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DATA MINING TECHNIQUES USEDTO ANALYSIS WOMEN'S HIGHER STUDIES

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ABSTRACT

The main goal of this systematic review is used to inspectthe effects of factors on student's academic performance by differentiate from different classifiers. The following result will be useful to identify the factors which impact on diversity students on most. This research analysed the class wise dropout trends in higher studies in District Vellore which also includes odugathur, vaniyambadi local government areas and also found the conflict of multiple factors on dropout phenomenon. This data were collected through survey and questionnaires and the researcher administered three different questionnaires on sampled dropouts, their parents / guardians and School Head Teachers to gather their perceptions regarding the impact of multiple factors on dropout phenomenon.

Keywords**:** Academic performance, socioeconomic status, data mining, Decision Tree.

1. INTRODUCTION

Education is one of the basic needs for human being whereby gender disparity is reflected. The number and proportion of educated females is very low. As the grade level of education increases, the number of female students starts to decline. Consequently, higher education remains the level of learning where females are less represented both as students and staff. The very few women that are fortunate enough to join higher learning institutions can be characterized by lower academic performance and higher forced withdrawal. Consequently, such inequity in higher education representation has a serious life-long impact on their opportunities to participate in the country's political power sharing, economic privileges as well as social representations. Thus, this study focuses on assessing factors affecting female students and causes of higher attrition at Vellore District.

In the following sections, previous research, related literatures are discussed. This study has focused on the major factors that affect female students' academic performance and causes of attrition. Even though the female students' problems are multifaceted, in this study attempts were made to examine the drop -out factors. The quantitative instrument was a questionnaire. This instrument was used to collect data about the major problems that challenge female student at vellore district, and the major factors that affect females' academic performance.

2. PREVIOUS RELATED WORK

Abdul Mannan(2007) explores the relation betweenacademic and social integration and also the impact of student's integration in academics and social activities on their academic performance

Table 1.1 Comparative study of existing factors that's affects female higher education

Author	Abstract	Factors	Conclusion
Yeshimebr atMersha, Alemayeh uBishaw and FirewTege	The main purpose of this study was to investigate the on-	The problems female students encountered constitute personal, university related	In conclusion, the majority of problems female students encounter and those factors that affect female

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Author	Abstract	Factors	Conclusion
gne Bahir Dar University, Ethiopia	campus and offcampus factors responsible for female students' low academic performance and consequentl y high attrition.	factors academic factors and economic factors. Previous academic background (high school) is one of the major factors for their low academic performance. The off-campus factors that affect female students' academic performance include family background, Disco and traditional Music Houses and economic problems.	students' academic performance are personal and the other problems are caused by the university environment. Furthermore, the off-campus factors that affect female students' academic performance include family background and economic problems.
NajmusSa her Shah College of Computer Science & Informatio n Systems Institute of Business Manageme nt, Karachi)	The study attempts to investigate the influence of factors on students' academic performance by comparing the accuracy of different classifiers. The result will be useful in identifying good as well as weak students who may perform poorly and will be potential dropouts.	Students are categorized in five groups according to their performance: "Very Good", who have a high probability of succeeding; "Good" students, who are above average and with little efforts, may succeed with good grades; "Satisfactory" students, who may succeed; "Below satisfactory" students, who require more efforts to succeed; and "Fail", who have a high probability of dropping out.	Over all, Decision tree classifiers predict these students more accurately as compared to other classifiers. Looking at the performance of all the classifiers on the dataset of students, it is evident that Decision tree classifiers are better, in terms of accuracy, in predicting students' academic performance.

Author	Abstract	Factors	Conclusion
Factors affecting female participati on in education-Education Research Paper	The intention behind the study was that it should provide information that governments and aid donors would be able to take account of in designing future educational projects, with a view to improving the levels of female participation in those countries where it lags behind that of males. the main thrust would be towards broad general education at all levels, with the focus of attention at school level and an emphasis on the primary sector.	The general level of factor identification was indicated by the ODA brief (e.g. 'social', 'economic', 'religious'). Additions were made both in consultation with ODA during the planning phase and on the initiative of the researchers, particularly as a result of the experience of the first field visit. The final list selected was: geographical, socio cultural, health, economic, religious, legal, political/administ rative, educational and initiatives.	While acknowledging that our study confirms the near universal, and especially in rural areas, deeply rooted incidence of female disadvantage in education, the researchers would also wish to mention the numerous efforts being made in all case countries to confront the problem. We hope that the recommendations made above will be helpful in maintaining and increasing the effort to assist increased female participation, especially at primary and secondary level.

