

Meetings and Mood – Related or Not? Insights from Student Software Projects (Summary)

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Abstract: Meetings are part of most software projects which is why they have been frequently analyzed by researchers. Often, this research focuses on the interactions. We analyze meetings from a more abstract view by applying sentiment analysis to the statements made during the meeting. That is, we analyze whether the statements are positive, negative, or neutral, and how the statements made are related to the mood of a team before and after the meeting. Our results are based on insights from 21 student software projects and show some interesting findings, including that the amount of positive and negative statements during the meeting has no measurable influence on the mood afterwards.

This summary refers to the paper “Meetings and Mood – Related or Not? Insights from Student Software Projects” [KK22]. This paper was published in the proceedings of the 16th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement, 2022.

Keywords: Software development teams, sentiment analysis, meeting, mood

1 Introduction

As most software projects require team work, adequate collaboration and interactions between the project team members are essential. This also includes the information exchange in meetings. So far, research has focused on interactions in meetings, that is what kind of statements they made (e.g., whether they blame or support others, or express interest). In our research [KK22], we investigated meetings from a more abstract view by analyzing the polarity of the statements made. We then compared the amount of positive and negative statements with respect to their relation to the mood of a team and conflicts.

2 Methodology

Overall, we wanted to analyze relations between (1) the mood before a meeting, (2) the polarity of statements in a meeting, and (3) the mood and other social aspects after a meeting. For this purpose, we analyzed the transcripts of 21 student software project meetings. In addition, in these projects, we collected data on social aspects such as the affective

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state and the perceived likelihood for social or task-related conflicts. The data analysis followed a two-step approach: (1) We applied sentiment analysis to the meeting transcripts using the SEnti-Analyzer [HOK20] and retrieved the amount of positive, negative, and neutral statements for each meeting. (2) Then, we applied hypothesis testing to analyze the data with respect to the relationships mentioned above. In total, we tested 8 main and 20 sub-hypotheses [KK22].

3 Results

The data analysis provides some interesting insights, including that (1) the amount of positive statements depends on the positive mood before the meeting, that (2) the perceived likelihood for social conflicts depends on the amount of negative statements during the meeting, and that (3) the perceived likelihood for task-related conflicts depends on the amount of positive and negative statements during the meeting. Even more interesting, there are two cases for which we did not find a measurable influence: (1) We neither find an evidence for an influence of the overall mood before the meeting and the polarity of statements during the meeting, nor (2) an evidence for an influence of the polarity of statements during the meeting on the mood of a team after the meeting.

4 Conclusion

We can conclude that *starting a meeting with a high positive mood can smooth both the meeting start as well as the meeting as a whole* and that *the polarity of statements made during the meeting has no measurable influence on the mood afterwards*. Nevertheless, one should not assume that the behavior during the meeting does not matter. Indeed, we argue that it is more likely that such behavior influences the short-term emotional state after the meeting (which needs to be proven by future research) rather than the long-term affective state which we considered in this research.

Data Availability

Due to ethical concerns, we are not allowed to share the raw data publicly.

Bibliography

- [HOK20] Herrmann, Marc; Obaidi, Martin; Klünder, Jil: SEnti-Analyzer: Joint Sentiment Analysis For Text-Based and Verbal Communication in Software Projects. Technical Report 1.0, Software Engineering Group, Leibniz Universität Hannover, 2020. arXiv.
- [KK22] Klünder, Jil; Karras, Oliver: Meetings and Mood-Related or Not? Insights from Student Software Projects. In: Proceedings of the 16th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement. 2022.