Improving Conflict Management and Team Effectiveness through Emotional Intelligence: An Exploratory study in Agile Teams

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Abstract

The fast change of products and services forces organizations to increase their flexibility, contributing to the emergence of agile teams, where Emotional Intelligence (EI) can be an essential element in making team members have better conflict resolution skills. Conflicts also relate to team meeting effectiveness (ME), where the latter is negatively influenced by the former, while EI can actually increase team effectiveness. Our mixed-method study sheds light on agile team dynamics, by exploring the influence of EI, conflict management, and team effectiveness in an agile context, while using innovative video observations based on verbal behaviors, encoded according to the new OBCC codebook. Although observed EI did not appear to be commonly displayed during task or relationship conflicts, it did shorten conflict duration in teams whose members showed frequent EI behaviours. Hence, it seems that EI leads to better conflict management, and a better handling of negative verbal behaviour. Further results show that observed and perceived EI are not correlated, underlying the discrepancy issues in EI measurements and the need to find alternatives. Subsequently, observed EI and observed conflict are positively correlated but not significant, taking into account the fact that we had a limited sample size. T-tests to examine whether high effective teams show overall more EI behaviours and less observed conflict than low effective teams were not significant either. In addition to testing our hypotheses, we performed a deductive analysis that revealed that the frequency of observed EI in team members varied widely across the sub-dimensions (SEA, OEA, UOE, and MOE), with this being the most salient peculiarity. We also found that most verbal behaviours can fit into each of these four sub-dimensions, which means that there is more to the verbal behaviours to be considered when investigating observed EI. The findings provide breeding grounds for future investigations that could be more in-depth in nature, while underlining the importance of EI in training team members to deal better with negative feedback and conflict.

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1. Introduction

Due to higher project success rates of self-managing, agile teams, this form of team management has become increasingly popular in recent years, which is especially the case in environments subject to a high degree of uncertainty in the market (Dingsøyr et al., 2012). Indeed, today, we live in a world where globalization and high-tech environments constantly expose organizations to a faster pace of change of products and services. This, in turn, forces the major share of organizations to adapt to these changes and uncertainties by becoming more dynamic and increasing their flexibility, allowing agile teams to help respond promptly to change (Koçyiğit & Akkaya, 2020).

An agile team is a form of self-managing team, in which the team members have different competencies needed to achieve the desired results for a project they are assigned to (Spiegler et al., 2021). This is why they are also cross- and multi-disciplinary by nature (Hidalgo, 2018). Each team member brings added value to the team through their specific set of expertise and capabilities and, because of their self-managing nature which relies mostly on shared leadership, bear the responsibility and freedom to achieve their goal in an independent manner (Dingsøyr et al., 2012). Due to the uncertain environment and short timeframe to deliver results, running agile teams can be strenuous and arouse all kinds of emotions (Alhubaishy & Benedicenti, 2017). Such highly emotional situations can have a major impact on the way of working of team members (Jordan & Troth, 2002) and literature advocates that, among multiple things, Emotional Intelligence (EI) can become an important factor in such emotional situations since it can draw team members closer with collaboration based on their superior conflict resolution skills (Jordan & Troth, 2002).

EI has been defined as a set of abilities that qualify a person to recognize, express, understand, and evaluate their own emotions, as well as those of others, for dealing with daily demands and adapting to environments (Salovey & Mayer, 1997). Concerning team dynamics, EI has a major beneficial effect, for instance, on the prevention of situations of conflict (Jordan & Troth, 2002). In this regard, Schlaerth et al. (2013) examined the effect EI has on conflict management in 15 countries and found that EI of leaders and employees was positively associated with outcomes that benefit the organization as well as the employees by enabling positive and constructive approaches in a conflict.

Conflict in itself can be defined as a distinguished difference, discrepancy, or incompatibility in opinions, believes, interests, or values between persons (Jehn et al., 1997). It can also be divided into different subtypes, taking into account the three types of intragroup conflict, namely task conflict, relationship conflict and process conflict (Simons & Peterson, 2000). Task conflict occurs when team members disagree about the content of a task (e.g., differing opinions, preferences or views), while relationship conflict occurs when a clash of personalities or negative emotional interactions arise (e.g., spitefulness, tension or annoyance) (Simons & Peterson, 2000). Lastly, process conflict occurs when a

disagreement arises between team members about how the task accomplishment should take place, i.e., who should do what and who is responsible for completing a certain duty (Jehn, 1997). Such conflicts should be minimized in teams or well managed since they have been found to negatively affect team performance (De Dreu & Weingart, 2003). Such negative influences also relate to team effectiveness, which is also negatively influenced by conflict situations as a result of generating negative emotions that result in a less effective situation (Dreu & Weingart, 2003).

In this regard, research has also led to the insight that increased team effectiveness can be achieved through EI, which is mainly due to an improved awareness of the factors that contribute to one's experience of positive and negative emotions, which results in an ameliorative ability to understand and regulate one's own emotions which in turn improves performance (Sy et al., 2006). Such findings have also been confirmed by Miao et al. (2016), which found that EI increased job performance, job satisfaction and team effectiveness while lowering negative consequences, such as emotional labor and stress levels, whilst Wong and Law (2002) even argued that a high EI may be essential for one's career achievements due to its cognitive and behavioral complexity.

However, previous research on EI has relied primarily on perceived EI by using surveyed data (Dasborough, et al., 2021), which leaves quite a bit to be desired in terms of validity, leading to calls for the use of, among other things, video observations. This also holds true for situations of conflict, since video observations can help monitoring the interactions of individuals during such situations in order to include facial expressions and verbal behaviors that better represent the whole variable to be explored (Zhao et al., 2019). Verbal behaviors are regarded as ''specific observable verbal actions of team members/individuals in interaction with other team members in an organizational setting" (Van Dun et al., 2017, p. 175). The fact that studies on EI relied mostly on survey-based measurements leading to contradicting and contrasting results (Dasborough et al., 2021), while neglecting the possibility to explore EI through video observations (Zhao et al., 2019), forms the first relevant gap in existing research. Therefore, the added value of our study, which we consider to be our first contribution, is that we base our findings on using observations to explore EI, which has not been applied before and which several studies have called for (Zhao et al., 2019; Dasborough et al., 2021). Here, conflict is also mapped in an observable way, which benefits the general validity as indicated above (Zhao et al., 2019).

In addition, while various aspects of agile management, EI, conflict management, and team effectiveness have been explored over the years, little research has been conducted that portrays all components simultaneously and how they influence each other when combined (Zhao et al., 2019). This is the second relevant gap in existing research, to which we dedicate our second contribution, which is to visualize agile management, EI, conflict management and team effectiveness simultaneously in one

study and see how these variables influence each other. Based on this, we formulate the following research question that we try to answer in this study.

How does team members' observed EI relate to observed intragroup conflict and team effectiveness in agile teams?

Hence, our goal is to explore how team members' observed EI can relate to both situations of conflict and team effectiveness within agile teams. To explore this, groundbreaking video observations are used, where observed EI are considered based on the four dimensions of Wong and Law (2002), and inferred from the verbal behaviors captured by video-observations. Combined with perceived EI, which is inferred from survey-based data, this is further analyzed to determine what types of conflict arise and how a person's EI affects their way of coping with the conflict. This, in turn could show us whether EI is related to conflict management in agile teams as well as how it might influence team effectiveness.

By addressing the above research question, the current thesis contributes to the existing literature in two ways. Firstly, it extends knowledge on how verbal behaviors can help to improve team outcomes, by providing new insights into how observed EI is related to observed situations of conflict and team effectiveness in an agile team setting. Therefore, the first added value of this study is that a new method for capturing EI and conflict, grounded in video observations, is used to address some of the contradicting and contrasting results of traditional, survey-based measurements (Zhao et al., 2019; Dasborough et al., 2021). Secondly, it sheds some light on self-managing team dynamics, by exploring the mutual influence of several interlaced factors (i.e., observed EI, observed conflict and team effectiveness) in the specific context of agile teams. More specifically, our contribution is primarily made to the EI- and conflict management literatures, where our findings may open new ways for providing insights into these components (Zhao et al., 2019).

Furthermore, this thesis has also practical implications for managers. Our results may help them to reflect on the importance of EI in team dynamics, especially in the moments of conflicts, to create a contemporary awareness of the key role of emotions during conflict situations in order to reduce these conflicts and increase general team effectiveness. The main practical benefit is to foster awareness of the importance of emotions in an agile environment which could be achieved among team members by, for instance, workshops, counselling or coaching on mediation by a professional.

The remainder of this study is structured as follows. We first discuss the constructs of conflict management and team effectiveness and the importance of EI. The hypotheses are discussed there too. Following that, the methodology is presented before moving on to the results section, where the

associations to be investigated are presented. This study concludes with a discussion on the added value of this study to the existing literature.

2. Theoretical background

2.1 Agile Teams

The concept of agile management has its origins at the turn of this millennium, in the software industry, and sought to clarify the values and basic principles that were considered necessary for a better development of new software, and which also heralded the rise of the so-called Agile Manifesto (Hohl et al., 2018). This agile way of working, has increasingly gained popularity among various software developers, as well as in various other industries, therefore creating a new approach that has led to the emergence of disruptive and innovative ways of product development in various organizations (Hohl et al., 2018).

When an organization switches to working with agile teams, referred to as an agile transformation, the teams are so agile that they are multidisciplinary, work in short cycles and use a flexible strategy (Dikert et al., 2016). The latter relates to having a clear goal, where the long-term focus matters less than the short-term focus because of the rapidly changing environment and because of the lower manageable flexibility of a long-term focus (Dinakar , 2009). Therefore, this concept lends itself perfectly to the utility of pure flexibility embedded in a short-term strategy. These agile teams are also multidisciplinary in nature, meaning they have their own autonomy and they can quickly and independently determine how they act, in order to adapt to changes in a swift way (Hidalgo, 2018). For this, a thorough cooperation policy must be given place in the functioning of the team and a clear working method must be agreed upon in advance, in order to generate a desired behavior for the purpose of allowing these teams to function effectively and thus avoid intragroup conflict (Hidalgo, 2018).

2.2 Conflict Management

Conflict management has been an area of disagreement for many scholars, arguing that it may be beneficial for an organization, where others argue it may be harmful. Research has shown that this could depend on the type of conflict as well as the duration of the conflict (Bradley et al., 2015). As mentioned before, regarding conflict management, for this research we explore intragroup conflict in agile teams for which we make a distinction between task conflict, relationship conflict and process conflict. We define conflict as a distinguished difference, discrepancy, or incompatibility in opinions, believes, interests, or values between persons (Jehn et al., 1997).

