.01 | 0.25 (0.05) <.01 | --- |
| b | Level \* height | 0.05 (0.03) .03 | 0.01 (0.01) .12 | 0.02 (0.01) .08 | 0.03 (0.03) .27 | 0.01 (0.01) .09 | -0.01 (0.01) .07 | 0.02 (0.01) .10 | 0.03 (0.02) .10 | --- |
| b | Level \* smoking | 0.28 (0.38) .45 | 0.04 (0.11) .75 | 0.18 (0.18) .32 | -0.83 (0.40) .04 | 0.00 (0.13) .97 | 0.03 (0.12) .79 | 0.20 (0.14) .17 | 0.16 (0.28) .56 | --- |
| b | Level \* cardio | -0.14 (0.37) .69 | 0.04 (0.11) .73 | -0.03 (0.17) .88 | -0.99 (0.43) .02 | -0.42 (0.14) <.01 | -0.01 (0.12) .91 | 0.04 (0.15) .76 | 0.20 (0.28) .48 | --- |
| b | Level \* diabetes | 0.18 (0.56) .74 | 0.00 (0.18) .99 | -0.04 (0.29) .88 | -0.04 (0.68) .95 | -0.60 (0.23) .01 | -0.24 (0.18) .20 | -0.16 (0.19) .39 | 0.21 (0.42) .62 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.00 (0.00) .14 | -0.00 (0.00) .29 | -0.00 (0.00) .21 | -0.00 (0.00) .09 | 0.00 (0.00) .01 | -0.00 (0.00) <.01 | -0.01 (0.00) <.01 | --- |
| b | Slope \* education | -0.01 (0.01) .27 | -0.00 (0.00) .11 | -0.00 (0.00) .06 | -0.01 (0.01) .27 | 0.00 (0.00) .54 | -0.00 (0.00) .55 | -0.00 (0.00) .65 | 0.00 (0.01) .84 | --- |
| b | Slope \* height | -0.00 (0.00) .54 | 0.00 (0.00) .70 | 0.00 (0.00) .83 | -0.00 (0.00) .80 | 0.00 (0.00) .64 | 0.00 (0.00) .54 | -0.00 (0.00) .52 | -0.00 (0.00) .23 | --- |
| b | Slope \* smoking | -0.01 (0.04) .77 | -0.00 (0.01) .87 | -0.01 (0.02) .38 | 0.00 (0.04) .99 | 0.03 (0.02) .10 | 0.00 (0.02) .84 | -0.03 (0.01) .04 | -0.01 (0.03) .77 | --- |
| b | Slope \* cardio | -0.04 (0.04) .35 | -0.02 (0.01) .10 | -0.03 (0.01) .06 | 0.14 (0.05) <.01 | 0.01 (0.02) .37 | 0.02 (0.02) .22 | -0.01 (0.02) .37 | -0.06 (0.03) .05 | --- |
| b | Slope \* diabetes | -0.05 (0.06) .39 | -0.00 (0.02) .80 | -0.00 (0.03) .94 | -0.13 (0.08) .12 | 0.04 (0.03) .14 | 0.09 (0.04) .03 | -0.02 (0.02) .43 | -0.02 (0.05) .72 | --- |
| a | Variance of level | 23.52 (1.29) <.01 | 23.50 (1.29) <.01 | 23.49 (1.29) <.01 | 23.46 (1.29) <.01 | 23.46 (1.29) <.01 | 23.52 (1.29) <.01 | 23.49 (1.29) <.01 | 23.49 (1.29) <.01 | 23.49(0.02) |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03(0.00) |
|  | Variance of residual | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.03 (0.06) .65 | -0.02 (0.06) .75 | -0.02 (0.06) .74 | -0.02 (0.06) .78 | -0.01 (0.06) .81 | -0.03 (0.07) .71 | -0.02 (0.06) .76 | -0.02 (0.06) .75 | -0.02(0.00) |
| b | Variance of level | 12.29 (1.16) <.01 | 0.93 (0.10) <.01 | 2.89 (0.27) <.01 | 12.87 (1.42) <.01 | 0.72 (0.26) .01 | 0.93 (0.18) <.01 | 1.97 (0.17) <.01 | 6.80 (0.64) <.01 | --- |
| b | Variance of slope | 0.02 (0.01) .04 | 0.00 (0.00) .69 | 0.00 (0.00) .41 | 0.01 (0.01) .43 | 0.00 (0.00) .31 | 0.00 (0.00) .44 | 0.01 (0.00) <.01 | 0.01 (0.01) .09 | --- |
|  | Variance of residual | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | -0.10 (0.10) .30 | -0.01 (0.01) .23 | -0.04 (0.02) .04 | 0.07 (0.13) .59 | 0.01 (0.02) .67 | 0.04 (0.02) .01 | 0.00 (0.01) .94 | 0.01 (0.05) .81 | --- |
| ab | Covariance of levels | -0.92 (0.82) .26 | 0.16 (0.25) .52 | 0.22 (0.42) .59 | 3.30 (0.99) <.01 | 0.81 (0.29) <.01 | -0.05 (0.28) .86 | 0.57 (0.32) .07 | 1.35 (0.63) .03 | --- |
| ab | Covariance of slopes | -0.00 (0.00) .87 | 0.00 (0.00) .22 | 0.00 (0.00) .74 | 0.01 (0.01) .11 | -0.00 (0.00) .61 | -0.00 (0.00) .27 | -0.00 (0.00) .77 | 0.00 (0.00) .38 | --- |
|  | Covariance of residuals | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Correlation of Levels | -0.054 | 0.035 | 0.027 | 0.19 | 0.20 | -0.011 | 0.084 | 0.11 | 0.07(0.09) |
|  | Correlation of Slopes | -0.036 | Inf | 0.121 | 0.52 | -0.12 | -0.226 | -0.065 | 0.15 | Inf(NaN) |
|  | Correlation of Residuals | NA | NA | NA | NA | NA | NA | NA | NA | --- |
|  | N | 1,131 | 1,131 | 1,131 | 1,131 | 1,131 | 1,131 | 1,131 | 1,131 | 1131.00(0.00) |
|  | occasions | 5 | 6 | 6 | 6 | 6 | 4 | 6 | 6 | 5.62(0.74) |
|  | parameters | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50.00(0.00) |
|  | LL | -25,634 | -22,338 | -23,653 | -26,679 | -23,756 | -21,032 | -23,309 | -25,299 | -2.396257e+04(1,842) |
|  | AIC | 51,369 | 44,775 | 47,406 | 53,457 | 47,613 | 42,164 | 46,719 | 50,698 | 4.802515e+04(3,684) |
|  | BIC | 51,620 | 45,027 | 47,658 | 53,709 | 47,864 | 42,416 | 46,970 | 50,950 | 4.827669e+04(3,684) |

