

Promoting Heart Healthy Behavior in Adolescents at the Boys and Girls Club

Morgan Tomasiewicz, Thuy Lynch, College of Nursing

INTRODUCTION

- Blood pressure (BP) is the force of blood pushing against blood vessel walls¹
- High BP for an extended time can cause life threatening conditions, such as heart disease and stroke¹
- Stress triggers certain bodily responses that may result in high BP²
- Adolescence tends to be a stressful time due to peer pressure and emerging autonomy

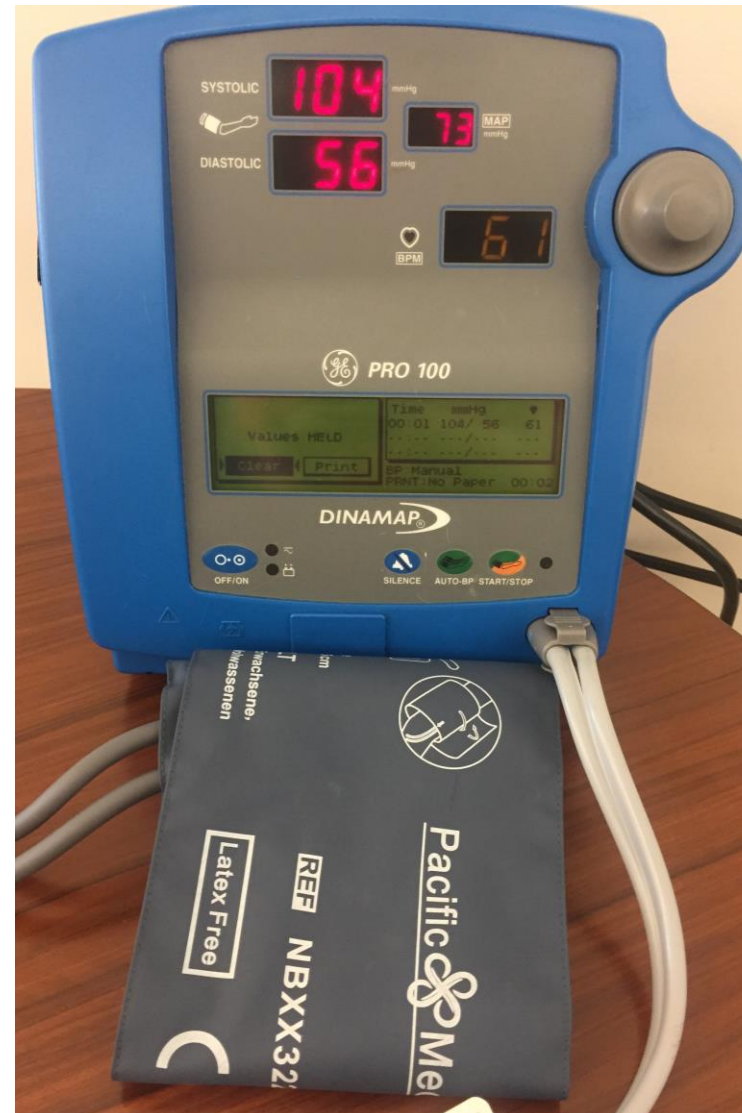
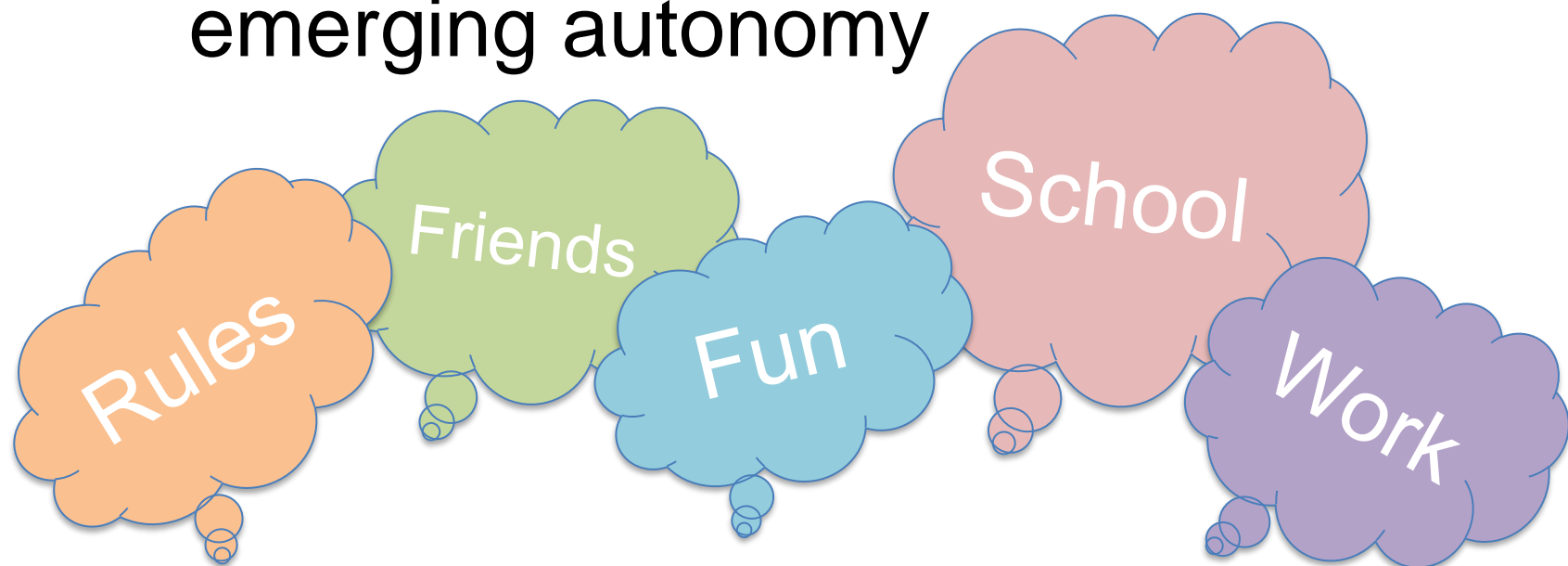


