Results: Language Disorder showed a male-dominant distribution. The *SETBP1* rs11082414-CC genotype frequency was significantly higher in patients (p=0.024), and two rare variants (CNTNAP2: c.973C>G:p.P325A; *CNTNAP2:* c.2236G>A:p.D746N) were exclusive to cases. In silico analyses yielded conflicting results for rare variants, inherited paternally from unaffected parents. Among non-genetic factors, patients had higher birth weights (p=0.043) and shorter lactation durations (p=0.044).
Conclusions: Homozygosity for *SETBP1* rs11082414 polymorphic variant increases Language Disorder susceptibility. This study underscores the genetic dimension of Language Disorder, urging physicians' awareness and early intervention strategies to mitigate its impact.

Disclosure of Interest: None Declared

EPV0324

Classifying Suicide Attempts from Suicidal Ideation among Adolescents using Machine Learning

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Introduction: Suicide is a leading cause of death among adolescents and its prevalence among young people has steadily increased in recent years.
Objectives: This study aimed to identify patterns of risk factors that differentiate adolescents who experienced suicidal thoughts from those who attempted suicide using six different machine learning (ML) algorithms for Korean adolescents using data from online surveys.
Methods: Data were extracted from the 2011−2018 Korea Youth Risk Behavior Survey (KYRBS), conducted annually since 2005 by the Korean Ministry of Education, Ministry of Health and Welfare, and Korean Disease Control and Prevention Agency. The pipeline was solely generated from classic ML (CML) methods, namely logistic regression (LR), random forest (RF), artificial neural networks (ANN), support vector machines (SVM), and extreme gradient boosting (XGB).
Results: Among the 69,840 adolescents included in the analysis, 13,288 cases (19.0%) were identified as having made a suicide attempt. Prediction models using seven relevant features calculated by Boruta algorithm was developed and five features (drug experience, current smoking, grade, current alcohol drinking and sadness or hopelessness) were identified as the most important predictors. The performance of the six ML models on the balanced testing dataset was good, with area under the receiver operating characteristic curve (AUROC) and area under the precision−recall curve (AUPRC) ranging from 0.66 to 0.73.

Image 1:

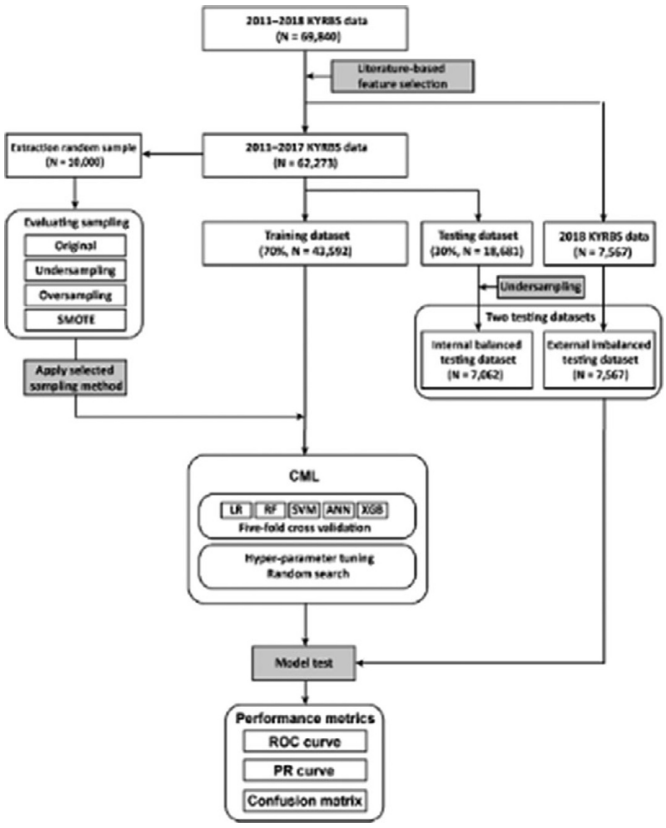


Image 2:

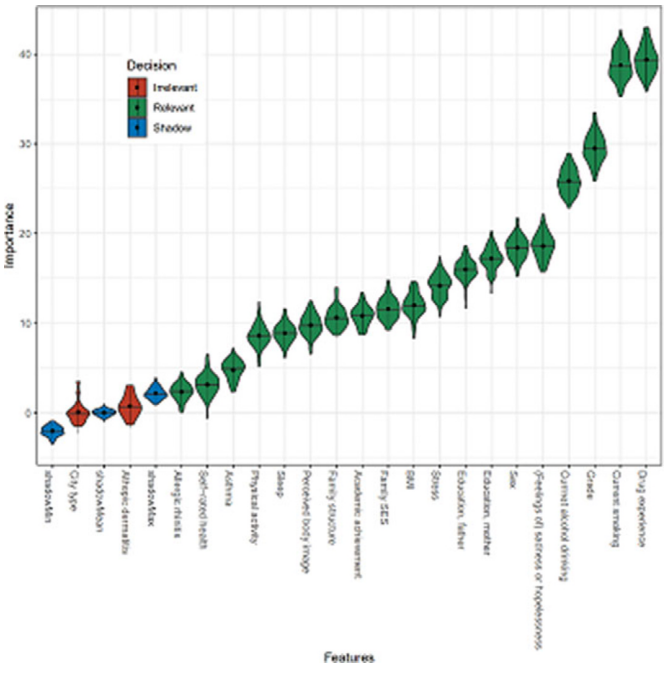


Image 3:

Table 1. Baseline characteristics of 2011-2017 KYRBS data

Features	Subgroup	SI	SA	OR (univariate)	OR (multivariate)
Sex	Male	20383 (83.1)	4144 (16.9)		
	Female	30119 (79.8)	7628 (20.2)	1.246 (1.195-1.299, p < 0.001)	1.379 (1.314-1.448, p < 0.001)
Age		15.02 ±1.74	14.73 ±1.72	0.909 (0.898-0.919, p < 0.001)	1.005(0.967-1.044, p=0.813)
Grade	G6	8219 (85.1)	1434 (14.9)		
	G5	8907 (84.0)	1698 (16.0)	1.093 (1.012-1.179, p=0.023)	1.113 (1.021-1.214, p < 0.001)
	G4	8326 (82.3)	1787 (17.7)	1.230 (1.140-1.327, p < 0.001)	1.320 (1.185-1.470, p < 0.001)
	G3	8729 (79.7)	2220 (20.3)	1.458 (1.355-1.568, p < 0.001)	1.661 (1.450-1.903, p < 0.001)
	G2	8592 (78.0)	2425 (22.0)	1.618 (1.505-1.738, p < 0.001)	1.983 (1.674-2.347, p < 0.001)
	G1	7729 (77.8)	2208 (22.2)	1.637 (1.522-1.762, p < 0.001)	2.226 (1.814-2.732, p < 0.001)
City type	Medium small city	20354 (80.7)	4882 (19.3)		
	Countryside	3407 (80.1)	844 (19.9)	1.033 (0.952-1.121, p=0.438)	1.001 (0.920-1.089, p=0.985)
	Big city	26741 (81.6)	6046 (18.4)	0.943 (0.904-0.983, p=0.006)	0.972 (0.930-1.015, p=0.197)
Academic achievement	High	5095 (83.1)	1037 (16.9)		
	High middle	11270 (83.6)	2205 (16.4)	0.961 (0.887-1.042, p=0.339)	1.056 (0.970-1.149, p=0.213)
	Middle	12821 (83.0)	2625 (17.0)	1.006 (0.930-1.088, p=0.883)	1.114 (1.024-1.212, p=0.012)
	Low middle	13763 (80.5)	3342 (19.5)	1.193 (1.105-1.288, p < 0.001)	1.395 (1.100-1.299, p < 0.001)
	Low	7553 (74.7)	2563 (25.3)	1.667 (1.538-1.807, p < 0.001)	1.370 (1.254-1.496, p < 0.001)
Family structure	Both parents	40346 (82.1)	8818 (17.9)		
	One parent	8261 (78.6)	2245 (21.4)	1.243 (1.180-1.310, p < 0.001)	1.100 (1.039-1.164, p=0.001)
	Other	1895 (72.8)	709 (27.2)	1.712 (1.566-1.872, p < 0.001)	1.288 (1.167-1.422, p < 0.001)
Family SES	High	3204 (75.7)	1030 (24.3)		
	High middle	11427 (82.2)	2475 (17.8)	0.674 (0.620-0.732, p < 0.001)	0.716 (0.656-0.781, p < 0.001)
	Middle	21960 (82.5)	4664 (17.5)	0.661 (0.612-0.714, p < 0.001)	0.660 (0.607-0.719, p < 0.001)
	Low middle	10443 (81.4)	2389 (18.6)	0.712 (0.655-0.773, p < 0.001)	0.668 (0.609-0.733, p < 0.001)
	Low	3468 (74.1)	1214 (25.9)	1.089 (0.989-1.199, p < 0.001)	0.813 (0.730-0.905, p < 0.001)
Education, Father	College	23323 (82.3)	5013 (17.7)		
	High school graduate	15994 (81.3)	3668 (18.7)	1.067 (0.1018-1.118, p=0.007)	1.037 (0.980-1.097, p=0.212)
	Middle school graduate or less	2070 (79.0)	549 (21.0)	1.234 (1.118-1.362, p < 0.001)	1.156 (1.033-1.294, p=0.012)
	Unknown	9115 (78.2)	2542 (21.8)	1.297 (1.230-1.369, p < 0.001)	0.987 (0.920-1.059, p=0.721)
Education, Mother	College	19515 (81.9)	4320 (18.1)		
	High school graduate	20347 (82.0)	4473 (18.0)	0.993 (0.948-1.040, p=0.768)	0.931 (0.881-0.984, p=0.012)
	Middle school graduate or less	2068 (82.2)	448 (17.8)	0.979 (0.879-1.089, p=0.693)	0.845 (0.748-0.954, p=0.007)
	Unknown	6294 (78.7)	1702 (21.3)	1.334 (1.262-1.410, p < 0.001)	1.070 (0.995-1.150, p=0.068)
Current smoking	No	36941 (83.8)	7141 (16.2)		
	Yes	13561 (74.5)	4631 (25.5)	1.767 (1.694-1.842, p < 0.001)	1.650 (1.571-1.734, p < 0.001)
Current alcohol drinking	No	23084 (84.0)	4384 (16.0)		
	Yes	27418 (78.8)	7388 (21.2)	1.419 (1.361-1.479, p < 0.001)	1.243 (1.185-1.304, p < 0.001)
Drug experience	No	50166 (81.4)	11454 (18.6)		
	Yes	336 (31.4)	318 (48.6)	4.145 (3.551-4.839, p < 0.001)	2.691 (2.282-3.172, p < 0.001)
BMI	Optimal	27313 (81.3)	6278 (18.7)		
	Underweight	11944 (79.6)	3061 (20.4)	1.115 (1.062-1.170, p < 0.001)	1.045 (0.981-1.112, p=0.172)
	Overweight	5911 (81.9)	1306 (18.1)	0.961 (0.900-1.027, p=0.240)	0.965 (0.897-1.038, p=0.342)
	Obese	5334 (82.6)	1127 (17.4)	0.919 (0.857-0.986, p=0.018)	0.930 (0.854-1.014, p=0.099)
Sadness or hopelessness	No	15028 (87.9)	2075 (12.1)		
	Yes	35474 (78.5)	9697 (21.5)	1.980 (1.881-2.084, p < 0.001)	1.727 (1.638-1.822, p < 0.001)
Stress	Very low	249 (60.1)	165 (39.9)		
	Low	1423 (81.4)	326 (18.6)	0.599 (0.572-0.627, p < 0.001)	0.714 (0.680-0.750, p < 0.001)
	Middle	11030 (84.7)	1994 (15.3)	0.560 (0.529-0.593, p < 0.001)	0.739 (0.694-0.787, p < 0.001)
	High	22526 (83.8)	4355 (16.2)	0.709 (0.626-0.804, p < 0.001)	0.916 (0.803-1.045, p=0.192)
	Very high	15274 (75.6)	4932 (24.4)	2.052 (1.681-2.505, p < 0.001)	2.132 (1.723-2.639, p < 0.001)
Sleep	Very high	2163 (79.6)	556 (20.4)		
	High	6361 (83.0)	1304 (17.0)	0.798 (0.714-0.891, p < 0.001)	0.910 (0.811-1.020, p=0.106)
	Middle	14461 (82.6)	3044 (17.4)	0.819 (0.740-0.906, p < 0.001)	0.887 (0.798-0.986, p=0.027)
	Low	16395 (81.9)	3620 (18.1)	0.859 (0.777-0.949, p < 0.001)	0.866 (0.779-0.962, p=0.007
	Very low	11122 (77.4)	3248 (22.6)	1.136 (1.027-1.257, p < 0.001)	0.982 (0.882-1.093, p=0.735)
Self-rated health	Very good	7117 (80.9)	1678 (19.1)		
	Good	20843 (84.1)	3953 (15.9)	0.804 (0.755-0.857, p < 0.001)	0.887 (0.830-0.947, p < 0.001)
	Normal	15797 (80.1)	3928 (19.9)	1.055 (0.990-1.124, p=0.101)	1.099 (1.026-1.177, p=0.007)
	Poor	6346 (76.2)	1986 (23.8)	1.327 (1.234-1.428, p < 0.001)	1.299 (1.199-1.406, p < 0.001)
	Very poor	399 (63.7)	227 (36.3)	2.413 (2.033-2.864, p < 0.001)	1.985 (1.654-2.382, p < 0.001)
Perceived body image	Normal	15427 (81.1)	3589 (18.9)		
	Very thin	2550 (79.9)	641 (20.1)	1.081 (0.984-1.187, p=0.106)	1.011 (0.908-1.125, p=0.847)
	Thin	10643 (81.6)	2394 (18.4)	0.967 (0.913-1.024, p=0.249)	0.966 (0.904-1.031, p=0.294)
	Fat	11612 (81.3)	4294 (18.7)	0.992 (0.944-1.042, p=0.740)	1.009 (0.953-1.067, p=0.766)
	Very fat	3270 (79.3)	854 (20.7)	1.123 (1.033-1.220, p=0.007)	1.031 (0.929-1.143, p=0.570)
Physical activity	Active	36460 (80.7)	8692 (19.3)		
	Inactive	14042 (82.0)	3080 (18.0)	0.920 (0.879-0.963, p < 0.001)	0.905 (0.862-0.950, p < 0.001))