## animals

Gender = *male*; Process (a) = *fev*; Process (b) = *animals*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.67 (0.17) <.01 | 24.23 (0.50) <.01 | -25.38 (4.16) <.01 | 26.37 (0.52) <.01 | -20.37 (4.25) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.26 (0.03) <.01 | 0.05 (0.27) .85 | -0.23 (0.04) <.01 | 0.12 (0.29) .67 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.23 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .04 | 0.04 (0.07) .52 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.14 (0.32) <.01 | -1.57 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.04 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.88 (0.56) .12 | --- |
| a | Slope \* age | -0.00 (0.00) .18 | -0.00 (0.00) .21 | -0.00 (0.00) .11 | -0.00 (0.00) .18 | -0.00 (0.00) .12 |
| a | Slope \* education | --- | 0.01 (0.00) .10 | 0.01 (0.00) .08 | 0.01 (0.00) .11 | 0.00 (0.00) .46 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .25 | -0.00 (0.00) .31 | -0.00 (0.00) .33 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.02) .59 | -0.01 (0.02) .59 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .14 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .07 | --- |
| b | Level | 18.68 (0.17) <.01 | 16.17 (0.46) <.01 | 6.58 (4.39) .13 | 15.97 (0.57) <.01 | 7.82 (4.59) .09 |
| b | Slope | -0.16 (0.02) <.01 | -0.11 (0.05) .02 | 0.19 (0.44) .67 | -0.09 (0.06) .14 | 0.24 (0.46) .60 |
| b | Level \* age | -0.16 (0.02) <.01 | -0.16 (0.02) <.01 | -0.15 (0.02) <.01 | -0.14 (0.02) <.01 | -0.15 (0.03) <.01 |
| b | Level \* education | --- | 0.35 (0.06) <.01 | 0.34 (0.06) <.01 | 0.34 (0.06) <.01 | 0.32 (0.07) <.01 |
| b | Level \* height | --- | --- | 0.06 (0.03) .03 | 0.05 (0.03) .03 | 0.06 (0.02) .03 |
| b | Level \* smoking | --- | --- | --- | 0.28 (0.38) .45 | 0.32 (0.38) .39 |
| b | Level \* cardio | --- | --- | --- | -0.14 (0.37) .69 | --- |
| b | Level \* diabetes | --- | --- | --- | 0.18 (0.56) .74 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.00 (0.00) .26 |
| b | Slope \* education | --- | -0.01 (0.01) .30 | -0.01 (0.01) .34 | -0.01 (0.01) .27 | -0.01 (0.01) .06 |
| b | Slope \* height | --- | --- | -0.00 (0.00) .50 | -0.00 (0.00) .54 | -0.00 (0.00) .51 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.04) .77 | -0.02 (0.04) .51 |
| b | Slope \* cardio | --- | --- | --- | -0.04 (0.04) .35 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.05 (0.06) .39 | --- |
| a | Variance of level | 28.31 (1.42) <.01 | 28.02 (1.40) <.01 | 24.68 (1.33) <.01 | 23.52 (1.29) <.01 | 21.16 (1.15) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .71 | -0.03 (0.06) .62 | -0.01 (0.06) .86 | -0.03 (0.06) .65 | -0.04 (0.06) .51 |
| b | Variance of level | 13.33 (1.19) <.01 | 12.45 (1.17) <.01 | 12.33 (1.16) <.01 | 12.29 (1.16) <.01 | 11.95 (1.14) <.01 |
| b | Variance of slope | 0.02 (0.01) .03 | 0.02 (0.01) .03 | 0.02 (0.01) .03 | 0.02 (0.01) .04 | 0.02 (0.01) .10 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | -0.12 (0.10) .23 | -0.10 (0.10) .30 | -0.10 (0.10) .32 | -0.10 (0.10) .30 | -0.08 (0.10) .40 |
| ab | Covariance of levels | 0.15 (0.89) .87 | -0.36 (0.86) .68 | -1.02 (0.84) .23 | -0.92 (0.82) .26 | -0.94 (0.79) .23 |
| ab | Covariance of slopes | 0.00 (0.00) .97 | 0.00 (0.00) .94 | 0.00 (0.00) .99 | -0.00 (0.00) .87 | 0.00 (0.00) .90 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.0076 | -0.019 | -0.058 | -0.054 | -0.059 |
|  | Correlation of Slopes | 0.0000 | 0.000 | 0.000 | -0.036 | 0.042 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 5 | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 50 | 183 |
|  | LL | -19,446 | -22,127 | -25,686 | -25,634 | -47,843 |
|  | AIC | 38,938 | 44,314 | 51,447 | 51,369 | 96,052 |
|  | BIC | 39,053 | 44,465 | 51,638 | 51,620 | 96,972 |

