Chapter 11
Social Media Analytics to Predict Depression Level in the Users

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ABSTRACT

As people around the world are spending increasing amounts of time online, the question of how online experiences are linked to health and wellbeing is essential. Depression has become a public health concern around the world. Traditional methods for detecting depression rely on self-report techniques, which suffer from inefficient data collection and processing. Research shows that symptoms linked to mental illness are detectable on social media like Twitter, Facebook, and web forums, and automatic methods are more and more able to locate inactivity and other mental disease. The pattern of social media usage can be very helpful to predict the mental state of a user. This chapter also presents how activities on Facebook are associated with the depressive states of users. Based on online logs, we can predict the mental state of users.

INTRODUCTION

This chapter also presents how activities on Facebook are associated with the depressive states of users. Based on online logs, we can predict the mental state of users. For example depressed individuals reported smaller involvement on social networks regarding comments and likes, the two popular forms of interactions. In contrast to the decreased level of interactions, depressed individuals showed an increase in the wall post rates and were active online during odd times of the day, which can be interpreted as an endemic behavior linked to the perceived degree of loneliness among young adults who are avid users of social media.

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In this chapter, I will discuss these findings from theoretical, empirical, and subjective perspectives. In this chapter, I proposed a classifier that could differentiate between depressed and non-depressed users on Facebook. The results of the proposed system corroborates the idea that it may indeed be possible to differentiate between depressed and non-depressed Facebook users based on subtle linguistic and behavioral cues. My research could also benefit those who are struggling with other mental illnesses.

BACKGROUND

Depression is a common mental disorder, characterized by persistent sadness and a loss of interest in activities that you normally enjoy, accompanied by an inability to carry out daily activities, for at least two weeks.

Depression is a common chronic disorder with adverse effects for well-being and daily functioning. people with depression normally have several of the following: a loss of energy; a change in appetite; sleeping more or less; anxiety; reduced concentration; indecisiveness; restlessness; feelings of worthlessness, guilt, or hopelessness; and thoughts of self-harm or suicide. One of the most common depression types is major depression disorder (MDD) with patients having symptoms like depressive mood accompanied by low self-esteem, laziness and lack of pleasure:

The number of patients diagnosed with depression increases by 20% every year ranking it as the leading cause of disability worldwide and is a major contributor to the overall global burden of disease. (World Health Organization, 2018)

Depression may become a serious health condition. It can cause the affected person to suffer greatly and function poorly at work, at school and in the family. At its worst, depression can lead to suicide. A study conducted in 2012 shows that depression causes one death every 40 seconds worldwide (World Health Organization, n.d.). Close to 800,000 people die due to suicide every year and suicide is the second leading cause of death in 15-29-year-olds (World Health Organization, n.d.).

Depression has severe effects on individuals as well as society because it can lead to a suicide as well as other mental disorders.

According to WHO, approx. 5 crore people suffer from Depression. The WHO report estimates that about 322 million people worldwide suffered from depression over in 2015 (World Health Organization (World Health Organization, 2017b). In 2012 Lancet report revealed that "A Student Commit Suicide Every Hour in India" (Bhardwa, 2017). WHO in his report "Depression and other common Mental Disorders-Global Health Estimates" mentioned that overall 7, 88,000 commit suicide and the number of suicides of students is approx. 8934 in 2015 (World Health Organization, 2017a).

In the leading five years 39775 students killed themselves and many of the suicides are unreported. Depression accounts for more disability-adjusted life years (DALYs) than all other mental disorders, and it is becoming the main reason of disability in high-income countries (World Health Organization, 2017a).

Early detection of depression can help in providing required treatment like educating family members so that they provide support for stress relief, Psychotherapy such as cognitive behavioural therapy (CBT), interpersonal psychotherapy and drug treatment.