

Appendix 1 to Wolfers T, Arenas AL, Onnink AMH, et al. Refinement by integration: aggregated effects of multimodal imaging markers on adult ADHD. *J Psychiatry Neurosci* 2017.

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Methods: Supplementary Table 1

Prior to statistical association we exclude imaging markers that were associated with confounds and are listed below. In subsequent sensitivity analyses we included those markers to the analyses and showed that it remained robust Supplementary Table 4.

Supplementary Table 1: Excluded imaging markers

| Excluded imaging marker | <i>Reason for exclusion</i> | <i>Evidence for exclusion</i> |
|--------------------------------|---|------------------------------------|
| M2 | <i>Affected by differences in diffusion acquisition protocols</i> | $p = <.001; \eta^2 = .938$ |
| M7 | <i>Affected by differences in diffusion acquisition protocols</i> | $p = .042; l \eta^2 = .023$ |
| M9 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M10 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M11 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M12 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M13 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M16 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M24 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M28 | <i>Affected by differences in diffusion acquisition protocols</i> | $p = .033; \eta^2 = .025$ |
| M39 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M41 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M42 | <i>Variance explained by a single participant</i> | <i>Variance explained > 10%</i> |
| M= imaging marker | | |

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Methods: Supplementary Table 2

Details of the full logistic regression model as reported in the results section and Figure 1 and 2.

Supplementary Table 2: Logistic regression on adult ADHD

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>Accuracy</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|-----------------|----------------|
| <i>Descriptive logistic regression</i> | 143 | 36 | 27.86% | 75.50% | .004** |
| | <i>Cross validation</i> | - | | | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | | 60.00% | <.001** |
| <i>Individual markers</i> | <i>Regression coefficient</i> | <i>z-stats</i> | | | <i>p</i> |
| M6 | .762 | 3.242 | | | .001** |
| M19 | .698 | 3.236 | | | .001** |
| M32 | .506 | 2.258 | | | .024* |
| M1 | -.542 | -2.196 | | | .028* |
| M38 | -.454 | -2.171 | | | .030* |
| M47 | -.497 | -1.968 | | | .049* |
| M17 | .370 | 1.907 | | | .056 |
| M15 | .361 | 1.742 | | | .081 |
| M31 | -.331 | -1.676 | | | .094 |
| M4 | -.331 | -1.612 | | | .107 |
| M18 | -.315 | -1.539 | | | .124 |

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| | | | |
|-----|-------|--------|------|
| M45 | -.313 | -1.473 | .141 |
| M20 | .284 | 1.435 | .151 |
| M22 | .261 | 1.309 | .191 |
| M36 | -.227 | -1.144 | .252 |
| M3 | -.235 | -1.123 | .261 |
| M27 | -.197 | -1.023 | .306 |
| M43 | .178 | .918 | .359 |
| M40 | .170 | .818 | .413 |
| M8 | .194 | .785 | .433 |
| M23 | -.151 | -.755 | .451 |
| M26 | -.149 | -.744 | .457 |
| M35 | -.149 | -.713 | .476 |
| M44 | .136 | .705 | .481 |
| M21 | -.122 | -.624 | .533 |
| M34 | -.109 | -.543 | .587 |
| M37 | -.092 | -.437 | .662 |
| M30 | -.084 | -.422 | .673 |
| M50 | -.084 | -.414 | .679 |
| M14 | -.068 | -.356 | .722 |
| M33 | -.059 | -.304 | .761 |

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| | | | |
|-----|-------|-------|------|
| M5 | -.065 | -.298 | .765 |
| M49 | -.050 | -.240 | .810 |
| M29 | .048 | .233 | .816 |
| M48 | -.032 | -.175 | .861 |
| M25 | -.032 | -.170 | .865 |
| M46 | -.022 | -.113 | .910 |

ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; Perm. p = p-value using permutation testing; LOO-CV = Leave one participant out cross-validation method
 * Nominal significant (p<.05)
 ** Overall regression model that remains significant after multiple comparisons using the Bonferroni-Holm method p< (.05/4) or an individual regressor that remains significant after multiple comparison correction p < (.05/37). The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (37 Imaging Markers).

