Product Owners' Observed Emotional Intelligence Throughout the Planning, Refinement, and Retrospective Agile Team Meetings: An Exploratory Study

Author: Maud Nijland
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT,

In today's dynamic business environment, organizations increasingly use Agile methodologies to adapt to the evolving needs of the environment. Within Agile teams, the Product Owner plays a crucial role, not only in managing the product backlog and representing stakeholder needs but increasingly in their ability to empathize and effectively manage interpersonal dynamics. Emotional Intelligence is critical in understanding how individuals manage emotions and interpersonal relationships, thus influencing team dynamics and performance. However, gaps remain in understanding how Emotional Intelligence manifests in a team structure lacking a traditional leader. This study aims to investigate how Emotional Intelligence is expressed through Product Owners' verbal behaviors in Agile team meetings, and how their observed Emotional Intelligence differs between the Agile team meetings. It addresses the gap in knowledge by exploring EI beyond self-perceived measures, focusing on actual observed verbal behaviors. Using a mixed-methods design, three meetings of three Agile teams from a large Dutch organization in the financial services sector were analyzed using video observations, meeting transcripts, and surveys. The study focused on identifying and categorizing verbal behaviors indicative of Emotional Intelligence and comparing these behaviors across different types of meetings. The findings revealed varying levels of Emotional Intelligence among Product Owners across different Agile meetings. Specifically, planning meetings showed higher perceptions of Emotional Intelligence. Interestingly, these findings, however, varied by team; for one team, the most observed EI moments occurred during the refinement meeting, indicating a need for nuanced analysis. Moreover, the study investigated the impact of perceived Emotional Intelligence on squad and Product Owner performance. The research highlights the importance of Emotional Intelligence in Agile contexts and illustrates how Product Owners adapt their Emotional Intelligence behaviors to the specific objectives and dynamics of each meeting type. Future research should further explore, on a larger scale, how Emotional Intelligence impacts team performance and evolves across the three different meetings within the entire team.

Keywords

Agile teams, Emotional Intelligence, Product Owner, verbal behavior, Planning meeting, Refinement meeting, Retrospective meeting

Graduation Committee members:
Dr. Desirée van Dun,
Dr. Lara Carminati

1. INTRODUCTION

In a world that has a constantly and rapidly changing environment, organizations face and must adapt to both external and internal changes (Renault & Tarakci, 2023). To deal with these turbulent and fast-changing organizational landscapes, an appropriate form of management and working is required within organizations. One way to achieve it is through the Agile way of working. Agile teams have become a crucial organizational component (Al Fannah et al., 2020). Agile teams are said to work cross-functionally and self-organized in iterative communicated learning loops toward a common goal (Conboy, 2009). This new type of Agile organization requires fundamentally different behaviors to help people align their collective direction, execute strategic plans, and continuously renew an organization (De Smet et al., 2018). Nevertheless, an Agile team does not have a permanent team leader. For example, in a Scrum team, there are three official roles: the Product Owner, the Scrum Master, and the entire team (Srivastava, 2021). The Product Owner prioritizes and organizes the tasks and development list, and the Scrum Master focuses on team improvement, but neither provides official leadership to the team (Srivastava, 2021). The Scrum team works in sprints to achieve the product goal. The sprint is initiated by a sprint planning meeting (Kadenic et al., 2023). During the daily Scrum event, progress toward the sprint goal is monitored, obstacles are identified, and the work is adjusted. Towards the middle of the sprint is the refinement meeting for refinement of the product backlog (Schwaber & Sutherland, 2016). During the sprint review event, at the end of a sprint, the Scrum team presents its results. Then, during the sprint retrospective, performance will be evaluated (Kadenic et al., 2023). To achieve optimal success in Scrum, all work essential to achieve the product goal is required, including sprint planning, daily scrums, sprint reviews, and sprint retrospective meetings (Schwaber & Sutherland, 2020).

The importance of people and collaboration is emphasized in the first value of the Agile Manifesto, "Individuals and interactions over processes and tools." (Griffiths, 2023). Even for teams that do not operate in an IT setting, the Agile way of working has a positive influence on the involvement and performance of the team (Peeters et al., 2022) and several aspects are important for an effective Agile team. One of these is the role that Emotional Intelligence (EI) plays in an Agile team for its positive impact on people-related challenges in a team (Luong et al., 2021). EI is a set of skills that allows individuals to assess and express emotions in themself and others, the effective regulation of emotions, and the use of feelings to motivate, plan, and manage one's life (Salovey & Mayer, 1990).

Existing research has been conducted in the field of the impact of EI on leadership and team dynamics, which has revealed the positive influence of EI on team dynamics, such as having a trend to adopt transformational leadership approaches, demonstrating proficient skills in conflict resolution, and make valuable contributions to fostering favorable dynamics within teams (Xiao et al., 2023). The discoveries of this research highlight the importance of developing EI skills in leaders as a means to empower business success and cultivate an economic work environment. Numerous studies have examined EI in various contexts, however, most of this research has been conducted within traditional work environments with hierarchical structures. Goleman (2000) suggested that EI is closely related to successful leadership within such traditional systems. Côte et al.(2010) found results that suggest a positive relationship between EI and a number of its dimensions, and leadership emergence. Based on the findings of Goleman(2000), Xiao et al. (2023), and Côte et al.(2010), this study aims to further explore the effects of EI on team dynamics in a team structure lacking a traditional leader, and instead lead by a Product Owner.

Furthermore, according to the literature, three models conceptualize and adequately assess EI: the ability model, the mixed model, and the trait model (Mayer et al., 2008). Nevertheless, challenges in assessing EI arise from the wide diversity of conceptualizations that are not homogeneous and the difficulty in operationalizing emotion-related work (Boyle et al., 2008). Although the different conceptualizations of EI help us understand the concept, they do not give us a complete picture of how emotionally intelligent individuals behave in real-life situations. Direct observations can help improve the measurement of EI because they result in more objective observations and avoid bias due to the unreliability of human memory (Wysocki, 2014). While the current literature has widely researched *perceived* EI, we still do not know the actual behaviors associated with EI, i.e., *observed* EI (Dasborough et al., 2021). Understanding the specific behaviors associated with EI is critical because it provides insight into how EI is demonstrated in real-life situations. By analyzing the behavior of emotionally intelligent individuals, we can recognize consistent patterns across contexts and environments.

Hence, there is a need for research that goes beyond traditional leadership studies and delves into specific contexts and behaviors that influence group processes (Zhao et al., 2019). This is in line with the focus on verbal behavior related to EI in Agile team meetings. Also, exploring the nuances of EI in Agile team environments can contribute to a more comprehensive understanding of how Product Owners can effectively navigate different types of team interactions and improve team performance, in line with the broader themes of leadership and group processes discussed in the article. Furthermore, doing research using observations answers the call for novel methodologies, such as video observations (Zhao et al., 2019).

1.1 Research objective and question

In light of the above, this thesis thus contributes to filling the existing research gap by utilizing a novel methodology that combines video observations with survey data to study the verbal behaviors related to EI and how the observed EI of the Product Owner (PO) differs between different meetings of Agile teams, the following research question is formulated:

"How is EI manifested through verbal behaviors by the PO in Agile team meetings and how does their observed EI differ between the planning, refinement, and retrospective meeting?"

1.2 Academic and Practical Relevance

This thesis contributes to the emerging body of research on verbal behavior and Emotional Intelligence by specifically investigating members of Agile teams, focusing on the verbal behaviours related to the observed EI of the Product Owner. It highlights the unexplored differences in verbal behaviors related to Product Owners' EI during the different Agile team meetings. By observing and coding the Product Owners' verbal behavior across three different meetings, this thesis provides valuable insights into the Product Owner's observed EI.

The novelty of this study is in its focus on verbal behaviors as a clear and observable expression of Emotional Intelligence. It highlights the importance of measuring observed verbal behavior rather than relying solely on perceived EI when evaluating Emotional Intelligence. Verbal behaviors provide a concrete, measurable dimension that can reveal aspects of EI that may not be captured by self-report alone. Understanding observed behaviors associated with EI is critical to understanding how EI is demonstrated in real-life situations (Dasborough et al., 2021).

Analyzing the behavior of emotionally intelligent individuals in different contexts enables the recognition of consistent patterns and provides practical implications for building effective Agile teams and improving team performance. These suggestions can help companies in building Agile teams more efficiently and achieve better results.

1.3 Outline of this report

This report's next section reviews the literature relevant to the research question. Following this, the methodology is outlined. Subsequently, the results are examined, considering their theoretical and practical implications, strengths and limitations, and recommendations for future studies are discussed. The report concludes by answering the research question.

2. THEORETICAL FRAMEWORK

This section discusses the definition of the Agile way of working and its core principles. Followed by the definition of Emotional Intelligence, a discussion of the role of the Product Owner, and a classification of verbal behavior.

2.1 Agile Way of Working

Companies today are confronted with frequent changes due to innovations and new technologies (Broy, 2006). Cloud-based services, big data, and digitalization are penetrating all markets and products, requiring rapid market responses. Agile software development methods are a promising solution to keep pace with these advances (Hohl et al., 2018). The Agile Manifesto, created by 17 software practitioners, marks a turning point in software development. Kent Beck wanted to find more effective methods for software development (Beck et al., 2001). The Agile method focuses on the four values laid down in the Agile Manifesto; Individuals and Interactions Over Processes and Tools, Working Software Over Comprehensive Documentation, Customer Collaboration Over Contract Negotiation, and Responding to Change Over Following a Plan (Beck et al., 2001). Since the Agile Manifesto was drafted, a great deal of research has been conducted, and many contributions have been made to Agile science (Dingsøyr et al., 2012). One of the many definitions is that Agile working involves an organizational approach that empowers individuals to decide where, when, and how they work, promoting maximum flexibility and minimum constraints to improve performance and enable optimal output (Beck et al., 2001). The principles of Agile have also proven to be extremely effective in other sectors, contributing to a paradigm shift from machine-based to organic organizational structures (Aghina et al., 2018). This transition is supported by Agile organizations' ability to balance stability and dynamism, making them more resilient and flexible in responding quickly to changing market conditions and opportunities (Aghina et al., 2018).