2.2.1 Relationship Conflict

One of the three types of intragroup conflict is relationship conflict, about which there is great consensus among scholars that if occurring, both team effectiveness and overall satisfaction within the team are bound to suffer (Jehn, 1994). Relationship conflict is a conflict type which mainly concerns disagreement between team members that is based on issues that have a personal foundation and are not related at all to the task the team has to perform, wherefore it is often related to polarity in personalities, annoyance, and enmity among team members (Jehn, 1994). This also includes values that are of importance at an individual level, which implies that individuals who share the same values have greater chances to interpret and act upon certain problems that arise in a group in much similar ways, which in turn has the possibility to reduce relationship conflict (Jehn, 1994). A study by Jehn et al. (1997), proposed the findings that values in themselves have the potential to reduce relationship conflict by magnifying the level at which individuals can identify with each other, meaning that team members who share the same values and goals have an increased probability to also share the same opinions which are most likely founded on the believes they share, which in turn causes both relationship conflict and task conflict to decrease (Jehn et al., 1997).

Such findings determine the factors that would reduce relationship conflict. In addition, when looking at factors that motivate relationship conflict, we refer to previous studies that have found a positive relationship between visible demographic characteristics and relationship conflict (Alagna et al., 1982). Visible demographic characteristics is a form of categorizing people according to their outer appearance, which has the effect of causing an emphasis to be placed on a person's individual characteristics which in many cases are not at all essential to the task that this person has to perform or the responsibility that he or she bears (Alagna et al., 1982). These findings indicate that, based on demographic characteristics, the greater an individual's discrepancy with the rest of the team, the greater the likelihood of a relationship conflict in the team becomes. The reasoning behind this is that it is human nature to seek closer kinship with those who are most similar to ourselves, as this increases the likelihood of sharing the same opinions and views (McPherson & Smith-Lovin, 1987). It is also commonly thought that people who are more like us are easier to get along with and are considered more trustworthy (McPherson & Smith-Lovin, 1987). In fact, these findings also confirm the converse, that perceptions about individuals who are further distanced from us, based on their outer appearance, are more likely to be negatively perceived, giving room for a stronger breeding ground for relationship conflicts to emerge (McPherson & Smith-Lovin, 1987). Such studies have laid the groundwork for the influencing factors of relationship conflict, indicating that visible demographic differences (e.g., gender) are more perceived to encourage relationship conflict, whereas informational demographic differences (e.g., education) are more perceived to encourage task conflict (Jehn et al., 1997). Hence, the greater the similarity of individuals in a team, based on their values and characteristics, the more likely that both relationship conflict as well as task conflict diminishes or even occurs (Jehn et al., 1997).

2.2.2 Task Conflict

In Jehn's (1997) article, she mentioned task conflict to be a type of intragroup conflict that could benefit an organization, claiming a positive effect on the overall performance due to the enablement of looking critically at a task, mapping out alternatives and arriving at the best solution through constructive consultation. Jehn (1997) argues that a moderate level of task conflict is beneficial since it acts as a stimulus for colloquy, and therefore a wider discussion of ideas and opinions takes place, which in turn helps the team to perform better, while if such moderate levels of task conflicts are absent, a team might lack new approaches for performance improvement. Although this sounds promising, it should be kept in mind that very high levels of task conflict are indeed detrimental and hinder the completion of a task (Jehn, 1997). Such claims have also been supported by other scholars such as Simons and Peterson (2000), who mention task conflict to increase the quality and affective acceptance of team decisions (Simons & Peterson, 2000).

On the other hand, several other scholars have found task conflict to be not beneficial at all on account of its significant positive correlation with relationship conflict, indicating that task conflict cannot be increased without simultaneously increasing relationship conflict (Torrance, 1957). This implies the emergence of a substantial risk of causing a harmful relationship conflict (Janssen et al., 1999). Apart from this, scholars have further investigated how task conflict might benefit team performance by examining the circumstances under which the beneficial influence arises and how strong this could be. DeChurch and Marks (2001), argued that when group conflict was regarded to as a moderator, the association between task conflict and overall team performance was positive in the situation where the conflict had been actively managed. The opposite was observed in the case where the conflict was merely passively managed (DeChurch & Marks, 2001). These scholars also found task conflict to be a variable that caused a significant improvement in group satisfaction in the situation that the conflict was managed with agreeable behavior. On the contrary, group satisfaction was detrimental when the conflict was managed based on disagreeable behavior (McPherson & Smith-Lovin, 1987). Furthermore, Guenter et al. (2016), found task conflict to have a positive relationship with growth in team performance and that the proportion of team members engaging in group-oriented behavior and the acceptance of team-based sacrifice is of the utmost importance in determining to what extent a conflict can increase. It is argued here, that a co-operation of both interpersonal and performance-related factors are essential for achieving an increased team performance on the basis of task conflict (Guenter et al., 2016). Such findings are consistent with what multiple scholars have discovered as shown by several studies (Jehn & Mannix, 2001), namely that the beneficial influence revolves around trust in the group as the basic principle, which means that trust and its derivatives can influence this relationship between the level of task conflict and team performance.

2.2.3 Process Conflict

After relationship conflict and task conflict, we determine process conflict to be the third conflict type of interest and which, unlike task conflict and relationship conflict, is known to have a relatively less comparable and pronounced output in what science can explain about it. Following our aforementioned definition of process conflict, Greer and Jehn (2007) found evidence for the positive relationship that process conflict has on negative affect, which in turn has a negative relation with group performance, suggesting that this particular type of conflict should be taken into account. In their study, they considered negative affect to be a mediator that plays a significant role in the relationship between process conflict and team performance, suggesting that process conflict should be reduced in order to increase performance rates (Greer & Jehn, 2007). Other scholars have come to the same conclusion, such as Goncalo et al. (2010) and Jehn and Mannix (2001), which found process conflict to have the most powerful negative impact on performance, noting that the timing of conflict is given great importance and has a substantial influence on it (Goncalo et al., 2010; Jehn & Mannix, 2001).

Such research outcomes mentioning the process conflict's deleterious impact, have been agreed upon by several scholars. However, theory has also proposed suggestions that process conflict, albeit in moderate amounts, is also capable of actually improving performance (Jehn et al., 1999). In their research, Jehn et al. (1999) reported that if process conflict occurs in moderate amounts, this can lead towards a colloquy about the desired capabilities of team members, which in turn can lead to a better possibility that the most suitable team member is assigned the responsibility that best suits him. In this regard, Kellermanns and Eddleston (2007) found in a later study that process conflict can boost productivity rates as well as performance in the event that the division of tasks and responsibilities is of the utmost importance, as well as in the event that changes need to be made for the division of tasks (Kellermanns & Eddleston, 2007). Indeed, in their study, process conflict seemed to be leading to a more effective decision-making process, ameliorating overall performance and thus exercising a beneficial role. This is due to this type of conflict being discerned as an endeavor for increasing overall performance by enhancing the decision-making process, in lieu of being it attacking one's persona or gaining self-interest that can only come at the expense of the team (Kellermanns & Eddleston, 2007). As shown, process conflict is still a quite controversial type of conflict about which science is mostly divided, therefore future research should further explore this type of conflict, especially including often recurrent moderating effects.

2.2.4 Duration of a Conflict

As stated in paragraph 2.2, the duration of a conflict is paramount in determining the effect of a conflict. Paletz et al. (2011), have made a distinction regarding the duration of a conflict between micro, meso, and macro conflicts where the distinction is based on the level at which information is structured and accessible over time. *Micro conflicts* refer to smaller conflicts with a short duration (of minutes),

where the dissension is brief, resulting either from a quick resolution of the conflict or the complete dropping of the dissension that is not resurfacing again (Paletz et al., 2011). *Meso conflicts* refer to conflicts that are more prolonged with a duration of several hours or occur multiple times a day, such as a discussion about a particular topic during a longer meeting, where the issue is not resurrected again after that discussion (Paletz et al., 2011). Lastly, *macro conflicts* refer to protracted dissensions lasting at least a few days, in which a group of people get into discussion about a certain topic time over time over extended periods, such as weeks (Paletz et al., 2011). Regarding this information, three remarks should be made here. First, micro conflicts can coalesce into bigger discussions if multiple micro conflicts can be brought close to each other simultaneously in a meso or macro conflict, meaning that one should always observe its broader context in order to elucidate whether the observed micro conflict stands on its own or is an element of a larger conflict (Paletz et al., 2011). The second remark implies that an accurate time-based measurement is not indispensable for making such distinctions. However, it can be helpful in determining which questions need to be answered, which means that each conflict has inherent variability with respect to its magnitude, but has so far been considered to be included into the same conflict category (Villemaux & Bossa, 2009). Therefore, measuring the exact size of a conflict, although the distinction between types does not rely solely on specific sizes, may be useful for other purposes (Karn & Cowling, 2008). Thirdly, conflicts are surrounded by clear outer boundaries which make the magnitude of the conflict clear. For example, a discussion categorized as a micro conflict is surrounded by discordant, non-argumentary speech, which allows this categorization to have the advantage of being easily understandable and brief, and is therefore preferably measured by observations instead of today's often used ubiquitous method of retrospective self-report (Paletz et al., 2011).

2.3 Emotional Intelligence

For a better management of intragroup conflicts (Jordan & Throth, 2004), EI has in recent decades taken hold in popularity in behavioral management sciences, as the importance of this factor has become increasingly recognized (Schlaerth et al., 2013). EI is a relatively new concept that originated in the early 1990s. However, a previous development of this concept can be found as far back as the 1920s when Thorndike (1920) introduced the concept of Social Intelligence, which laid the foundation for further developments in this field, eventually bringing EI to light in 1990. Thorndike (1920) introduced the term Social Intelligence as an individual's ability to perceive and manage other people, thus to behave wisely in human relationships. After Thorndike formulated this theory, Gardner (1993) subsequently defined EI as one of seven total intelligence domains which he referred to as the Theory of Multiple Intelligences. From this theory, it is suggested that social intelligence is a collaboration of several distinct interpersonal as well as intrapersonal intelligences, with intrapersonal intelligence being defined as one's capacity to deal with oneself and one's intricate and highly differentiated feelings (Gardner, 1993). Interpersonal intelligence on the other hand, is referred to as one's capacity to interact with others,

noting and making distinctions among other people, with an emphasis on their mood, temperament, and intentions (Gardner, 1993).