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Methods: Supplementary Table 3

Sensitivity analysis with estimated intelligence, age and gender as part of the main logistic regression on adult ADHD. Detailed overview of the model

Supplementary Table 3: Logistic regression on adult ADHD with estimated intelligence, age and gender

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>Accuracy</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|-----------------|----------------|
| <i>Descriptive logistic regression</i> | 140 | 39 | 29.73% | 77.20% | <.001** |
| | <i>cross validation</i> | - | | <i>Accuracy</i> | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | | 60.50% | .002** |
| <i>Individual regressors</i> | <i>Regression coefficient</i> | <i>z-stats</i> | | | <i>p</i> |
| M6 | .742 | 3.081 | | | .002* |
| M19 | .677 | 2.996 | | | .003* |
| M1 | -.882 | -2.923 | | | .003* |
| M38 | -.522 | -2.401 | | | .016* |
| M32 | .499 | 2.193 | | | .028* |
| M4 | -.459 | -2.042 | | | .041* |
| age | -.837 | -1.991 | | | .047* |
| M47 | -.449 | -1.729 | | | .083 |
| M31 | -.349 | -1.727 | | | .084 |
| M15 | .347 | 1.647 | | | .099 |
| M45 | -.357 | -1.626 | | | .104 |

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| | | | |
|--------|-------|--------|------|
| M3 | -.407 | -1.471 | .141 |
| M22 | .295 | 1.383 | .167 |
| M36 | -.272 | -1.328 | .184 |
| M17 | .260 | 1.280 | .200 |
| M35 | -.317 | -1.279 | .201 |
| M20 | .218 | 1.063 | .288 |
| M40 | .219 | 1.008 | .314 |
| M26 | -.208 | -1.002 | .316 |
| gender | .320 | .970 | .332 |
| M18 | -.210 | -.963 | .336 |
| M49 | -.212 | -.926 | .355 |
| M37 | -.196 | -.879 | .380 |
| M43 | .181 | .866 | .386 |
| M27 | -.156 | -.789 | .430 |
| M23 | -.161 | -.785 | .432 |
| M48 | -.130 | -.663 | .507 |
| M21 | -.116 | -.579 | .563 |
| M14 | -.097 | -.495 | .621 |
| M50 | -.108 | -.493 | .622 |
| M44 | .068 | .343 | .732 |

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| | | | |
|------------------------|-------|-------|------|
| M25 | -.062 | -.313 | .754 |
| M33 | -.057 | -.290 | .772 |
| M29 | .053 | .240 | .810 |
| estimated intelligence | .031 | .136 | .892 |
| M46 | -.025 | -.122 | .903 |
| M8 | -.022 | -.082 | .935 |
| M5 | -.017 | -.078 | .937 |
| M34 | -.017 | -.070 | .944 |
| M30 | -.013 | -.062 | .951 |

ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; Perm. p = p-value using permutation testing; LOO-CV = Leave one participant out cross-validation method

* Nominal significant (p<.05)

** Overall regression model that is significant after multiple comparisons using the Bonferroni-Holm method p< (.05/4) or an individual regressor that remains significant after correction p < (.05/40). The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (37 Imaging Markers, estimated intelligence, age and gender).