## digit\_b

Gender = *male*; Process (a) = *fev*; Process (b) = *digit\_b*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.26 (0.50) <.01 | -25.58 (4.15) <.01 | 26.42 (0.52) <.01 | -20.43 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.26 (0.03) <.01 | 0.06 (0.26) .81 | -0.24 (0.04) <.01 | 0.12 (0.28) .66 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.03 (0.07) .61 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.16 (0.32) <.01 | -1.60 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.02 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.91 (0.55) .10 | --- |
| a | Slope \* age | -0.00 (0.00) .20 | -0.00 (0.00) .22 | -0.00 (0.00) .12 | -0.00 (0.00) .20 | -0.00 (0.00) .10 |
| a | Slope \* education | --- | 0.01 (0.00) .07 | 0.01 (0.00) .05 | 0.01 (0.00) .07 | 0.00 (0.00) .29 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .21 | -0.00 (0.00) .25 | -0.00 (0.00) .24 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.02) .78 | -0.00 (0.02) .82 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .12 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .09 | --- |
| b | Level | 5.08 (0.05) <.01 | 4.41 (0.14) <.01 | 2.33 (1.29) .07 | 4.37 (0.18) <.01 | 3.12 (1.38) .02 |
| b | Slope | -0.03 (0.00) <.01 | -0.02 (0.01) .16 | -0.05 (0.12) .66 | -0.01 (0.02) .54 | -0.09 (0.12) .46 |
| b | Level \* age | -0.02 (0.01) <.01 | -0.02 (0.01) <.01 | -0.02 (0.01) .01 | -0.02 (0.01) .01 | -0.00 (0.01) .88 |
| b | Level \* education | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.06 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.01 (0.01) .11 | 0.01 (0.01) .12 | 0.01 (0.01) .17 |
| b | Level \* smoking | --- | --- | --- | 0.04 (0.11) .75 | 0.01 (0.12) .93 |
| b | Level \* cardio | --- | --- | --- | 0.04 (0.11) .73 | --- |
| b | Level \* diabetes | --- | --- | --- | 0.00 (0.18) .99 | --- |
| b | Slope \* age | -0.00 (0.00) .08 | -0.00 (0.00) .07 | -0.00 (0.00) .08 | -0.00 (0.00) .14 | -0.00 (0.00) .01 |
| b | Slope \* education | --- | -0.00 (0.00) .16 | -0.00 (0.00) .14 | -0.00 (0.00) .11 | -0.00 (0.00) .73 |
| b | Slope \* height | --- | --- | 0.00 (0.00) .77 | 0.00 (0.00) .70 | 0.00 (0.00) .61 |
| b | Slope \* smoking | --- | --- | --- | -0.00 (0.01) .87 | -0.00 (0.01) .94 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.01) .10 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.02) .80 | --- |
| a | Variance of level | 28.34 (1.42) <.01 | 28.05 (1.41) <.01 | 24.69 (1.33) <.01 | 23.50 (1.29) <.01 | 21.11 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .77 | -0.03 (0.06) .66 | -0.00 (0.06) .94 | -0.02 (0.06) .75 | -0.03 (0.06) .63 |
| b | Variance of level | 1.00 (0.11) <.01 | 0.94 (0.10) <.01 | 0.94 (0.10) <.01 | 0.93 (0.10) <.01 | 0.93 (0.11) <.01 |
| b | Variance of slope | 0.00 (0.00) .57 | 0.00 (0.00) .57 | 0.00 (0.00) .57 | 0.00 (0.00) .69 | 0.00 (0.00) .38 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | -0.01 (0.01) .15 | -0.01 (0.01) .18 | -0.01 (0.01) .18 | -0.01 (0.01) .23 | -0.01 (0.01) .12 |
| ab | Covariance of levels | 0.43 (0.29) .14 | 0.29 (0.28) .30 | 0.14 (0.26) .58 | 0.16 (0.25) .52 | 0.12 (0.24) .61 |
| ab | Covariance of slopes | 0.00 (0.00) .12 | 0.00 (0.00) .12 | 0.00 (0.00) .13 | 0.00 (0.00) .22 | 0.00 (0.00) .40 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.08 | 0.056 | 0.03 | 0.035 | 0.028 |
|  | Correlation of Slopes | Inf | Inf | Inf | Inf | 0.177 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -16,140 | -18,826 | -22,385 | -22,338 | -44,464 |
|  | AIC | 32,326 | 37,712 | 44,847 | 44,775 | 89,289 |
|  | BIC | 32,442 | 37,863 | 45,038 | 45,027 | 90,200 |

## digit\_b\_tot

Gender = *male*; Process (a) = *fev*; Process (b) = *digit\_b\_tot*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.26 (0.50) <.01 | -25.57 (4.15) <.01 | 26.41 (0.52) <.01 | -20.44 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.26 (0.03) <.01 | 0.06 (0.26) .81 | -0.24 (0.04) <.01 | 0.13 (0.28) .66 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.03 (0.07) .61 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.16 (0.32) <.01 | -1.59 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.02 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.91 (0.55) .10 | --- |
| a | Slope \* age | -0.00 (0.00) .20 | -0.00 (0.00) .22 | -0.00 (0.00) .12 | -0.00 (0.00) .20 | -0.00 (0.00) .10 |
| a | Slope \* education | --- | 0.01 (0.00) .07 | 0.01 (0.00) .05 | 0.01 (0.00) .07 | 0.00 (0.00) .29 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .21 | -0.00 (0.00) .25 | -0.00 (0.00) .24 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.02) .76 | -0.01 (0.02) .80 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .10 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .09 | --- |
| b | Level | 5.00 (0.08) <.01 | 3.79 (0.22) <.01 | 0.01 (2.05) .99 | 3.65 (0.28) <.01 | 1.58 (2.15) .46 |
| b | Slope | -0.06 (0.01) <.01 | -0.03 (0.02) .14 | -0.03 (0.18) .87 | -0.01 (0.02) .77 | -0.10 (0.19) .60 |
| b | Level \* age | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.01 (0.01) .62 |
| b | Level \* education | --- | 0.17 (0.03) <.01 | 0.16 (0.03) <.01 | 0.17 (0.03) <.01 | 0.10 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.02 (0.01) .07 | 0.02 (0.01) .08 | 0.02 (0.01) .14 |
| b | Level \* smoking | --- | --- | --- | 0.18 (0.18) .32 | 0.14 (0.18) .45 |
| b | Level \* cardio | --- | --- | --- | -0.03 (0.17) .88 | --- |
| b | Level \* diabetes | --- | --- | --- | -0.04 (0.29) .88 | --- |
| b | Slope \* age | -0.00 (0.00) .22 | -0.00 (0.00) .20 | -0.00 (0.00) .19 | -0.00 (0.00) .29 | -0.00 (0.00) .07 |
| b | Slope \* education | --- | -0.00 (0.00) .11 | -0.00 (0.00) .11 | -0.00 (0.00) .06 | -0.00 (0.00) .69 |
| b | Slope \* height | --- | --- | 0.00 (0.00) .99 | 0.00 (0.00) .83 | 0.00 (0.00) .70 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.02) .38 | -0.01 (0.02) .45 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.01) .06 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.03) .94 | --- |
| a | Variance of level | 28.33 (1.42) <.01 | 28.04 (1.41) <.01 | 24.68 (1.33) <.01 | 23.49 (1.29) <.01 | 21.11 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .77 | -0.03 (0.06) .66 | -0.00 (0.06) .94 | -0.02 (0.06) .74 | -0.03 (0.06) .62 |
| b | Variance of level | 3.12 (0.28) <.01 | 2.92 (0.27) <.01 | 2.90 (0.27) <.01 | 2.89 (0.27) <.01 | 2.73 (0.27) <.01 |
| b | Variance of slope | 0.00 (0.00) .34 | 0.00 (0.00) .36 | 0.00 (0.00) .36 | 0.00 (0.00) .41 | 0.00 (0.00) .50 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | -0.05 (0.02) .02 | -0.04 (0.02) .03 | -0.04 (0.02) .03 | -0.04 (0.02) .04 | -0.04 (0.02) .07 |
| ab | Covariance of levels | 0.67 (0.47) .15 | 0.42 (0.46) .36 | 0.16 (0.43) .71 | 0.22 (0.42) .59 | 0.11 (0.39) .78 |
| ab | Covariance of slopes | 0.00 (0.00) .54 | 0.00 (0.00) .55 | 0.00 (0.00) .56 | 0.00 (0.00) .74 | 0.00 (0.00) .71 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.071 | 0.046 | 0.019 | 0.027 | 0.014 |
|  | Correlation of Slopes | 0.120 | 0.120 | 0.120 | 0.121 | 0.177 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -17,461 | -20,144 | -23,703 | -23,653 | -45,776 |
|  | AIC | 34,969 | 40,347 | 47,483 | 47,406 | 91,914 |
|  | BIC | 35,084 | 40,498 | 47,674 | 47,658 | 92,825 |