Agile teams, also called squads, are generally small, combined teams with cross-functional capabilities, preferably consisting of five to ten people (Zia et al., 2018). In Agile teams, there are different roles, where individuals can play multiple roles interchangeably, and each role can be fulfilled by zero or more individuals during a project (Lin et al., 2014). Agile teams are self-managed and have autonomy and control over their entire work tasks, and team members plan, manage, and execute team meetings to achieve a common goal (Tiejun et al., 2013). All team members have a collective responsibility for achieving the project goals, due to the absence of a traditional leader (Magpili & Pazos, 2018). The Scrum framework, together with the Kanban methodology, is one of the most powerful methods adopted by companies (Lei et al., 2017). Sprints are development cycles in which a given project is developed or improved to produce new steps, these are started with a planning meeting in which all participants agree on their list of tasks to be completed

by the end of a certain period (Hidalgo, 2019). During this meeting, the team sets objectives and defines the work to be accomplished. During the sprint, the team meets daily in short meetings of approximately fifteen minutes called 'standups', to share information that should be relevant to the progress of the teams and to improve communication (Stray et al., 2016). The refinement meeting plays a crucial role in ensuring that the product backlog remains well-structured and ready for upcoming sprints. It allows the Scrum team to update and prepare the product backlog (Van Rooden, 2016). At the end, a retrospective meeting will be held, which is a type of meeting where teams reflect on what went well and what can be improved for their next sprint (MacNeil, 2024). This meeting can be seen as an opportunity for the team to learn from their experiences and improve collaboration. The Scrum team consists of a Product Owner, a Scrum Master, and developers. The Product Owner is responsible for effective product backlog management, and the Scrum Master is responsible for establishing and improving the Scrum team's practices (Kadenic et al., 2023). In addition to these responsibilities and tasks, there are also social-emotional aspects associated with a Scrum team. For example, as a Scrum Master and as a Product Owner, empathy and active listening are of great importance (DevSamurai, 2023). This involves understanding and feeling what others experience from their perspective and the stakeholders' needs, wishes, and challenges (Blogger, 2021; Flemm, 2018).

2.2 Emotional Intelligence

In 1990, Salovey and Mayer first defined EI as "a subset of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's own thinking and actions" (Salovey & Mayer, 1990, p. 189). This was one of the first major studies on EI. According to Luong et al.'s (2021) research, EI plays an important role in Agile teams and has a positive impact on people-related challenges in teams. People with higher EI suffer less from anxiety, are more motivated, have better communication skills, and promote trust (Luong et al., 2021). According to Goleman, the most effective leaders all have one thing in common, which is a high degree of EI (Landry, 2019). If you cannot communicate or collaborate effectively with your team, other skills may no longer be important in your job. There is also criticism of the effectiveness of EI in leadership, as other emotional and social competencies have a more positive influence on leadership than EI and it is not useful in leadership for every context (Cherniss, 2010). Members who have control over emotions and express their needs and feelings in an assertive, analytical, and professional manner, understanding the needs and choices of the group, can best lead a self-managing team (Oliveira et al., 2023). Therefore, EI also plays a crucial role in Agile teams. Furthermore, understanding and using EI is important for a successful Product Owner, for skills such as communication, decision-making, and collaboration (Blogger, 2023). According to the literature, EI is conceptualized in three main ways: the ability model (Mayer & Salovey, 1997; Salovey & Mayer, 1990), mixed models (Bar-On, 2006; Boyatzis & Sala, 2004), and the trait model (Petrides & Furnham, 2003). EI models adequately conceptualize and assess EI (Mayer et al., 2008).

The ability model of EI refers to the concept of Emotional Intelligence as a set of mental abilities related to emotions (Mayer et al., 2016). The EI (Four-Branch) model suggests that EI consists of four fundamental emotion-related types of skills: perception of emotions, use of emotions, emotional understanding, and managing emotions (Mayer et al., 2024). To measure these four abilities the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) was designed (Brackett

& Mayer, 2003). Mixed models of EI include various personality traits and characteristics and a variety of non-cognitive abilities, competencies, and skills that influence a person's ability to succeed in dealing with environmental demands and pressures (Livingstone & Day, 2005). The Boyatzi-Goleman model looks at four competencies: Self-awareness, Self-management, Social awareness, and Relationship Management (Boyatzis et al, 2000). According to Bar-On, EI can develop over time, and this model looks at five different components: intrapersonal, interpersonal, adaptability, stress management, and general mood (Bar-On, 2006). The trait models of EI refer to individuals' self-perceived emotional capabilities assessed through self-report, such as EQ-I tests (Petrides & Furnham, 2003). Due to this wide diversity of conceptualizations that are not heterogeneous, challenges to the assessment of EI arise (Boyle et al, 2008). For instance, self-report assessments, typically used with mixed and trait models, are vulnerable to social desirability bias and response distortion (Day & Carroll, 2008). Not only the self-assessment test but also the MSCEIT has challenges. It is not possible to assess certain abilities, such as expressing emotions in the voice and body and monitoring or reflecting on one's own emotions (Brackett et al., 2013).

Emotional Intelligence acts as a bridge between events and behavioral outcomes (Boyatiz, 2018). The Affective Events Theory (AET) provides a framework for understanding the interaction between events, emotions, and behavior in organizational environments. AET benefits from a measurable link with emotional capacities. AET explains that emotional responses to work-related events and subsequent affect-driven behavior are fueled by the nature of the events themselves, the organizational, social, or environmental context in which they occur, and individual personality traits (Sarker et al., 2019). These responses vary depending on interactions with others, organizational changes, and external factors (Ashton-James & Ashkanasy, 2003). Individuals respond to these emotions with different behavioral responses, which are moderated by factors such as EI. Research on perceived EI reveals how individuals interpret, respond to, and manage their emotions in the workplace, providing a better understanding of their influence on their affective responses and behavior. This can increase the predictive power of AET by providing a measurable link between emotional capacities and behavioral outcomes in the workplace (Ashton-James & Ashkanasy, 2003). Furthermore, analyzing the verbal behaviors of Product Owners is crucial because it affects both their team and the overall functioning of an Agile team, as all team members exhibit leadership behaviors within the shared leadership model of Agile teams (Magpili & Pazos, 2018).

2.3 Role of the Product Owner

An Agile team consists of different roles, including the Product Owner, the Scrum Master, and the development team (Langholf & Wilkens, 2021). Specifically, Product Owners are responsible for managing the product backlog and prioritizing work items based on customer value and business goals (Strode et al., 2022). They work closely with stakeholders and the development team to understand and communicate the vision of the product (Strode et al., 2022). Teams create value and coaches of teams support teams by working directly with them and with the surrounding organization (Bäcklander, 2019). Not all teams experience the feeling that management actually lets them decide: some teams experience that Product Owners are reluctant to transfer power and that team members, therefore, do not take on a leadership role (Spiegler et al., 2019). Although the role of the Product Owner is supposed to maximize the value of the product under development, there seemed to be different scattered results about how the Product Owner can maximize this, and also about what this role actually means in practice (Unger-Windeler et al.,

2020). The understanding of the role of Product Owners varies across organizations and the level of involvement in teams varies widely, but their role as communication facilitators is crucial to project success (Verwijs, 2022).

2.4 Verbal Behaviors

Communication is an indispensable skill for Product Owners of Agile teams, even though it is often misunderstood in practice (Pereira, 2021). It includes verbal communication, but that is only half of it: communication is as much about body language, such as active listening. This analysis is further supported by decades of behavioral research, which has developed a hierarchical taxonomy that includes task-oriented, relationship-oriented, change-oriented, and externally-oriented leadership behaviors, clarifying how these behaviors influence team performance, work units, or organizations (Yukl, 2012).

The main goal of task-oriented behavior is the efficiency and reliability of the tasks performed by the work unit or leadership team (Yukl et al., 2019). It includes component behaviors such as planning, clarifying, monitoring, and problem-solving (Yukl, 2012). Increasing innovation, collective learning, and adapting to the external environment are the main goals for change-oriented behavior, where the component behaviors include: advocating change, visualizing change, encouraging innovation, and facilitating collective learning (Yukl et al., 2019). For externally focused leadership behavior, the objectives are to obtain the necessary information and resources and to promote and represent the team's or organization's interests (Yukl, 2012). With the aim of networking, monitoring, and representing. Finally, in relationship-oriented behavior, the primary goal is to increase the quality of "human capital," which includes human resources and relationships (Yukl, 2012). The component behaviors include: supporting, developing, recognizing, and empowering (Yukl et al., 2019)

Emotionally intelligent individuals can use their EI to understand others' feelings, show empathy, and act in ways that meet others' expectations, which is essential for EI leaders' effective communication and goal achievement (Miao et al., 2021). This empathy fosters a positive work environment and enhances human capital, which is central to relationship-oriented behavior. Behavioral EI complements other approaches and may provide a stronger and unique prediction for work and life outcomes, performance, engagement, citizenship, and innovation by focusing on emotion management, empathy, self-understanding, and interpersonal interactions, all of which influence our behavior, relationships, and performance at work and in everyday life (Boyatzis, 2018).

In conclusion, it is important to delve into *observed* EI behaviors to gain a comprehensive understanding of how EI manifests in practical scenarios. This research not only adds to existing knowledge about the impact of EI on leadership and team dynamics but also addresses the significant gap in understanding the influence of EI within non-traditional leadership structures, such as those led by Product Owners. By examining specific EI behaviors through direct observations, consistent patterns across team meetings can be identified, providing valuable insights for improving team performance and promoting effective leadership strategies. Therefore, in this study, we combined innovative and objective methods, such as video observation, with transcriptions and surveys to gain a more comprehensive understanding of the phenomenon (Zhao et al., 2019). This is also consistent with the findings of research on other topics, such as O'Donovan et al. (2020), Sherf et al. (2021), and Hoogeboom et al. (2021), where the authors suggested that further research should be conducted more innovatively and emphasize the use of video observations. Thus, further research on EI behavior promises to enrich the

understanding of interpersonal dynamics in different team meetings, contributing to both scholarly discourse and practical applications in organizational contexts.

3. METHODOLOGY

3.1 Research Design

This thesis employs a mixed-method research design, using both quantitative and qualitative measures to address the research question (Östlund et al., 2011). The design consists mainly of a qualitative analysis, supported by data from quantitative analysis. Using both methods allows for a more comprehensive understanding than single quantitative or qualitative studies (Creswell, 2006). Combining these approaches allows more detailed and in-depth findings to be obtained, increasing confidence in the results by exploiting triangulation (Heale & Forbes, 2013).

This thesis used various data types, including observed video recordings with their transcripts and surveys, which were analyzed in various ways. Nine video recordings were observed to investigate the EI of the Product Owner in Agile teams. These observed video recordings consist of three meetings, the planning, refinement, and retrospective meetings, from three different teams. Using these real examples from an Agile team and the observations from three different meetings, the relationship between the observed EI of the Product Owner and the team can be illustrated in different situations. This provides a good overview of the relationship between the Product Owner's observed EI in a team, the role EI plays on the team variables, how this develops throughout the three meetings, and what the Product Owner's observed EI is in various situations.