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Methods: Supplementary Table 4

Repetition of the logistic regression model on adult ADHD now with all 50 imaging markers included into the model. Detailed overview of the model

Supplementary Table 4: Logistic regression on adult ADHD with 50 imaging markers

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>Accuracy</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|-----------------|----------------|
| Descriptive logistic regression | 130 | 49 | 34.56% | 77.06% | <.001** |
| | <i>Cross validation</i> | - | | | <i>Perm. p</i> |
| Predictive logistic regression | LOO-CV | - | | 58.23% | <.011** |
| Individual regressors | <i>Regression coefficient</i> | <i>z-stats</i> | | | <i>p</i> |
| M19 | .752 | 3.223 | | | .001** |
| M6 | .602 | 2.253 | | | .024* |
| M32 | .530 | 2.162 | | | .031* |
| M47 | -.597 | -2.040 | | | .041* |
| M2 | .489 | 2.037 | | | .042* |
| M38 | -.439 | -1.884 | | | .060 |
| M4 | -.426 | -1.837 | | | .066 |
| M17 | .454 | 1.770 | | | .077 |
| M1 | -.489 | -1.700 | | | .089 |
| M7 | .463 | 1.620 | | | .105 |
| M31 | -.366 | -1.612 | | | .107 |

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| | | | |
|------------|-------|--------|------|
| M15 | .387 | 1.576 | .116 |
| M13 | .735 | 1.351 | .177 |
| M20 | .299 | 1.312 | .190 |
| M18 | -.274 | -1.234 | .217 |
| M11 | -.629 | -1.213 | .225 |
| M36 | -.279 | -1.194 | .232 |
| M10 | .596 | 1.133 | .257 |
| M3 | -.263 | -1.095 | .274 |
| M45 | -.258 | -1.086 | .277 |
| M42 | -.238 | -1.055 | .291 |
| M27 | -.211 | -.984 | .325 |
| M40 | .219 | .971 | .332 |
| M22 | .208 | .948 | .343 |
| M43 | .206 | .932 | .351 |
| M41 | .182 | .884 | .376 |
| M35 | -.210 | -.872 | .383 |
| M49 | -.192 | -.842 | .400 |
| M30 | -.186 | -.834 | .404 |
| M29 | .151 | .630 | .528 |
| M37 | -.149 | -.626 | .531 |
| M16 | -.233 | -.625 | .532 |

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| | | | |
|------------|--------|--------|------|
| M23 | -0.130 | -0.579 | .562 |
| M26 | -0.133 | -0.560 | .576 |
| M12 | -0.206 | -0.520 | .603 |
| M25 | -0.102 | -0.491 | .623 |
| M8 | .135 | .489 | .625 |
| M9 | -0.078 | -0.439 | .661 |
| M34 | -0.081 | -0.367 | .714 |
| M28 | -0.071 | -0.304 | .761 |
| M44 | .059 | .273 | .785 |
| M14 | -0.049 | -0.227 | .821 |
| M50 | -0.044 | -0.185 | .854 |
| M48 | -0.034 | -0.172 | .864 |
| M33 | -0.027 | -0.127 | .900 |
| M39 | .023 | .104 | .917 |
| M5 | .021 | .082 | .934 |
| M21 | .008 | .039 | .969 |
| M46 | -0.007 | -0.033 | .974 |
| M24 | .002 | .013 | .990 |

ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; Perm. p = p-value using permutation testing; LOO-CV = Leave one participant out cross-validation method

*** Nominal significant (p<.05)**

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**** Overall regression model that is significant after multiple comparisons using the Bonferroni-Holm method $p < (.05/4)$ or an individual regressor that remains significant after correction $p < (.05/50)$. The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (50 Imaging Markers).**

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Methods: Supplementary Table 5

Comparison of logistic regressions on adult ADHD with 40, 45, 50 prespecified ICA decompositions. Correlation of the top imaging markers across those models. Detailed overview of the model