Following such findings, Salovey and Mayer (1990) were among the first scholars to narrow down Social Intelligence to different branches, where they introduced the term ‘’Emotional Intelligence’’ as one of those. Depending on the literature about this subject, it can be concluded that there are three different directions in the way this concept is looked at, which are called the trait-based approach, the ability-based approach, and the mixed-model approach. The ability-based approach is spoken of when EI is shown to be an ability to involve one’s self in complex information processing about both one’s own emotions as well as those of others, using this knowledge to direct one’s own way of thinking and acting (Mayer et al., 2008). On the contrary, the trait-based approach is referred to when it is determined that EI is actually more a trait one is born with, acting as a unique combination of self-perceptions that occupies the bottom foundation of what is called the personality hierarchy (Petrides & Furnham, 2001). Lastly, the mixed-model approach is referred to when EI is identified as a broad configuration of competencies that guide the successful management of difficult situations, involving both interpersonal and intrapersonal characteristics that influence leadership performance (Cho et al., 2015). However, it should be noted that the latter approach has been the most criticized for being insufficiently scientifically proven and too comprehensive (Cho et al., 2015).

Following the aforementioned introduction of the term EI by Salovey and Mayer in 1990, the latter have also differentiated this concept into four different branches, which is called the Four-Branch model of EI, or the MSCEIT (Salovey & Mayer, 1997). These four branches relate to problem-solving necessary to be able to perform emotional reasoning to the fullest, which are: perceiving emotions, facilitating thought by using emotions, understanding emotions, and managing emotions in oneself and others (Salovey & Mayer, 1997). Perceiving emotions is referred to as one's ability to identify emotions in both one’s self and others involving body language, facial expressions, and use of voice (Salovey & Mayer, 1997). Facilitating thoughts by using emotions is referred to as one's use of emotions to improve one’s cognitive activity and adapt to diverse occasions, learning which emotional state is more optimal for specific purposes (Salovey & Mayer, 1997). Thirdly, understanding emotions refers to the ability to discriminate between different emotional states, including their related causes and pathways (Salovey & Mayer, 1997). Following these three branches, the fourth branch is generally accepted as the most advanced and influencing branch, which refers to one's ability to continue to open oneself to a wide range of emotions, acknowledging the value of feeling certain emotions and diverse situations, and thereby discovering which short-term and long-term strategies work most efficiently for regulating emotions, which is why the latter branch is also referred to as Emotion Management (Salovey & Mayer, 1997). Another quite well-known measurement scale (which can be defined as how variables are defined and categorized) for EI is the Wong and Law Emotional Intelligent Scale (WLEIS) (Wong & Law,

2002). Although MSCEIT assesses EI on the bases of an ability-based approach, whereas WLEIS does it based on a trait-approach, for our research we make use of the WLEIS due to several studies showing this scale to be very consistent across different teams regardless of their ethnicity or cultural background (Nguyen et al., 2019). Furthermore, the WLEIS does not clash with the MSCEIT, where it in fact shows four dimensions as well which are at first sight very similar to the four branches of the MSCEIT namely: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE) (Wong & Law, 2002). The WLEIS is discussed in more detail in Chapter 3.

2.3.1 EI Issues

As science has increasingly focused on EI in management theories in recent years, there are still major validity issues regarding the true effect of EI on various variables, due to the fact that EI is a rather complicated variable to validate, which can lead to biased results (Dasborough, et al., 2021). For example, it turns out that the abilities mentioned by Salovey and Mayer, are quite broad in nature and therefore some of these abilities can relate to each other, making it more difficult to distinguish them from one another (Maul, 2012). In addition, the relationships between the branches and the involved tasks do not contain sufficient evidence to establish that the abilities associated with these branches and tasks are related, due to the uncertain degree of validity of the branches and tasks as findings of the abilities they are supposed to measure (Maul, 2012). The relationships discovered here, also play a role because they may have their origin in abilities quite different from those initially imagined (Maul, 2012). Many studies on EI base their validity on constructs that have been around for some time and have been relabeled and recategorized for this application, such as the Trait Emotional Intelligence Questionnaire (Mikolajzak et al., 2007), which bases its operation on the mapping of a person's characteristics, such as the degree of assertiveness, social competence, and self-confidence. The bulk of these types of constructs is solidly housed in measures of personality traits designed for this purpose, which can be well explained by them, and whose discovered associations between the competences and the individual measures of EI, propagate this (Harms & Crede, 2010). As a result, it can be concluded that the validity of these types of measures for EI is largely dependent on the extent to which they actually assess smaller parts of a larger trait that are important for the final outcome (Harms & Crede, 2010).

2.3.2 Observed EI and Verbal Behaviors

The beforementioned issues arise mainly from the use of questionnaires as a way of assessing EI in individuals, which postulate a high degree of self-reflection in the surveyed persons, who may be more inclined to give an answer that fits their own opinion about their self, rather than their real self-reflection in relation to their verbal behaviors, thus having the disadvantage of inducing insufficient validity (Hoogeboom et al., 2021). Hence, a possibly more appropriate option would be for the assessment of one's EI to be made based by observable verbal behaviors and which is looked at by someone other than the interviewees, who is outside the perceived situation and who can look at it from an unbiased position.

The way to do this is through video observations which can result in a more thorough analysis of this variable compared to questionnaires (Zhao et al., 2019). With this in mind, for this study video observations are mainly relied upon as the means to assess EI sufficiently validly on the basis of verbal behaviors. However, the surveyed results are included too in this study due to the fact that such visual observance of EI through video observations has so far been insufficiently used in science and therefore still has too low a degree of reliability (Zhao et al., 2019), which leads us to the conclusion that the surveyed results should be included in this study and compared with the observed results. Hence, we arrive at our first hypothesis:

H1: *There is a positive correlation between observed EI and perceived EI among team members.*

2.4 EI and Conflict Management

Regarding EI in association with conflicts, research has shown that, people with high EI seem to be better able to understand the motives and views of others during conflict and ensure that their own emotions are regulated as desired, thereby experiencing fewer unpleasant emotions during their work, which makes us assume EI to have a positive influence on intragroup conflict (Jordan & Throth, 2004). In situations like this, high emotionally intelligent individuals are better able to deal with stress more efficiently and thus to perform better, which would have been much less the case in the opposite situation (Schlaerth et al., 2013). Hence, individuals with high EI can equip this intelligence to better understand and explain their beliefs, while also propagating their arguments in a more appealing way to others to enhance their persuasiveness (Thi et al., 2021). From this kind of view that emerged from the literature on the subject, it can also be put into perspective that such individuals generally have a higher degree of enthusiasm for performing more complex tasks, while also being better able to encourage team members, ending in a better adaptive power and perception for taking on more difficult tasks (Clarke, 2010). As a result, EI has the effect of improving coordination within teams, which also reduces having different points of view and discourages discussion (Clarke, 2010). As Ayoko et al. (2008) pointed out, EI can be extremely valuable as it helps team members develop better responses while reducing or de-escalating conflicts. Tooled with this information, we come to the assumption that teams with emotionally intelligent members can capacitate their knowledge and skills to ease tensions, which leads us to our following hypotheses which is be measured based on observed behaviors leading to potential conflict:

H2a: *Observed EI is negatively correlated with observed intragroup conflict.*
H2b: *Perceived EI is negatively correlated with observed intragroup conflict.*

Furthermore, when talking about the effects of EI on intragroup conflict, the discussed information in paragraph 2.2 plays an important role here, implicating that the type of conflict as well

as the duration of a conflict can be related to the use of EI. Based on the already discussed information in paragraph 2.2, 2.3, and 2.4 we can speculate that EI behaviors are mostly shown during task and relationship conflict than process conflict and that when EI behaviors are displayed in moments of conflicts, conflict duration is shorter which results in it being either a micro or meso conflict. Based on the provided information, we come to the following hypotheses.

H3: *EI behaviors are mostly shown during task and relationship conflict rather than process conflict.*

H4: *When EI behaviors are displayed in moments of conflict, conflict duration is shorter. That is, either a micro or a meso conflict within a self-managed team.*

2.5 Team Effectiveness

Several scholars have noted that EI can have a positive effect on team effectiveness (Stephens & Carmeli, 2016). Team effectiveness is regarded as a team's capacity to achieve goals which are administered by an organization (De Dreu, 2007). In this regard, Liu & Liu (2013) found that an individual's capacity which can be used to manage one's emotions, moods, and thoughts is an important factor herein which also has an impact on team performance. Hence, EI plays a pivotal role in the providence of an emotional climate for stimulating team effectiveness and performance, which is created by managing thoughts, emotions, and moods in team members (Liu & Liu, 2013). In addition, Ashkanasy and Hooper (1999) found that being able to display positive emotions increases the likelihood of success in the workplace, referring, among other things, to positive salesmen who outperform pessimistic salesmen, meaning that EI is strongly associated with team effectiveness. This indicates that showing positive emotions from team members can lead to positive affection with the work itself and the employer, which in turn can lead to better performance and a lower turnover intention (Ashkanasy & Hooper, 1999). Furthermore, it is often suggested that EI influences the foregoing due to EI requiring a sense of self-awareness, which individuals can convert into a form of motivational factor, thereby resulting in ever higher goals being set and whereby greater meaning and substance can be given to the work (Wong & Law, 2002).

In addition, Greenidge et al. (2014) showed that employees who possess a high EI are much better able to respond to negative situations at work as well as to stressful state of affairs, while on the other hand luxuriating higher team performance levels which is directly linked to team effectiveness. Such outcomes arise from a more optimistic work mood which also forms the basis for mitigating more negative emotional situations such as tension (Greenidge et al., 2014). Statements of this kind have also found their way into suggestions that EI is a precious element for team effectiveness in order to attain goal-oriented, valuable knowledge for achieving the desired results and enjoying future success (Navas & Vijayakumar, 2018). Therefore, we assume that when a team involves high EI, a better social and

emotional climate arises which has the potential for further stimulating positive social attitudes such as empathy and improved cooperation within the team, which leads to an increased team effectiveness (Troth et al., 2012). Hence, we come to the following hypothesis.