The exploratory qualitative part of this study essentially combined existing literature with observations. Several recorded meetings were analyzed to investigate the verbal behavior associated with EI. After coding minutely each participant's verbal behaviors, moments of EI for the Product Owner were also identified through inductive interpretation (Braun & Clarke, 2006). Additionally, survey results were used to obtain information on demographic data, the perceived EI, squad performance, and PO performance. This thesis therefore employed a mixed-methods research design, first using qualitative methods to identify the observed EI of Product Owners in Agile teams, followed by a quantitative approach to identify significant differences, and concluding with a qualitative approach to gain deeper insight into the observed EI and the associated verbal behaviors.

3.2 Sampling approach and sample description

This thesis is part of a larger research project conducted by the Organisational Behaviour Change Management and Consultancy (OBCC) group at the University of Twente, so the population sampling had already been carried out. The research data comes from a large Dutch financial service provider. The multidisciplinary Agile teams within this organization consist of individuals with varying levels of knowledge, skills, and abilities, as well as diverse backgrounds and demographics. These teams operate in different domains and consist of members from different departments within the company. The sample for this study included fourteen Agile teams in total, with data collection taking place over six to eight weeks, equal to the respective teams' sprint length. The planning meeting, the refinement meeting, and the retrospective meeting were observed for all the teams, except for some exceptions. Demographic data of these teams were collected through surveys, with the first data collection starting with the video recording of the first meeting and ending with the questionnaire after the third meeting.

All three types of team meetings were observed for this study to identify any differences in the dynamics of the various meetings. A total of three teams were included in the observation. Other teams from the total sample were excluded due to incomplete data, which was caused by audio issues, file access problems, and the absence of the Product Owner in some teams. The sample consisted of 18 individuals, of which 83.33% were male, 6.66% were female, and two individuals did not disclose their gender. The number of team members ranged from five to seven, with an average of six members per Agile team. The average age within the teams was 39.25 years. From this sample, three individuals were observed during the videos because we will focus on the observed EI of the Product Owner.

3.3 Measures

All of the video recordings were coded according to a verbal codebook developed by the OBCC group, with two separate individuals independently coding each meeting. These codes were later compared and created a final event log to minimize any observer bias. All observed video recordings were coded using the verbal codebook based on Yukl's taxonomy of leadership behavior (2012). The mutually exclusive behavioral categories in this codebook were established through previous research (e.g., Behrendt et al., 2017; DeRue et al., 2011; Yukl; 2012).

3.3.1 Observed Emotional Intelligence

For the deductive part of this thesis, several verbal behaviors that might indicate EI were selected to capture all possible moments of EI. These verbal behaviors were based on relationship-oriented behavior, as EI behaviors are probably mainly linked to relationship-oriented behaviors (Tang et al., 2010). The component behaviors looked at include: supporting, developing, recognizing, and empowering (Yukl et al., 2019). Different behaviors can be identified for supporting according to the codebook used. These are, agreeing, giving positive attention/showing personal interest, positive interest/being friendly, sharing personal information, and humor. For developing: giving negative feedback – constructive/friendly and professional challenging/stimulating teamwork. For recognizing: giving positive feedback. For empowering: governing/delegating and professional challenging/Asking for ideas. In addition to these behaviors, the difference in the observed EI of the PO for the three meetings was also compared.

3.4 Data Analysis

3.4.1 Thematic analysis

First, an inductive thematic analysis was conducted (Braun & Clarke, 2006) to identify the actual moments of EI guided by the behaviors mentioned above (see section 3.4.1) as indicators. This analysis involved viewing the video recordings and their corresponding transcripts of all three meetings in which the EI of the Product Owner was identified. Around the reliability of this analysis, the data were independently coded by different students and later compared, making the risk of observer bias lower. Moreover, the analysis was carried out in line with the different phases for thematic analysis proposed by Braun and Clarke (2006). To get a comprehensive picture of the team dynamics, the whole meeting was observed multiple times, while focusing on the Product Owner. Upon assessment of all possible moments of EI for the Product Owner, EI behavior was interpreted and indicated when there was an observed moment of EI by the Product Owner based on the inductive interpretation. Once the EI moments were identified, the corresponding coded behaviors were noted and reported in a table to compare the inductive results with the behaviors deductively identified from the literature (see section 3.3.1).

3.4.2 Frequency and Comparison Analysis

After all moments of EI were marked, a comparison and a frequency analysis were performed to determine the number of moments of EI for each meeting of each team. This was then used to identify differences between the observed EI of the PO for the three meetings. Inferential statistics were performed to determine the means and differences of the three categories. The type t-test depended on several assumptions, such as normality, sample size, and common variance (Rasch et al., 2009). The number of moments of observed EI within the meetings was normally distributed among the different meeting types. Also, the variances of the scores did not differ significantly between the groups at the chosen significance level (0.05). This means that the assumptions for the Welch's t-test were met. Therefore a Welch two-sample t-test was conducted to examine the differences in the total moments of observed EI of the PO between the planning, refinement, and retrospective meetings.

4. RESULTS

In this section, the findings of the study are presented, starting with the results of the thematic analysis, followed by an overview of the frequency analysis, and concluding with the results of the statistical calculations. Qualitative Interpretation of Moments of EI

After classifying the behaviors inductively as EI-related behaviors, they were compared to the already coded verbal behaviors. Tables 5-7 in Appendix 10.1, detail the specific EI behaviors observed per meeting and per team, linked to their corresponding verbal behavior code. Table 8 in Appendix 10.2 presents the observed coded verbal behaviors that are found to be related to EI for the three different meetings, specific for each team. Table 1 below summarizes the most common and remarkable EI behaviors observed across various Agile team meetings for three Agile teams. These behaviours are categorized by meeting type, with their corresponding verbal behaviours from the codebook. Specific team identifiers are noted in parentheses.

Table 1. Summary of Emotional Intelligence Behaviours by Product Owner Across Meeting Types, Including Related Verbal Behaviours

Meeting Type	EI Behaviours PO	Related Verbal Behaviours
Planning	Asking if someone else can help another colleague and asking colleagues for their ideas (Team 1, 2, and 3), Making sure everyone in the team is happy and okay (Team 1, 2, and 3), Complimenting colleagues and mentioning positive points (Team 2, and 3), Making a joke to lighten the mood (Team 2, and 3), Proposing to work together and offer help as the PO (Team 2, and 3), Showing positive interest in a colleague's activities outside of work (Team 2, and 3), Showing understanding towards colleagues after dissatisfaction (Team 2), Ensuring that everyone understands (Team 2, and 3), Immediately addressing dissatisfaction and acknowledge own mistakes (Team 2, and 3), Apologize (Team 3)	Professional challenging/Asking for ideas (Team 1, 2 and 3), Giving positive attention/ Sympathy (Team 1, and 3), Shaping the discussion (Team 2), Giving positive feedback (Team 2, and 3), Giving direction/ Own opinion (Team 2, and 3), Humor (Team 2, and 3), Professional challenging/Stimulating teamwork (Team 2, and 3), Giving positive attention/Showing personal interest (Team 2, and 3), Agreeing (Team 2), Verifying (Team 2, and 3), Defending one's own position (Team 2), Governing/ Correcting (Team 3)
Refinement	Asking preferences of colleagues (Team 1), Asking colleagues about their ideas or any remarks (Team 1, 2, and 3), Complimenting colleagues and mentioning positive points (Team 1, 2, and 3), Checking if there are any remaining uncertainties (team 2, 3), Showing understanding towards colleagues (Team 2, 3), Stimulating to work together (Team 2, 3), Setting aside personal preferences for the sake of the team's interests (Team 3), Pointing out mistakes with humor (Team 3), Apologize (Team 3)	Verifying (Team 1, and 3), Professional challenging/Asking for ideas (Team 1, 2, and 3), Giving positive feedback (Team 1, 2, and 3), Shaping the discussion (Team 2), Agreeing (Team 2), Giving positive attention/ Sympathy (Team 3), Giving direction/ Own opinion (Team 2, 3), Professional challenging/ Stimulating teamwork (Team 2, 3), Humor (Team 3), Governing/ Correcting (Team 3)
Retrospective	Resolving problems with humor and lightening the mood (Team 1, 3), Complimenting colleagues and mentioning positive points (Team 2, 3), Asking colleagues about their ideas or any remarks (Team 2, 3), Starting the discussion with positive points (Team 2), Acknowledging own mistakes (Team 2), Show understanding towards colleagues (Team 2, 3), Apologize (Team 2), Stimulating to work together (Team 2, 3), Make sure that the team is happy (Team 2), Expressing happiness for a colleague's personal achievements (Team 3), Sharing personal challenges (Team 3),	Humor (Team 1, 3), Giving positive feedback (Team 2, 3), Professional challenging/ Asking for ideas(Team 2, 3), Shaping the discussion (Team 2), Agreeing (Team 2, 3), Giving direction/ Own opinion (Team 2), Informing with facts (Team 2), Giving positive attention/ Sympathy (Team 3), Governing/Correcting (Team 2), Professional challenging/ Stimulating teamwork (Team 2, 3), Verifying (Team 2), Giving positive attention/Showing personal interest (Team 3), Sharing personal information (Team 3)

In Table 1 we can see that during planning meetings, the PO encouraged colleagues to help each other and share their ideas, ensuring a positive atmosphere by checking in on everyone's well-being. Additionally, the PO showed empathy towards colleagues after moments of dissatisfaction and responded immediately to such situations by acknowledging his own mistakes and apologizing if necessary. The PO also challenged the team professionally by actively asking for ideas from colleagues and recognizing their contributions. During refinement sessions, the PO demonstrated behaviors such as actively asking for ideas from colleagues. Moreover, the PO showed understanding towards colleagues and encouraged them to work together. In some cases, the PO puts personal preferences aside for the sake of the team. During retrospective meetings, the PO used humor to solve problems and improve the atmosphere. The PO complimented colleagues, and the PO also showed understanding towards colleagues. The PO apologized where necessary, and sometimes also shared personal challenges.

Through deductive thematic analysis, the actual moments of EI were identified based on the predefined relationship-oriented component behaviors. These behaviors that indicate moments of EI were observed 147 times during all three teams' planning, refinement, and retrospective meetings. All of the used video observations were already coded, except for two meetings of Team 3. For these two meetings, after the coding process and

after the comparison meeting, all differences were discussed and eventually solved, which resulted in one final event log with a 100% agreement. After reviewing all the possible situations of EI as observed for the Product Owner, 14 sets of verbal behaviors from the codebook were classified as actual moments of EI based on the inductive interpretation.