Supplementary Table 5: Logistic regression on adult ADHD with 40, 45 and 50 imaging marker ICAs

| Logistic regression 50 imaging markers | df. residuals | df. model | Pseudo R ² | Accuracy | p |
|--|--|--|-----------------------|----------|----------------|
| <i>Descriptive logistic regression</i> | 130 | 49 | 34.56% | 77.06% | <.001** |
| | <i>Cross validation</i> | - | - | - | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | - | 58.23% | <.011** |
| Logistic regression 45 imaging markers | df. residuals | df. model | Pseudo R ² | Accuracy | p |
| <i>Descriptive logistic regression</i> | 135 | 44 | 35.40% | 77.01% | <.001** |
| | <i>Cross validation</i> | - | - | - | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | - | 62.68% | <.001** |
| Logistic regression 40 imaging markers | df. residuals | df. model | Pseudo R ² | Accuracy | p |
| <i>Descriptive logistic regression</i> | 140 | 39 | 32.42% | 78.75% | <.001** |
| | <i>Cross validation</i> | - | - | - | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | - | 60.92% | <.002** |
| Top imaging markers for adult ADHD with | Top imaging markers for adult ADHD with | Top imaging markers for adult ADHD with | Correlations | | |

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| ICA model 50 | ICA model 45 | ICA model 40 | |
|----------------------|----------------------|----------------------|-----------|
| M19(1 ^a) | M26(1 ^a) | - | r = .955# |
| M19(1 ^a) | - | M23(1 ^a) | r = .970# |
| M6(2 ^a) | M9(2 ^a) | - | r = .725# |
| M6(2 ^a) | - | M7(3 ^a) | r = .975# |

ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; Perm. p = p-value using permutation testing; LOO-CV = Leave one participant out cross-validation method

** Significant after multiple comparisons ($p < .05/3$) for three different logistic regressions on adult ADHD with ICA model 50, 45 and 40

Multiple comparison corrected significant correlations

^a Position of marker in model on adult ADHD

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Methods: Supplementary Table 6

To inspect if the main results on adult ADHD are linked to the selection of participants, we split our sample in two parts by taking odd and even participants for both groups apart. We repeated the analyses in each of these splits for the most predictive imaging markers in the main analysis and compared the outcome.

| Supplementary Table 6: Logistic regression on adult ADHD in full and split half samples, using nominal significant imaging markers from the main analysis | | | | |
|--|----------------------|------------------|-----------------------------|----------|
| Full sample | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>p</i> |
| Descriptive logistic regression N=180 | 174 | 5 | 15.14% | <.001 |
| Split odd sample | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>p</i> |
| Descriptive logistic regression N=89 | 83 | 5 | 10.08% | .029 |
| Split even sample | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>p</i> |
| Descriptive logistic regression N=91 | 85 | 5 | 21.67% | <.001 |
| ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; | | | | |

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Methods: Supplementary Table 7

Detailed overview of the linear regression on estimated intelligence including all imaging markers as in the logistic regression on adult ADHD presented in Supplementary Table 2. The results are depicted in Figure 2.

Supplementary Table 7: Linear regression on estimated intelligence

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|----------|
| <i>Descriptive logistic regression</i> | 143 | 37 | 32.21% | .007** |
| <i>Individual regressors</i> | <i>Regression coefficient</i> | <i>t-stats</i> | <i>p</i> | |
| M35 | .309 | 4.101 | <.001 | |
| M4 | .225 | 2.904 | .004 | |
| M19 | .193 | 2.713 | .007 | |
| M50 | -.195 | -2.654 | .008 | |
| M22 | .120 | 1.660 | .099 | |
| M48 | -.102 | -1.447 | .150 | |
| M26 | .098 | 1.309 | .193 | |
| M25 | .092 | 1.286 | .201 | |
| M21 | .091 | 1.271 | .206 | |
| M33 | .086 | 1.207 | .229 | |
| M8 | .099 | 1.090 | .277 | |
| M27 | .075 | 1.059 | .291 | |
| M36 | .065 | .915 | .362 | |