H5: *Highly effective teams display, overall, more EI behaviors than low effectively functioning teams.*

Following the findings from the literature, research has been debating about the possibility of intragroup conflict to negatively affect team effectiveness. As mentioned before, moderate levels of task conflict can become beneficial for a team by boosting its team performance (Jehn, 1997). On the other hand, when conflicts increase to substantial proportions it can evoke more negative emotions such as anger and defense (Jehn, 1994). In this context, it is also often discussed that intragroup conflict can be negatively related to team effectiveness, where EI could lessen the extent to which conflicts arise, while on the other hand improving team effectiveness (De Dreu & Weingart, 2003). Team members with a high EI are better able to recognize and manage their own emotions as well as those of others, and they understand better how they should handle negative emotions, which in turn lessens the extent to which these emotions can create tension or conflict which can hinder performance (Lee & Wong, 2017). Therefore, by reducing these kinds of emotions, conflict decreases while cooperation and task focus improve which benefits team effectiveness (Lee & Wong, 2017). Although few empirical studies have been published demonstrating these effects simultaneously, we propose, based on the findings in this chapter, that teams with a higher EI are most likely to experience less intragroup conflict while simultaneously luxuriating higher overall team effectiveness (Lee & Wong, 2017). As a result, based on this assumption, we therefore formulate our following final hypothesis:

H6: *Highly effective teams display, overall, less moments of conflict than low effectively functioning teams.*

3. Methodology

3.1 Research Design

Regarding the research design, we establish the fact that in our research we are dealing with both quantitative and qualitative research data, indicating that we make use of a mixed-method design (Bryman, 2006). In this regard, the qualitative research has been conducted based on video observations, while the quantitative research has been based on surveyed data as well as some quantitative interpretations. Our reason for this approach results from the fact that along the way of very careful consideration, this seemed the best approach to answer the research question, due to this combination of both qualitative and quantitative data increasing confidence that our research results are valid sufficiently to make them more justified than alternative interpretations (Saunders et al., 2009). Here,

the term ‘’triangulation’’ comes into play, indicating that different types of data collection methods are applied in a study for corroborating the findings whereby certain weaknesses from one type of data can be offset by certain strengths of the other type of data, which eventually results in an increased validity (Saunders et al., 2009). Therefore, this approach ensures a clear benefit of the mixed-method design. If only the use of quantitative data were to take place, it would lack validity due to the increased potential for unsupported results, which we discussed already in Chapters 1 and 2. Lastly, our research follows a mixed-method approach, wherefore we use the inductive approach in the qualitative part of our analysis, which we discuss in more detail in paragraph 3.4.3.

3.2 Data Collection

The data collection that took place for this research is part of the collected data that was compiled for a larger overarching research for a multinational service organization, which owes its output to the Organizational Behavior, Change Management & Consultancy (OBCC) department of the University of Twente. The data made available consists of video recordings and surveyed data from several agile teams that have been researched for this purpose and which served as input for our research in order to map the role of observed EI and its associations with observed conflict situations and perceived team effectiveness.

3.3 Sample

With regard to our sample used, it can be stated that it consists of 9 agile teams with a total of 71 people who form our final sample, where it should be indicated that with regard to these people there are 72% male and 23% female. There were three people (6%) who did not provide information about their gender. With regard to their demographic characteristics, we can distinguish that 39 people (55%) have Dutch nationality, followed by 8 people (11%) with Indian nationality, while the rest of the distribution consists of several other less common nationalities. In terms of age groups, most individuals (61%) fall into the category between 30 years old to 50 years old, with the mean age in the entire sample being 38 years old. For some individuals from the sample, there is no clarity about several of their demographics, like gender, age, or level of education because these persons have not provided the necessary information for this. Another key metric relates to the length of time these individuals have worked in an agile team, with 38% having spent three years or more in an agile team while the remaining 62% have spent less than three years in such an environment. The average time the respondents have worked in an agile team is 2.64 years.

The videos all have a duration that roughly falls between 35 minutes and 2 hours, resulting in an average duration of approximately 1 hour and 22 minutes per video. Due to confidentiality and proprietary reasons, a confidential agreement has been signed in advance to ensure privacy. As for the

video observations, the transcribing and encoding of the videos had already been performed for the videos. In conjunction with the surveyed data, both forms of data (video observations and quantified data) were therefore already available from the above-mentioned ING project. The surveyed data was generated by having the respondents involved complete a survey after a meeting that charts their degree of self-assessment of their EI, as well as their perceived team effectiveness.

3.4 Measures

The way the variables to be examined are measured differs per variable. In this paragraph we discuss this aspect in more depth per variable.

3.4.1 Conflict Types

Regarding our use of video observations to identify the different conflict types occurring within those videos, we used a pre-existing coding scheme (Wilderom, 2021) that has been implemented to determine the moments of verbal behavior in the video observations. This scheme was developed by the aforementioned OBCC department of the University of Twente, on which a team of researchers have worked. As for the distinction between the conflict types to be observed, various verbal behaviors of the latter coding scheme have been considered, which served as specific causes to clarify the determination of the observed conflict types. By this reasoning, the behaviors of potential conflict have been detected in the videos, and for this study have been ‘*’defending one’s own position’’*, "*giving negative feedback*", "*disagreeing*" and "*governing/correcting*". These behaviors have been mapped for our study due to the fact that they provide reasonable grounds for conflict because of the extent to which they reflect more negative-looking criticism. As a result, such behavior may constitute an attack on one's honor or reputation in a negatively perceived manner, regardless of the truth of the claim, which could give rise to a conflict (Paletz et al., 2011). These possible triggers for conflict can also be found in the article by Hoogeboom et al. (2020), where they mentioned quite similar looking verbal behaviors that can be a reason for the emergence of negative emotions. The type of conflict has been determined using the definitions of Jehn (1997), distinguishing between task conflict, relationship conflict and process conflict. Subsequently, the level of the conflict involved, as indicated by Paletz et al. (2011), has also been defined. With regard to this information, we came to the argument of using a second pre-existing coding scheme, namely that of Paletz et al. (2011), which we consider of direct relevance for this purpose. Here, a distinction is made between micro-, meso-, and macro-conflicts, where the decision was made based on how long the discussion lasts, and whether the issue had been resolved in that discussion or whether it is continued later. With regard to conflicts, we performed the function of the third coder of the observed conflict moments, meaning that two other independent coders also tried to observe these conflicts. In the event that there was a discrepancy between our own opinion and that of

the others, as to whether a moment was considered a genuine conflict or not, we have made the decision on a 2:1 majority vote.

3.4.2 Perceived Emotional Intelligence

To measure the perceived EI of team members, the 16-item Wong and Law (2002) scale has been used, where a 7-point Likert scale applied. This has been done on the basis of four variables, which most closely correspond to the dimensions of the Four Branche Model of Salovey and Mayer (1997), namely: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE) (Wong & Law, 2002). For the 16-item scale, the reliability estimate consists of an overall Cronbach's alpha of .833 (Wong & Law, 2002), indicating an excellent internal consistency. Regarding the 7-point Likert scale, the surveyed team members were asked certain questions regarding their perceived EI and the extent to which these individuals agree or disagree with a mentioned assertion.

3.4.3 Observed Emotional Intelligence

In this study, video observations have been used to measure observed EI through verbal behaviors which were already encoded according to the OBCC codebook (Wilderom, 2021). Some of these behaviors have been linked to EI both through a deductive reasoning as well as an inductive one. With regard to the inductive approach, it can be stated that we have looked at the videos where we focused on the moments where EI is observed, when there is an exchange between people. These moments have subsequently been categorized according to the 18 behaviors from the OBCC verbal behavior codebook. In this regard, we make use of Table 1 which consists of the verbal behaviors from the OCBB codebook as well as the verbal behaviors from Hoogeboom et al., (2020), divided per sub dimension of the Wong and Law scale (2002). For the verbal behaviors from Hoogeboom et al., (2020), we made a distinction between task behaviors, positive relations behaviors, and negative relations behaviors.

Table 1: Inductive EI behaviours table

	Perceiving one's own emotions (SEA)				
CMOB codebook:	4 Disagreeing	5 Agreeing	10a Giving direct/Own opinion	16 Acting listening	17 Focussed task behaviours
Hoogeboom paper:	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	7 Giving own opinion	19 Listening	XXXXXX

	Perceiving other's emotions (OEA)				
CMOB codebook:	1 Showing disinterest 2 Defending own's own	3a+3b Giving negative feedback	4 Disagreeing	5 Agreeing	7 Verifying
Hoogeboom paper:	**16 Showing disinterest** **17 Defending one's own position**	1 Providing negative task feedback	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	2 Task monitoring

CMOB codebook:	6c Governing/Interrupting	11 Giving positive feedback	14 Humour	16 Acting listening 17 Focussed task behaviours
Hoogeboom paper:	**18 Interrupting**	13 providing positive feedback	10 Individualised consideration 14 Humour	19 Listening XXXXXX

	Using one's own emotions to facilitate cognitive tasks or decisions (UOE)			
CMOB codebook:	6a Governing/Correcting	6b Governing/Delegating	9 Informing with facts	10b Giving direction/Long term
Hoogeboom paper:	3 Correcting	4 Directing	5 Informing	6. Structuring

CMOB codebook:	12a Professional challenging/ Asking for ideas	12b Professional challenging/Stimulating teamwork
Hoogeboom paper:	11 Intellectual stimulation	11 Intellectual stimulation

	Managing one's own and other's emotions (MOE)			
CMOB codebook:	2 Defending one's own position	8 Shaping the discussion	11 giving positive feedback	13a Giving positive attention/Being friendly
Hoogeboom paper:	**17 Defending own's own behaviour**	6-Structuring 12 Idealised influence	13 Providing positive feedback	10 Individualised consideration

CMOB codebook:	13b Giving positive attention/ Showing personal interest	14 Humour	15 Sharing personal information
Hoogeboom paper:	10 Individualised consideration	14 Humour	15 Giving personal information

In dark orange = Task behaviours
In light orange = Positive relations behaviour
In Bold = Negative relations behaviour
XXXX = No coded behaviour matched here

Regarding the coding of the videos, most of the coding has already been done with the help of previous students, who avoided observer bias by coding in groups of two trained observers. These observers initially coded individually before comparing the coded results. With regard to the EI of the persons that have been examined, the frequency of how often a certain behavior was observed that fitted into these four dimensions and thus relates to Emotionally Intelligent behavior has been examined. After

this, a final score per person was calculated based on the observed EI frequency. This calculation was made by averaging a person's standardized frequencies across all the meetings to be observed.