4.1 Frequency of moments of EI

Table 2 below describes the absolute and relative frequency of the observed EI-related behaviors per team meeting in all three teams. The relative frequency of each behavior is in comparison to the total number of observed EI-related behaviors within that particular team.

Table 2. Frequency of Observed EI-Related Behaviors for the PO in Three Different Meetings Across Three Teams

Team	Planning Meeting		Refinement Meeting		Retrospective Meeting		Total per Team	
	N	%	N	%	N	%	N	%
1	2	28.57	4	57.14	1	14.29	7	4.76
2	39	45.88	21	24.71	25	29.41	85	57.82
3	23	41.82	14	25.45	18	32.73	55	37.41
Total per Meeting Type	64	43.54	39	26.53	44	29.93	147	100

In Table 2, it is clear that for Team 2, and Team 3, the majority of observed EI moments occurred during the planning meeting, while the fewest were observed during the refinement meeting. This is also reflected in the total number of observed EI moments. However, Team 1 showed a different distribution, with the highest moments observed during the refinement meeting and the lowest during the retrospective meeting. Moreover, the least moments of EI were also observed for Team 1.

These observations are further clarified by the survey results shown in Table 3 below, which include metrics such as average perceived team EI, perceived EI for the PO, average squad performance, and PO performance per team. The perceived EI was measured using a survey that was conducted once after the first meeting and completed by the team members themselves. Perceived EI was measured using 16 questions, where respondents could give their answers on a scale of 1 to 7, ranging from strongly disagree to strongly agree. The perceived EI of the PO was determined by calculating the average of the answers to these 16 questions. To measure the perceived EI of the team, the averages of all answers from all team members per question were first calculated. These averages were then averaged again to determine the total perceived EI of the team. The questions in the survey were aimed at measuring self-awareness, empathy, self-motivation, self-control, and emotional regulation. The perceived PO performance was determined by four questions, and the perceived squad performance by six questions, both of which were completed once by the team after the third meeting. The questions evaluated to what extent team members agreed with aspects such as continuously delivering high performance, and effectiveness, making few mistakes, and ensuring high-quality

work. The answers were given on a scale of 1-7, ranging from strongly disagree to strongly agree. The Product Owner performance was calculated by averaging the answers to the four questions, and the squad performance was calculated in the same way over the six questions.

Table 3. Perceived EI scores and performance scores per team

Team	Perceived EI Team	Perceived EI PO	Squad performance	PO performance
1	5.2	4.6	4.8	4.1
2	5.1	5.3	5.3	5.8
3	5.0	4.9	5.7	5.0

In Table 3, Team 1 shows the lowest perceived EI for the PO, whereas Team 2 attains the highest score. Additionally, Team 1 ranks lowest in both PO and squad performance. However, Team 1 does achieve the highest perceived EI score for the team.

Table 4 below presents detailed information on how often each type of coded verbal behavior linked to observed moments of EI occurred in the planning, refinement, and retrospective meeting, both in absolute numbers as well as relative to the other meetings within the same type of verbal behaviors. The final row, labeled "Total", shows the percentage representing the frequency of each specific type of verbal behavior in relative comparison to all

verbal behaviors across all meeting classifications. Since the frequency of moments of EI-related verbal behaviors varies between the different teams, using only absolute frequencies would result in an insufficient overview of the moments of EI per meeting in all teams. Using relative frequencies expressed as percentages of the total number of moments of EI within each team allows for a clear comparison of moments of EI occurrence across all different types of teams. The behaviors highlighted in bold are those that occurred most frequently and are therefore the ones mainly reflected upon in the discussion, as they provided valuable insights. The behaviors not highlighted in bold did not fully reflect the coded behaviors of the entire EI moment and also did not align with the relationship-oriented behaviors. Nevertheless, these non-bolded behaviors also provided valuable insights as they provided a different perspective on team dynamics and interactions.

Table 4. Number and Type of Behavior per Meeting

PO Verbal Behavior	Planning		Refinement		Retrospective		Total per Behavior	
	N	%	N	%	N	%	N	%
Professional challenging/ Asking for ideas	8	30.77	14	53.85	4	15.38	26	17.69
Humor	2	25.0	1	12.50	5	62.50	8	5.44
Professional challenging/ Stimulating teamwork	4	44.44	2	22.22	3	33.33	9	6.12
Shaping the discussion	5	62.50	1	12.50	2	25.0	8	5.44
Verifying	1	25.0	2	50.0	1	25.0	4	2.72
Giving positive feedback	25	47.17	13	24.53	15	28.30	53	36.05
Sharing personal information	1	50.0	0	0.00	1	50.0	2	1.36
Defending one's own position	1	100.0	0	0.00	0	0.00	1	0.68
Giving direction/Own opinion	5	50.0	3	30.0	2	20.0	10	6.80
Giving positive attention/ Showing personal interest	3	75.0	0	0.00	1	25.0	4	2.72
Agreeing	4	33.33	1	8.33	7	58.33	12	8.16
Giving positive attention/ Sympathy	2	40.0	1	20.0	2	40.0	5	3.40
Governing/ Correcting	1	25.0	1	25.0	2	50.0	4	2.72
Informing with facts	0	0.00	0	0.00	1	100.0	1	0.68
Total per Meeting Type	62	42.18	39	26.53	46	31.29	147	100.0

In Table 4, giving positive feedback was more prevalent, than all the other verbal behaviors related to EI, with 53 moments accounting for 36.05% of all observed verbal behaviors related to EI. Another prevalent behavior was professional challenging, which included asking for ideas and stimulating teamwork, together accounting for 23.81 percent of the total occurrences. Other behaviors expected to be strongly linked to EI, which is giving positive attention, including showing personal interest, and sympathy, are together only 6.12% of all the verbal behaviors. During the planning meeting, the highest number of verbal behaviours related to EI were observed. Conversely, the refinement meeting had the fewest EI-related verbal behaviours, with the retrospective meeting falling in between.

4.2 Exploratory Quantitative Statistics

When comparing the three meetings, the Welch's two-sample t-test indicated a P-value of 0.5339 for the planning vs refinement, a P-value of 0.6335 for the planning vs retrospective, and a P-value of 0.8580 for the refinement vs retrospective. All the P-values are greater than the typical significance level (0.05), based on the t-test we do not have significant evidence to reject the Null hypothesis for any of the pairs of meetings. So therefore it can be concluded that there is no significant difference in the means of EI behaviors between all three meetings. Therefore, it can be concluded that the type of meeting (planning, refinement, retrospective) does not influence the observed EI behaviors of the Product Owner.

Furthermore, the Shapiro-Wilk normality test indicated that the data of observed EI moments within each meeting type were normally distributed (Shapiro-Wilk test, $p > 0.05$ for all groups). Therefore, it was appropriate to use parametric tests for further analysis. After performing a Levene's test to assess the equality of variances of the scores between the groups (Levene's test, $p > 0.05$), it was confirmed that the variances were not significantly different at the chosen significance level of 0.05.

5. DISCUSSION
5.1 Theoretical Implications
This thesis investigated the verbal behaviours related to moments of EI for the Product Owner during the three different Agile team meetings.

The first notable finding concerns the frequency of EI moments for the Product Owner across the three meetings. The first finding, in percentage terms across all teams, is the prevalence of moments of EI during the planning meeting. This indicates that the PO in Agile teams generally shows the most verbal behaviors related to EI during the first meeting. The results of this thesis that the majority of EI moments are observed during the planning meeting can be explained by the crucial role that EI plays in this process. As described by Hidalgo (2019), Agile projects start with a planning meeting in which all participants agree on their task list to be completed by the end of a certain period. During this meeting, the team sets goals and defines the work to be done.

Goal setting can motivate team members to work together to achieve a common goal (Kramer et al., 2013). EI appears to be a predictor of motivation, as Law et al. (2008) found. Individuals with high EI can regulate their behavior and emotions effectively, leading to improved performance and maintenance of high motivation levels. The PO must use EI to inspire and motivate team members by showing understanding and providing positive feedback, which is crucial at the beginning of the sprint. This aligns with the results that, in percentage terms, the most positive feedback and the most positive attention to colleagues was given in the planning meeting by the PO. The PO needs to ensure that each team member understands what is expected of them in the planning meeting. This requires the ability to communicate clearly, which is a core aspect of EI, as it was found that EI is negatively related to communication problems (Luong et al., 2019).

Furthermore, in percentage terms, the fewest moments of EI were observed during the refinement meeting. According to Van Rooden (2016), the refinement meeting plays a crucial role in ensuring that the product backlog remains well-structured and ready for the upcoming sprints. This meeting allows the Scrum team to update and prepare the product backlog backlog (Van Rooden, 2016). This task-oriented approach can reduce the need for EI because the focus is on understanding and specifying tasks rather than on team dynamics and emotional interactions. The results show that most moments of observed EI are in professional challenges, and specifically in asking for ideas. This may be a confirmation that this meeting is actually more task-oriented and less based on emotional interactions. Moreover, the least positive feedback was given and the fewest moments of personal attention were observed in this meeting. This is supported by the fact that research shows that task-oriented leadership may be less dependent on EI than other leadership styles (Halliwell et al., 2022). This suggests that while EI remains important, its impact on the effectiveness of task-oriented leadership may be relatively less pronounced.

The retrospective meeting is in between the two meetings in terms of the percentage of observed moments of EI. In these meetings, most moments of humor were observed, most moments of agreeing, and also most moments of governing/correcting, which in this study is indicated as making excuses. According to MacNeil (2024), a retrospective meeting is held at the end of the sprint, in which teams reflect on what went well and what can be improved for their next sprint. This meeting can be seen as an opportunity for the team to learn from their experiences and improve collaboration. The retrospective meeting is aimed at reflection and feedback. Team members openly discuss their experiences, both positive and negative. This creates moments of agreement, where team members agree on what worked well and what can be improved, which explains the frequency of agreeing for this meeting. Humor can be an effective way to create a relaxed and positive atmosphere (Romero & Cruthirds, 2006). In a retrospective meeting, especially when discussing challenges and failures, humor has a positive effect on socioemotional communication, new solutions, and procedural structure (Lehmann-Willenbrock & Allen, 2014). This explains the observation that most moments of humor are observed during these meetings. During the retrospective meetings, team members often discuss errors and areas where improvement is needed. This can lead to moments of governing/correcting, where team members take responsibility for their actions and apologize for mistakes. This can be explained by the fact that EI is important in retrospective meetings because higher EI stimulates the involvement and ownership of responsibilities (Soltani et al., 2018). Retrospective meetings contain elements of both planning and refinement

meetings. Although the focus is on reflection and improvement (which encourages EI), the interactions are also purposeful and structured. This may explain why the EI moments are in between those of the planning and refinement meetings in percentage terms. There is a balance between emotional and technical aspects, resulting in a moderate number of EI moments. In terms of sharing personal information and expressing empathy, the retrospective meeting scores the highest together with the planning meeting. This can be explained by the fact that the retrospective meeting provides an opportunity for the team to improve collaboration through open communication and empathy. By reflecting on collaboration and sharing personal experiences, team members are encouraged to use EI to better understand and support each other.