Values are presented as number (%) or mean ± standard deviation.
KYRBS, Korea Youth Risk Behavior Survey; SES, socioeconomic status; SA, suicide attempt; OR, odds ratio.

Conclusions: The developed and validated SA prediction models can be applied to detect high risks of SA. This approach could facilitate early intervention in the suicide crisis and may ultimately contribute to suicide prevention for adolescents.

Disclosure of Interest: None Declared

EPV0326

The Relationship Between Prenatal Heart to Heart Synchrony and Postnatal Mother-Infant Attachment and Behavior

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Introduction: Synchronization refers to the coordinated physiological, biological, and behavioral changes during interpersonal interactions.
Objectives: The project aims to assess correlations between preterm physiological synchrony and post-birth behavioral synchrony between mothers, fathers, and their anxiety, depression levels, and attachment styles. Since the development of early synchronization remains unclear, the project investigates its initiation between mother and fetus, with a focus on including fathers in early attachment and synchrony research. It is hypothesized that synchrony plays a key role in predicting a child's attachment style.
Methods: BIOPAC Student Lab MP36 measures ECG data from parents, while cardiotocography records the fetus's heartbeat. Women in their 24-36th weeks of their first pregnancy without any chronic illnesses and their partners are being included in the study. Surveys for the participants cover sociodemographic scales, Beck Anxiety (BAI) and Depression Inventories (BDI) and The Relationship Scales Questionnaire. The recordings last fifteen minutes, with the first and last five minutes taking place in a non-stimulatory environment. During the middle five minutes, the fetus's heartbeat is projected for the parents. ECG data are analyzed in Matlab for synchrony. At 3 months, parent-infant interactions will be videotaped and analyzed via Ruth Feldman's *Coding Interactive Manual* for behavioral synchrony. Triads who show higher levels of physiological synchrony during pregnancy will be expected to show corresponding levels of behavioral synchrony at three months old.
Results: The ECG and survey data of 16 participants have been collected. BAI results have shown the mean anxiety results of the mothers and the fathers to be 14.6 (mild anxiety), 4.9 (minimal anxiety), respectively, whereas BDI yielded mean depression results of 7.3, 6.3, both minimal depression for mothers and fathers. Out of 8 mothers, 4 showed secure and 4 showed dismissive attachment. 2 of the mothers with dismissive attachment showed moderate and severe levels of anxiety as expected whereas the other 2 mothers showed mild anxiety. The mothers with dismissive attachment showed higher anxiety levels and are expected to show lower physiological synchrony levels with their partners and babies. Among fathers, the most prevalent attachment style was secure, observed in 3 (37.5%), with the second being Dismissive attachment identified in 3 fathers (37.5%). One father exhibited a preoccupied/dismissive style, (12.5%)while one father showed a mixed secure/dismissive pattern(12.5%).
Conclusions: The ECG data of the 16 participants are currently being evaluated for physiological synchrony between the triad and recruitments are still ongoing. After the infants are 3 months old, behavioral and physiological synchrony within the triads will be evaluated and analyzed for further relationships.

Disclosure of Interest: None Declared