## fig\_copy

Gender = *male*; Process (a) = *fev*; Process (b) = *fig\_copy*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.27 (0.50) <.01 | -25.54 (4.15) <.01 | 26.42 (0.52) <.01 | -20.40 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.27 (0.03) <.01 | 0.05 (0.26) .84 | -0.24 (0.04) <.01 | 0.12 (0.28) .68 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.04 (0.07) .59 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.16 (0.32) <.01 | -1.59 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.03 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.91 (0.56) .10 | --- |
| a | Slope \* age | -0.00 (0.00) .17 | -0.00 (0.00) .20 | -0.00 (0.00) .10 | -0.00 (0.00) .17 | -0.00 (0.00) .09 |
| a | Slope \* education | --- | 0.01 (0.00) .07 | 0.01 (0.00) .05 | 0.01 (0.00) .07 | 0.00 (0.00) .29 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .22 | -0.00 (0.00) .26 | -0.00 (0.00) .25 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.02) .81 | -0.00 (0.02) .85 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .15 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .09 | --- |
| b | Level | 15.30 (0.19) <.01 | 12.90 (0.50) <.01 | 8.53 (4.84) .08 | 13.88 (0.61) <.01 | 9.92 (5.00) .05 |
| b | Slope | -0.20 (0.02) <.01 | -0.14 (0.06) .02 | -0.04 (0.48) .93 | -0.17 (0.07) .02 | -0.01 (0.51) .98 |
| b | Level \* age | -0.17 (0.02) <.01 | -0.16 (0.02) <.01 | -0.15 (0.02) <.01 | -0.15 (0.02) <.01 | -0.10 (0.03) <.01 |
| b | Level \* education | --- | 0.33 (0.06) <.01 | 0.33 (0.07) <.01 | 0.32 (0.07) <.01 | 0.24 (0.07) <.01 |
| b | Level \* height | --- | --- | 0.02 (0.03) .37 | 0.03 (0.03) .27 | 0.03 (0.03) .28 |
| b | Level \* smoking | --- | --- | --- | -0.83 (0.40) .04 | -0.73 (0.41) .08 |
| b | Level \* cardio | --- | --- | --- | -0.99 (0.43) .02 | --- |
| b | Level \* diabetes | --- | --- | --- | -0.04 (0.68) .95 | --- |
| b | Slope \* age | -0.00 (0.00) .44 | -0.00 (0.00) .40 | -0.00 (0.00) .39 | -0.00 (0.00) .21 | -0.00 (0.00) .38 |
| b | Slope \* education | --- | -0.01 (0.01) .21 | -0.01 (0.01) .22 | -0.01 (0.01) .27 | -0.01 (0.01) .24 |
| b | Slope \* height | --- | --- | -0.00 (0.00) .85 | -0.00 (0.00) .80 | 0.00 (0.00) .88 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.04) .99 | -0.02 (0.05) .73 |
| b | Slope \* cardio | --- | --- | --- | 0.14 (0.05) <.01 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.13 (0.08) .12 | --- |
| a | Variance of level | 28.30 (1.42) <.01 | 28.01 (1.40) <.01 | 24.66 (1.33) <.01 | 23.46 (1.29) <.01 | 21.08 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .80 | -0.02 (0.06) .69 | -0.00 (0.06) .96 | -0.02 (0.06) .78 | -0.03 (0.06) .65 |
| b | Variance of level | 13.84 (1.44) <.01 | 13.07 (1.44) <.01 | 13.05 (1.44) <.01 | 12.87 (1.42) <.01 | 12.40 (1.41) <.01 |
| b | Variance of slope | 0.01 (0.01) .41 | 0.01 (0.01) .43 | 0.01 (0.01) .42 | 0.01 (0.01) .43 | 0.01 (0.01) .46 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | 0.05 (0.13) .68 | 0.07 (0.13) .57 | 0.07 (0.13) .57 | 0.07 (0.13) .59 | 0.06 (0.13) .64 |
| ab | Covariance of levels | 4.64 (1.10) <.01 | 4.17 (1.09) <.01 | 3.92 (1.02) <.01 | 3.30 (0.99) <.01 | 2.49 (0.93) .01 |
| ab | Covariance of slopes | 0.01 (0.01) .14 | 0.01 (0.01) .14 | 0.01 (0.01) .14 | 0.01 (0.01) .11 | 0.01 (0.01) .11 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.23 | 0.22 | 0.22 | 0.19 | 0.15 |
|  | Correlation of Slopes | 0.45 | 0.46 | 0.46 | 0.52 | 0.50 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -20,483 | -23,173 | -26,734 | -26,679 | -48,810 |
|  | AIC | 41,013 | 46,405 | 53,544 | 53,457 | 97,983 |
|  | BIC | 41,128 | 46,556 | 53,735 | 53,709 | 98,893 |

