Study on Selfie Addiction among Adolescents in Theni District using Decision Tree Technique

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Abstract—**Selfie is a snapshot, usually taken with a digital camera or smart phone. Habitually those photos are posted in social media, and connected with world level friends. Selfie is a new fashion of among the young generation. It is tremendous, especially in the adults. Then the adults concern about after share their selfie in social media such as whatsapp, Instagram, Facebook and Twitter. After posted their photos if no one like their selfie means they get to hate feeling about themselves. This situation the adults are affected by the following crucial cause for mental illness, addiction and even suicide. This study aimed at analyzing the issues of selfie among adolescents in Theni Districts. The selfie addiction problem at the earliest is more important not only to save the life of the students but also to save our Nation. Therefore this data mining case study is conducted in Theni District, Tamilnadu, India to decide an issues of selfie among the adolescents . It analyzes the major effects for selfie addiction using Classification algorithm. Data were collected from the public using a set of questioners and it is examined using R tool. Finally a decision tree is constructed from the study and provided the issues that have great impact on young age people.**

Keywords—**Selfie Addiction, Adolescents, Theni District, Data Mining, Decision Tree.**

I. INTRODUCTION

Tamilnadu is predicted to be the youngest state in India by 2020. In Theni District had population of 1,245,899 of which male and female were 625,683 and 620,216 respectively. Maximum of people is to be youngest with a median age of 30. India has the highest number of selfie accidental death rather than other country in the world. The first known selfie-related death occurred 15th March, 2014, when a man electrocuted himself on top of a train (Kondolojy& Amanda 2014)[1]. In the span of globalization and full of technological advancement, a social medium, which is selfies become a trendy topic among society, especially in adolescents. This because selfie gives the huge impact to the user in their daily life.[2]. Clicking selfies initially starts with a fun and time pass, gradually it becomes habit and slowly an addiction. Thus this research Paper focuses to analyze the selfie action and an issue of selfie among the adolescents in Theni District, Tamilnadu, India. They used data mining techniques and statistical analysis to find the issue of selfie and granted some idea to save the younger generation life and also save our nation.

In the whole world, selfie became a trendy cultural phenomenon where many people, mostly teenagers, are posting their photos on social media without reluctance. The art of selfie is one that lots of people have practiced and perfected in recent years. But the issue of selfie is not only for the teenagers who are very passion of this activity. Even the government is taking part on it. An "Anti-selfie Bill" (also known as House Bill 4807), is in the Philippines Congress right now–and is causing outrage and chilling effects to media and citizen journalism [3]. This is an ongoing issue not only to the people taking selfies, but more importantly on the side of the netizens and communication students. In USA examined the statistical report to find out the which age group of pepole taking selfie and posted it to a social media website. The main reason for taking selfie is illustrated in Fig. 1.
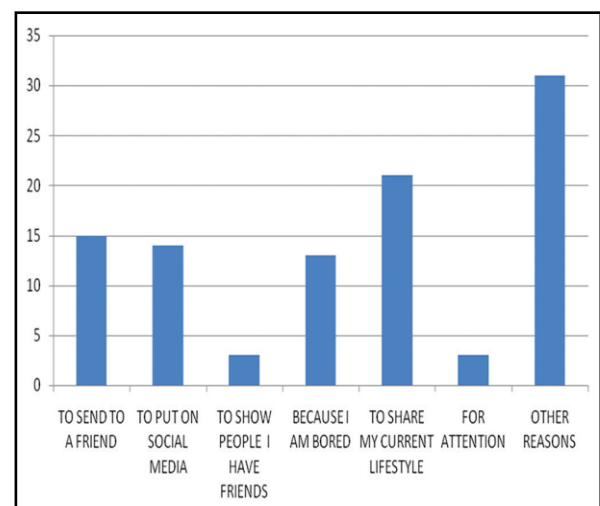

Fig 1 illustrate the main reason for taking selfie.

According to the USA statistical report most of the adults addicted for taking selfie and uploading it into the any social media web site. The following figure illustrated higher level of the youngest people are taking selfie.
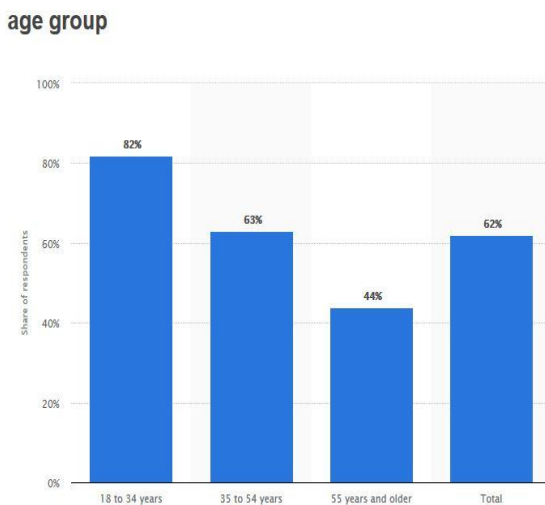

Fig 2 USA Selfie statistical Report.

