

HOME LESSNESS AND ACADEMIC SUCCESS AMONG FEMALES

M. Kameshwari¹, Ms. B. Nivetha²

¹PG Student, ²Assistant Professor, Dept of Computer Science, Jayaraj Annappaikiam College for Women (Autonomous), Periyakulam-625 601, Theni

Abstract – Females go through many changes and issues normally and those that are homeless youth have the added stress of not having their immediate needs met, like shelter and food. Their experience, lack of stability and losing one's home can be a very traumatic experience. Many homeless adolescents leave school for various reasons. Those who remain in school may face extra challenges in addition to keeping up with their academics. Studies have been done to characterize students that do drop out and examine factors leading to that. This particular study will look at females currently residing in Tamil Nadu shelter for youth between the ages of 18-21. Demographics will be taken into account. A survey will be given to the young ladies to measure how many completed high school.

I. Introduction

Homelessness is defined as “a lack of permanent housing resulting from extreme poverty and/or unsafe or unstable living environments. A female is a time of change and also a time where school success can play a major role in one's future. When Females do not have stability, it can have a major impact on their academic success. Depending on the resiliency of the individual student, homelessness can have a negative effect on their achievement in school. We need to first define some terms. According to the National Coalition for the Homeless, a "homeless child and youth" includes "children and youth who lack a fixed, regular and adequate nighttime residence." This includes those who are staying in shelters

II. Problem Definition and Description

A. Statement of the problem

There are many reasons why students leave school early, even more so when discussing homeless youth. Some say they felt a lack of relevance in curriculum; others may have to work in order to help support their families. For some it is simply a

lack of attendance for various reasons. Surveys and interviews have been done to identify the commonalities among students who drop out. The National Center for Homeless Education has made suggestions for additional services for homeless youth, such as counseling, credit recovery, and supplying the students with basic needs, such as clothing and food. Schools need to put some of these programs in place in order to retain these at-risk students and increase their completion rate. This information provided background knowledge as families currently experiencing homelessness and how it has affected their Females education. The United States government's response to homelessness will also be reviewed. As the homeless liaison, I was a board appointed representative for my school district. This federal mandate ensures that homeless students have access to the same educational services as other students regardless of their homeless status. Districts are required to waive residency requirements and other documentation that might prevent a homeless child from enrolling in school.

B. Objectives of the study

This study was females between the ages of 18-21 currently residing in a Tamil Nadu private homeless shelter. I examined how many of the females finished high school. All groups were given the same survey. Those that completed school checked off any factors they experienced while in school. Those that dropped out checked off what factors led them to make the decision to leave school early. Items included things such as lack of shelter, family obligations, employment strains, etc. The goal was to see what characteristics or factors differ in those who did complete school.

III. RESEARCH METHODOLOGY

A. Methodology

The case study will consist of deferent stages, roughly following the cross industry standard procedure CRISP-DM.

Firstly, the business understanding phase has to be carried out. In this phase, the project objectives and requirements are stated and refined and the resulting data mining problem is formulated. The results of this phase are summarized in the previous sections. Although the collection of additional data results in a richer data set and is therefore likely to give better results, model acting on a data set that is already automatically kept-to-data is potentially a much useful tool.

B. Algorithm used

Cluster Analysis

Cluster analysis is a multivariate analysis that attempts to form groups or “clusters” of objects (Sample Plots in our case) that are “similar” to each other but which differ among clusters. The exact definition of “similar” is variable among algorithms. But has a generic basis. The methods of forming clusters also vary, but follow a few general blueprints.

K-means clustering

The most common partitioning method is the K-means cluster analysis. Conceptually, the K-means algorithm:

- Selects K centroids (K rows chosen at random)
- Assigns each data point to its closest centroid.
- Recalculates the centroids as the average of all data points in a cluster (i.e., the centroids are p-length mean vectors, where p is the number of variables)
- Assigns data points to their closest centroids.
- Continues step 3 and 4 until the observations are not reassigned or the maximum number of iterations (R uses 10 as a default) is reached.

C. Tools for the study

Cluster Analysis in R

R has an amazing variety of function for cluster analysis. In this section, we use three of the many approaches: hierarchical agglomerative, partitioning, and model base.

Data preparation: Prior to clustering data, you may want to remove or estimate missing data and rescale variables for comparability.

Partitioning: K-means clustering is the most popular partitioning methods. It requires the analyst to specify the number of cluster to extract. A plot of the within groups sum of squares by number of cluster extracted can help determine the appropriate number of cluster. The analyst looks for a bend

in the plot similar to a screen test in factor analysis.

Hierarchical Agglomerative: There are a wide range of hierarchical clustering approaches. The `pvclust()` function in the `pvclust` package provides p-values for hierarchical clustering based on multi scale bootstrap resembling. Clusters that are highly supported by the data will have large p values.