## mmse

Gender = *male*; Process (a) = *fev*; Process (b) = *mmse*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.24 (0.50) <.01 | -25.50 (4.15) <.01 | 26.41 (0.52) <.01 | -20.40 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.27 (0.03) <.01 | 0.05 (0.26) .86 | -0.24 (0.04) <.01 | 0.12 (0.28) .68 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.04 (0.07) .54 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.17 (0.32) <.01 | -1.60 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.01 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.88 (0.56) .11 | --- |
| a | Slope \* age | -0.00 (0.00) .15 | -0.00 (0.00) .17 | -0.00 (0.00) .09 | -0.00 (0.00) .17 | -0.00 (0.00) .09 |
| a | Slope \* education | --- | 0.01 (0.00) .06 | 0.01 (0.00) .05 | 0.01 (0.00) .07 | 0.00 (0.00) .30 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .23 | -0.00 (0.00) .26 | -0.00 (0.00) .26 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.02) .80 | -0.00 (0.02) .84 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.03) .10 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .08 | --- |
| b | Level | 27.76 (0.07) <.01 | 26.90 (0.19) <.01 | 24.33 (1.51) <.01 | 27.08 (0.21) <.01 | 24.76 (1.53) <.01 |
| b | Slope | -0.06 (0.01) <.01 | -0.07 (0.02) <.01 | -0.02 (0.17) .92 | -0.10 (0.03) <.01 | -0.07 (0.18) .72 |
| b | Level \* age | -0.08 (0.01) <.01 | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 |
| b | Level \* education | --- | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.09 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.01 (0.01) .08 | 0.01 (0.01) .09 | 0.01 (0.01) .12 |
| b | Level \* smoking | --- | --- | --- | 0.00 (0.13) .97 | 0.04 (0.13) .78 |
| b | Level \* cardio | --- | --- | --- | -0.42 (0.14) <.01 | --- |
| b | Level \* diabetes | --- | --- | --- | -0.60 (0.23) .01 | --- |
| b | Slope \* age | -0.00 (0.00) .12 | -0.00 (0.00) .12 | -0.00 (0.00) .10 | -0.00 (0.00) .09 | -0.00 (0.00) .24 |
| b | Slope \* education | --- | 0.00 (0.00) .61 | 0.00 (0.00) .58 | 0.00 (0.00) .54 | 0.00 (0.00) .91 |
| b | Slope \* height | --- | --- | 0.00 (0.00) .76 | 0.00 (0.00) .64 | 0.00 (0.00) .66 |
| b | Slope \* smoking | --- | --- | --- | 0.03 (0.02) .10 | 0.02 (0.02) .21 |
| b | Slope \* cardio | --- | --- | --- | 0.01 (0.02) .37 | --- |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.03) .14 | --- |
| a | Variance of level | 28.30 (1.42) <.01 | 28.01 (1.40) <.01 | 24.65 (1.33) <.01 | 23.46 (1.29) <.01 | 21.10 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.01 (0.06) .88 | -0.02 (0.06) .76 | 0.00 (0.06) .96 | -0.01 (0.06) .81 | -0.02 (0.06) .66 |
| b | Variance of level | 0.92 (0.29) <.01 | 0.82 (0.28) <.01 | 0.71 (0.26) .01 | 0.72 (0.26) .01 | 0.68 (0.26) .01 |
| b | Variance of slope | 0.00 (0.00) .30 | 0.00 (0.00) .28 | 0.00 (0.00) .63 | 0.00 (0.00) .31 | 0.00 (0.00) .37 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | 0.01 (0.02) .69 | 0.01 (0.02) .77 | 0.02 (0.02) .34 | 0.01 (0.02) .67 | 0.01 (0.02) .67 |
| ab | Covariance of levels | 1.31 (0.34) <.01 | 1.15 (0.32) <.01 | 0.97 (0.30) <.01 | 0.81 (0.29) <.01 | 0.55 (0.27) .04 |
| ab | Covariance of slopes | -0.00 (0.00) .61 | -0.00 (0.00) .52 | -0.00 (0.00) .48 | -0.00 (0.00) .61 | 0.00 (0.00) .82 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.26 | 0.239 | 0.23 | 0.20 | 0.15 |
|  | Correlation of Slopes | -0.12 | -0.098 | -0.17 | -0.12 | 0.00 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -17,594 | -20,267 | -23,828 | -23,756 | -45,883 |
|  | AIC | 35,235 | 40,594 | 47,732 | 47,613 | 92,128 |
|  | BIC | 35,350 | 40,745 | 47,923 | 47,864 | 93,039 |