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| | | | |
|-----|-------|--------|------|
| M46 | -.061 | -.855 | .394 |
| M29 | -.060 | -0.830 | .408 |
| M45 | .061 | .806 | .422 |
| M30 | -.059 | -.788 | .432 |
| M43 | -.055 | -.777 | .439 |
| M5 | .059 | .773 | .441 |
| M3 | .057 | .751 | .454 |
| M20 | .053 | .750 | .455 |
| M15 | .056 | .731 | .466 |
| M47 | -.061 | -.710 | .479 |
| M1 | -.057 | -.647 | .519 |
| M40 | .045 | .601 | .549 |
| M18 | .039 | .541 | .589 |
| M17 | .038 | .530 | .597 |
| M34 | .032 | .446 | .656 |
| M31 | -.032 | -.445 | .657 |
| M49 | -.032 | -.416 | .678 |
| M44 | .017 | .235 | .815 |
| M6 | -.015 | -.184 | .854 |
| M37 | -.011 | -.148 | .883 |

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| | | | |
|-----|-------|-------|------|
| M32 | -.006 | -.080 | .936 |
| M38 | -.005 | -.072 | .943 |
| M14 | .002 | .027 | .978 |
| M23 | -.001 | -.016 | .987 |

df. = Degrees of freedom; p = uncorrected p-value;

* Nominal significant (p<.05)

** Overall regression model that is significant after multiple comparisons using the Bonferroni-Holm method $p < (.05/4)$ or an individual regressor that remains significant after correction $p < (.05/37)$. The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (37 Imaging Markers), respectively.

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Methods: Supplementary Table 8

Detailed overview of the linear regression on age including all imaging markers as in the logistic regression on adult ADHD presented in Supplementary Table 2. The results are depicted in Figure 2.

Supplementary Table 8: Linear regression on age

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|----------|
| <i>Descriptive logistic regression</i> | 143 | 37 | 78.82% | <.001** |
| <i>Individual regressors</i> | <i>Regression coefficient</i> | <i>t-stats</i> | <i>p</i> | |
| M1 | -.377 | -7.547 | <.001 | |
| M3 | -.318 | -7.359 | <.001 | |
| M8 | -.228 | -4.427 | <.001 | |
| M49 | -.155 | -3.598 | <.001 | |
| M4 | -.123 | -2.807 | .006 | |
| M48 | -.099 | -2.491 | .014 | |
| M35 | -.102 | -2.389 | .018 | |
| M17 | -.093 | -2.311 | .022 | |
| M37 | -.092 | -2.246 | .026 | |
| M30 | .086 | 2.034 | .044 | |
| M43 | .079 | 1.963 | .052 | |
| M6 | -.080 | -1.751 | .082 | |
| M40 | .073 | 1.735 | .085 | |

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| | | | |
|-----|-------|--------|------|
| M5 | .073 | 1.695 | .092 |
| M38 | -.068 | -1.685 | .094 |
| M47 | .082 | 1.677 | .096 |
| M34 | -.067 | -1.665 | .098 |
| M26 | -.070 | -1.665 | .098 |
| M20 | -.062 | -1.529 | .129 |
| M19 | -.051 | -1.273 | .205 |
| M18 | .050 | 1.220 | .225 |
| M36 | -.044 | -1.108 | .270 |
| M50 | -.042 | -.998 | .320 |
| M22 | -.036 | -.882 | .379 |
| M29 | -.034 | -.836 | .405 |
| M44 | -.028 | -.687 | .493 |
| M27 | .025 | .632 | .528 |
| M15 | -.025 | -.586 | .559 |
| M21 | .023 | .563 | .574 |
| M33 | .022 | .536 | .593 |
| M32 | -.020 | -.475 | .636 |
| M46 | .015 | .364 | .717 |
| M45 | -.008 | -0.194 | .846 |

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| | | | |
|-----|-------|-------|------|
| M23 | .006 | .159 | .874 |
| M14 | -.005 | -.114 | .909 |
| M31 | -.004 | -.100 | .921 |
| M25 | <.001 | .016 | .987 |

df. = Degrees of freedom; p = uncorrected p-value;
* Nominal significant (p<.05)
** Overall regression model that is significant after multiple comparisons using the Bonferroni-Holm method p< (.05/4) or an individual regressor that remains significant after correction p < (.05/37). The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (37 Imaging Markers).