The lack of significant results in the differences between the three meetings may be due to the sample size used in the study. With a small sample size, the variations in EI behavior across different types of meetings may have been undetectable, limiting the generalizability of the findings. Conversely, overly large sample sizes may increase statistical differences without clinical relevance (Faber & Foseca, 2014). Therefore, accurately determining sample size is critical to ensure that research results are both valid and practically meaningful, allowing for a better understanding of how EI manifests in different meeting contexts (Faber & Fonseca, 2014).

Furthermore, there are clear differences between teams in the frequency of observed moments of EI. While Teams 2 and 3 showed the highest percentage of EI moments during the planning meeting, this was not the case for Team 1. In Team 1, most EI moments occurred during the refinement meeting and the fewest during the retrospective meeting, consistent with their overall lower observed EI moments. These observations were analyzed with the survey results. Team 1's PO scored 4.6 for perceived EI, while Team 2's PO scored 5.3 and Team 3's PO scored 4.9. These results are consistent with the percentages from Table 2, with Team 2 with the highest number of EI moments observed, and Team 1 with the least. Interestingly, the perceived EI scores of the PO do not represent the perceived EI scores for the entire team. The results of the survey show that Team 1, with a score of 5.2, has the highest perceived EI for the entire team, while Team 3 had the lowest with a score of 5.0. From this, we could conclude that the perceived EI of the PO does not guarantee that of the entire team. Looking at squad performance, Team 3 scores the highest with a 5.7 and Team 1 the lowest with a 4.8. In addition, the performance specifically for the PO, Team 2 scores the highest with a 5.8 and Team 1 the lowest with a 4.6. So, for Team 2 the most moments of EI for the PO were observed, the highest score for perceived EI for the PO was found and the highest PO performance was found. Contradictory, for Team 1 the least moments of EI for the PO were observed, the lowest score for perceived EI for the PO was found, and also the lowest PO performance. Out of this, we can suppose that there is a correlation between the moments of EI observed per team, the perceived EI for the PO per team, and the performance of the PO. Also, Team 1 with the lowest score for PO performance, has the lowest score for squad performance, has the lowest score for perceived EI for the PO, and has the least observations of EI. Out of this, can be concluded that the frequency of observed moments of EI is related to perceived EI for the PO, and also to squad performance and PO performance.

In conclusion, our findings show clear differences in the frequency of perceived EI moments between teams, with Team 2 showing the highest and Team 1 the lowest. This variation correlates with perceived EI and performance scores, suggesting that the frequency of EI moments is related to PO and team performance. These results are consistent with studies

highlighting the positive influence of Agile methodologies on team engagement and performance (Peeters et al., 2022). Goleman argues that the most effective leaders share high levels of EI (Landry, 2019). Effective leaders, who can manage emotions and communicate assertively and professionally while understanding team dynamics, are best suited to lead self-managing teams (Oliveira et al., 2023). Moreover, a high level of EI is crucial for product owners, improving their communication, decision-making, and collaboration skills (Blogger, 2023). However, it is important to note that POs are not traditional team leaders but act as facilitators and enablers of team success. Their role is to manage the product backlog and ensure the team delivers value, rather than directly leading the team.

5.2 Practical Implications

In terms of practical implications, Agile and HR managers as well as training staff can benefit from informing and training their employees, especially the Product Owners, on how to perceive and use EI during various team meetings. The findings of this thesis underline that Product Owners should not only be selected based on their technical skills but also assessed on their level of EI. This is consistent with previous studies, such as Oliveira et al. (2023), who stated that members who have aspects of an emotionally intelligent person are best able to lead a self-managing team. Self-managing teams or organizations that take into account the elimination of traditional structures would especially benefit from greater awareness of the importance of EI. These organizations could integrate EI into their way of working for the Product Owner, which eventually could also be extended to other team members. Research has shown that EI can be trained (e.g. Mattingly and Kraiger, 2019). Therefore, EI can be seen as a skill that can be improved in training practices. In Agile teams, there should be the opportunity to discuss emotions and feelings, in addition to business project-related matters. The retrospective meeting is a good time to evaluate and discuss feelings and emotions, although we have seen that this is not the meeting where most moments of EI are visible.

6. LIMITATIONS AND FUTURE RESEARCH

Despite its strengths, this study, like any study, has some limitations that should be noted. First of all, all data was collected from a single financial service provider in the Netherlands. This may lead to potential bias due to factors specific to the company, meaning the findings may not be generalizable beyond this specific context. To reduce this potential bias, future research should include multiple teams from different companies, industries, and countries.

The teams that participated in this study did so voluntarily, which can lead to intrinsic biases in the data collection. It is possible that only teams that perform relatively well would want to participate in an observational study, which could bias the results and limit generalizability. To obtain a more comprehensive and representative overview of teams at different performance levels, future research should also be conducted among low-performance teams.

In addition, it turned out that due to incidental technical problems during the recording of various meetings, some video recordings and associated transcriptions were of poor audio quality. This resulted in members or an entire team occasionally being less audible during some parts of the meeting. This resulted in sections where the judgment of participants' verbal behavior was difficult, which may have led to errors. A less clear transcript makes coding more difficult and less reliable, something that can otherwise be avoided and should be considered in future research.

Furthermore, due to various factors beyond control, such as the absence of the PO during meetings, or issues with opening files, the data collection was somewhat complicated, resulting in a relatively small sample size of three teams. However, by comparing the Product Owner's verbal behavior during three different meetings, a larger sample size was achieved, with three individuals observed for a total of nine different meetings and a total of 147 observations of moments of EI. However, caution is advised when interpreting the results of the quantitative analysis. Future research could conduct this study on a larger scale and use a larger sample size. Another area worth exploring is the role of the entire team in moments of EI. As noted in the discussion, according to the surveys, other team members may have a higher degree of EI than the PO himself, and they also play an important role in the team and team dynamics. Future research could investigate the influence of team-wide EI on different team variables, such as team cohesion or conflict.

The inductive interpretation of moments of EI introduces a degree of subjectivity, despite allowing for a more nuanced and flexible understanding of these situations. Future research should consider implementing a standardized coding framework, specifically designed to identify and categorize moments of EI. Future research could also make use of multiple coders, to ensure a high inter-rater reliability. Another important limitation related to the last one is the lack of a specific coding book to identify moments of EI. This may have led to less accurate identification and interpretation of EI behaviors during the meetings. Future research should aim to develop such a coding book so that moments of EI can be systematically recorded and analyzed. This could provide a deeper understanding of how EI contributes to team dynamics and performance, and further improve the validity and reliability of the research results.

Lastly, it is important to note that the researcher who conducted the thematic analysis is a native speaker of Dutch, but is not a native speaker of English (the two languages used during the meetings). Although the English language skills were sufficient for all business-related team settings, and the researcher is a native speaker of Dutch, a certain risk of misunderstanding or misinterpretation in some situations could not be completely eliminated. Future research would thus benefit from analyses conducted by native speakers in Dutch and English to improve the accuracy of the findings.

7. CONCLUSION

This thesis examined the verbal behaviors related to EI specifically for the PO and the differences between the frequency of moments of EI by the PO between the three different meetings of an Agile team. The findings revealed several distinctions. First, in percentage terms, more moments of EI were observed during the planning meeting than during the rest of the meetings. However, this differed per team, as the team with the least observed moments of EI for the PO also had the fewest moments of EI observed during the retrospective meeting and the most during the refinement meeting. Furthermore, it has also been seen that the team with the fewest moments of EI observed for the PO, also has the lowest perceived EI for the PO, and the lowest PO and squad performance. Hence, Agile organizations and their POs should adapt EI training to their different meetings to perform better as a PO, emphasizing communication and encouraging teams to openly communicate and feel sympathy, to perform better as a squad.

8. ACKNOWLEDGEMENTS

like to thank my fellow students in the thesis circle for their support.

9. REFERENCES

Aghina, W., Ahlback, K., De Smet, A., Lackey, G., Lurie, M., Murarka, M., & Handscomb, C. (2018). The five trademarks of agile organizations. In *McKinsey & Company*. Retrieved March 18, 2024, from https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-five-trademarks-of-agile-organizations

Ashton-James, C. E., & Ashkanasy, N. M. (2005). What Lies Beneath? A Process Analysis of Affective Events Theory. In *Research on emotion in organizations* (pp. 23–46). https://doi.org/10.1016/s1746-9791(05)01102-8

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicometha*, 18 (Suppl.), 13–25. https://www.psicothema.com/pdf/3271.pdf

Beck K, Beedle M, van Bennekum A, Cockburn A, Fowler M, Grenning J, Highsmith J, Hunt A, Jeffries R, Kern J, Marick B, Martin R, Mellor S, Schwaber K, Sutherland J, Thomas D (2001) *Manifesto for Agile Software Development*. http://agilemanifesto.org/.

Behrendt, P., Matz, S., & Göritz, A. S. (2017). An integrative model of leadership behavior. *The Leadership Quarterly*, *28*(1), 229–244. https://doi.org/10.1016/j.leaqua.2016.08.002

Blogger, P. (2021). Why Emotional Intelligence Was Crucial to My Success as a Product Owner. *Pentalog*. Retrieved March 19, 2024, from https://www.pentalog.com/blog/it-development-technology/emotional-intelligence-in-product-owner-role/

Boyatzis, R. E. (2018). The Behavioral Level of Emotional Intelligence and Its Measurement. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.01438

Boyatzis, R. E., Goleman, D., and Rhee, K. (2000). Clustering competence in emotional intelligence: Insights from the Emotional Competence Inventory (ECI)s. In R. Bar-On and J.D.A. Parker (eds.), *Handbook of emotional intelligence*. San Francisco: Jossey-Bass, pp. 343-362.