This study focuses on the major issues of selfie as well as provides suggestions to avoid taking selfie in dangerous way.

II. LITERATURE REVIEW

JanarthananBalakrishnanet al., examined the development of the Selfitis Behaviour Scale (SBS) using IBM SPSS Statistics version 24. It was used for the analysis. The author analyzed data using two statistical techniques such as factor analysis using for principal component analysis (PCA) was carried out to identify the factors contributing to selfitis. The varimax method was used to observe the rotated factor loadings. Subsequently, multivariate analysis of variance (MANOVA) test was carried to determine whether the factors differed across the groups.Finally demonstrated that the SBS appears to a reliable and valid instrument for assessing selfitis but that confirmatory studies were needed to validate the concept more rigorously.

Ekaterina Orekh et al., analyzed the selfie as a social phenomenon. The author suggested that the selfie be viewed as a social practice that maintains an individual's social identity and assumed that the selfie popularity was caused by the convenient visual format of such communicative messages. They concluded that the importance of academic attention towards everyday practices online self-representations is crucial[4].

Gita WidyaLaksmini Soerjoatmodjo et al., explained the analysis of data with the help of Google spreadsheet tool used for the textual analysis. The author concluded that they take the selfie as an activity done in their spare time to express themselves and recorded memorable moments. For them, selfie mean as their means for self-expression and as mementos. Others' responses to their selfies gave them an affective feeling of approval. Those were all couched on the notion of identity formation and developed in their period of adolescence with links to self-disclosure and looking glass-self perspectives[5].

Diana N.Bespalova et al., analyzed that females were more sensitive for theselfie addiction. The author finally concluded that the percentage oftaking "selfie" addicted people was high and it was not applicable to women only. Young people of both genders were equally addicted to "selfies"[6].

SatishSaroshe et al., indicated that 11% people took selfies all the day; they might or might not post it on any social media, either way they were suffering from selfitis. This was a small but significant number. People seemed to have some genuine insight into theirreputation and do not achieved meta-accuracy only by capitalizing on the fact that others saw them similarly to how they saw themselves [7].

Veena.G et al., examined the explosion of Smart phones by cameras that could captured self-portraits or selfies as they were usually called has enlightened us. In recent tendency individuals were trying newer anddangerous behavior to capture something out of the world and instantly shared it with theworld through them many of social networking websites. The author suggested that latest campaign was a request to individuals, to follow a few safe selfie rules while capturing pictures. The notices advised individuals not to capture selfies while standing extreme end of the place[8] .

III. METHODOLOGY

This study has been conducted in Theni district by collecting and analyzing illustrations of taking selfie among all the people. It tries to recognize the major issues for selfie among adults in Theni district and to propose methods to control it. This study paper produce the results for adolescents to understand the consequence of social craze affects and find out the self-identify development which can help them for the proper guidance and discipline to their children. This is also help the respondents/adolescents since they can also aware onimpact of social craze affects their self-identify development.Finally this study analyzed the problem of selfie addiction and also identify the which age group of people mostly addicted for taking selfie. And also find out the level of addiction mostly affected by the issues of selfie among the adolescents.

Thepresent study is an investigate research conducted among the adolescents in Theni. In order to follow the aim and objectives outlined in the above section, a content analysis of information gained from the research process was conducted to establish the underlying trends in location to find common diseases.

Data Mining Technique: Data mining is the core process of knowledge discovery in databases. It is the process of extraction of useful patterns from the large database. To analysis the large amount of collected information, the area of Knowledge Discovery in Database (KDD) provides