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Methods: Supplementary Table 9

Detailed overview of the logistic regression on gender including all imaging markers as in the logistic regression on adult ADHD presented in Supplementary Table 2. The results are depicted in Figure 2.

Supplementary Table 9: Logistic regression on gender

| <i>N=180</i> | <i>df. residuals</i> | <i>df. model</i> | <i>Pseudo R²</i> | <i>Accuracy</i> | <i>p</i> |
|--|-------------------------------|------------------|-----------------------------|-----------------|----------------|
| <i>Descriptive logistic regression</i> | 143 | 26 | 57.51% | 90.2% | <.001** |
| | <i>cross validation</i> | - | | <i>Accuracy</i> | <i>Perm. p</i> |
| <i>Predictive logistic regression</i> | LOO-CV | - | | 80.50% | .001** |
| <i>Individual regressors</i> | <i>Regression coefficient</i> | <i>z-stats</i> | <i>odds</i> | <i>p</i> | |
| M34 | -2.120 | -4.797 | .120 | <.001 | |
| M3 | -2.668 | -4.487 | .069 | <.001 | |
| M35 | 1.784 | 3.578 | 5.954 | <.001 | |
| M43 | 1.087 | 3.347 | 2.964 | <.001 | |
| M29 | -1.339 | -3.249 | .262 | .001 | |
| M22 | -1.120 | -3.063 | .301 | .002 | |
| M18 | -1.174 | -3.036 | .309 | .002 | |
| M6 | -1.248 | -2.726 | .287 | .006 | |
| M50 | -.901 | -2.399 | .406 | .016 | |
| M14 | .807 | 2.369 | 2.242 | .018 | |

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| | | | | |
|-----|-------|--------|-------|------|
| M45 | .674 | 2.240 | 1.962 | .025 |
| M17 | .605 | 1.991 | 1.832 | .046 |
| M8 | .863 | 1.893 | 2.371 | .058 |
| M4 | .620 | 1.863 | 1.860 | .063 |
| M27 | -.575 | -1.777 | .563 | .076 |
| M37 | .489 | 1.545 | 1.630 | .122 |
| M30 | -.499 | -1.369 | .607 | .171 |
| M47 | -.573 | -1.294 | .564 | .195 |
| M25 | .401 | 1.288 | 1.493 | .198 |
| M46 | .437 | 1.229 | 1.549 | .219 |
| M21 | .412 | 1.211 | 1.510 | .226 |
| M20 | .347 | 1.199 | 1.415 | .230 |
| M23 | .400 | 1.198 | 1.491 | .231 |
| M33 | .404 | 1.197 | 1.497 | .231 |
| M49 | .468 | 1.176 | 1.596 | .240 |
| M31 | .393 | 1.108 | 1.482 | .268 |
| M48 | .400 | .976 | 1.491 | .329 |
| M5 | -.290 | -.973 | .748 | .330 |
| M26 | -.267 | -.749 | .766 | .454 |
| M36 | -.223 | -.639 | .800 | .523 |

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| | | | | |
|-----|-------|-------|-------|------|
| M32 | -.164 | -.479 | .848 | .632 |
| M38 | .1336 | .459 | 1.143 | .646 |
| M19 | -.149 | -.425 | .862 | .671 |
| M1 | -.169 | -.403 | .845 | .687 |
| M15 | .122 | .370 | 1.130 | .711 |
| M44 | .078 | .253 | 1.081 | .801 |
| M40 | .058 | .179 | 1.060 | .858 |

ADHD= Attention-deficit/hyperactivity disorder; df. = Degrees of freedom; p = uncorrected p-value; Perm. p = p-value using permutation testing; LOO-CV = Leave one participant out cross-validation method

* Nominal significant (p<.05)

** Overall regression model that is significant after multiple comparisons using the Bonferroni-Holm method p< (.05/4) or an individual regressor that remains significant after correction p < (.05/40). The thresholds are determined based on the number of independent regressions (adult ADHD, estimated intelligence, age and gender) or the number of predictors in each individual model (37 Imaging Markers, estimated intelligence, age and gender).