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Author	Abstract	Factors	Conclusion
Data Mining : A prediction of performer or underperfo rmer using classificati on Umesh Kumar Pandey S. Pal VBS Purvanchal University, Jaunpur	In this paper, data mining techniques name Byes classificatio n method is used on these data to help an institution. Institutions can find those students who are consistently perform well. This study will help to institution reduce the drop put ratio to a significant level and improve the performance level of the institution.	Data mining, classification, Predictive model, Bayesian classification. the data mining prediction technique to identify the most effective factor to determine a student's test score, and then adjusting these factors to improve the student's test score performance in the following year.	In this paper, Bayesian classification method is used on student database to predict the students division on the basis of previous year database. This study will help to the students and the teachers to improve the division of the student. This study will also work to identify those students which needed special attention to reduce failing ration and taking appropriate action at right time.

3. PROPOSED WORK

This study has focused on the major factors that affect female students' academic performance and causes of attrition. Even though the female students' problems are multifaceted, in this study attempts were made to examine the drop- out factors. The quantitative instrument was a questionnaire. This instrument was used to collect data about the major problems that challenge female student at vellore district, and the major factors that affect females' academic performance. The qualitative part constituted document analysis and interview.

3.1 Objectives For The Proposed Work

Objectives of the study were to:

1. Find out the dropout rate in higher education .
2. Investigate the impact of multiple factors on the dropout
trend in higher education.

3.2 Data Mining Techniques Used In The Study

Weka provides various algorithms grouped in differentclassifying methods. On the basis of studies reviewed, most commonly used and good predictor algorithm of Weka classifiers (with their default settings) were selected as shown below in Table 2. The aim is to compare these algorithms in predicting students' performance.

Table 1.2 Data mining techniques used in the study

Decision Trees:	J48(C4.5),Random Forest, BF Tree, Rep Tree
Functions:	Logistic, RBF Network
Rule:	JRip
Bayesian Network:	BayesNet, NaiveBayes

J48 decision tree and Random Forest are used in thestudy by Vandamme et al (2007). Thai Nghe et al (2007), Al-Radaideh et al (2006), and Othman et al (2007) used J48 decision tree and BayesNetwork classifiers. Affendy et al (2010) also used j48, BayesNetwork along with Naïve BayesNetwork, RepTree, BFTree, RBF Network and Logistic function. GerbenW.Dekker(2009) used rule learning JRip along with J48 decision tree and Random Forest, Bayes Network along with Naïve Bayes Network, and Logistic function.

4. ANALAYSING THE PROPOSED WORK

The data is subjected to attribute selector,unsupervised discretization on numerical attributes is applied as some of the classifiers like tree and rule learners work well with discretized attributes.Best five variables which have the highest significancein determining a particular factor were selected and the rest discarded. This practice was applied for all factors. All together 8 factors were used in the research for determining their significance in predicting factors that affecting female higher education.

4.1 Factors Affecting Female Participation In Education

The final list selected was: geographical, socio cultural,health, economic, religious, legal. In reality it has to be recognised that there is considerable overlap between these factors and their influence on the problem in question, and in part for this reason the order in which the factors are discussed below is not knowingly significant. These are

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discussed in detail below, as already indicated, but may be briefly summarised here as follows:

4.1.1. Geographical

The considerable spatial disparity, and in some cases incompleteness, of institutional provision (even at primary level) relates directly to difficulties of physical access which adversely affect girls more than boys; there is an overall and profound urban/rural dichotomy which favours towns and cities, especially in respect of secondary school (and
especially single sex) provision for girls; patterns of transportation and migration affect educational provision and take up, again normally disadvantaging females and in some cases extreme physical difficulties, such as flooding and other hazards act in the same way. The influence of this factor can only be overcome by more sophisticated and multivariate spatial analysis of educational needs and the planning and implementation of integrated development projects as a result. Educational planning on its own would be futile.

4.1.2. Socio-Cultural

A major deterrent to female take up and follow through of educational opportunities (even when these are available) is a near universal fundamental cultural bias in favor of males. The widespread operation of patriarchal systems of social organisation; of customary early marriage; of the incidence of early pregnancy (in and out of marriage); of heavier domestic and subsistence duties of females (especially in rural
areas); a generally lower regard for the value of female life, all combine though differentially in each case, to adversely affect the participation of girls and women in formal education. To this list may be added problems of seclusion and security in some areas. Such long standing constraints result in a dearth of female role models that could challenge the traditional one that is clearly acquired by both sexes at a very early age. The influence of this factor can only be overcome, inter alia by a profound change of attitude on the part of influential males, and in some countries of traditionally minded powerful females in key family positions. [5] proposed a system in which the cross-diamond search algorithm employs two diamond search patterns (a large and small) and a halfway-stop technique. It finds small motion vectors with fewer search points than the DS algorithm while maintaining similar or even better search quality. The efficient Three Step Search (E3SS) algorithm requires less computation and performs better in terms of PSNR. Modified objected block-base vector search algorithm (MOBS) fully utilizes the correlations existing in motion vectors to reduce the computations. Fast Objected - Base Efficient (FOBE) Three Step Search algorithm combines E3SS and MOBS. By combining these two existing algorithms CDS and MOBS, a new algorithm is proposed with reduced computational complexity without degradation in quality.