## pat\_comp

Gender = *male*; Process (a) = *fev*; Process (b) = *pat\_comp*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.71 (0.17) <.01 | 24.30 (0.51) <.01 | -25.41 (4.17) <.01 | 26.50 (0.53) <.01 | -20.49 (4.25) <.01 |
| a | Slope | -0.22 (0.01) <.01 | -0.28 (0.04) <.01 | 0.06 (0.29) .85 | -0.27 (0.04) <.01 | 0.16 (0.31) .61 |
| a | Level \* age | -0.30 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.23 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.07) <.01 | 0.14 (0.06) .03 | 0.12 (0.06) .06 | 0.04 (0.07) .50 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.19 (0.32) <.01 | -1.58 (0.33) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.08 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -1.04 (0.55) .06 | --- |
| a | Slope \* age | -0.00 (0.00) .17 | -0.00 (0.00) .20 | -0.00 (0.00) .10 | -0.00 (0.00) .17 | -0.00 (0.00) .22 |
| a | Slope \* education | --- | 0.01 (0.00) .08 | 0.01 (0.00) .06 | 0.01 (0.00) .07 | 0.00 (0.00) .62 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .24 | -0.00 (0.00) .28 | -0.00 (0.00) .22 |
| a | Slope \* smoking | --- | --- | --- | 0.00 (0.02) .95 | -0.01 (0.03) .81 |
| a | Slope \* cardio | --- | --- | --- | -0.03 (0.03) .32 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.05) .37 | --- |
| b | Level | 5.73 (0.06) <.01 | 6.06 (0.16) <.01 | 8.51 (1.39) <.01 | 6.06 (0.19) <.01 | 8.68 (1.45) <.01 |
| b | Slope | 0.07 (0.01) <.01 | 0.09 (0.03) <.01 | -0.01 (0.21) .96 | 0.07 (0.03) .01 | 0.05 (0.23) .81 |
| b | Level \* age | 0.08 (0.01) <.01 | 0.08 (0.01) <.01 | 0.07 (0.01) <.01 | 0.07 (0.01) <.01 | 0.07 (0.01) <.01 |
| b | Level \* education | --- | -0.04 (0.02) .02 | -0.04 (0.02) .03 | -0.04 (0.02) .02 | -0.02 (0.02) .25 |
| b | Level \* height | --- | --- | -0.01 (0.01) .08 | -0.01 (0.01) .07 | -0.01 (0.01) .13 |
| b | Level \* smoking | --- | --- | --- | 0.03 (0.12) .79 | 0.05 (0.12) .70 |
| b | Level \* cardio | --- | --- | --- | -0.01 (0.12) .91 | --- |
| b | Level \* diabetes | --- | --- | --- | -0.24 (0.18) .20 | --- |
| b | Slope \* age | 0.00 (0.00) .01 | 0.00 (0.00) .01 | 0.00 (0.00) .01 | 0.00 (0.00) .01 | 0.00 (0.00) .40 |
| b | Slope \* education | --- | -0.00 (0.00) .47 | -0.00 (0.00) .45 | -0.00 (0.00) .55 | -0.00 (0.00) .64 |
| b | Slope \* height | --- | --- | 0.00 (0.00) .62 | 0.00 (0.00) .54 | 0.00 (0.00) .65 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.02) .84 | 0.00 (0.02) .79 |
| b | Slope \* cardio | --- | --- | --- | 0.02 (0.02) .22 | --- |
| b | Slope \* diabetes | --- | --- | --- | 0.09 (0.04) .03 | --- |
| a | Variance of level | 28.46 (1.44) <.01 | 28.16 (1.42) <.01 | 24.81 (1.34) <.01 | 23.52 (1.29) <.01 | 21.25 (1.16) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.04 (0.07) .62 | -0.04 (0.07) .54 | -0.02 (0.07) .80 | -0.03 (0.07) .71 | -0.04 (0.07) .51 |
| b | Variance of level | 0.96 (0.18) <.01 | 0.94 (0.18) <.01 | 0.93 (0.18) <.01 | 0.93 (0.18) <.01 | 0.96 (0.18) <.01 |
| b | Variance of slope | 0.00 (0.00) .43 | 0.00 (0.00) .43 | 0.00 (0.00) .44 | 0.00 (0.00) .44 | 0.00 (0.00) .31 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | 0.04 (0.02) .01 | 0.04 (0.02) .01 | 0.04 (0.02) .01 | 0.04 (0.02) .01 | 0.03 (0.02) .09 |
| ab | Covariance of levels | -0.27 (0.30) .38 | -0.20 (0.30) .50 | -0.02 (0.29) .94 | -0.05 (0.28) .86 | 0.20 (0.29) .49 |
| ab | Covariance of slopes | -0.00 (0.00) .18 | -0.00 (0.00) .19 | -0.00 (0.00) .22 | -0.00 (0.00) .27 | -0.00 (0.00) .18 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | -0.051 | -0.039 | -0.0048 | -0.011 | 0.044 |
|  | Correlation of Slopes | -0.274 | -0.274 | -0.2774 | -0.226 | -0.250 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 4 | 4 | 4 | 4 | 4 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -14,828 | -17,525 | -21,086 | -21,032 | -43,155 |
|  | AIC | 29,703 | 35,110 | 42,247 | 42,164 | 86,671 |
|  | BIC | 29,818 | 35,261 | 42,439 | 42,416 | 87,582 |

## word\_de

Gender = *male*; Process (a) = *fev*; Process (b) = *word\_de*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.25 (0.50) <.01 | -25.47 (4.16) <.01 | 26.40 (0.52) <.01 | -20.39 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.26 (0.03) <.01 | 0.05 (0.26) .84 | -0.24 (0.04) <.01 | 0.12 (0.28) .68 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.04 (0.07) .57 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.16 (0.32) <.01 | -1.60 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.02 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.90 (0.56) .11 | --- |
| a | Slope \* age | -0.00 (0.00) .19 | -0.00 (0.00) .22 | -0.00 (0.00) .12 | -0.00 (0.00) .20 | -0.00 (0.00) .10 |
| a | Slope \* education | --- | 0.01 (0.00) .07 | 0.01 (0.00) .06 | 0.01 (0.00) .08 | 0.00 (0.00) .31 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .22 | -0.00 (0.00) .26 | -0.00 (0.00) .26 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.02) .80 | -0.00 (0.02) .84 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .12 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .08 | --- |
| b | Level | 6.34 (0.07) <.01 | 5.54 (0.19) <.01 | 2.55 (1.72) .14 | 5.40 (0.23) <.01 | 2.48 (1.80) .17 |
| b | Slope | -0.10 (0.01) <.01 | -0.09 (0.02) <.01 | 0.06 (0.18) .73 | -0.07 (0.02) .01 | 0.03 (0.19) .89 |
| b | Level \* age | -0.08 (0.01) <.01 | -0.08 (0.01) <.01 | -0.08 (0.01) <.01 | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 |
| b | Level \* education | --- | 0.11 (0.02) <.01 | 0.11 (0.02) <.01 | 0.11 (0.02) <.01 | 0.08 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.02 (0.01) .08 | 0.02 (0.01) .10 | 0.02 (0.01) .11 |
| b | Level \* smoking | --- | --- | --- | 0.20 (0.14) .17 | 0.19 (0.14) .18 |
| b | Level \* cardio | --- | --- | --- | 0.04 (0.15) .76 | --- |
| b | Level \* diabetes | --- | --- | --- | -0.16 (0.19) .39 | --- |
| b | Slope \* age | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) .07 |
| b | Slope \* education | --- | -0.00 (0.00) .69 | -0.00 (0.00) .77 | -0.00 (0.00) .65 | -0.00 (0.00) .49 |
| b | Slope \* height | --- | --- | -0.00 (0.00) .40 | -0.00 (0.00) .52 | -0.00 (0.00) .35 |
| b | Slope \* smoking | --- | --- | --- | -0.03 (0.01) .04 | -0.03 (0.01) .02 |
| b | Slope \* cardio | --- | --- | --- | -0.01 (0.02) .37 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.02) .43 | --- |
| a | Variance of level | 28.32 (1.42) <.01 | 28.02 (1.40) <.01 | 24.68 (1.33) <.01 | 23.49 (1.29) <.01 | 21.11 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .78 | -0.02 (0.06) .68 | -0.00 (0.06) .95 | -0.02 (0.06) .76 | -0.03 (0.06) .64 |
| b | Variance of level | 2.07 (0.17) <.01 | 2.00 (0.17) <.01 | 1.99 (0.17) <.01 | 1.97 (0.17) <.01 | 1.91 (0.17) <.01 |
| b | Variance of slope | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | -0.00 (0.01) .88 | -0.00 (0.01) .88 | -0.00 (0.01) .92 | 0.00 (0.01) .94 | 0.00 (0.01) .95 |
| ab | Covariance of levels | 0.85 (0.36) .02 | 0.69 (0.35) .05 | 0.49 (0.33) .14 | 0.57 (0.32) .07 | 0.48 (0.30) .11 |
| ab | Covariance of slopes | 0.00 (0.00) .99 | 0.00 (0.00) .98 | 0.00 (0.00) .94 | -0.00 (0.00) .77 | 0.00 (0.00) .75 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.11 | 0.092 | 0.07 | 0.084 | 0.076 |
|  | Correlation of Slopes | 0.00 | 0.000 | 0.00 | -0.065 | 0.072 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -17,111 | -19,800 | -23,361 | -23,309 | -45,435 |
|  | AIC | 34,268 | 39,660 | 46,798 | 46,719 | 91,233 |
|  | BIC | 34,384 | 39,811 | 46,989 | 46,970 | 92,143 |