Boyatzis, R., & Sala, F. (2004). The Emotional Competency Inventory (ECI). In G. Geher (Ed.), *Measuring emotional intelligence: Common ground and controversy* (pp. 143–178). Hauppauge, NY: Nova Science.

Boyle, G. J., Matthews, G., & Saklofske, D. H. (Eds.). (2008). *The SAGE handbook of personality theory and assessment, Vol. 1. Personality theories and models.* Sage Publications, Inc. https://doi.org/10.4135/9781849200462

Brackett, M. A., Bertoli, M., Elbertson, N., Bausseron, E., Castillo, R., and Salovey, P. (2013). Reconceptualizing the cognition-emotion link. In M. D. Robinson, E. R. Watkins, E. Harmon-Jones (Eds.), *Handbook of Cognition and Emotion* (pp. 365-379). New York, NY: Guilford.

Brackett, M. A., & Mayer, J. D. (2003). Convergent, Discriminant, and Incremental Validity of Competing Measures of Emotional Intelligence. *Personality And Social Psychology Bulletin*, *29*(9), 1147–1158. https://doi.org/10.1177/0146167203254596

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Broy M (2006) Challenges in automotive software engineering. In: *Proceedings of the 28th International Conference on Software Engineering*. ACM, New York. pp 33–42

Cherniss, C. (2010). Emotional Intelligence: Toward Clarification of a Concept. *Industrial And Organizational Psychology*, *3*(2), 110–126. https://doi.org/10.1111/j.1754-9434.2010.01231.x

Côté, S., Lopes, P. N., Salovey, P., & Miners, C. T. (2010). Emotional intelligence and leadership emergence in small groups. *The Leadership Quarterly*, *21*(3), 496–508. https://doi.org/10.1016/j.leaqua.2010.03.012

Creswell, J. W. (2006). Understanding mixed methods research. In *Designing and Conducting Mixed Methods Research*. https://www.sagepub.com/sites/default/files/upm-binaries/10981_Chapter_1.pdf

Dasborough, M. T., Ashkanasy, N. M., Humphrey, R. H., Harms, P. D., Credé, M., & Wood, D. (2021). Does leadership still not need emotional intelligence? Continuing "The Great EI Debate". *The Leadership Quarterly*, *33*(6), 101539. https://doi.org/10.1016/j.leaqua.2021.101539

Day, A. L., & Carroll, S. A. (2008). Faking emotional intelligence (EI): Comparing response distortion on ability and trait-based EI measures. *Journal of Organizational Behavior, 29*(6), 761–784. https://doi.org/10.1002/job.485

De Smet, A., Lurie, M., & St George, A. (2018). Leading agile transformation: The new capabilities leaders need to build 21st-century organizations. *McKinsey & Company*. Retrieved March 14, 2024, from https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/leading-agile-transformation-the-new-capabilities-leaders-need-to-build-21st-century-organizations

DeRue, D. S., Nahrgang, J. D., Wellman, N., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: an integration and meta-analytic test of their relative validity. Personnel Psychology, 64(1), 7-52. https://doi.org/10.1111/j.1744-6570.2010.01201.x

DevSamurai, L.-. (2023). Scrum Master & Product owner | Their relationship in product development. *Atlassian Community*. Retrieved May 2, 2024, from https://community.atlassian.com/t5/App-Central/Scrum-Master-amp-Product-Owner-Their-Relationship-in-Product/ba-p/2418893

Dingsøyr, T., Nerur, S., Balijepally, V., & Moe, N. B. (2012). A decade of agile methodologies: Towards explaining agile software development. *Journal Of Systems And Software*, *85*(6), 1213–1221. https://doi.org/10.1016/j.jss.2012.02.033

Flemm, R. (2018). *The 8 qualities of the emotional Scrum Master*. Scrum.org. Retrieved March 18, 2024, from https://www.scrum.org/resources/blog/8-qualities-emotional-scrum-master

Griffiths, M. (2023). Agile and emotional intelligence: inextricably linked. Retrieved March 15, 2024, from *Project Management Institute*. https://community.pmi.org/blog-post/74724/agile-and-emotional-intelligence-inextricably-linked/#_=_

Halliwell, P., Mitchell, R. and Boyle, B. (2022), "*Interrelations between enhanced emotional intelligence, leadership self-efficacy and task-oriented leadership behaviour – a leadership coaching study*", Leadership & Organization

Development Journal, Vol. 43 No. 1, pp. 39-56, doi: 10.1108/LODJ-01-2021-0036.

Heale, R., & Forbes, D. (2013). Understanding triangulation in research. *Evidence-based Nursing*, *16*(4), 98. https://doi.org/10.1136/eb-2013-101494

Hidalgo, E. S. (2019). Adapting the scrum framework for agile project management in science: case study of a distributed research initiative. *Heliyon*, 5(3), e01447. https://doi.org/10.1016/j.heliyon.2019.e01447

Hohl, P., Klünder, J., Van Bennekum, A., Lockard, R. D., Gifford, J., Münch, J., Stupperich, M., & Schneider, K. (2018). Back to the future: origins and directions of the "Agile Manifesto" – views of the originators. *Journal Of Software Engineering Research And Development*, 6(1). https://doi.org/10.1186/s40411-01=8-0059-z

Hoogeboom, M. A., Saeed, A., Noordzij, M. L., & Wilderom, C. P. (2021). Physiological arousal variability accompanying relations-oriented behaviors of effective leaders: Triangulating skin conductance, video-based behavior coding and perceived effectiveness. *The Leadership Quarterly*, *32*(6), 101493. https://doi.org/10.1016/j.leaqua.2020.101493

Kadenic, M. D., Koumaditis, K., & Junker-Jensen, L. (2023). Mastering scrum with a focus on team maturity and key components of scrum. *Information & Software Technology*, *153*, 107079. https://doi.org/10.1016/j.infsof.2022.107079

Landry, L. (2019). Why Emotional Intelligence Is Important in Leadership. *Business Insights Blog*. Retrieved March 19, 2024, from https://online.hbs.edu/blog/post/emotional-intelligence-in-leadership

Langholf, V., & Wilkens, U. (2021). Agile Project Management, New Leadership Roles and Dynamic Capabilities – Insight from a Case Study Analysis. *Journal of Competences, Strategy & Management*, 11, 1–18. https://doi.org/10.25437/jcsm-vol11-17

Law, K. S., Wong, C., Huang, G., & Li, X. (2008). The effects of emotional intelligence on job performance and life satisfaction for the research and development scientists in China. *Asia Pacific Journal Of Management*, *25*(1), 51–69. https://doi.org/10.1007/s10490-007-9062-3

Lehmann-Willenbrock, N., & Allen, J. A. (2014). How fun are your meetings? Investigating the relationship between humor patterns in team interactions and team performance. *Journal Of Applied Psychology*, *99*(6), 1278–1287. https://doi.org/10.1037/a0038083

Lei, H., Ganjeizadeh, F., Jayachandran, P. K., & Ozcan, P. (2017). A statistical analysis of the effects of Scrum and Kanban on software development projects. *Robotics And Computer-Integrated Manufacturing,* 43, 59–67. https://doi.org/10.1016/j.rcim.2015.12.001

Lin, J., Yu, H., Shen, Z., & Miao, C. (2014). Using goal net to model user stories in agile software development. *Conference: 2014 15th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parllel/Distributed Computing* (SNPD), Las Vegas, NV, USA, 2014, pp. 1-6, https://doi.org/10.1109/snpd.2014.6888731

Livingstone, H. A., & Day, A. (2005). Comparing the Construct and Criterion-Related Validity of Ability-Based and Mixed-Model Measures of Emotional Intelligence. *Educational And Psychological Measurement*, *65*(5), 757–779. https://doi.org/10.1177/0013164405275663

Luong, T. T., Sivarajah, U., & Weerakkody, V. (2019). Do Agile Managed Information Systems Projects Fail Due to a Lack of Emotional Intelligence? Information Systems Frontiers. https://doi.org/10.1007/s10796-019-09962-6

Luong, T. T., Sivarajah, U., & Weerakkody, V. (2021). Do Agile Managed Information Systems Projects Fail Due to a Lack of Emotional Intelligence? *Information Systems Frontiers*. https://doi.org/10.1007/s10796-019-09962-6

MacNeil, C. (2024). How to run an effective sprint retrospective meeting. *Asana*. Retrieved March 19 2024 from, https://asana.com/nl/resources/sprint-retrospective

Magpili Smith, N. C., & Pazos, P. (2018). Self-Managing Team Performance: A Systematic Review of Multilevel Input Factors. *Small Group Research*, 49(1), 3–33. https://doi.org/10.1177/1046496417710500

Mattingly, V., & Kraiger, K. (2019). Can emotional intelligence be trained? A meta-analytical investigation. Human Resource Management Review, 29(2), 140–155. https://doi.org/10.1016/j.hrmr.2018.03.002

Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The Ability Model of Emotional Intelligence: Principles and Updates. *Emotion Review*, *8*(4), 290–300. https://doi.org/10.1177/1754073916639667

Mayer, J. D., Caruso, D. R., Sitarenios, G., & Escobar, M. R. (2024). How many emotional intelligence abilities are there? An examination of four measures of emotional intelligence. *Personality And Individual Differences*, *219*, 112468. https://doi.org/10.1016/j.paid.2023.112468

Mayer, J. D., Roberts, R. D., & Barsade, S. G. (2008). Human abilities: emotional intelligence. *Annual Review Of Psychology*, *59*(1), 507–536. https://doi.org/10.1146/annurev.psych.59.103006.093646

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3–34). Basic Books.

Miao, C., Humphrey, R. H., & Qian, S. (2021). Emotional intelligence and servant leadership: A meta-analytic review. *Business Ethics, The Environment And Responsibility*, *30*(2), 231–243. https://doi.org/10.1111/beer.12332

Neubauer, A. C., & Freudenthaler, H. H. (2005). Models of emotional intelligence. *Emotional intelligence: An international handbook*, *2005*, 31-50.