3.4.4 Team Effectiveness

For the purpose of measuring self-rated team effectiveness, the four-item survey scale of Rogelberg et al. (2006) was used, which measures the surveyed people's perception of their level of team effectiveness. This survey made use of questioning respondents about their perceived team effectiveness with questions regarding achieving (1.) their own job-related goals; (2.) their colleagues' job-related goals; (3.) their department's goals; (4.) questions about providing opportunities to obtain information and provide opportunities to network with people (Rogelberg et al., 2006). The respondents' answers were then scaled on a 5-point Likert scale, ranging from 1 (extremely ineffective) to 5 (extremely effective). For this scale, a high internal consistency is validated by Cronbach's alpha, which gives a score of .864 (Rogelberg et al., 2006). At the end, a final score for experienced team effectiveness per respondent was calculated by adding the scores of the answered questions together and then averaging it, which has been done per team to eventually get an average score per team. Regarding team effectiveness, we dichotomized this variable into "high" and "low" effective teams, meaning that we take the average score per team and subsequently split the teams into the two categories based on their scores.

3.5 Data Analysis

Following the ways of measurement, the analysis of the data has subsequently taken place, starting with viewing the transcripts, videos and the already performed coding of the videos from the 9 teams, which have been further investigated for this research. The 9 teams attended a total of 9 meetings that all took place in the retrospective phase. We chose to focus solely on the retrospective phase due to it being the last meeting where team members discuss and reflect on what has been achieved, as well as problems they encountered, where emotions are to be expected to surface more strongly (Harry, 2021). In the used videos, there are certain situations that show behaviors of potential conflict which have been reviewed in a certain time margin (one minute before and after the coded moment) around the specified moment. Following these possible conflict situations, this amount has been narrowed down towards interpreted moments of conflict that have been marked down if such a situation clearly showed disagreement between team members.

Subsequently, we examined how the 9 teams scored on both perceived EI and observed EI, as well as the other variables, to test our hypotheses. For our data analysis, we made use of the following types of analysis:

H1: For our first hypothesis, the correlation between observed EI and perceived EI, we make use of the Pearson correlation test, which measures the strength of the linear relationship between perceived EI and observed EI (Saunders et al., 2009). For this, the following assumptions have to be met: the sample should be random, the variables should be on an interval or ratio level, no relationship should already exist between the values of the variables, and there should be a normal distribution (Saunders et al., 2009). The latter assumption can be checked with a Q-Q plot. In the case of a not normally distributed sample, we make use of a Spearman's R correlation test which does not assume normality of data.

H2: With regard to the correlation of both observed and perceived EI with observed conflict, the Pearson correlation test is again to be performed regarding the beforementioned observed verbal behavioral triggers that could potentially evoke negative emotions, as well as observed EI behavior that is included in the analysis. Again, this correlation analysis has also been performed here to investigate a possible correlation between observed EI and observed moments of conflict, identifying whether a high EI in teams is associated with fewer moments of conflict. The involved assumptions are the same as with hypothesis 1.

H3: For our third hypothesis, regarding EI to be mostly shown during task or relationship conflict, we make use of a frequency analysis (descriptive frequency count) in the same way that is performed in content analysis that includes the moments of conflict from the videos as well as the EI behaviors that are present, which is performed after generating the codes. Here, the purpose is to determine whether the frequency of EI behaviors that were observed differed between the type of conflict that took place**.** Based on these differences in frequency, patterns are to be detected that lead us to determine in what way the conflict types play a role in the extent to which EI behaviors are displayed.

H4: For this hypothesis, regarding conflict duration to be shorter when EI behaviors are displayed, we again use a descriptive frequency count. Here, the observed moments of conflict are to be looked at in the beforementioned time margin of one minute before and after the specified moment, which eventually results in a table with the dimensions. It is this table that provides us per team the moments of conflict, including the duration, as well as the observed moments of behavioral triggers during the observed conflict.

H5: Due to the fact that we are exploring whether the amount of EI behaviors are overall higher for high effective teams than for low effective teams, we perform a comparative test for this hypothesis which is independent t-test. This is due to the fact that we wish to determine the values of EI behaviors per team category (high- and low effective) and see if there is a significant difference between the mean values of the two categories. For this t-test, the following assumptions have to be fulfilled: the scale of measurement should be either continuous or ordinal, the sample should be large enough (the result's

distribution has to follow a normal bell-shaped curve), the data should be randomly selected, the data should be normally distributed, and the data should have a homogeneity of variance (the standard deviations of the samples should be approximately equal (Saunders et al., 2009). As in hypothesis 1, we test the assumption of normal distribution again by a Q-Q plot. Should this assumption not be met, we perform a non-parametric test instead which is the Welch Test.

H6: Lastly, for looking into whether high effective teams show overall less moments of conflict than low effective teams, an independent t-test is conducted for furnishing an improved understanding of how team effectiveness may be influenced by moments of intragroup conflict. This test is the same comparative test as in hypothesis 5, meaning that the same assumptions have to be fulfilled here too. The results serve as an examination to determine the disparity between teams with high- and low effective teams based on their mean of conflict situations.

4. Results

In this chapter, the results of our research analysis are discussed where we review the findings per hypothesis. To begin with, we discuss some descriptive statistical variables needed to gain understanding for the subsequent separate hypotheses. First, the findings of the videos were processed in which the observed moments of EI were noted. These moments of EI were then added together to get a total frequency per team, whereby a division was also made based on the four subdimensions of EI (Wong & Law, 2002). These data regarding the moments of EI are then standardized on the basis of its frequency. Next, the 9 teams were divided into two groups based on their mean score of perceived EI per team, which emerged from the surveyed data, namely High EI and Low EI, which is used to test how EI manifests itself regarding the type of conflict as well as the duration of the conflict. Subsequently, the 9 teams were again divided into two groups, where this time they were divided based on their mean score of perceived meeting effectiveness (ME) per team, which emerged from the survey data, namely ME high and ME low, that is used to test whether observed EI and observed conflict have an influence on team effectiveness.

As shown in Chapter 2, we have developed six hypotheses where the first and second can be said to have similarity due to the fact that we want to test both with a correlation analysis, the third and fourth hypotheses have similarities because they both relate to conflicts and are tested with a descriptive frequency count, and the fifth and sixth have similarities in the sense that both relate to team effectiveness and are tested by a t-test. Due to this, we decided to divide the results section into three parts, namely: the frequencies and the correlation analyses for H1 and H2 from the qualitative data, the conflict part with the descriptive frequency counts for H3 and H4, and lastly the part regarding team effectiveness with the corresponding t-tests for H5 and H6.

In the following paragraph, the frequencies as well as the correlation analyses of the first two hypotheses are presented, where they are performed and tested. This is followed by the paragraphs regarding the descriptive frequency counts and finally the additional t-tests.

4.1 Correlation Analyses

4.1.1 Descriptive Statistics

In the 9 retrospective meetings analysed in this study, a total amount of 427 observed moments of EI was eventually discovered. Within our sample, there have been three people who were unable to provide any input in our study, meaning no moments of EI were observed. For this reason, it was decided to remove these three individuals from the dataset, bringing the final total sample size to 68.

As mentioned earlier, our research follows a mixed-method design, wherefore we use the inductive approach in the qualitative part of our analysis, for which we used the OBCC codebook of verbal behaviours (Wilderom, 2021). After processing the videos, it appeared that all but one verbal behaviours (null behaviour) were actually related to EI and all of which can be placed in at least one of the four subdimensions. In this regard, we developed the deductive Table 2, in the same fashion as the beforementioned inductive Table 1 which consists of the verbal behaviors from the OCBB codebook as well as the verbal behaviors from Hoogeboom et al., (2020), divided per sub dimension of the Wong and Law scale (2002). Again, for the verbal behaviors from Hoogeboom et al., (2020), we made a distinction between task behaviors, positive relations behaviors, and negative relations behaviors.

Table 2: Deductive EI behaviours table

Perceiving one's own emotions (SEA)

CMOB codebook:	1. Showing disinterest	2. Defending one's own position	3. Giving negative feedback	4. Disagreeing	5. Agreeing	6a. Governing/ Correcting	6c. Governing/ Interrupting	7. Verifying	8. Shaping the discussion
Hoogeboom paper:	**16 Showing disinterest**	**17 Defending one's own position**	1 Providing negative task feedback	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	3 Correcting	18 Interrupting	2 Task monitoring	6-Structuring 12 Idealised influence

CMOB codebook:	9. Informing with facts	10a. Giving direction/ Own opinion	11. Giving positive feedback	12a. Professional challenging/ Asking for ideas	14. Humour	15. Sharing personal information	16. Active listening	17. Focussed task behaviour
Hoogeboom paper:	5 Informing	7 Giving own opinion	13 providing positive feedback	11 Intellectual stimulation	14 Humour	15 Giving personal information	19 Listening	XXXXXX

Perceiving other's emotions (OEA)

CMOB codebook:	1. Showing disinterest	2. Defending one's own position	3. Giving negative feedback	4. Disagreeing	5. Agreeing	6a. Governing/ Correcting	6c. Governing/ Interrupting	7. Verifying	8. Shaping the discussion
Hoogeboom paper:	**16 Showing disinterest**	**17 Defending one's own position**	1 Providing negative task feedback	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	3 Correcting	18 Interrupting	2 Task monitoring	6-Structuring 12 Idealised influence

CMOB codebook:	9. Informing with facts	10a. Giving direction/ Own opinion	11. Giving positive feedback	12a. Professional challenging/ Asking for ideas	12b. Professional challenging/ Stimulating teamwork	13a. Giving positive attention/ Being friendly	13b. Giving positive attention/ Showing personal interest	16. Active listening
Hoogeboom paper:	5 Informing	7 Giving own opinion	13 providing positive feedback	11 Intellectual stimulation	11 Intellectual stimulation	10 Individualised consideration	10 Individualised consideration	19 Listening

Using one's own emotions to facilitate cognitive tasks or decisions (UOE)

CMOB codebook:	1. Showing disinterest	2. Defending one's own position	3. Giving negative feedback	4. Disagreeing	5. Agreeing	6a. Governing/ Correcting	6b. Governing/ Delegating	6c. Governing/ Interrupting	7. Verifying
Hoogeboom paper:	**16 Showing disinterest**	**17 Defending one's own position**	1 Providing negative task feedback	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	3 Correcting	4 Directing	18 Interrupting	2 Task monitoring

CMOB codebook:	8. Shaping the discussion	9. Informing with facts	10a. Giving direction/ Own opinion	10b. Giving direction/ Long term	11. Giving positive feedback	12b. Professional challenging/ Stimulating teamwork	13a. Giving positive attention/ Being friendly	14. Humour	16. Active listening
Hoogeboom paper:	6-Structuring 12 Idealised influence	5 Informing	7 Giving own opinion	6. Structuring	13 providing positive feedback	11 Intellectual stimulation	10 Individualised consideration	14 Humour	19 Listening