techniques to extract interesting patterns in a reasonable amount of time [9]. Data mining is the application of efficient algorithms to detect the desired patterns contained within the given data. It is the extraction of hidden descriptive of predictive information from large databases.
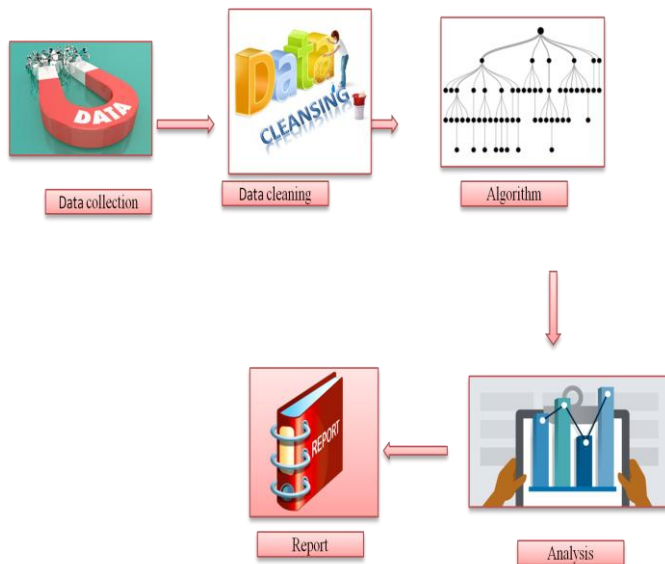

Fig 3. Data Mining Pre Processing

Decision Tree Algorithm: Decision tree is the main algorithm used for classification and prediction. It is a typicalinductive algorithm based on instance, which focuses on classification rules, displays decision trees inferred from agroup of disorder and irregular instance. In the top-down recursive way, it compares attributes between internal nodesof decision tree, judges the downward branches according to the different attribute of the node, draws a conclusion

from and draws a conclusion from leaf nodes in the decision tree. The entire tree corresponds to a group of disjunctiveexpression rules [10]. In the decision tree,each tree node corresponds to a property test, each leaf node corresponds to a Boolean value and each branchrepresents one of the possible values of testing algorithm.

Construction and Pruning of Decision Tree: Decision tree classification algorithm is usually divided into two steps:constructing Decision Trees and pruning Decision Trees.

Construction of Decision Tree: The Input of decision tree construction algorithm is a set of classic labeledexamples. The result of structure is a binary tree or ternary tree. The internal nodes of a binary tree are usuallyrepresented as a logical judgment in the form of logical judgment. The internal node of ternary tree is an attributeof which edges are all values where there are several attribute values, several sides, tree leaf nodes are category tag.Method of constructing decision tree is a top-down recursive structure.

Pruning of Decision Tree: The object of Data mining is real world data, which are generally not perfect. Eventhough there are some missing values in attribute field, there is lack of

essential data resulting to incomplete dataor data are inaccurate even wrongly. Or containing noise, so it is necessary to discuss the problem of noise.The basic decision tree construction algorithm does not consider the noise, so the generated decision tree fits completely withtraining examples, which will lead to excessive fitting and will destruct predictive performance. Pruning is a technique toovercome the noise but at the same time, it also can make the tree simplified and easy to understand.

Two basic pruning strategies are:

Forward-pruning: It is pruning before the completion of the decision tree's growth process. It is decided tocontinue dividing the impure training subsets or shutdown.

Post-pruning: It is pruning after the completion of decision tree growth process. It is a fitting-and-simplifyingof the two stage method.

Information gain: Information gain is based on entropy of information to reduce the weight of desiredinformation or entropy, sample classification according to determine to choose what kind of variables on whatlevel.

Let Si be the sample of S, who have the values Aj in A.

Let Sij be a sample number of class Ci of subset Sj.

The entropy of subset divided by A is given by:

$$E(A) = -Sij + S2j + \ldots + Smj \ I/S \ (Sij, S2j \ldots Smj) \ldots (1)$$

The decision tree algorithm is given below.

Algorithm Decision_Tree_Generation()

Input: Data Partition D, Attribute _list, Attribute selection_ method

Process: A procedure to determine the splitting criterion that "best" partitions the data tuples into individualclasses. This criterion consists of a splitting attribute and possibly, either a split point or splittingsubset

Output: A decision tree for the study

Step 1: Create a node N;

Step 2: If tuples in D are all of the same class, C then
Return N as a leaf node labeled with the class C;

Step 3: If attribute list is empty then
Return N as a leaf node labeled with the majority class in D:// suicide_intension

Step 4: Apply attribute selection_method (D,attribute_list) to find the "best" splitting criterion;

Step 5: Label node N with splitting criterion;

Step 6: If splitting attribute is discrete-valued an multiday
splits allowed then//not restricted to binary treesAttribute list<-attribute_list_splitting_ attribute;

Step 7: For each outcome j of splitting criterion
Let Dj be a the set of data tuples in D satisfying the outcomes j;//a partition

Step 8: If Dj is empty then
Attach a leaf labeled with the majority class in D to node N;

