**Supplementary Material (S2)**

***Table S2:*** *Prediction rules for predicting ED vs Non-ED status*

|  |  |  |  |
| --- | --- | --- | --- |
| Rule | Imp | Coeff | SD |
| OwnAppInf <= 3 & NumMealsRes <= 0 & FamRelInf <= 2 | 0.29 | -0.59 | 0.49 |
| FamRelInf <= 0 & MediaInf <= 1 & FriendRelInf <= 1 | 0.23 | -0.46 | 0.49 |
| FamRelInf > 0 & SnackFreq > 1 & Schoolwork > 0 | 0.20 | 0.44 | 0.46 |
| FriendRelInf <= 1 & NegMoth <= 2 | 0.19 | -0.39 | 0.49 |
| FriendRelInf <= 1 & FamAppInf <= 2 & AbuFath > 0 | 0.19 | -0.45 | 0.41 |
| OwnAppInf > 2 & FamDietInf <= 0 | 0.16 | 0.36 | 0.45 |
| OwnAppInf <= 3 & SnackFreq <= 2 & FamAppInf <= 2 | 0.14 | -0.29 | 0.46 |
| PosMoth > 2.5 & NegFath <= 2 | 0.12 | -0.24 | 0.50 |
| OwnAppInf <= 2.5 & FamRelInf <= 2 & MediaInf <= 1 | 0.10 | -0.20 | 0.50 |
| SnackFreq <= 2 & UnwantedSex <= 0 & StrictRules <= 0 | 0.10 | -0.22 | 0.44 |
| OwnAppInf <= 2 & FriendRelInf <= 2 & TeaseAppInf <= 1.5 | 0.09 | -0.19 | 0.50 |
| FriendRelInf <= 1 & FamRelInf <= 0 & MediaInf <= 2 | 0.09 | -0.18 | 0.50 |
| OwnAppInf <= 3.5 & FamRelInf <= 2 & SnackFreq <= 3 | 0.08 | -0.16 | 0.49 |
| OwnAppInf > 2 & SocialFood > 0.5 | 0.07 | 0.15 | 0.49 |
| FriendRelInf <= 1 & FamAppInf <= 2 | 0.07 | -0.15 | 0.48 |
| FriendRelInf <= 2 & OwnAppInf <= 3 | 0.07 | -0.15 | 0.46 |
| FamRelInf <= 0 & BodSatChild <= 3 | 0.07 | -0.14 | 0.47 |
| FriendRelInf <= 1 & OwnAppInf <= 2.5 & FamAppInf <= 1 | 0.06 | -0.13 | 0.50 |
| OwnAppInf > 2 & SocialFood > 1 & FamDietInf <= 1 | 0.06 | 0.13 | 0.43 |
| FamRelInf <= 0 & FriendRelInf <= 1 & SnackFreq <= 4 | 0.05 | -0.11 | 0.50 |
| OwnAppInf <= 2 & FamRelInf <= 2 & TeaseEatInf <= 1 | 0.05 | -0.11 | 0.50 |
| SnackFreq <= 2 & PosMoth > 2.5 & NegFath <= 1.67 | 0.05 | -0.13 | 0.42 |
| OwnAppInf <= 3 & BodSatChild <= 2 | 0.05 | -0.12 | 0.40 |
| SnackFreq <= 2 & NumFamMeals > 3 | 0.04 | -0.10 | 0.42 |
| OwnAppInf <= 2 & FamRelInf <= 1 & FamAppInf <= 1 | 0.04 | -0.07 | 0.50 |
| OwnAppInf <= 3.5 & SnackFreq <= 2 & NumMealsRes <= 0 | 0.03 | -0.07 | 0.47 |
| FamRelInf <= 0 & OwnAppInf <= 2.5 & FamAppInf <= 1 | 0.03 | -0.06 | 0.49 |
| OwnAppInf <= 2 & FamRelInf <= 1 & FriendRelInf <= 1 | 0.02 | -0.04 | 0.50 |
| OwnAppInf <= 3 & SnackFreq <= 2 & BodSatChild <= 3 | 0.02 | -0.05 | 0.40 |
| OwnAppInf <= 2 & UnwantedSex <= 0 & NumMealsRes <= 0 | 0.01 | -0.02 | 0.50 |
| FamRelInf <= 0 & FriendRelInf <= 2 & FamAppInf <= 2 | 0.01 | -0.01 | 0.50 |
| FriendRelInf <= 1 & OwnAppInf <= 2.5 & FamRelInf <= 0 | 0.00 | 0.00 | 0.50 |
| OwnAppInf <= 2 & FriendRelInf <= 1 & UnwantedSex <= 0 | 0.00 | 0.00 | 0.50 |

*Notes.* Imp = variable importance, Coeff = coefficient, SD = standard deviation.

Variable names: AbuseFath = “Abusive relationship from father”, CompGames = “Played computer games”, FamAppInf = “Family weight/shape concerns influenced eating”, FamDietInf = “Joint dieting with family member(s) influenced eating”, FamRelInf = “Family Relationships influenced eating”, FoodPrepRes = “Food prepared for respondent”, FriendRelInf = “Relationships with friend influenced eating”, MealBefore = “Had first meal of day before lessons started”, MediaInf = “Mass media influenced eating”, NegFath = “Negative parenting from father”, NegMoth = “Negative parenting from mother”, NumMealsRes = “Number of times ate in fast food restaurants”, OwnAppInf = “Own appearance influenced eating”, PosMoth = “Positive parenting from mother”, SaltSugarRest = “Access to salty or sugary snacks was more restricted than friends”, SchoolWork = “Schoolwork at school”, SnackFreq = “Frequency with which ate fatty/sugary snacks”, StrictRules = “Parents had strict rules about food”, UnwantedSex = “Unwanted Sex”