

Linguistic Analysis of Borderline Personality Disorder: Using Language to Predict Maladaptive Thoughts and Behaviours

Authors : Charlotte Entwistle, Ryan Boyd

Abstract : Recent developments in information retrieval techniques and natural language processing have allowed for greater exploration of psychological and social processes. Linguistic analysis methods for understanding behaviour have provided useful insights within the field of mental health. One area within mental health that has received little attention though, is borderline personality disorder (BPD). BPD is a common mental health disorder characterised by instability of interpersonal relationships, self-image and affect. It also manifests through maladaptive behaviours, such as impulsivity and self-harm. Examination of language patterns associated with BPD could allow for a greater understanding of the disorder and its links to maladaptive thoughts and behaviours. Language analysis methods could also be used in a predictive way, such as by identifying indicators of BPD or predicting maladaptive thoughts, emotions and behaviours. Additionally, associations that are uncovered between language and maladaptive thoughts and behaviours could then be applied at a more general level. This study explores linguistic characteristics of BPD, and their links to maladaptive thoughts and behaviours, through the analysis of social media data. Data were collected from a large corpus of posts from the publicly available social media platform Reddit, namely, from the 'r/BPD' subreddit whereby people identify as having BPD. Data were collected using the Python Reddit API Wrapper and included all users which had posted within the BPD subreddit. All posts were manually inspected to ensure that they were not posted by someone who clearly did not have BPD, such as people posting about a loved one with BPD. These users were then tracked across all other subreddits of which they had posted in and data from these subreddits were also collected. Additionally, data were collected from a random control group of Reddit users. Disorder-relevant behaviours, such as self-harming or aggression-related behaviours, outlined within Reddit posts were coded to by expert raters. All posts and comments were aggregated by user and split by subreddit. Language data were then analysed using the Linguistic Inquiry and Word Count (LIWC) 2015 software. LIWC is a text analysis program that identifies and categorises words based on linguistic and paralinguistic dimensions, psychological constructs and personal concern categories. Statistical analyses of linguistic features could then be conducted. Findings revealed distinct linguistic features associated with BPD, based on Reddit posts, which differentiated these users from a control group. Language patterns were also found to be associated with the occurrence of maladaptive thoughts and behaviours. Thus, this study demonstrates that there are indeed linguistic markers of BPD present on social media. It also implies that language could be predictive of maladaptive thoughts and behaviours associated with BPD. These findings are of importance as they suggest potential for clinical interventions to be provided based on the language of people with BPD to try to reduce the likelihood of maladaptive thoughts and behaviours occurring. For example, by social media tracking or engaging people with BPD in expressive writing therapy. Overall, this study has provided a greater understanding of the disorder and how it manifests through language and behaviour.

Keywords : behaviour analysis, borderline personality disorder, natural language processing, social media data

Conference Title : ICHBBA 2020 : International Conference on Human Behaviour and Behaviour Analysis

Conference Location : Copenhagen, Denmark

Conference Dates : June 11-12, 2020