Facebully: Identifying Cyberbullying in Facebook*

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Motivation

- In the past year, 1 million children were victims of cyberbullying on Facebook.
- There has not been sufficient research in identifying cyberbullying behavior in social networks and media.

Our Contribution

- Facebully is an application designed to identify a case of cyberbullying by exploiting the social media data available.
- The application is based off of a model designed for cyberbully identification that was built on previous research findings of both traditional and cyberbullying in adolescents.

Benefits

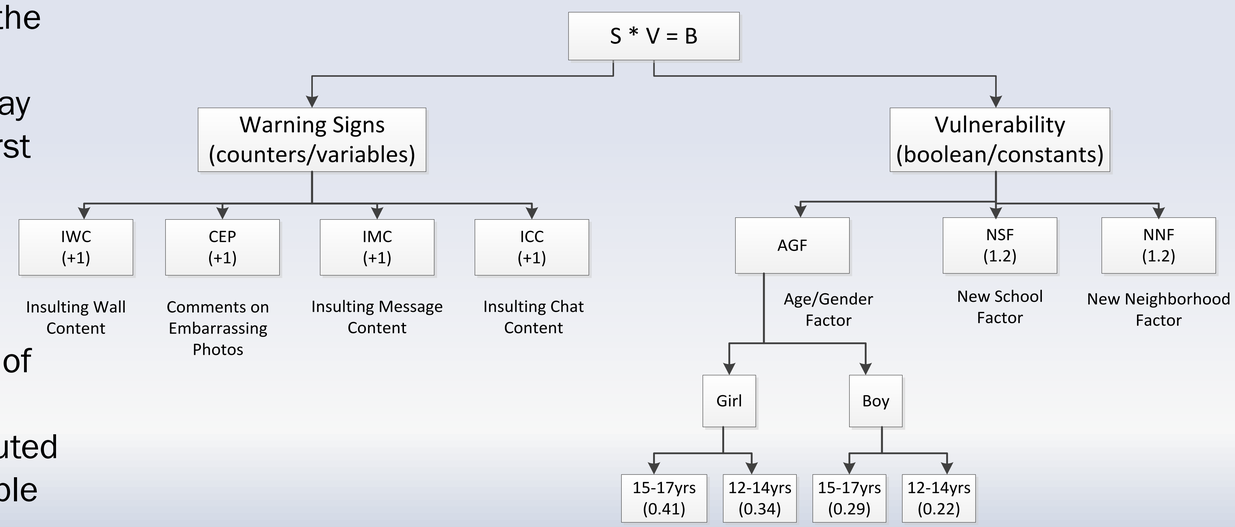
- Once Facebully is ready for deployment, it can be used, e.g., for parents to monitor their children via their social network and forewarn them if their child is a victim of online aggression.
- The model used to design the application can be modified to identify other behaviors as well, such as depression or self-destructive tendencies.

Future Work

- Finish the implementation of Facebully 1.0.
- Study mechanisms to dynamically adjust the Bullying Rank by using machine learning techniques.

Facebully Design

- Facebully measures the intensity of online aggression a user may be experiencing by first identifying two major factors:
  - Warning signs
  - Vulnerability
- Each factor consists of sub-factors whose values can be computed from the data available in the user's profile.



- The Bullying Rank (B) is computed by an equation that normalizes the intensity of cyberbullying.
- The bullying sub-factors are combined using various weights.
- The possible range of values of the Bulling Rank (B) is divided into three levels of risk intensity.

- Bullying Ranks (0-59):
  - Warning Signs (S): [0, 100]
    $S=\min(100, w_1 \cdot IWC+w_2 \cdot CEP+w_3 \cdot IMC+w_4 \cdot ICC)$
  - Vulnerability (V): [0.22, 0.59]
    $V= (w_5 \cdot AGF) \cdot (w_6 \cdot NSF) \cdot (w_7 \cdot NNF)^*$
  - Bullying Rank (B): [0, 59]
    $B=S \cdot V$
- Levels
  1. Low Risk: [0,20]
  2. Medium Risk: [21,40]
  3. High Risk: [41,59]

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