[1] "Loading the imputed 'mids' object from Step 3..."

[1] "Loading data from Step 2 to retrieve student IDs..."

[1] "Beginning feature engineering loop..."

[1] "Processing Imputation # 1 ..."

[1] "--- PCA Diagnostics for Group: Math\_Disposition (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3 PC4 PC5 PC6 PC7

ANXMAT -0.490 0.659 0.476 0.300

MATHEFF 0.768 0.463 0.392

MATHEF21 0.749 0.515 -0.388

MATHPERS 0.641 0.346 -0.504 0.461

ST268Q04JA 0.776 -0.237 -0.337 0.244 0.385

ST268Q07JA 0.499 0.667 -0.252 -0.477

ST268Q01JA 0.767 -0.435 0.254 -0.369

PC1 PC2 PC3 PC4 PC5 PC6 PC7

SS loadings 3.241 1.059 0.855 0.658 0.575 0.314 0.298

Proportion Var 0.463 0.151 0.122 0.094 0.082 0.045 0.043

Cumulative Var 0.463 0.614 0.736 0.830 0.913 0.957 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3 PC4

SS loadings 3.2413480 1.0591648 0.8545118 0.65834333

Proportion Var 0.4630497 0.1513093 0.1220731 0.09404905

Cumulative Var 0.4630497 0.6143590 0.7364321 0.83048114

Proportion Explained 0.4630497 0.1513093 0.1220731 0.09404905

Cumulative Proportion 0.4630497 0.6143590 0.7364321 0.83048114

PC5 PC6 PC7

SS loadings 0.57493492 0.31379465 0.29790246

Proportion Var 0.08213356 0.04482781 0.04255749

Cumulative Var 0.91261470 0.95744251 1.00000000

Proportion Explained 0.08213356 0.04482781 0.04255749

Cumulative Proportion 0.91261470 0.95744251 1.00000000

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[1] "--- PCA Diagnostics for Group: Social\_Emotional\_Skills (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3 PC4 PC5 PC6

ASSERAGR 0.464 -0.207 0.822

COOPAGR 0.674 -0.325 -0.347 -0.524

EMOCOAGR 0.562 0.629 -0.252 0.459

EMPATAGR 0.516 -0.605 0.308 0.492

PERSEVAGR 0.690 -0.706

STRESAGR 0.527 0.675 -0.442

PC1 PC2 PC3 PC4 PC5 PC6

SS loadings 2.006 1.380 0.916 0.680 0.564 0.453

Proportion Var 0.334 0.230 0.153 0.113 0.094 0.075

Cumulative Var 0.334 0.564 0.717 0.830 0.925 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3 PC4

SS loadings 2.0059410 1.3802171 0.9164439 0.6801455

Proportion Var 0.3343235 0.2300362 0.1527406 0.1133576

Cumulative Var 0.3343235 0.5643597 0.7171003 0.8304579

Proportion Explained 0.3343235 0.2300362 0.1527406 0.1133576

Cumulative Proportion 0.3343235 0.5643597 0.7171003 0.8304579

PC5 PC6

SS loadings 0.56441633 0.45283613

Proportion Var 0.09406939 0.07547269

Cumulative Var 0.92452731 1.00000000

Proportion Explained 0.09406939 0.07547269

Cumulative Proportion 0.92452731 1.00000000

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[1] "--- PCA Diagnostics for Group: Openness\_Creativity (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3 PC4 PC5

CURIOAGR 0.609 0.740 0.219

CREATEFF 0.733 -0.548 -0.332 0.228

CREATOP 0.826 -0.547

IMAGINE 0.714 0.561 -0.394

OPENART 0.713 -0.466 0.477 0.212

PC1 PC2 PC3 PC4 PC5

SS loadings 2.609 0.782 0.643 0.544 0.422

Proportion Var 0.522 0.156 0.129 0.109 0.084

Cumulative Var 0.522 0.678 0.807 0.916 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3 PC4

SS loadings 2.6090472 0.7821935 0.6425139 0.5443354

Proportion Var 0.5218094 0.1564387 0.1285028 0.1088671

Cumulative Var 0.5218094 0.6782481 0.8067509 0.9156180

Proportion Explained 0.5218094 0.1564387 0.1285028 0.1088671

Cumulative Proportion 0.5218094 0.6782481 0.8067509 0.9156180

PC5

SS loadings 0.42191015

Proportion Var 0.08438203

Cumulative Var 1.00000000

Proportion Explained 0.08438203

Cumulative Proportion 1.00000000

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[1] "--- PCA Diagnostics for Group: Self\_Directed\_Learning (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2

SDLEFF 0.717 -0.697

GROSAGR 0.717 0.697

PC1 PC2

SS loadings 1.028 0.972

Proportion Var 0.514 0.486

Cumulative Var 0.514 1.000

[1] "Variance Accounted For:"

