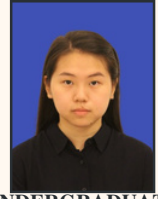


CHRONOTYPE AND AFFECTIVE PROFILES AMONG MALAYSIAN SCHOOL CHILDREN

Putri Junita Santalia¹, Satvinder Kaur¹

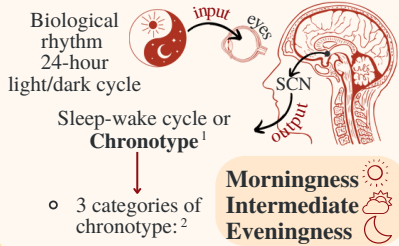
¹Faculty of Applied Sciences, UCSI University Kuala Lumpur, Kuala Lumpur, Malaysia



UNDERGRADUATE

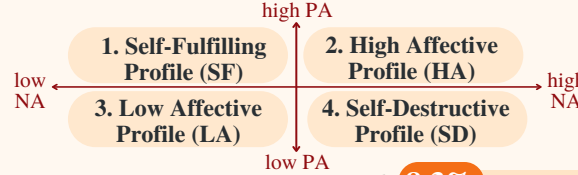
INTRODUCTION

CIRCADIAN RHYTHM

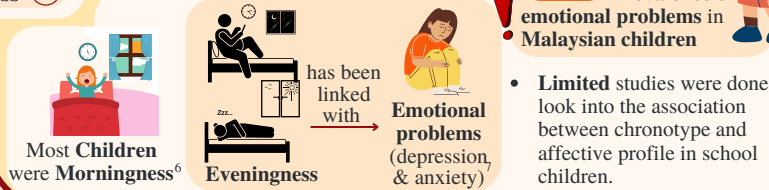


AFFECTIVE

- is a subjective state of emotion³
 - Positive Affect (PA)⁴
 - Negative Affect (NA)
- 4 categories of Affective Profiles:⁵



8.3% Prevalence of emotional problems in Malaysian children



OBJECTIVE

To determine the chronotype and affective profile and its association among Malaysian school aged children.

METHODOLOGY

- STUDY DESIGN → Cross-Sectional study (Online method)

- STUDY LOCATION → Primary Schools in Malaysia

- ETHICS → UCSI University Institutional Ethics Application (UCSI/IEC-2021-FAS-025)

- STATISTICAL ANALYSIS:
 - IBM SPSS vers. 25 → Descriptive statistics
 - Non parametric: Mann Whitney U, Spearman's rank
 - Parametric: Independent t-test, One-Way ANOVA, Pearson correlation, Chi-Square, Linear regression

- DATA COLLECTION FLOW:
 - Online platform used: Meta (Facebook), Gmail, WhatsApp, Instagram

RESEARCH INSTRUMENTS:

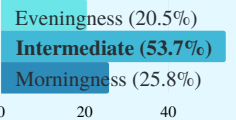
- Socio-demographic (15 items) → Self-developed
- Chronotype (10 items) → Morningness Eveningness Scale for Children (MES-C)⁸
- Affective Profile (10 items) → Positive And Negative Affect Schedule for Children-Short Form (PANAS-C-SF)⁹



*KPM= Kementerian Pendidikan Malaysia, JPN= Jabatan Pendidikan Negeri

RESULTS AND DISCUSSIONS

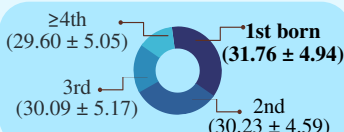
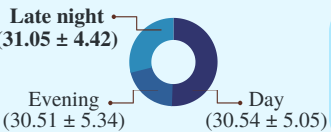
1. CHILDREN'S CHRONOTYPE



Chronotype by gender

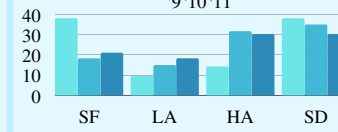
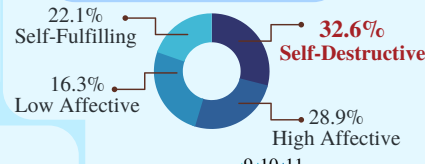
Gender	Eveningness	Morningness
Girls	19.8%	29.2%
Boys	21.4%	21.4%