Managing one's own and other's emotions (MOE)

CMOB codebook:	1. Showing disinterest	2. Defending one's own position	3. Giving negative feedback	4. Disagreeing	5. Agreeing	6a. Governing/ Correcting	6c. Governing/ Interrupting	7. Verifying	8. Shaping the discussion	9. Informing with facts
Hoogeboom paper:	**16 Showing disinterest**	**17 Defending one's own position**	1 Providing negative task feedback	9 Disagreeing on task-related matters	8 Agreeing on task-related matters	3 Correcting	18 Interrupting	2 Task monitoring	6-Structuring 12 Idealised influence	5 Informing

CMOB codebook:	10a. Giving direction/ Own opinion	10b. Giving direction/ Long term	11. Giving positive feedback	12a. Professional challenging/ Asking for ideas	13a. Giving positive attention/ Being friendly	14. Humour	15. Sharing personal information	16. Active listening	17. Focussed task behaviour
Hoogeboom paper:	7 Giving own opinion	6. Structuring	13 providing positive feedback	11 Intellectual stimulation	10 Individualised consideration	14 Humour	15 Giving personal information	19 Listening	XXXXXX

In dark orange = Task behaviours
In light orange = Positive relations behaviour
In Bold = Negative relations behaviour
XXXX = No coded behaviour matched here

In Appendix A, a descriptive overview can be found regarding the most important statistical units on the individual level as well as on team level regarding the observed EI data, namely the standard distribution, skewness and kurtosis, from which it can be quickly concluded that not all variables have a normal distribution. When looking at the individual level, it can be seen that all variables but SEA and the survey based EI, have a non-normal distribution of the data which is noticeable due to the rather high skewness as well as the high kurtosis. We see for example that the subdimension OEA has a very high skewness of 1.94 (SE = -.464) and an even higher kurtosis of 4.08 (SE = .902). In addition, the Shapiro-Wilk test as well as histograms were checked that confirmed the high skewness and kurtosis and therefore the non-normal distribution of the data.

Furthermore, Table 3 shows the frequencies per team discussed earlier in this chapter, including the frequencies calculated after standardization of the data. A distribution per subdimension has also been provided for. Here, a number of things can be noted from this table, whereby the first comment should be placed with team 7, which shows the most moments of EI (N = 91 *f* = .213) of all teams and also has the highest frequency within the dimensions OEA (N = 23, *f* = . 054) and UOE (N = 46, *f* = .108). It should also be noted that team 6 shows the other end of the spectrum with the lowest total moments of EI (N = 20, *f* = .047), as well as the lowest observed moments of EI within each of the dimensions.

Table 3: Observed EI frequencies per team and per dimension (N = not standardized; *f* = standardized)

Team		EI Total	EI (SEA)	EI (OEA)	EI (UOE)	EI (MOE)
1	*N*	40	11	6	15	8
	f	*.094*	*.026*	*.014*	*.035*	*.019*
2	*N*	54	16	8	11	19
	f	*.126*	*.037*	*.019*	*.026*	*.044*
3	*N*	49	18	2	22	7
	f	*.115*	*.042*	*.005*	*.052*	*.016*
4	*N*	37	10	6	13	8
	f	*.087*	*.023*	*.014*	*.030*	*.019*
6	*N*	20	4	2	10	4
	f	*.047*	*.009*	*.005*	*.023*	*.009*
7	*N*	91	14	23	46	8
	f	*.213*	*.033*	*.054*	*.108*	*.019*
8	*N*	56	23	6	15	12
	f	*.131*	*.054*	*.014*	*.035*	*.028*
12	*N*	44	4	5	16	19
	f	*.103*	*.009*	*.012*	*.037*	*.044*
14	*N*	36	10	6	14	6
	f	*.084*	*.023*	*.014*	*.033*	*.014*
Total		427	110	64	162	91

Green circle: Highest frequency for EI Total
Red circle: Lowest frequency for EI Total

4.1.2 Observed EI, Perceived EI, and Conflict

Following Table 3, Table 4 and 5 show more detailed properties of the variables to be examined, as well as the results of the correlation analysis between observed EI and perceived EI (Table 4) and the correlation analysis regarding observed EI and perceived EI with observed conflict (Table 5).

In Table 5, the data is standardized by frequency where it can be seen that the total observed EI has a mean of .021, with a kurtosis of 4.75 (SE = .695) as well as a skewness of 1.93 (SE = .354), implying that for this variable the data is not normally distributed. The opposite can be concluded regarded the variable EI Survey, which carries a mean of 5.38, with a kurtosis of .001 (SE = .586) as well as a skewness of .067 (SE = .297), which implies that the data is more normally distributed for this variable. With regard to the latter variable, whose data is based on surveys and thus takes a look at someone's self-assessed degree of EI, its measurement has taken place once, namely before the first of three meetings. However, because there were a number of respondents who were not present at that first meeting, they were also unable to provide input. We do have to keep in mind that since our research only focuses on the retrospective phase, in other words the third and last meeting, we came to the notice that there were a number of these respondents who, in addition to being unable to provide any input in the survey, also happened to not have been able to give any input regarding the observed EI in the videos.

That is why it was decided to remove these individuals from the dataset, which related to the three individuals mentioned at the beginning of this chapter that were excluded already, and thus maintain the total sample size of 68. The remainder of the variables show a non-normal distribution from which it can be concluded that the assumption of a normal distribution of the data is not met, demonstrating that the Spearman's R should be used for the correlation analyses.

When looking at Table 4, we see the results of the correlation analysis of H1, where observed EI is correlated with perceived EI. This correlation shows a weakly negative but not significant correlation for the minimum alpha value of 0.05, between the total observed EI and the surveyed EI, $r(41) = -.292$, $p = .058$. This also applies to the subdimensions, where the correlation with surveyed EI is constantly negative throughout all subdimensions (except subdimension MOE), where the not significant result remains strongly present, pushing us to the conclusion that *hypothesis 1* is not supported.

Table 4: Correlation Analyses regarding observed EI and perceived EI

	n	M	SD	1	2	3	4	5
1. Observed EI	45	.021	.019					
2. SEA	31	.031	.021	.671**				
3. OEA	25	.030	.019	.565**	.232			
4. UOE	33	.023	.021	.839**	.218	.718**		
5. MOE	35	.025	.020	.424*	.266	.129	.201	
6. Survey EI	65	5.383	.604	-.292	-.233	-.065	-.226	.016

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Subsequently, to test H2a/H2b, the total observed EI and perceived EI were correlated with the total observed conflicts to demonstrate the relationship between them, based on a Spearman's R correlation analysis. The results at the bottom of Table 5, show that the total observed EI has a weak positive correlation with observed conflict, where the high *p*-value indicates the result is not significant, of $r(6) = .310$, $p = .456$. In fact, this also applies to the subdimensions, where the results are also not significant. An exception is the subdimension SEA, which is the only variable to show a negative correlation which again, is not significant, of $r(6) = -.168$, $p = .691$. Hence. this shows that there is insufficient evidence that observed EI has a negative correlation with observed conflict, therefore *hypothesis 2a* is not supported.

In the same fashion, we want to test the correlation of hypothesis 2b in the same table, where this time we see again a positive correlation which is also not significant, $r(6) = .371$, $p = .365$. Hence, there is insufficient evidence to establish that perceived EI has a negative correlation with observed conflict, which ultimately means that *hypothesis 2b* is not supported as well.

Table 5: Descriptive and Correlation Analyses regarding observed EI, perceived EI, and observed conflict

		Observed EI Total	EI SEA	EI OEA	EI UOE	EI MOE	EI Survey
	M	.021	.031	.030	.023	.025	5.383
	SD	.019	.021	.019	.021	.020	.604
	Skewness	1.925	.915	1.941	1.376	1.247	.067
	Kurtosis	4.753	.109	4.076	1.125	1.225	.001
Obs. Conflict	Spearman's	.310	-.168	.211	.530	.487	.371

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.2 Frequency Counts

This section explores the relationship between observed EI with the different conflict properties as developed in hypotheses 3 and 4, namely the duration of the conflict as well as the type of conflict. As discussed in Chapter 3, there are four verbal behaviours that serve as potential triggers for possible conflicts within teams, namely: *defending one's own position*, *giving negative feedback*, *disagreeing*, and *governing/correcting*. On the basis of these four potential triggers for intragroup conflicts, all possible situations of intragroup conflicts in the videos were examined and also assessed whether there was actually a conflict or not. If there was indeed a conflict noticed, the type of conflict was determined as well as the duration of the conflict. Here, from all potential conflict situations, a total of 63 verbal behaviours were eventually discovered that were indeed assessed as potential triggers of intragroup conflicts within the videos used, which in turn resulted in a total number of 14 actual conflicts. Based on these 14 intragroup conflicts, a distinction can be made in the fact that most (N = 10) were regarded as task conflicts, three were observed as process conflicts, and ultimately only one relationship conflict was determined.

Furthermore, with regard to our research results, it can be noted that from these 14 situations of conflict, the majority (N = 12) consisted of micro conflicts, and the other two conflict situations consist of meso conflicts, meaning there were no macro conflicts detected at all. The discussed details in the field of intragroup conflicts can be seen in Table 6, where the frequencies per potential behavioural trigger, the type of conflict, as well as the duration of the conflict are recapitulated. In the table, a distinction is also made regarding the amount of perceived EI per team, with the four teams with the highest mean score of perceived EI being placed in the ‘‘EI High” section, while the other five teams that showed the lowest mean score of perceived EI are being placed in the ‘‘EI Low” section, for the aim of answering hypotheses 3 and 4 in a visually easily understandable way.

Table 6: Differences regarding conflicts between Perc. High EI teams and Perc. Low EI teams

	Division based on ***perceived*** EI										
	Perc. EI High					Perc. EI Low					
Team	**1**	**2**	**4**	**12**	**Total EI High**	**3**	**6**	**7**	**8**	**14**	**Total EI Low**
Negative feedback		7		7	14				1		1
Defending own position		19		4	23			5	2		7
Directing/ Correcting		2		3	5						
Disagreeing		5		6	11			1	1		2
Task conflict		3		5	8				2		2
Relationship conflict								1			1
Process conflict		2			2			1			1
Micro conflict		4		5	9			1	2		3
Meso conflict		1			1			1			1
Macro conflict											

4.2.1 EI In Relation with Potential Behavioral Triggers

Looking at Table 6, one comes steadily to the conclusion that the teams with the highest degree of perceived EI (1, 2, 4, and 12) in total also see the most potential behavioural triggers (N = 53) that have led to a conflict situation. At the other end of the spectrum, the five teams that scored the lowest on perceived EI (3, 6, 7, 8, and 14) show a total of 10 potential behavioural triggers that have led to conflicts.