Be aware that `pvsclust` clusters column, not rows. Transpose your data before using.

#Ward Hierarchical Clustering with Bootstrapped p values

Plotting Cluster solution: It is always a good idea to look at the cluster result.

#k-means clustering with 5 clusters.

Validating cluster solution: The function `cluster.Status()` in the `fpc` package provides a mechanism for comparing the similarity of two cluster solutions using a variety of validation criteria.

#comparing 2 cluster solutions

Library (fpc) Cluster. Stats(d,fit1\$cluster,fit2\$cluster)

Where d is a distance matrix among objects, and fit cluster and fit2 cluster are integer vectors containing classification results from two different clusters of the same data.

IV. RESULTS AND DISCUSSION

A. Analysis of data

The data has been collected from 500 samples all over Chennai. After collecting the information, all the details are fed into the software and checked and outlier. The cleaned data was analyzed using single attribute and multiple attributes. Names, Age, place. To process the data, I have installed the libraries such as `pvclust`, `mclust`, `cluster`, `fpc` and `NBclust` from cloud storage. Then the dataset was inserted into the R tool for processing.

Data Preparation

```
>home2<-matrix(as.numeric(unlist(home2)),nrow=nrow(home2))
```

```
>mydata<-scale(home2)
```

Partitioning

```
>wss<-(nrow(mydata)-1)*sum(apply(mydata,2,var))
```

```
>print(wss)
```

```
[1] 13972
```

```
>for(iin2:27)wss[i]<-sum(kmeans(mydata,centers=i)$withinss)
```

```
>plot(1:27, wss, type="b", xlab="Number of Clusters",
```

```

ylab="Within groups sum of squares")
> fit <- kmeans(mydata, 5)
> aggregate(mydata,by=list(fit$cluster),FUN=mean)
Group.1  V1      V2      V3      V4      V5      V6
1 -0.05224400  0.040166629  0.140229298  -1.0673645
0.2549957 -0.780963483
2  -0.06794915  0.036462214 -0.277815322  0.4472200
0.6106383 0.759033920
3  -0.02962060 -0.044816224  0.006971583  0.1707981 -
1.1387075 0.759033920
4  0.01488009 -0.023514500  0.123810158  0.1454030 -
0.2723926 -0.001382575
5  0.01456581  0.008773734 -0.157875316  0.4135015
0.5920846 -0.149352427
      V7      V8      V9      V10     V11     V12
1  1.0728917  -0.3391310  -0.3588787  0.26019104
0.001099386  0.90377667
2  -0.7283501  0.2848233  0.2952420  -0.46233343 -
0.605628993 0.09982815
3  -0.5809795  1.2979968  0.5788235  0.68257910
0.453525459 0.37953888
4  0.2921182  -0.3279440  -0.4424639  -0.01764896
0.558274539 -0.50778727
5  -0.5809795  -0.2564290  0.3552857  -0.43480609-
0.726335542 -0.40850481
      V14     V15     V16     V17     V18     V19
1  0.3770422  -0.6669632  -1.0240798  -0.14803951
0.06849153 -0.2429782
2  0.4012843  0.6985596  -1.3554436  0.04042457
0.38956848 -0.4015385
3  0.4751013  -1.1053479  0.7091250  0.12503533
0.02200438 -0.5055293
4  0.1590621  0.5584708  0.5689516  0.60715356 -
0.25900696 0.3606216
5  -0.9833792  0.2733711  0.2695398  -0.72570593
0.08571133 0.2467089
      V21     V22     V23     V24     V25     V26
1  -0.8916007  -0.3177059  0.01593963  0.72612018
0.6030832 0.4965486
2  0.6696094  -0.4842498  -0.82934360  0.96366017
1.4234614 -0.8963504
    
```

```

3  -0.4524843  0.6137228  1.01856995  0.02892486 -
0.2596389 0.1215771
4  0.1800025  0.5539931 -0.43635399  0.00399859 -
0.5877975 0.2291120
5  0.5267975 -0.6080213  0.22900689 -1.03563479 -
0.2094720 -0.3980642
      V27     V28
1. 0.4024824 0.3688079
2. 0.6529864 0.6529864
3. 0.6337724 0.6663588
4. 0.3620241 0.1200901
5. 0.6689202 0.4083065
    
```