2. CHRONOTYPE BY BIRTH TIME & ORDER



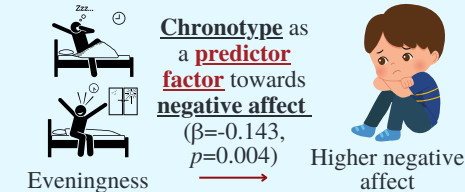
No significant difference between mean MES-C score with birth time and birth order ($p > 0.05$), corresponding to previous studies^{10,11}

3. CHILDREN'S AFFECTIVE PROFILE

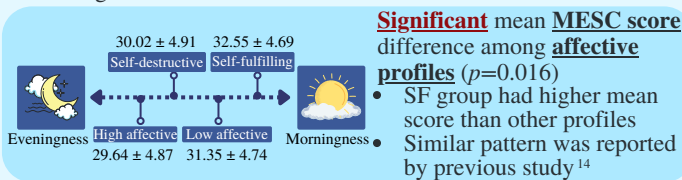


Younger child would be less likely to fully perceive positive and negative affect¹²

4. CHRONOTYPE AND AFFECTIVE PROFILE ASSOCIATIONS



Children with eveningness chronotype is more likely to develop anxiety & depression symptoms¹³



Similar pattern was reported by previous study¹⁴

CONCLUSION

- Chronotype has been identified as a contributing factor in negative affect in Malaysian school children.
- Hence, an education program for school-aged children that implies sleep's role in emotional health should be addressed.

REFERENCES

- Jagannath, A., Taylor, L., Wakaf, Z., Vasudevan, S.R., and Foster, R.G., 2017. The genetics of circadian rhythms, sleep and health. *Human molecular genetics*, 26 (R2), R128–R138.
- Randler, C., FaBl, C., and Kalb, N., 2017. From lark to owl: developmental changes in morningness-eveningness from new-borns to early adulthood. *Scientific Reports*, 7 (1), 1–8.
- King, P.S., 2013a. Emotions: Positive and Negative. *Encyclopedia of Behavioral Medicine*.
- King, P.S., 2013b. Emotional responses. *Encyclopedia of Behavioral Medicine*.
- Norlander, T., Bood, S.A., and Archer, T., 2002. Performance during stress: Affective personality, age, and regularity of physical exercise. *Social Behavior and Personality*, 30 (5), 495–508.
- Randler, C. and Truc, Y., 2013. Adaptation of the composite scale of morningness for parent report and results from kindergarten children. *Swiss Journal of Psychology*, 73 (1), 35–39.
- Antypa, N., Vogelzangs, N., Meesters, Y., Schoevers, R., and Penninx, B.W.J.H., 2016. Chronotype associations with depression and anxiety disorders in a large cohort study. *Depression and anxiety*, 33 (1), 75–83.
- Carskadon, M.A., Vieira, C., and Acebo, C., 1993. Association between puberty and delayed phase preference. *Sleep*, 16 (3), 258–262.
- Ebesutani, C., Regan, J., Smith, A., Reise, S., Higa-McMillan, C., and Chorpita, B.F., 2012. The 10-Item Positive and Negative Affect Schedule for Children, Child and Parent Shortened versions: Application of item response theory for more efficient assessment. *Journal of Psychopathology and Behavioral Assessment*, 34 (2), 191–203.
- Werner, H., LeBourgeois, M.K., Geiger, A., and Jenni, O.G., 2009. Assessment of chronotype in four- to eleven-year-old children: Reliability and validity of the children's chronotype questionnaire (CTQ). *Chronobiology international*, 26 (5), 992.
- Casuso, L., Gargurevich, R., Van den Noortgate, W., and Van den Bergh, O., 2016. Psychometric properties of the positive and negative affect scale for children (PANAS-C) in Peru. *Interamerican Journal of Psychology*, 50 (2), 170–185.
- Cox, R.C. and Olatunji, B.O., 2021. Eveningness predicts negative affect following sleep restriction. *Behavior Therapy*, 52 (4), 797–805.
- Ogütli, H., Uygun, S.D., and Randler, C., 2021. Psychometric Properties of the Turkish version of the Morningness - Eveningness Stability Scale improved (MESSi) in Adolescents. *Chronobiology International*, 38 (11), 1650–1658.