Following this information, it can also be considered that teams with High EI have four times as many task conflicts in total compared to the Low EI teams. Furthermore, it is remarkable that two process conflicts were detected in the High EI teams compared to one process conflict as well as one relationship conflict in the Low EI teams, whilst the latter type of conflict was not detected at all in the High EI teams. Since the presence of EI behaviours was not noticeably different around the various noted conflict types, it does not show us from the videos that EI behaviours are mostly shown necessarily during task conflicts or relationship conflicts rather than process conflict. Hence, this leads us to conclude that, based on this information, insufficient evidence has been provided for accepting our suggested association, and thus *hypothesis 3* is not supported.

When we take a closer look at the actual conflicts, we also see that the High EI teams show more micro conflicts (9 micro conflicts) and the same number of meso conflicts (1 meso conflict) compared to teams with a low EI (3 micro conflicts and 1 meso conflict). However, an important addition must be made to this, namely that the average standardized conflict duration of the High EI group was .025, while this average for the Low EI group was .024 indicating that even though High EI teams showed

more conflict, the standardized average duration is almost similar. Furthermore, it turned out that if there was a conflict noticeable in the videos, followed by EI behaviours that were shown by team members, this shortened the conflict considerably, resulting in the conflict lasting little time (i.e., it is a micro conflict). Despite the fact that the number of actual conflicts in the Low EI teams still fall mainly into the micro conflict category and this number is even much less than for the High EI teams, it can still be concluded that on the basis of our data there is sufficient evidence that when EI behaviours are displayed, conflict duration is shorter. The average duration of a conflict for High EI teams has been kept short enough to be comparable with that of the Low EI teams, even though the difference in total number of conflicts is still 10:4 for the High EI teams, which makes us realize that *hypothesis 4* is supported.

Table 7: Differences regarding conflicts between Obs. High EI teams and Obs. Low EI teams

	Division based on ***observed*** EI										
	Obs. EI High					Obs. EI Low					
Team	**2**	**3**	**7**	**8**	**Total EI High**	**1**	**4**	**6**	**12**	**14**	**Total EI Low**
Negative feedback	7			1	8				7		7
Defending own position	19		5	2	26				4		4
Directing/ Correcting	2				2				3		3
Disagreeing	5		1	1	7				6		6
Task conflict	3			2	5				5		5
Relationship conflict	0		1		1						
Process conflict	2		1		3						
Micro conflict	4		1	2	7				5		5
Meso conflict	1		1		2						
Macro conflict											

In the same way, we tried to make a similar table where a distinction is made based on the mean score of observed EI per team, rather than perceived EI, which can be found in Table 7. Looking at Table 7, we notice that only teams 2, 6, and 14 stayed in the same group, whereas all other teams switched groups, indicating again that perceived EI and observed EI differ strongly from each other and which could perhaps confirm the negative and not significant results from hypothesis 1. When we take a closer look at the actual conflicts here, we also see that the High EI teams still show more micro conflicts (7 micro conflicts) while showing more meso conflicts (2 meso conflicts) than teams with a low EI (5 micro conflicts and 0 meso conflicts). Here, an important addition can be made that differs more strongly from the previous table (Table 6), namely that the average standardized conflict duration of the High EI group is now .45, while this average for the Low EI group is now .55, indicating that,

when identifying groups based on observed EI, High EI teams show very clearly a shorter conflict duration than Low EI teams. Besides this, in this table overall, the same results are noticeable compared to Table 6 where it can still be considered that teams with Low EI still do not prevail in the frequency of task or relationship conflicts compared to High EI teams, where the latter have just as many task conflicts in total as the former. Furthermore, it is surprising that three process conflicts were detected in the High EI teams as well as one relationship conflict, whilst these types of conflicts were not detected at all in the Low EI teams. Hence, these results confirm in fact what Table 6 has shown, namely that H3 is not supported whilst H4 is, with the results of the latter hypothesis in Table 7 appearing to be stronger.

4.2.2 Additional Findings

Apart from these results, there are some very interesting remarks regarding the conflicts found, where an important remark can be made about the behavioural triggers of the conflict. These behavioural triggers are based in large part on negative feedback, which was often accompanied by behaviour that was observed as EI, in both Low EI teams and High EI teams. Here, it is important to note that in such cases where negative feedback was associated with EI behaviour, it was especially EI behaviour which fell into the SEA category because the person in question expressed the negative feedback from his own point of view by presenting it in the form of expressing a personal opinion. This caused the others in the team to seem to take this as an opinion and not as a direct attack that actually prevented conflict from growing.

Furthermore, data shows that concerning task conflicts as well as process conflicts, those partly involved a meso conflict with a duration of several minutes, in which various verbal behaviours, observed as EI behaviours, occurred around the conflict several times, implying again, the reason for rejecting hypothesis 3. The same also applies to the relationship conflict observed only once (Team 7), where it is important to note that the severity of the behavioural triggers and the hardness of the tense situation have a major influence on whether or not a relationship conflict occurs. In this case, this resulted in an already tense situation created by F1, in which emotions escalated into a more aggressive body language with F1 leaning over, looking more and more irritated and pointing in a strong manner at F5, which was followed by trying to regulate emotions. This was then responded to by F7 by trying to calm the mood down by finding and building on common points of contact and bringing the team members more together.

As shown before, High EI teams have on average more conflicts compared to the Low EI Teams, where the former shows the highest number of task conflicts and micro conflicts in a single team (Team 12), however, the duration of the conflicts in the High EI group has nevertheless been kept short. In addition, it has also been noticed that outside of the conflicts mentioned here, when negative feedback was observed and accompanied with moments of EI, this largely did not lead to an actual conflict, while

a situation where very strong feedback was given this often resulted in a tense situation which eventually led to a relationship conflict and moments of EI which regulated emotions.

4.3 T-Tests Regarding Team Effectiveness

This section examines the relationship between team meeting effectiveness (ME) with both observed EI as well as observed conflict as developed in hypothesis 5 and 6, i.e., whether high effective teams show overall more EI behaviours than low effective teams and whether high effective teams show overall less observed conflict than low effective teams. This is presented by means of a t-test for the purpose of clarifying these relationships wherefore a number of assumptions exist that have to be met before starting the test and actually performing it.

Table 8: Levene's test regarding ME

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Individual level	EI Total	4.329	1	43	.043
	SEA	3.157	1	29	.086
	OEA	3.525	1	23	.073
	UOE	6.453	1	31	.016
	MOE	.086	1	33	.771
	Conflict	2.568	1	9	.144
Team level	EI Total	.467	1	7	.516
	SEA	3.097	1	7	.122
	OEA	2.053	1	7	.195
	UOE	2.112	1	7	.189
	MOE	7.295	1	7	.031
	Conflict	.[a]	-	-	-

a. Levene's Test of Equality of Error Variances is not computed because there are less than two nonempty groups.

The assumption of equal variance was examined using a Levene's test, of which the results can be found in Table 8. After checking this assumption, it appeared that we cannot entirely speak of equal variances for the variables of hypothesis 5 since the variable observed EI Total and the subdimension UOE do show a significant result from the Levene's test indicating that these two variables do not have an equal variance at the individual level, where that is not the case for the other subdimensions. The opposite concerns hypothesis 6, where the variable observed conflict does show a not significant result at the individual level in the Levene's test, indicating an equal variance, meaning that only for hypothesis 6 a t-test is sufficient at the individual level. However, regarding the latter hypothesis, the other assumption of a normal distribution of the data is still violated in the data of both hypotheses, as was

also stated earlier, for which we are forced to use an alternative test which takes the form of the Welch test to determine the differences between the means of the two groups (ME high and ME low).

Table 9: Welch test regarding ME

Observed EI and Conflict Differentiated between ME High and ME Low

		ME High vs ME Low	Mean	SD	Std. Err	p-value (Welch test)
Individual level	EI	ME High	.025	.023	.005	.518
		ME Low	.019	.011	.003	
	SEA	ME High	.028	.018	.005	.507
		ME Low	.033	.024	.006	
	OEA	ME High	.034	.023	.006	.245
		ME Low	.025	.008	.003	
	UOE	ME High	.029	.026	.006	.595
		ME Low	.025	.014	.004	
	MOE	ME High	.026	.021	.005	.887
		ME Low	.025	.018	.005	
	Conflict	ME High	.052	.062	.022	.293
		ME Low	.011	.005	.003	
Team level	EI	ME High	.016	.008	.004	.733
		ME Low	.014	.005	.003	
	SEA	ME High	.026	.011	.005	.549
		ME Low	.032	.020	.010	
	OEA	ME High	.023	.018	.008	.201
		ME Low	.010	.005	.003	
	UOE	ME High	.048	.034	.015	.512
		ME Low	.036	.012	.006	
	MOE	ME High	.029	.014	.006	.174
		ME Low	.017	.008	.004	
	Conflict	ME High	.017	.010	.006	.394
		ME Low	.005	-	-	

The highly effective teams (ME high) are teams 1, 2, 4, 7, and 12, while the low effective teams (ME low) are teams 3, 6, 8, and 14, where the cut-off point was based on the mean ME per team. The results of the Welch test, which are standardized by frequency, can be found in Table 9, where it can be seen that the results do not show any significant difference between high effective teams and low effective teams for the minimum alpha value of 0.05. A similar test was performed at the team level to map out whether other results would emerge there, which can be found in the lower part of Table 9. However, those results also allow us to detect their insignificance which makes us determined that the mean values of the level of EI and the level of conflict between the ME High group and the ME Low group are not significantly different and therefore *hypotheses 5* and *hypothesis 6* are both not supported.

5. Discussion

Our research aimed to answer the following research question: ‘’***How does team members’ observed EI relate to observed intragroup conflict and team effectiveness in agile teams?’’.*** We attempted to

conduct this research using a mixed-method approach where we used and analysed both qualitative and quantitative data wherefore we discuss the theoretical and practical implications of this thesis below.