Else attach the node returned by generate_decision_tree(Dj,attribute list) to node N;
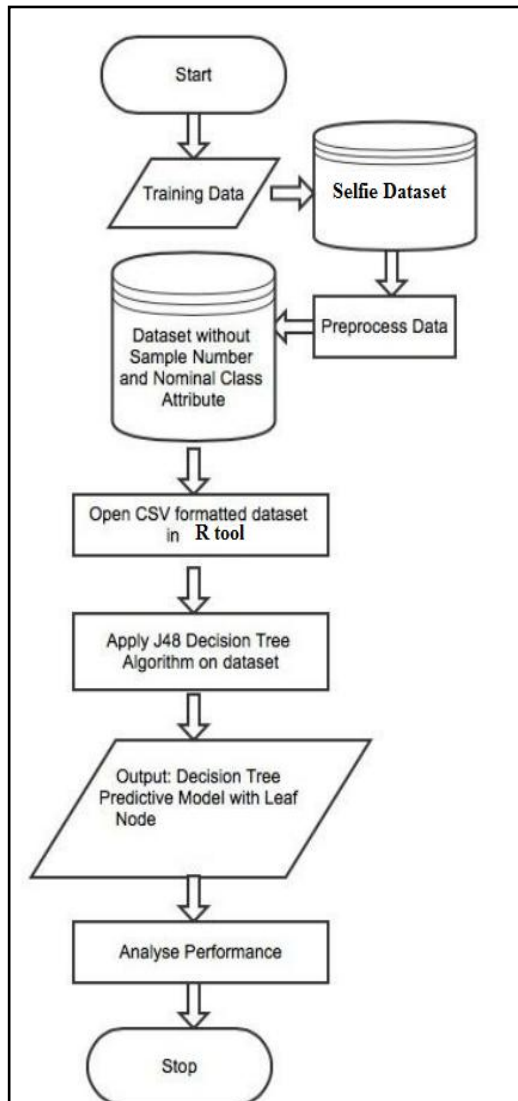
Step 9: Return N;

Fig 4. Flow Diagram Of Decision Tree Algorithm

Data sources and Execution of research study

Target adolescents: This survey covers all the adults of Theni district.

Instrument design: This questionnaire collects data on the attitude of the people regarding impact of selfie addiction on rural women and adults. The questionnaire have adopted for this study survey .

Sampling: This survey is to used to find out the addicted people. Data are collected for particular units of the target people , therefore sampling is done.

Data sources: Data are collected directly from survey respondents. Data are compiled from the responses of theresearcher that are collected by the questionnaire. The researcher performs the data capture activities and follow-up of non-respondents. Contact with respondents is maintained for subsequent follow-up.

Error detection: There are edits built into the data capture application to check the entered data for unusual values as well as to check for logical inconsistencies. Whenever an edit fails, the interviewer is prompted to correct the information. For most edit failures the interviewer has the ability to override the edit failure if necessary.

Imputation: A 100% response rate is attained; therefore imputation is not necessary.

Quality evaluation: Prior to the data release, combined survey results are analyzed for comparability; in general, this includes a detailed review of individual responses, general economic conditions, and historical trends. The data is examined at a macro level to ensure that the long-term trends make sense when compared to publicly availableinformation in media reports, and etc.

Revisions and seasonal adjustment: Revisions in the raw data are required to correct known non-sampling errors. They normally include replacing imputed data with reported data, corrections to previously reported data, and estimates for new births that were not known at the time of the original estimates. Raw data are revised on monthly basis. The purpose is to correct any significant problems that have been applied for an extended period. The actual period of revision depends on the nature of the problem identified.

Analysis of data

The process of the analysis of the research data is presented in this section.

Data Input:

The dataset was inserted into the R-tool for processing.

Installing the Necessory Packages and find out the histogram results for highly taking selfie by using the survey questionnaire.

IV. RESULT AND ANALYSIS

Data collects more than 2000 responses from samples all over Theni district. She spent nearly 2 months to collect the fresh data from end users. After collecting the information, all the details are fed into the software for Excel. The data were analyzed using multiple attributes such as Name, Gender, Qualification, age, class and so on. Then the dataset was inserted into the R tool for processing. The Figure 4 illustrated the most of adults accepted for taking selfie,
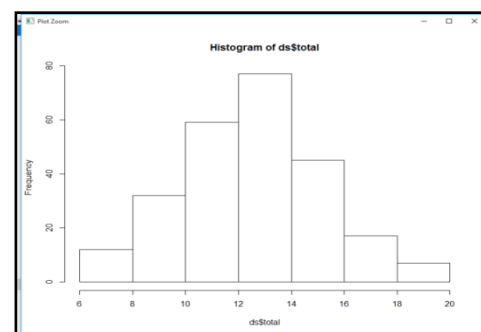