Figure 1: The GE® Dinamap Pro 100 series BP device

METHODOLOGY

- A correlational study with convenience sampling ($n=3$)
- **STEP 1**
- Data collection consisted of:
 - BP measurements with the GE® Dinamap Pro 100 series BP device
 - Perceived stress levels measured with the PROMIS stress survey
- **STEP 2**
- Teaching session consisted of:
 - Hypertension Pre Test
 - Teaching with a Hypertension Resource Manual
 - Hypertension Post Test

LIMITATIONS

- Small sample size due to:
 - Lack of age appropriate participants
 - Lack of participation
 - Scheduling conflicts

RESULTS

- 33% had Prehypertension as defined by the AAP³
- In regards to the feasibility of the study, the author did not find the study feasible to perform
- 100% of participants had higher than average stress levels, ranging from 1 standard deviation to 2 standard deviations higher than the mean

Normal:

- Systolic: < 120 mmHg
- Diastolic: < 80 mmHg

Prehypertension:

- Systolic: 120-139 mmHg
- Diastolic: 80-89 mmHg

Hypertension (high BP):

- Systolic: > 140 mmHg
- Diastolic: > 90 mmHg

Table 1: See reference 3

RECOMMENDATIONS

- Recommendations for future studies involving Boys and Girls Clubs:
 - Data collection at multiple locations
 - More interaction with parents/guardians

SIGNIFICANCE

- If a positive correlation of high BP and stress levels was identified, it could have suggested that stress-relieving activities as well as pharmaceuticals could aid in lowering BP

References

1. About High Blood Pressure (Hypertension). (n.d.). Retrieved from <https://www.cdc.gov/bloodpressure/about.htm>
2. Le Fevre, M., Matheny, J., & Kolt, G. S. (2003). Eustress, distress, and interpretation in occupational stress. *Journal of Managerial Psychology*, 18(7), 726-744. doi:10.1108/02683940310502412
3. Flynn, J. T., Kaelber, D. C., Baker-Smith, C. M., Blowey, D., Carroll, A. E., Daniels, S. R., ... Urbina, E. M. (2017). Clinical practice guideline for screening and management of high blood pressure in children and adolescents. *Pediatrics*, 140(3), 1-74. doi:10.1542/peds.2017-1904

Acknowledgements

This study was completed with funding from the RCEU program at UAH, UAH Office of the Provost, UAH Office of the Vice President for Research and Economic Development and the Alabama Space Grant Consortium. The author would like to thank Dr. Bernhard Vogler, Mr. David Cook, and Dr. Ann Bianchi for their guidance with the RCEU.

Figure 2: Primary investigator with subject

