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Predicting the influence of demographics on Domestic Violence Using SAS Enterprise Guide® 6.1

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ABSTRACT

Domestic Violence is a complex type of violence where one adult in an intimate relationship misuses their power to control the other. This violence may involve physical, verbal or sexual abuse. The Oklahoma State Department of Health (OSDH) conducts home visiting programs with families who need parent support during pregnancy through a child's kindergarten year. The home visiting personnel are trained to do initial screenings but they do not have the extensive information required to treat or serve the participants in this arena. By understanding how the demographics like age, level of education attained, and the household income among others are related to domestic violence, the providers can serve their clients better by probing in slightly different ways when domestic violence is suspected. The objective of this study is to better understand demographic characteristics of those persons identified with domestic violence in the home visiting population and also to develop a predictive model based on these demographic characteristics regarding domestic violence for potential use by home visiting personnel.

METHODS

Data preparation and analysis:

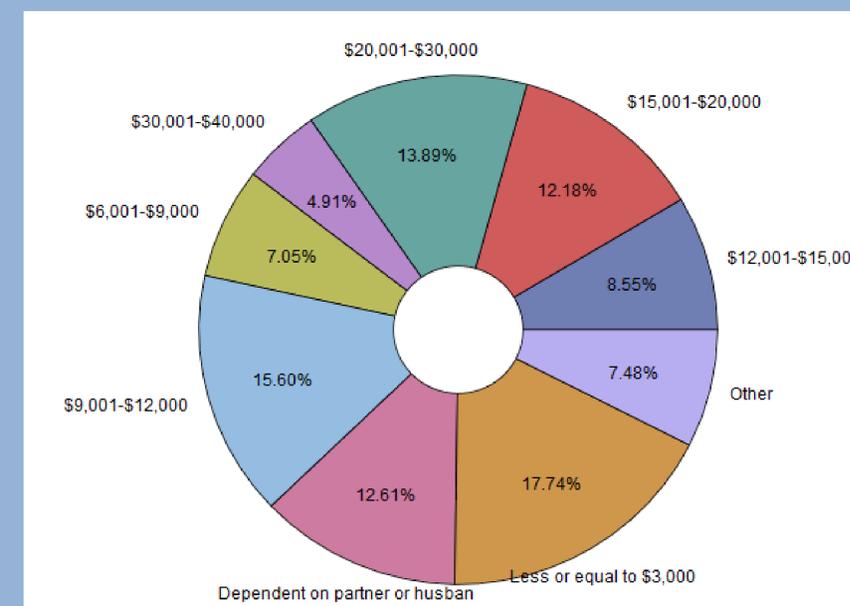
- The data was collected by the Oklahoma State Department of Health Children First program and stored on a secure server. De-identified data was made available for this study by the analytics staff working with the Children First program. The study population consists of all those women who participated in the Children First Program of the Oklahoma State Department of Health from 2012 to 2014. The dataset contains about 1,750 observations collected via the home visiting personnel during screening over the two year period. In addition they must have completed the Demographic form as well as the Relationship Assessment form at the time of intake.

| Num. | Variable | Type of Variable | Description |
|------|---------------|------------------|--|
| 1 | Educ | Categorical | Level of education attained |
| 2 | Income | Categorical | Household income of client |
| 3 | Age | Continuous | Age of client. |
| 4 | DV_EverPhy | Binary | Has the client ever been a victim of domestic violence(Physical) |
| 5 | Ecig_ever | Binary | Has client ever smoked e cigarettes |
| 6 | Smoking_Elife | Binary | Has the client smoked 100 cigarettes in life |

Table 1. Data Dictionary

RESULTS

Univariate analysis of DV against household Income:



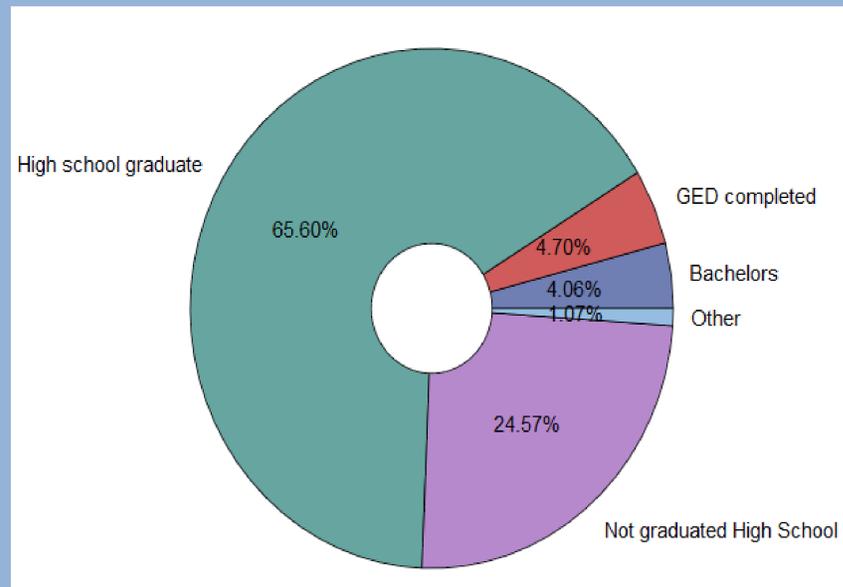
Women who have household income less than \$3000 are most vulnerable to domestic violence followed by those who earn slightly more or are dependent on their husband or partner for money

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Univariate analysis of Domestic Violence(DV) against the Education level:



- Women, who are either high school graduates or who did not yet graduate from school are the most vulnerable to domestic violence.
- Women, who have a bachelor's or higher degree are less vulnerable to domestic violence.

CONCLUSIONS

Women who are below the age of 30, who are either high school graduates or not even graduated from high school and are either dependent on their partner or husband for money or earn less than \$20,000 per annum are more vulnerable to domestic violence than others.

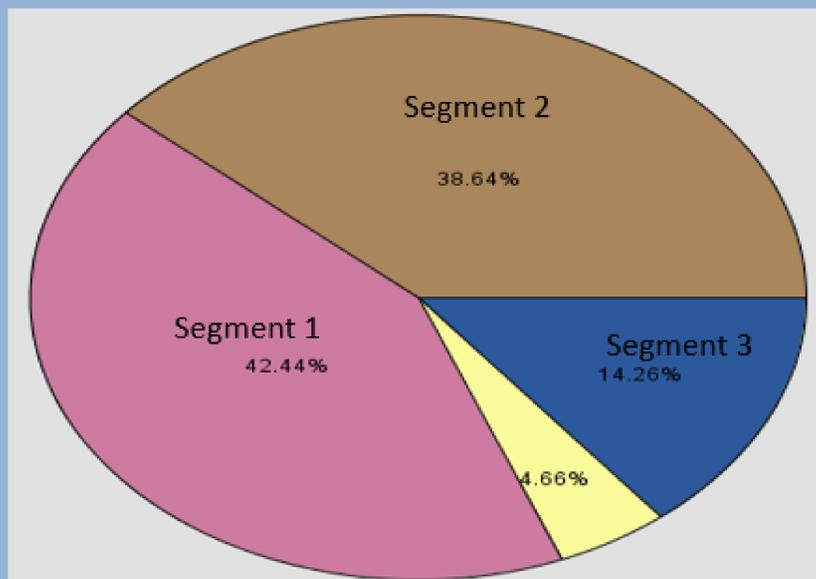
REFERENCES

- Natelson, R., Lopez, C.B., Young, C.B., Park, S., Romes, A., Carlson, K. (2011) A Preliminary report prepared for Rashida Manjoo, U.N. Special Rapporteur on Violence Against Women: Domestic violence in the United States.

ACKNOWLEDGEMENTS

- I thank Dr. Goutam Chakraborty, Professor, Department of Marketing and founder of SAS® and OSU Data Mining Certificate program - Oklahoma State University for his support throughout the research.
- I thank Dr. Miriam McGaugh, Director, Oklahoma State Department of Health for her support throughout the research as well as providing me the data to perform the research.

Profiling the customers into segments:



- **Segment 1:** Women, less than 21 years old who have not completed high school and are dependent on their partners for money are the **most vulnerable** to domestic violence.
- **Segment 2:** Women, who have graduated high school, are between 21 and 30 years old and who have a low household income are also quite vulnerable.



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