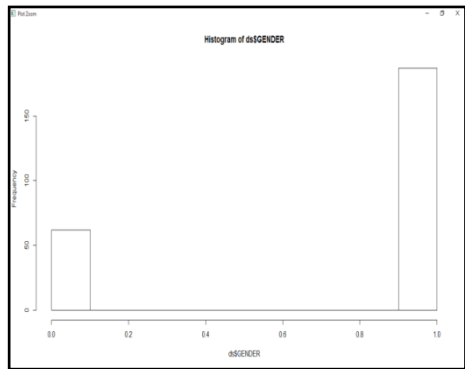Fig 5.Output for histogram for total

Fig.5 output of mostly addicted people using Gender Attribute
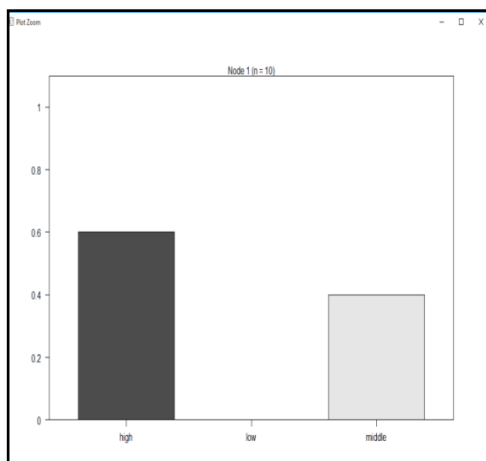

Fig.6 output of mostly addicted people using Class Attribute

The decision tree model output of the projected result is presented in Fig.7.
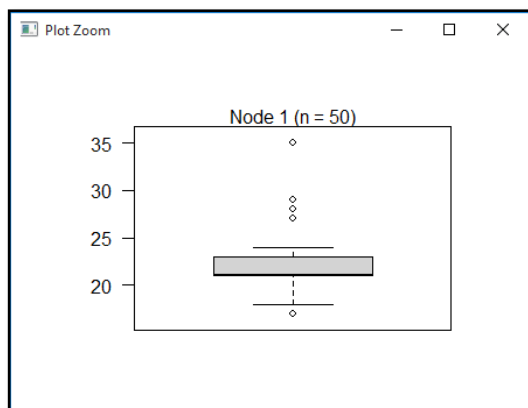

Fig. 7. Decision Tree model of the study

From the Fig.7, it is clearly understood that at young age, the adults tends mostly addicted for taking selfie and posted any other websight. Butwhen they grow, they could manage and solve problems of their level. The decision tree helps us to understand technical majorstudents are more addicted for

selfie and in the age of 20-27, these students shared their photo with out any hesitation. Most of the worried about after share their photo in social media. These age group are takkingselfie in adventures at this time committed selfie related accident. The decision tree model is constructed in depth-first fashion, node by node is shown in Fig. 8.
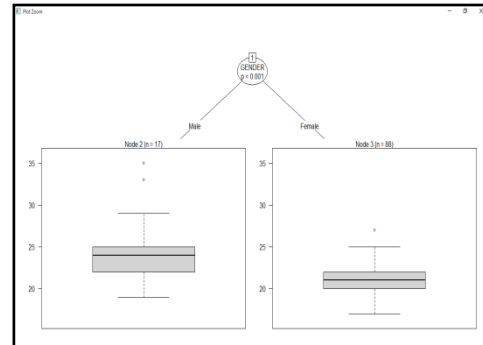

Fig. 8. Tree construction in depth-first fashion, node by node

Recommendations

This study recommends that the future researches should discover the impact of selfie to other aspects such as emotional, mental, and social aspects of teenagers to determine how their lives are being affected by this phenomenal act around the world. More ever, the use of a larger sample size is highly recommended in order to get more reliable data results. This data measure by using selfiebehavior scale and identify the which are the people mostly addict and get back to their life .This servay also conducted on Urban area for all age pepopl.The same study can be conducted in different districts.The study can be implemented for the advantages of these selfies. The study can be also implemented for the mental problems.

V. CONCLUSIONS

This paper presents a data mining study of the survey on selfie addiction among adolescents in Theni district, Tamilnadu, India. This study uses decision tree algorithm to determine the age group of students who are victimizing to Selfie addiction. The decision tree algorithm and analysis of the data are presented in the study. The predicted result of the study isdepicted as a decision tree model. Though the academic and relationship issues are the major cause for such ideation, thefindings of this case study support the importance of psycho-educational involvement programs in the teen age to reduce andavoid persecute. Mental Health Professionals and Teachers should involve parents too in interventions related tointimidation among adolescents.

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