## word\_im

Gender = *male*; Process (a) = *fev*; Process (b) = *word\_im*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| a | Level | 25.68 (0.17) <.01 | 24.26 (0.50) <.01 | -25.42 (4.15) <.01 | 26.41 (0.52) <.01 | -20.30 (4.24) <.01 |
| a | Slope | -0.21 (0.01) <.01 | -0.27 (0.03) <.01 | 0.05 (0.26) .85 | -0.24 (0.04) <.01 | 0.11 (0.28) .70 |
| a | Level \* age | -0.31 (0.02) <.01 | -0.30 (0.02) <.01 | -0.24 (0.02) <.01 | -0.24 (0.02) <.01 | -0.16 (0.03) <.01 |
| a | Level \* education | --- | 0.20 (0.06) <.01 | 0.14 (0.06) .02 | 0.12 (0.06) .05 | 0.04 (0.07) .58 |
| a | Level \* height | --- | --- | 0.29 (0.02) <.01 | 0.30 (0.02) <.01 | 0.30 (0.02) <.01 |
| a | Level \* smoking | --- | --- | --- | -2.16 (0.32) <.01 | -1.60 (0.32) <.01 |
| a | Level \* cardio | --- | --- | --- | -1.02 (0.35) <.01 | --- |
| a | Level \* diabetes | --- | --- | --- | -0.90 (0.56) .11 | --- |
| a | Slope \* age | -0.00 (0.00) .16 | -0.00 (0.00) .19 | -0.00 (0.00) .10 | -0.00 (0.00) .17 | -0.00 (0.00) .09 |
| a | Slope \* education | --- | 0.01 (0.00) .07 | 0.01 (0.00) .05 | 0.01 (0.00) .07 | 0.00 (0.00) .32 |
| a | Slope \* height | --- | --- | -0.00 (0.00) .23 | -0.00 (0.00) .26 | -0.00 (0.00) .26 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.02) .81 | -0.00 (0.02) .86 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.02) .11 | --- |
| a | Slope \* diabetes | --- | --- | --- | -0.09 (0.05) .08 | --- |
| b | Level | 18.98 (0.13) <.01 | 17.15 (0.38) <.01 | 11.55 (3.33) <.01 | 16.95 (0.46) <.01 | 13.80 (3.48) <.01 |
| b | Slope | -0.18 (0.01) <.01 | -0.19 (0.04) <.01 | 0.23 (0.33) .47 | -0.16 (0.05) <.01 | 0.05 (0.35) .88 |
| b | Level \* age | -0.17 (0.02) <.01 | -0.17 (0.02) <.01 | -0.16 (0.02) <.01 | -0.16 (0.02) <.01 | -0.13 (0.02) <.01 |
| b | Level \* education | --- | 0.25 (0.05) <.01 | 0.24 (0.05) <.01 | 0.25 (0.05) <.01 | 0.17 (0.06) <.01 |
| b | Level \* height | --- | --- | 0.03 (0.02) .09 | 0.03 (0.02) .10 | 0.03 (0.02) .15 |
| b | Level \* smoking | --- | --- | --- | 0.16 (0.28) .56 | 0.19 (0.29) .50 |
| b | Level \* cardio | --- | --- | --- | 0.20 (0.28) .48 | --- |
| b | Level \* diabetes | --- | --- | --- | 0.21 (0.42) .62 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) .02 |
| b | Slope \* education | --- | 0.00 (0.00) .84 | 0.00 (0.01) .73 | 0.00 (0.01) .84 | 0.00 (0.01) .87 |
| b | Slope \* height | --- | --- | -0.00 (0.00) .20 | -0.00 (0.00) .23 | -0.00 (0.00) .13 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.03) .77 | -0.02 (0.03) .52 |
| b | Slope \* cardio | --- | --- | --- | -0.06 (0.03) .05 | --- |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.05) .72 | --- |
| a | Variance of level | 28.32 (1.42) <.01 | 28.02 (1.40) <.01 | 24.68 (1.33) <.01 | 23.49 (1.29) <.01 | 21.12 (1.14) <.01 |
| a | Variance of slope | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.03 (0.01) <.01 | 0.03 (0.00) <.01 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| a | Covariance of level & slope | -0.02 (0.06) .78 | -0.02 (0.06) .68 | -0.00 (0.06) .94 | -0.02 (0.06) .75 | -0.03 (0.06) .62 |
| b | Variance of level | 7.29 (0.66) <.01 | 6.89 (0.64) <.01 | 6.84 (0.64) <.01 | 6.80 (0.64) <.01 | 6.52 (0.63) <.01 |
| b | Variance of slope | 0.01 (0.01) .08 | 0.01 (0.01) .07 | 0.01 (0.01) .08 | 0.01 (0.01) .09 | 0.01 (0.01) .09 |
|  | Variance of residual | --- | --- | --- | --- | --- |
| b | Covariance of level & slope | 0.01 (0.05) .88 | 0.00 (0.05) .92 | 0.01 (0.05) .85 | 0.01 (0.05) .81 | 0.01 (0.05) .85 |
| ab | Covariance of levels | 1.98 (0.72) .01 | 1.60 (0.70) .02 | 1.22 (0.65) .06 | 1.35 (0.63) .03 | 1.00 (0.60) .10 |
| ab | Covariance of slopes | 0.00 (0.00) .20 | 0.00 (0.00) .24 | 0.00 (0.00) .26 | 0.00 (0.00) .38 | 0.00 (0.00) .31 |
|  | Covariance of residuals | --- | --- | --- | --- | --- |
|  | Correlation of Levels | 0.14 | 0.12 | 0.094 | 0.11 | 0.085 |
|  | Correlation of Slopes | 0.24 | 0.20 | 0.195 | 0.15 | 0.160 |
|  | Correlation of Residuals | NA | NA | NA | NA | NA |
|  | N | 1,132 | 1,132 | 1,132 | 1,131 | 1,131 |
|  | occasions | 6 | 6 | 6 | 6 | 6 |
|  | parameters | 23 | 30 | 38 | 50 | 181 |
|  | LL | -19,111 | -21,791 | -25,352 | -25,299 | -47,420 |
|  | AIC | 38,269 | 43,642 | 50,779 | 50,698 | 95,203 |
|  | BIC | 38,384 | 43,793 | 50,970 | 50,950 | 96,113 |