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Supplementary Figure 1: Imaging markers are ranked based on their explained variance across modalities, meaning that a marker with a low index explains more of the variance present among the structural and diffusion modalities. Markers flanked by a red x are excluded from all statistical analyses for reasons described in supplementary table 1. Note: FA = Fractional anisotropy, MD = Mean diffusivity, MO = Tensor mode, TH = Cortical thickness, AR = Pial surface area, GM = Gray matter volume

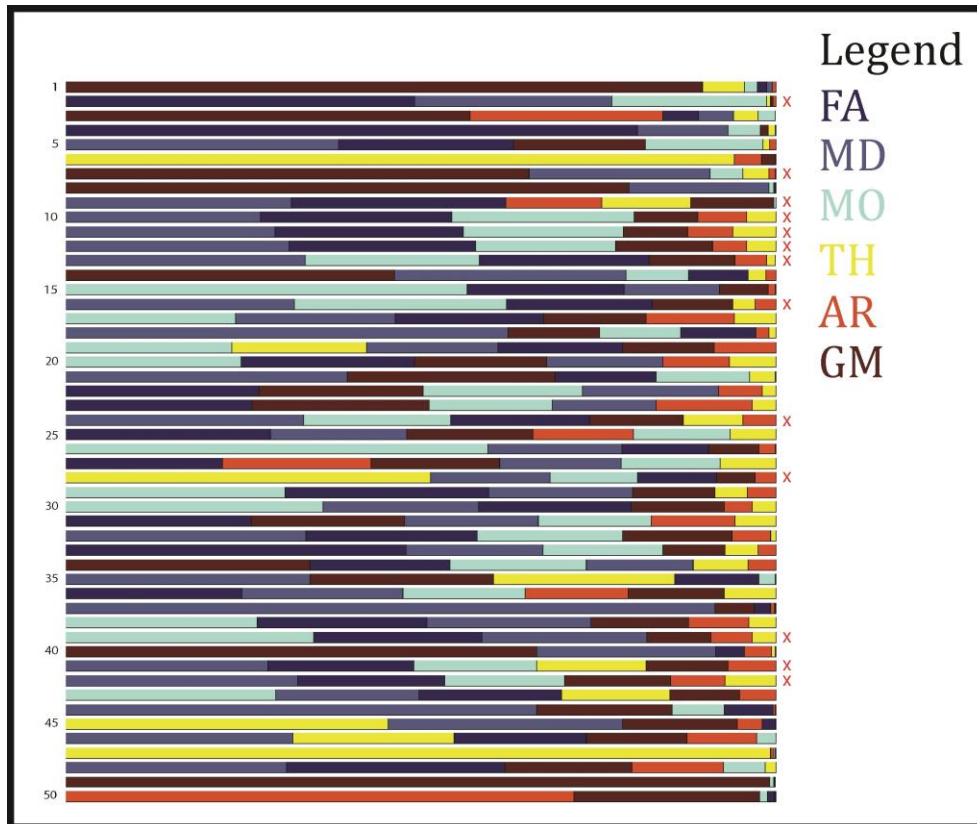
Supplementary Figure 2: Depicted are all correlations of the top imaging markers (Marker 6 and 19) contributing to the prediction of adult ADHD, with self-reported symptom scores of inattention and hyperactivity. In the first row, across the two groups in the second only for participants with ADHD in the third only for healthy controls.

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