PC1 PC2

SS loadings 1.0275158 0.9724842

Proportion Var 0.5137579 0.4862421

Cumulative Var 0.5137579 1.0000000

Proportion Explained 0.5137579 0.4862421

Cumulative Proportion 0.5137579 1.0000000

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[1] "--- PCA Diagnostics for Group: Teacher\_Classroom\_Exp (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3 PC4 PC5 PC6

TEACHSUP 0.608 0.279 -0.310 0.658

RELATST 0.601 0.510 -0.228 0.539

COGACRCO 0.626 -0.623 0.404

COGACMCO 0.727 -0.500 -0.470

DISCLIM 0.346 0.371 0.853

CREATSCH 0.696 0.214 -0.449 -0.483

PC1 PC2 PC3 PC4 PC5 PC6

SS loadings 2.254 1.160 0.902 0.699 0.582 0.402

Proportion Var 0.376 0.193 0.150 0.117 0.097 0.067

Cumulative Var 0.376 0.569 0.719 0.836 0.933 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3 PC4

SS loadings 2.2542992 1.1597288 0.9024150 0.6992976

Proportion Var 0.3757165 0.1932881 0.1504025 0.1165496

Cumulative Var 0.3757165 0.5690047 0.7194072 0.8359567

Proportion Explained 0.3757165 0.1932881 0.1504025 0.1165496

Cumulative Proportion 0.3757165 0.5690047 0.7194072 0.8359567

PC5 PC6

SS loadings 0.58238104 0.40187848

Proportion Var 0.09706351 0.06697975

Cumulative Var 0.93302025 1.00000000

Proportion Explained 0.09706351 0.06697975

Cumulative Proportion 0.93302025 1.00000000

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[1] "--- PCA Diagnostics for Group: Home\_Learning\_Env (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3

FAMSUP 0.799 -0.597

CREATFAM 0.696 0.665 0.269

FAMSUPSL 0.729 -0.558 0.397

PC1 PC2 PC3

SS loadings 1.654 0.759 0.587

Proportion Var 0.551 0.253 0.196

Cumulative Var 0.551 0.804 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3

SS loadings 1.6543598 0.7590390 0.5866012

Proportion Var 0.5514533 0.2530130 0.1955337

Cumulative Var 0.5514533 0.8044663 1.0000000

Proportion Explained 0.5514533 0.2530130 0.1955337

Cumulative Proportion 0.5514533 0.8044663 1.0000000

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[1] "--- PCA Diagnostics for Group: Remote\_Learning\_Exp (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3

FEELLAH 0.694 -0.560 0.453

PROBSELF 0.556 0.782 0.282

LEARRES 0.813 -0.580

PC1 PC2 PC3

SS loadings 1.450 0.928 0.622

Proportion Var 0.483 0.309 0.207

Cumulative Var 0.483 0.793 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3

SS loadings 1.4501299 0.9280197 0.6218503

Proportion Var 0.4833766 0.3093399 0.2072834

Cumulative Var 0.4833766 0.7927166 1.0000000

Proportion Explained 0.4833766 0.3093399 0.2072834

Cumulative Proportion 0.4833766 0.7927166 1.0000000

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[1] "--- PCA Diagnostics for Group: School\_Experience (from Imputation #1) ---"

[1] "Loadings:"

Loadings:

PC1 PC2 PC3 PC4 PC5

BULLIED -0.713 0.401 0.274 0.505

FEELSAFE 0.623 0.442 -0.310 0.541

SCHRISK -0.584 0.591 -0.265 -0.299 -0.387

BELONG 0.685 0.350 -0.261 -0.449 0.372

SCHSUST 0.258 0.451 0.851

PC1 PC2 PC3 PC4 PC5

SS loadings 1.775 1.031 0.959 0.660 0.576

Proportion Var 0.355 0.206 0.192 0.132 0.115

Cumulative Var 0.355 0.561 0.753 0.885 1.000

[1] "Variance Accounted For:"

PC1 PC2 PC3 PC4

SS loadings 1.7746726 1.0306669 0.9588723 0.6600664

Proportion Var 0.3549345 0.2061334 0.1917745 0.1320133

Cumulative Var 0.3549345 0.5610679 0.7528424 0.8848556

Proportion Explained 0.3549345 0.2061334 0.1917745 0.1320133

Cumulative Proportion 0.3549345 0.5610679 0.7528424 0.8848556

PC5

SS loadings 0.5757218

Proportion Var 0.1151444

Cumulative Var 1.0000000

Proportion Explained 0.1151444

Cumulative Proportion 1.0000000

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[1] "Processing Imputation # 2 ..."

[1] "Processing Imputation # 3 ..."

[1] "Processing Imputation # 4 ..."

[1] "Processing Imputation # 5 ..."

[1] "Feature engineering loop complete."

[1] "Pooling engineered features by averaging across imputations..."

[1] "Pooling complete."

[1] "Success! Pooled engineered features saved to: D:/essay/resilient\_student/dataset/clean\_R/Step4\_Engineered\_Features\_Pooled.rds"