## Summary

Study = *NAS*; Gender = *male*; Process (a) = *fev*

Computed correlations:

label

process\_b

aehplus

Correlation of Levels

animals

-0.05

Correlation of Levels

digit\_b

0.03

Correlation of Levels

digit\_b\_tot

0.03

Correlation of Levels

fig\_copy

0.19

Correlation of Levels

mmse

0.20

Correlation of Levels

pat\_comp

-0.01

Correlation of Levels

word\_de

0.08

Correlation of Levels

word\_im

0.11

label

process\_b

aehplus

Correlation of Slopes

animals

-0.04

Correlation of Slopes

digit\_b

Inf

Correlation of Slopes

digit\_b\_tot

0.12

Correlation of Slopes

fig\_copy

0.52

Correlation of Slopes

mmse

-0.12

Correlation of Slopes

pat\_comp

-0.23

Correlation of Slopes

word\_de

-0.06

Correlation of Slopes

word\_im

0.15

label

process\_b

aehplus

Correlation of Residuals

animals

0.03

Correlation of Residuals

digit\_b

0.03

Correlation of Residuals

digit\_b\_tot

0.04

Correlation of Residuals

fig\_copy

-0.09

Correlation of Residuals

mmse

-0.02

Correlation of Residuals

pat\_comp

0.03

Correlation of Residuals

word\_de

0.02

Correlation of Residuals

word\_im

-0.03

P-values for corresponding covariances:

label

process\_b

aehplus

Covariance of Levels

animals

0.26

Covariance of Levels

digit\_b

0.52

Covariance of Levels

digit\_b\_tot

0.59

Covariance of Levels

fig\_copy

0.00

Covariance of Levels

mmse

0.00

Covariance of Levels

pat\_comp

0.86

Covariance of Levels

word\_de

0.07

Covariance of Levels

word\_im

0.03

label

process\_b

aehplus

Covariance of Slopes

animals

0.87

Covariance of Slopes

digit\_b

0.22

Covariance of Slopes

digit\_b\_tot

0.74

Covariance of Slopes

fig\_copy

0.11

Covariance of Slopes

mmse

0.61

Covariance of Slopes

pat\_comp

0.27

Covariance of Slopes

word\_de

0.77

Covariance of Slopes

word\_im

0.38

label

process\_b

aehplus

Covariance of Residuals

animals

0.29

Covariance of Residuals

digit\_b

0.26

Covariance of Residuals

digit\_b\_tot

0.19

Covariance of Residuals

fig\_copy

0.00

Covariance of Residuals

mmse

0.44

Covariance of Residuals

pat\_comp

0.44

Covariance of Residuals

word\_de

0.50

Covariance of Residuals

word\_im

0.23

#Session Info

R version 3.3.2 (2016-10-31)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
locale:  
[1] LC\_COLLATE=English\_United States.1252 LC\_CTYPE=English\_United States.1252 LC\_MONETARY=English\_United States.1252  
[4] LC\_NUMERIC=C LC\_TIME=English\_United States.1252   
  
attached base packages:  
[1] grid stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] knitr\_1.15.1 dplyr\_0.5.0 forestplot\_1.7 checkmate\_1.8.2 ggplot2\_2.2.1 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.9 devtools\_1.13.1 munsell\_0.4.3 testit\_0.6 colorspace\_1.3-2 R6\_2.2.0   
 [7] httr\_1.2.1 highr\_0.6 stringr\_1.1.0 plyr\_1.8.4 tools\_3.3.2 DT\_0.2   
[13] gtable\_0.2.0 plotrix\_3.6-4 DBI\_0.5-1 git2r\_0.18.0 withr\_1.0.2 htmltools\_0.3.5   
[19] yaml\_2.1.14 lazyeval\_0.2.0 assertthat\_0.1 digest\_0.6.12 rprojroot\_1.2 tibble\_1.2   
[25] readr\_1.0.0 tidyr\_0.6.1 htmlwidgets\_0.8 curl\_2.3 rsconnect\_0.7 memoise\_1.0.0   
[31] evaluate\_0.10 rmarkdown\_1.3 stringi\_1.1.2 scales\_0.4.1 backports\_1.0.5 jsonlite\_1.2