4.1.3. Health

In general the effect of poverty and malnutrition on the health of school age children falls harder on girls than boys. Boys may get preferential feeding, while girls (who have a heavier domestic work load) are more likely to be undernourished. Even if they get to school, this adversely affects their performance and therefore retention rate. Health problems associated with pregnancy, especially for adolescent girls, obviously have a negative effect, as do rising trends of sexual activity in the younger generations where these occur. Problems associated with family size and family planning are widespread in relation to possible participation in education and imply the need for sex/health education at school level. It is clear that the health factor, though partly hidden and indirect in effect is a very significant one in respect of the quality of (young) female participation in education as well as the quantity of it

4.1.4. Economic

Together with the fundamental socio-cultural bias in favour of males, the economic factor, especially in terms of grinding poverty and hunger, is probably the most influential in adversely affecting female participation in education, especially in rural areas. In such harsh economic circumstances, both direct and hidden costs to a family of sending daughters to school are perceived by parents to be prohibitive in terms of the provision of books, paper and uniforms/clothing (important for social reasons) as well as the loss of vital help at home and on the land. In most cases the contribution of females is unpaid and they may have little or no experience of the handling of money which further reduces their status and power, but increases their vulnerability. Because of the patriarchal and patrilocal predominance, investment in a girl's schooling is wasteful since it benefits the family into which a girl marries rather than her own. In the more privileged classes investment in the education of females may be an advantage in 'marrying well'. This further increases the urban/rural gap.

4.1.5. Religious

Although in general acting indirectly, the religious factor is on balance a positive one, though it is often overcome by the fundamental sociocultural bias in favour of males. The fact that most religious practitioners and leaders are male makes for a powerful image in favour of that sex, and it would be a very helpful move if religious leaders of all faiths and denominations were to speak out strongly in support of the female cause. Christian missions have, in various areas, had a most positive effect on female education and literacy levels, though some have a legacy of harsh sanctions in respect of early pregnancy. In Islamic areas the situation is generally not so supportive but a number of positive trends were apparent. The religious significance of sons in the Hindu family, while
still operative, no longer seems in itself to disadvantage daughters. Often in contrast to the state system, and

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especially- at secondary level, denominational schools are well organised and resourced, attracting stable, well qualified staff. This weighs heavily with parents when deciding whether or not to send their daughters to schools, especially since boarding facilities tend to be more favorable and secure.

Table 1.3 Showing number of respondents selected for the study

Selected secondary schools	No of female students	No. of parents, guardian or teachers
Islamic girls higher Secondary School, vaniyambadi	25	25
Bharath higher secondary school,odugathur	25	25
Muthurangam government Arts college,odugathur	25	25
Government higher Secondary Schools ,odugathur	25	25
Sum total	**100**	**100**
Grand total	**200**	

Table 1.4 A Correlation Matrix of the factors (N = 200) on the Influence of Socio – Culture Status, Family Type School Dropout.

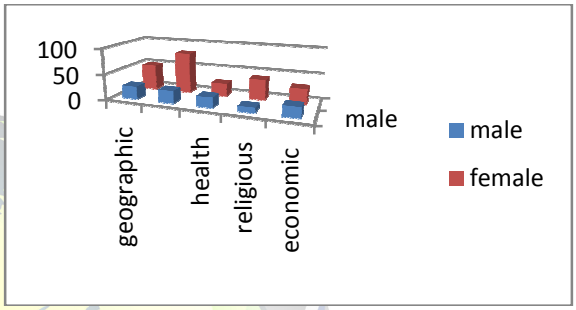
	School Dropout	Parental Socio Culture	Economic status
Parental Socio culture status Correlation	.031		-.168*
.375**	.666	.017	.000
Significance			

*p < 0.05 (2- tailed)
**p < 0.001 (2- tailed)
Df=399

4.2 Result Of The Proposed Work

The above table 1.4, shows that there is no statistical significance between parent's socio culture and economic factors of female higher education dropout. Though there was significant relationship between family type and school dropout, this can be observed from the table 2 that parent socio-culture and economic status correlated or had a significant relationship with family type (r = - 0. 168, p < 0.05) and (r = 0.375, p <. 01) respectively.
The negative correlation between parent socio-economic status and school dropout suggests that as parent's socio-economic status improves, there may be less school dropout among female secondary school students. The positive correlation between parent socio-economic status and family type also suggests that as the family relationship improves parent's socio-economic status also increases.

Fig 1.1 Factors influencing lack of higher education performance of males and females



5. CONCLUSION

Therefore, it is concluded that parent's socio culture and economic status completely influence the women's higher studies dropout . However we have observed that there was an insignificant relationship among female students is not only a function of parent's socio culture and economic status , This different factors play a important role in the dropping out of female students from school. It is therefore concluded that these two factors influence the lack of female student's higher education among the other factors.

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