O'Donovan, R., Van Dun, D. & McAuliffe, E. Measuring psychological safety in healthcare teams: developing an observational measure to complement survey methods. *BMC Med Res Methodol* 20, 203 (2020). https://doi.org/10.1186/s12874-020-01066-z

Oliveira, B. D. de, Oliveira, M. M. de, & Carrino, A. L. (2023). Some of the possible impacts of emotional intelligence on self-managing teams. *Seven Editora*. https://doi.org/10.56238/uniknowindevolp-082

Östlund, U., Kidd, L., Wengström, Y., & Rowa-Dewar, N. (2011). Combining qualitative and quantitative research within mixed method research designs: A methodological review. *International Journal of Nursing Studies*, *48*(3), 369–383. https://doi.org/10.1016/j.ijnurstu.2010.10.005

Ozkan, N., Erdil, O., & Gök, M. Ş. (2022). Agile Teams Working from Home During the Covid-19 Pandemic: A Literature Review on New Advantages and Challenges. In *Lecture notes in business information processing* (pp. 38–60). https://doi.org/10.1007/978-3-030-94238-0_3

Peeters, T., Van de Voorde, K., & Paauwe, J. (2022). The effects of working agile on team performance and engagement. *Team Performance Management*, *28*(1/2), 61–78. https://doi.org/10.1108/tpm-07-2021-0049

Pereira, D. (2021). Product Owners Need to Listen More and Talk Less. *Medium*. Retrieved March 26 2024 from, https://medium.com/serious-scrum/product-owners-need-to-listen-more-and-talk-less-7fa540c5f2ed

Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal Of Personality*, *17*(1), 39–57. https://doi.org/10.1002/per.466

Kramer, W. S., Thayer, A. L., & Salas, E. (2013). Goal setting in teams. *New developments in goal setting and task performance*, 287-310.

Renault, M., & Tarakci, M. (2023). Affective leadership in agile teams. *California Management Review*, 65(4), 137–157. https://doi.org/10.1177/00081256231179993

Rasch, D. Kubinger, K. D., & Moder, K. (2011). The two sample t-test: pre-testing its assumptions does not pay off. Statistical Papers, 52, 219-231. https://doi.org/10.1007/s00362-009-0224-x Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition And Personality*, 9(3), 185–211.

https://doi.org/10.2190/dugg-p24e-52wk-6cdg

Sarker, R. I., Kaplan, S., Mailer, M., & Timmermans, H. (2019). Applying affective event theory to explain transit users' reactions to service disruptions. *Transportation Research. Part A, Policy And Practice*, *130*, 593–605. https://doi.org/10.1016/j.tra.2019.09.059

Schwaber, K., & Sutherland, J. (2016). The Scrum Guide. In Scrum.Org

Schwaber, K., & Sutherland, J. (2020). *The scrum guide*. https://scrumguides.org/docs/scrumguide/v2020/2020-Scrum-Guide-US.pdf

Sherf, E. N., Parke, M. R., & Isaakyan, S. (2021). Distinguishing Voice and Silence at Work: Unique Relationships with Perceived Impact, Psychological Safety, and Burnout. *Academy Of Management Journal, 64*(1), 114–148. https://doi.org/10.5465/amj.2018.1428

Soltani, S., Matook, S., & Maruping, L. M. (2018). Emotional intelligence in agile information systems development. *Paper presented at the International Conference on Information Systems 2018*, ICIS 2018.

Spiegler, S. V., Heinecke, C., & Wagner, S. (2019). Leadership Gap in Agile Teams: How Teams and Scrum Masters Mature. In *Lecture notes in business information processing* (pp. 37–52). https://doi.org/10.1007/978-3-030-19034-7_3

Spiegler, S. V., Heinecke, C., & Wagner, S. (2021). An empirical study on changing leadership in agile teams. *Empirical Software Engineering*, *26*(3). https://doi.org/10.1007/s10664-021-09949-5

Srivastava, A. (2021). Who is an agile team leader and what they do? *Project Management Blog*. Retrieved March 14 2024 from, https://projectmanagement.techcanvass.com/who-is-an-agile-team-leader/

Stray, V., Sjøberg, D. I. K., & Dybå, T. (2016). The daily stand-up meeting: A grounded theory study. *Journal Of Systems And Software*, 114, 101–124. https://doi.org/10.1016/j.jss.2016.01.004

Strode, D. E., Dingsøyr, T., & Lindsjørn, Y. (2022). A teamwork effectiveness model for agile software development. *Empirical Software Engineering*, 27(2), 4. https://doi.org/10.1007/s10664-021-10115-0

Sverrisdottir, H. S., Ingason, H. Þ., & Jónasson, H. I. (2014). The Role of the Product Owner in Scrum-comparison between Theory and Practices. *Procedia - Social And Behavioral Sciences*, 119, 257–267. https://doi.org/10.1016/j.sbspro.2014.03.030

Tang, H. V., Yin, M., & Nelson, D. B. (2010). The relationship between emotional intelligence and leadership practices. *Journal Of Managerial Psychology*, *25*(8), 899–926. https://doi.org/10.1108/02683941011089143

Tiejun, W., Wang, W., Bi, X., & Liu, D. (2013). Mediating Effect of Team Trust Between Team Conflict and Team Effectiveness in Self-management Teams. *Journal Of Applied Sciences*, 13(9), 1504–1508. https://doi.org/10.3923/jas.2013.1504.1508

Unger-Windeler, C., Klünder, J., Reuscher, T., & Schneider, K. (2020). Are Product Owners communicators? A multi-method research approach to provide a more comprehensive picture of Product Owners in practice. *Journal Of Software: Evolution And Process*, 33(1). https://doi.org/10.1002/smr.2311

Van Rooden, S. (2015). Product Backlog Refinement explained (1/3). *Scrum.org*. Retrieved May 2 2024 from, https://www.scrum.org/resources/blog/product-backlog-refinement-explained-13

Wysocki, T. (2014). Introduction to the Special Issue: Direct Observation in Pediatric Psychology Research. *Journal Of Pediatric Psychology*, *40*(1), 1–7. https://doi.org/10.1093/jpepsy/jsu104

Xiao, W., Quanliang, L., Huanli, Y., & Banerjee, S. (2023). The Role of Emotional Intelligence in Leadership and Team Dynamics. In *International Journal For Multidisciplinary Research (IJFMR)* (Vol. 5, Nummer 6, pp. 1–2). https://www.ijfmr.com/papers/2023/6/8140.pdf

Yukl, G. (2012). Effective Leadership Behavior: What We Know and What Questions Need More Attention. *The Academy Of Management Perspectives*, *26*(4), 66–85. https://doi.org/10.5465/amp.2012.0088

Yukl, G., Mahsud, R., Prussia, G. E., & Hassan, S. (2019). Effectiveness of broad and specific leadership behaviors. *Personnel Review*, *48*(3), 774–783. https://doi.org/10.1108/pr-03-2018-0100

Zhao, E. Y., Thatcher, S. M. B., & Jehn, K. A. (2019). Instigating, Engaging in, and Managing Group Conflict: A Review of the Literature Addressing the Critical Role of the Leader in Group Conflict. *The Academy Of Management Annals*, *13*(1), 112–147. https://doi.org/10.5465/annals.2016.0153

Zia, A., Arshad, W., & Mahmood, W. (2018). Preference in using Agile Development with Larger Team Size. *International Journal Of Advanced Computer Science And Applications*, 9(7). https://doi.org/10.14569/ijacsa.2018.090716

10. APPENDIX

10.1 Observed EI Behaviors

The table below outlines the behaviors identified as EI behaviors, along with their corresponding coded verbal behaviors from the codebook. Each table represents data from one individual team across all three different meetings.

Table 5. A Comparison Between the Inductively Related EI Behaviors From the PO and the Related Coded Verbal Behaviors for Team 1

Planning Meeting		Refinement Meeting		Retrospective Meeting	
EI behaviors inductively seen	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**
Asking if someone else can help another colleague	Professional challenging/Asking for ideas	Asking preferences of colleagues	Verifying	Saying "At least you tried" after something went wrong	Humor
Asking "Is everybody happy?"	Giving positive attention/ Sympathy	Asking an idea of a colleague about a backlog item	Professional challenging/Asking for ideas		
		Asking if a colleague has any other remarks or questions before going on	Professional challenging/Asking for ideas		
		Saying "Yeah that is good to know" after an explanation	Giving positive feedback		

Table 6. A Comparison Between the Inductively Related EI Behaviors From the PO and the Related Coded Verbal Behaviors for Team 2

Planning Meeting		Refinement Meeting		Retrospective Meeting	
EI behaviors inductively seen	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**
Joking about lagging behind after starting up problems.	Humor	"Oh yes, good one" after an action by a colleague	Giving positive feedback	"You're right about that, good point."	Giving positive feedback
Indicate to a colleague that other colleagues can help him with the task and that he also wants to help.	Professional challenging/ Stimulating teamwork	"Well, that's a good one" after an improvement from a colleague	Giving positive feedback	Asking about where we want to be in two weeks	Professional challenging/ Asking for ideas
Complement another colleague in his answer and ask for ideas from the rest.	Professional challenging/ Asking for ideas	"Does anyone still want to be challenged in this?"	Professional challenging/ Asking for ideas	"Yes, that's a good idea, let's do that"	Giving positive feedback

Asking if everyone is okay with moving on to another question	Shaping the discussion	"Good challenge, indeed"	Giving positive feedback	Starting with asking colleagues about what went well	Shaping the discussion
Asking if this way works for everyone	Shaping the discussion	"Name of colleague" how do you see this?"	Professional challenging/ Asking for ideas	"Nice, good cooperation."	Giving positive feedback
Suggests to start the discussion with all the positive feedback	Shaping the discussion	Ask how best to approach something and provide some options as additional suggestions	Professional challenging/ Asking for ideas	Providing a summary of things that went well and tasks that were performed well	Giving positive feedback
Ask a colleague who is not ready yet if he is okay if the rest starts.	Verifying	Ask where there are still uncertainties	Shaping the discussion	"I completely agree, good that you mentioned that"	Giving positive feedback And Agreeing
Wondering if anything more can be done here or is it ''keep up the good work''	Professional challenging/ Asking for ideas	"Good question" after a critical question from a colleague	Giving positive feedback	Complimenting a colleague about a value that a colleague has independently added.	Giving positive feedback
"I really like that" about something that is going well within the team	Giving positive feedback	"Yes, good check "name of colleague" after an explanation of a colleague	Giving positive feedback	"Yes, we are getting better at that and it is indeed going well" after a colleague mentioned a positive point.	Agreeing
"Great, good to hear that you also think this is progress"	Professional challenging/ Stimulating teamwork	"How do we want to approach this"	Professional challenging/ Asking for ideas	After a point of criticism, admit that the PO himself may not have done something right and indicate that he thinks the feedback is nice.	Giving direction/ Own opinion
Agree with a colleague's positive feedback about a nice drink with the team	Agreeing	"I understand what you are saying, I think it is a good idea"	Agreeing	Excusing himself after interrupting someone	Governing/Correcting
"Okay, that's an interesting idea" then ask the team how to implement this	Professional challenging/ Stimulating teamwork	"How do we want to tackle this?"	Professional challenging/ Asking for ideas	"I understand the needs of colleague 1, but I also understand the uncertainty of colleague 3, so let's...." come up with a solution after a disagreement	Giving direction/ Own opinion
"These new insights and this	Giving positive feedback	Asking a critical question to the rest of	Professional challenging/	"Yes, I think it's a good proposal,	Professional challenging/ Asking for