V. FINDING, INTERPRETATION, RECOMMENDATIONS AND SUGGESTIONS

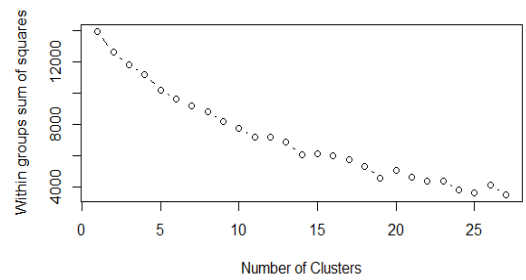


Fig.1 Findings and interpretations

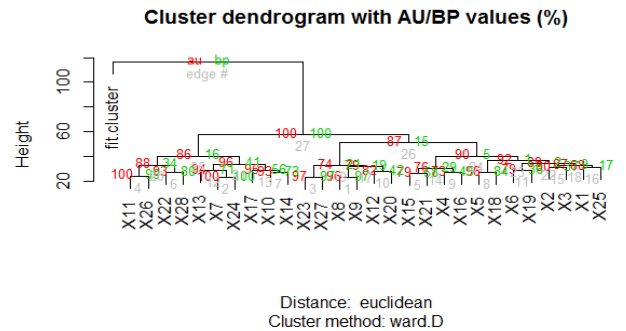


Fig. 2 Hierarchical Agglomerative

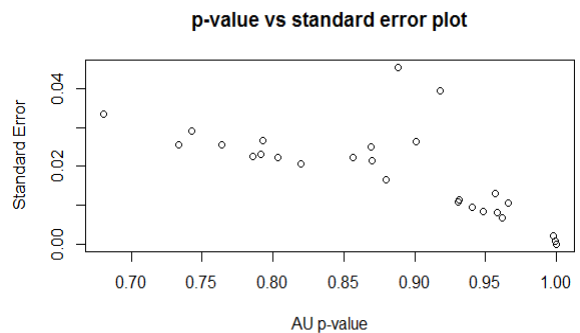


Fig. 3 Finding Errors Plot

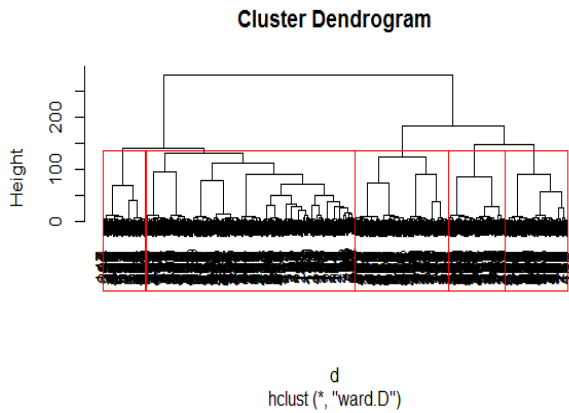


Fig. 4 Cluster Dendrogram

Homelessness and academic success among females

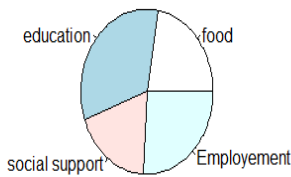


Fig. 5 Homelessness and academic success among females

Conclusion

The results of this study suggest that shelters that serve families experiencing homelessness should continue to provide education, job training, and substance abuse counseling for the adults and that they continue offering tutoring and informal educational opportunities to the female. The data clearly showed that all of the families in this study felt that these services were valuable this suggests that there might be other families that would benefit from the program, but who had not been able to gain entrance due to a lack of space. This study and other studies suggest that the shelter should allow the children to participate in school activities and waive the informal educational opportunities at the shelter if students choose to participate in school event.

Suggestions for further study

This researcher thinks that there is opportunity for further research with the homeless student population. Conducting a study on the frequency of homeless students choosing secondary education could be beneficial in discovering the

impact homelessness has on a student’s education. Another idea for further research would be conducting a study on the difference between homeless students in urban cities and homeless youth in rural areas idea for further research is doing a study on the impact homelessness has on a student’s Mental health Finally, doing a study on if the length of time that a student is identified as homeless or unaccompanied, can impact the likelihood that the student will engage in risky behavior such as drugs/substance, activity, violence, etc

VI. BIBLIOGRAPHY

- [1] Curtis, Jonathan and others. (April 1983). Dropout Prediction.Indian Educational Research Association.
- [2] Rafferty, Yvonne. (Spring 1995). The Legal Rights and Educational Problems of Homeless Children and Youth. Indian Educational Reseach Association. Volume 17 Number 1 p.39-61
- [3] Stanley, Kyle R &Plucker, Jonathan A. (Summer 2008) Improving High School Graduation Rates. Center for Evaluation and Education Policy. Volume 6 Number 7 p.1-10
- [4] Dreier, P. (2004, May/June). Reagan’s legacy: Homelessness in Indian .Shelter force (135). Retrieved from <http://www.nhi.org/online/issues/135/reagan.html>
- [5] Florida Department of Education. (2015). FCAT: The Florida Comprehensive Assessment Test. Retrieved 6 February 2015 from <http://fcate.fldoe.org/pdf/fcatpurpose.pdf>
- [6] Larkin Street Youth Organization. (2014). Myths and facts about youth homelessness. Retrieved from <http://www.larkinstreetyouth.org/wpcontent/uploads/2013/12/Myths-Facts-Homeless-Youth-FY13.14.pdf>