way of working make me happy"		the team to think about	Asking for ideas	what does the rest think of it?"	ideas And Giving positive feedback
"That's good to hear" after positive feedback from a colleague	Giving direction/Own opinion	Before disagreeing with a colleague first indicate that he still thinks it is a good approach	Giving direction/ Own opinion	Coming up with an idea to all work together on a specific task after a complaint from a colleague	Professional challenging/ Stimulating teamwork
"Very good, congratz" after a colleague has passed a course	Giving positive attention/Showing personal interest	Indicating that he understands his colleague, before disagreeing	Giving direction/ Own opinion	"I think that's a very good point"	Giving positive feedback
Asking a colleague about the content of the course he passed	Giving positive attention/ Showing personal interest	Asking what the vision of the team is and what the next steps will be	Professional challenging/ Asking for ideas	Verify whether a point of dissatisfaction applies specifically to the PO or whether it concerns the entire team and what can be done about it	Verifying
After a discussion about dissatisfaction, the PO indicated that he understand the colleague and provided further explanation as to why this was done	Agreeing	"I trust in you guys" after some insecurities of the team	Giving positive feedback	Ask how happiness is going within the team.	Shaping the discussion
"It's good that we express that here, I recognize it too" after expressing dissatisfaction	Giving positive feedback	"If there are any uncertainties, be my guest, I'll gladly explain it again''	Professional challenging/ Stimulating teamwork	"Good point" for improvement	Giving positive feedback
"I think that's a fair point" after another point of dissatisfaction	Giving positive feedback	"That is good that you bring that up"	Giving positive feedback	"Well that is a good question" after a critical question has been asked	Giving positive feedback
"That's a nice idea "name of colleague", thanks"	Giving positive feedback	"Kindly invite" another colleague to do another task to understand the rest better	Professional challenging/ Asking for ideas	"I also think that is a great idea"	Giving positive feedback
"I understand your dissatisfaction, how do you want to change this?"	Professional challenging/ Asking for ideas	Asking other colleague's opinions about an idea	Professional challenging/ Asking for ideas	Before correcting another colleague acknowledging that what he said could be correct	Governing/ Correcting

"If everyone agrees, I think it's fine" while the PO himself has a different preference.	Giving direction/Own opinion	"I understand what you are saying"	Informing with facts
"I'm fine with it, how would you like to see your idea implemented"	Professional challenging/ Asking for ideas	"Yes, I would appreciate it if you do that" after an uncertainty about a colleague's idea	Agreeing
"I agree and support your good proposal" after a colleague has spoken out.	Agreeing	"You are making a valid point" after a discussion	Agreeing
Feeling addressed after a point of dissatisfaction. Immediately acknowledge his mistake and explain why this happened.	Defending one's own position	"Great job on your willingness to take that on"	Giving positive feedback
"yes, good idea"	Giving positive feedback		
"Good addition "name of colleague"	Giving positive feedback		
Checking if it is okay for everyone to move on to the next	Shaping the discussion		
Sharing personal information about why he will be absent	Sharing personal information		
"that is a good question" After asking a critical question to the PO	Giving positive feedback		
"Yes, good point"	Giving positive feedback		
"Yes, so actually that's a good point "Name of colleague"	Giving positive feedback		
Asking if everything is clear to everyone	Shaping the discussion		
"Who volunteers?''	Professional challenging/ Asking for ideas		
"That's a good idea"	Giving positive feedback		

"I am not sure if I understand your question" making sure to understand a colleague's concern	Verifying
"That's a good question"	Giving positive feedback
"I also think that's a good idea"	Agreeing
"Who is attracted to this task?"	Professional challenging/ Asking for ideas

Table 7. A Comparison Between the Inductively Related EI Behaviors From the PO and the Related Coded Verbal Behaviors for Team 3

Planning Meeting		Refinement Meeting		Retrospective Meeting	
EI behaviors inductively seen	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**	**EI behaviors inductively seen**	**Related behaviors from the codebook**
Complimenting that something went smoothly and all colleagues worked well.	Giving positive feedback	Thanking a colleague for completing a task	Giving positive feedback	"Fair point"	Agreeing
Saying that it is nice how the work has been done.	Giving positive feedback	Ask at the beginning about the team's preference, while the PO already has a preference.	Professional challenging/Asking for ideas	Lighten the mood by making a joke	Humor
Saying that he found something another colleague did very useful.	Giving positive feedback	Agreeing with colleagues' preferences after indicating that the option causes the PO itself stress	Professional challenging/Stimulating teamwork	"Very nice to really get some real feedback"	Giving positive feedback
Indicate that like everyone else is working now, it works fine	Giving positive feedback	Indicating a colleague's mistake by saying that it is actually funny that he did it that way	Humor	Saying that it is very nice from a colleague that she picked up the task and she did really well in it	Giving positive feedback
Giving a compliment after a colleague had	Giving positive feedback	"But it's good that you mention it" after an	Giving positive feedback	Making a joke to lighten the mood and	Humor

17

taken up a task from another colleague because that colleague no longer wanted to do it.		unnecessary correction from a colleague		talk a bit lightly about a colleague's mistake	
"We'll keep our fingers crossed for you", for a colleague who is nervous about a course.	Giving positive attention/ Showing personal interest	Challenging colleagues by asking "Who wants to add to this?"	Professional challenging/Asking for ideas	Correcting someone with humor to make it less serious	Humor
Making a joke to relieve a nervous atmosphere	Humor	Challenging colleagues and asking for ideas on how something should be done by saying "Would anyone like to start us off with an idea?"	Professional challenging/Asking for ideas	Expressing disagreement with a joke to make it more friendly	Humor
"I thought it was a pleasant collaboration"	Giving positive feedback	Thanking a colleague for his explanation	Giving positive feedback	"Yes that was a nice one" on a positive remark from a colleague	Agreeing
Indicate that the PO likes the trust and quality of the team	Giving direction/Own opinion	Apologizing after interrupting a colleague and asking him to finish his sentence	Governing/Correcting	Being happy about a colleague"s marriage	Giving positive attention/Showing personal interest
Emphasize the team's strength	Giving positive feedback	PO said during a discussion: "I understand your thoughts too"	Giving positive attention/ Sympathy	Asking why the team did it the way they did it	Professional challenging/ Asking for ideas
"We did a great job"	Giving positive feedback	Thanking a colleague for her remark	Giving positive feedback	"I fully support everyone being able to express themselves freely in a team"	Agreeing
"Good that you think about that''	Giving positive feedback	"Nice one" complimenting about a good idea	Giving positive feedback	Sharing that something is a personal	Sharing personal information

					challenge for the PO
"Nice action from you"	Giving positive feedback	Asking a colleague if there are still concerns after having a disagreement	Verifying	"I am not saying this and that was bad, it just doesn't look that good for now, and I want to discuss what you all think about that"	Professional challenging/ Asking for ideas
After indicating a general point for improvement, the PO acknowledges that he is also doing this incorrectly and asks for feedback from colleagues.	Giving direction/ Own opinion	The PO encourages someone to take the lead by letting him decide	Giving direction/Own opinion	After pointing out some negative points, mentioning that the team has done a lot of good things	Giving positive feedback
Show understanding to a colleague who indicates that she becomes nervous about certain tasks and therefore sometimes does not do the tasks.	Giving positive attention/ Sympathy			"I can imagine that very well" after a concern from a colleague	Giving positive attention/ Sympathy
Making an addition to ensure the team that the uncertainties the PO has about certain matters do not undermine confidence in the team.	Giving direction/ Own opinion			Coming up with an innovative new way of working idea	Professional challenging/ Stimulating teamwork
Asking for ideas to handle a certain uncertainty	Professional challenging/Asking for ideas			Considering the mental energy of colleagues while thinking of new ways of working	Professional challenging/ Stimulating teamwork
Complimenting a colleague that	Giving positive feedback			"If you would like to do that, I would	Giving positive attention/ Sympathy

she had done a great job		really appreciate that "
Asking if there are colleagues who want to check everything together with the PO	Professional challenging/ Stimulating teamwork	
Apologize	Governing/ Correcting	
After mentioning negative points, mentioning the positive points, and concluding that you simply cannot do everything right and so it went fine	Giving positive feedback	
"Does everyone agree with my idea?"	Verifying	
Concluding the sprint with a positive remark	Giving positive feedback	

10.2 Verbal Behaviors per Team Meeting

The table below presents the observed coded verbal behaviors that are found to be related to EI for the different meetings of each team.

Table 8. The Various Observed Coded Verbal Behaviours Related to EI per Teams' Meeting

Behavior per Team	Planning Meeting	Refinement Meeting	Retrospective Meeting
1	• Professional challenging/ Asking for ideas • Giving positive attention/ Sympathy	• Verifying • Professional challenging/Asking for ideas • Giving positive feedback	• Humor
2	• Humor • Professional challenging/Stimulating teamwork • Professional challenging/Asking for ideas • Shaping the discussion • Verifying	• Giving positive feedback • Professional challenging/Asking for ideas • Shaping the discussion • Agreeing • Giving direction/ Own opinion	• Giving positive feedback • Professional challenging/ Asking for ideas • Shaping the discussion • Agreeing • Giving direction/ Own opinion

	• Giving positive feedback • Agreeing • Giving direction/Own opinion • Giving positive attention/Showing personal interest • Giving direction/Own opinion • Defending one's own position • Sharing personal information	• Professional challenging/ Stimulating teamwork	• Governing/Correcting • Professional challenging/ Stimulating teamwork • Verifying • Informing with facts
3	• Giving positive feedback • Giving positive attention/ Showing personal interest • Humor • Giving direction/Own opinion • Giving positive attention/ Sympathy • Professional challenging/Asking for ideas • Professional challenging/ Stimulating teamwork • Governing/ Correcting • Verifying	• Professional challenging/Stimulating teamwork • Humor • Giving positive feedback • Professional challenging/Asking for ideas • Governing/Correcting • Giving positive attention/ Sympathy • Verifying • Giving direction/ Own opinion	• Professional challenging/ Stimulating teamwork • Giving positive attention/ Sympathy • Professional challenging/ Asking for ideas • Agreeing • Sharing personal information • Giving positive feedback • Giving positive attention/Showing personal interest • Humor