5.1 Theoretical Implications

5.1.1 Video observations

Our theoretical contributions of this study are twofold. Firstly, we base our findings on using video observations to explore EI, which has not been applied before and which several studies have called for (Zhao et al., 2019; Dasborough et al., 2021). More specifically, from the video observations, it turned out that there was no significant positive relation observed between surveyed EI of team members and observed EI, standardized at the individual level. This finding shows that a person's personal self-image of his or her degree of EI is unlikely to correspond sufficiently with a person's actual degree of EI as observed by third parties, confirming previous studies (Zhao et al., 2019). Studies like Zhao et al. (2019) have pointed out that a person's degree of observed EI does not necessarily hold up to the same person's degree of self-rated survey-based EI due to a focus on surveyed data revealing the underlying issue that it can cause an over-reliance on inferences derived from one single type of measurement (Dasborough et al., 2021). In this regard, we can discuss the possibility whether observed EI can be seen as a more significant variable compared to perceived EI because the former may increase the probability of a better representation of one's true degree of EI compared to surveyed EI as argued in Dasborough et al. (2021). In their research, the authors noted that alternative methods for capturing EI (e.g., video observations based on verbal behaviours) can lead to more qualitatively valid results (Dasborough et al., 2021). Perceived EI may reveal problems related to and arising from the use of questionnaires as a way of assessing EI in individuals, resulting in a high degree of self-reflection to be required from team members (Hoogeboom et al., 2021). This also offers the possibility that these individuals are more likely to give answers that are in line with their own opinion of themselves, rather than showing their true self-reflection in relation to their degree of EI, with the disadvantage of inducing insufficient validity (Dasborough et al., 2021). In effect, this information tells us that individuals are generally insufficiently adept at assessing their own degree of EI, which may serve as a potential explanation for the fact that in our study, observed EI and perceived EI, albeit not significant, had negative correlations and are therefore not actually related to each other in our sample. This can be extended to team effectiveness as well, where Stephen and Carmeli (2016) noted that EI can have a positive influence on team effectiveness, helping a team achieve its goals. Although our research has not been able to confirm this, we should not forget that team effectiveness was also measured through the use of surveys, where, just like with perceived EI, a high degree of self-reflection is requested from those surveyed, implying that the answers may not be in line with a team’s actual meeting effectiveness and thus casting doubt on its validity, wherefore we could fall back on the previously discussed criticism regarding queried data (Hoogeboom et al., 2021).

5.1.2 Additional factors regarding our results

Secondly, our subsequent contribution concerns the fact that we portray agile management, EI, conflict management, and team effectiveness simultaneously in one single study to see how they influence each other when combined. It can be recognized in this regard that our results again leave big question marks open about how the results could have looked in a different setting or taking into account other factors. This leads us to conclude that observed EI still remains a variable in which its relationship with conflict management has not yet been sufficiently researched to date (Salovey & Mayer, 1990; Ayoko et al. 2008). To our surprise, our analysis showed that both observed EI and perceived EI not only contain a not significant correlation with observed conflict, but also that the coefficients remain positive, indicating that the relationship between the variables might even be positive in our sample. On the other hand, it turned out that only the SEA subdimension did show a weak negative correlation with observed conflict, albeit still not significant. This is contradictory to what Jordan and Troth (2004) argued, namely that people with high EI are better able to understand the motives of others during conflict and ensure that their own emotions are regulated as desired, and thus, indicating that EI is negatively related to intragroup conflict (Jordan & Throth, 2004). Building on this, our non-significant results were contrary to what existing literature suggests, namely that high emotionally intelligent individuals have a better adaptive power and perception for taking on more difficult tasks, which can result in EI being mostly shown during task conflicts (Clarke, 2010), that high emotionally intelligent teams are better able to enjoy higher team effectiveness (Greenidge et al., 2014), and that EI could lessen the extent to which conflicts arise, while on the other hand improving team effectiveness (De Dreu & Weingart, 2003).

Nevertheless, our qualitative findings point to the fact that EI behaviours follow moments of conflict wherefore it appeared that the former were able to make conflicts shorter in general. Observed High EI teams show on average a shorter standardized duration of conflict compared to observed Low EI teams, confirming the theory of Schlaerth et al. (2013), who argued that high emotionally intelligent individuals are better able to deal with stress more efficiently and thus to perform better, which could shorten conflict duration (Schlaerth et al., 2013). Regarding conflict management, we believe that we still need to keep in mind that merely two out of the five perceived Low EI teams actually showed conflicts against two out of the four perceived High EI teams, which is why we propose a larger sample size for future explorations where conflicts are more widespread in the teams of the dataset. As a result, there is a possibility that observed EI reveals itself in a different way in such conflict situations (Clarke, 2010), for instance by being negatively correlated with EI. It might be that a better distribution of observed EI within the different subdimensions can also be considered as a condition in order to better put into perspective how the effect of observed EI interacts with observed conflict as well as perceived EI.

Along this line, Ashkanasy and Hooper (1999) had already discovered that being able to display positive emotions increases the likelihood of success in the workplace, meaning that EI is strongly associated with team effectiveness. However, our results showed that the most frequently observed EI moments are based on neutral verbal behaviours (i.e., giving direction/own opinion, active listening, verifying, and informing with facts), followed by more negative verbal behaviours (i.e., governing/interrupting, giving negative feedback, and disagreeing), which means that the more positive verbal behaviours (i.e., humour, agreeing, and giving positive feedback) show the lowest frequencies. This could mean that the positive climate considered important for increasing team effectiveness has in our sample often been under pressure and therefore has not displayed overall a significantly higher EI in High effective teams than in Low effective teams. Based on our results that show EI behaviours to follow moments of conflict, we could make the suggestion that EI can be used in relation to negative situations due to EI behaviours really emerging when the situation is taking a negative turn, and therefore ultimately could potentially contribute to creating a positive climate that could improve team effectiveness (Ashkanasy & Hooper, 1999).

5.1.3 Subdimensions of EI

Furthermore, the EI subdimensions show interesting insights. For instance, SEA and UOE show the highest total frequencies relative to OEA and MOE. It was observed in the videos that team members often tend to talk through the I-form instead of the you-form when emotions are recognized in people without trying to direct someone, which explains the higher total frequency in the SEA subdimension compared to the relatively low total frequency in the OEA subdimension. This correspond with the finding of Bonelli (1992) that has shown that there appears to be a certain connection between the form and the function of the made expression, indicating that the message people often deduce can be regarded to as actually being a property of language itself and should therefore be analysed as the focus on the person's participation status, as reflected in his choice of personal and non-verbal communication (Bonelli, 1992). Furthermore, team members also show that task-related forms of verbal behaviours are often used to steer the team in a direction that the person in question wants, which explains the high frequency in the subdimension UOE and corresponds with Mayer et al. (2008), who stated that EI involves complex information processing about one’s own and others’ emotions to direct people’s way of thinking and acting.

In general, we believe that the specific agile context of our sample may have influenced conflicts and the manifestation of EI due to the uncertain environment and short timeframe to deliver results, often leading to high arduous efforts and the arousal of different kinds of emotions (Alhubaishy & Benedicenti, 2017), while we believe the agile context has ensured that EI lends itself very well in such cases, because it has brought team members closer together in moments of conflict by encouraging collaboration based on their superior conflict resolution skills (Jordan & Troth, 2002). Following this,

our findings show that individuals in agile teams who ostensibly show they want to find a quick solution, often do this by expressing emotions within themselves (SEA) while people who want to realize solid long-term solutions put more effort into work by actually trying to steer the team to their liking through higher EI subdimensions (UOE and MOE). This corresponds to the cascading model argued by Joseph and Newman (2010), which tells us that EI is related to performance when jobs require high emotional labour, while the opposite holds for jobs that require low emotional labour (Joseph & Newman, 2010), indicating that the level of the subdimension of EI to be used increases as the importance of the discussion in the meeting increases. From this, it can be deduced that an individual who attaches great importance to what is discussed in a meeting shows a more ardent desire to make more effort to call a higher subdimension of EI into play, for example via the verbal behaviour *"Professional challenging"* or *"Giving positive attention"* with the aim of trying to regulate other people's emotions and steer the situation in a desired direction (Mayer et al. 2008; Joseph & Newman, 2010). On the other hand, we have the individual who attaches less importance to a situation, which leads to this person, if EI is observed, often performing it according to the lower subdimensions of SEA and OEA. This could lead to the lower subdimensions of EI being more likely to be associated with more tense situations, since the persons who end up in conflicts often seem to do so through the lower subdimensions SEA and OEA. If there were team members who tried to calm the situation, it was mainly performed through the higher subdimensions UOE and MOE, which in fact confirms the theory of Jordan and Throth (2004) who stated that individuals with a high EI are better able to understand the motives and views of others during conflict and ensure that their own emotions are regulated as desired, reducing their experience of unpleasant emotions during their work, which may again be a possible explanation for the shorter average conflict duration in observed High EI teams.

As discussed earlier, it can be argued that the lower subdimensions of EI are associated with deeming a situation less important by its team members. This could also indicate that Low EI teams got through the situations less controlled where it was also less easy to decrease tensions. Our results show that observed High EI teams experienced well-controlled and calm conflicts, whilst the opposite was mostly the case with observed low EI teams which showed more firmer language being featured in conflicts. These remarks could open the door to suggestions that EI does appear to play a role in keeping a conflict short and steering it into the desired direction, by reducing stress levels during the conflict (Schlaerth et al., 2013; Greenidge et al. al., 2014). The combination of the presence of EI with a verbal behaviour that is linked to conflict determines the further course of a conflict, whereby, among other things, a negative verbal behaviour usually did not have to lead to conflict when the conflict is surrounded with EI behaviour, while this was less the case when deeming EI less prominent in a given situation, which for example was the case in the only discovered relationship conflict in our sample. Although the latter took place in an observed High EI team (Team 7), the moment of the conflict itself was hardly surrounded by EI behaviour, which was followed a few minutes later by a different team

member who endeavoured to calm the mood by attempting to regulate other people's emotions such as with ‘'*Professional challenging*". Here, we refer to the study of Fallon et al. (2014), which showed that a higher EI is related to the acquisition of more information in the meeting regardless of the feedback condition, and that EI has a motivational component that includes and can support both social and non-social stimuli to ease a situation. This theory actually shows that applying EI in the right way when negative-looking criticism occurs, can influence the reactions of others and thereby reduce conflicts (Fallon, 2014).

5.2 Practical Implications

Based on what has been discussed until here, we can summarize that our research does make some practical contributions to existing literature, namely that the importance of EI within organizations and specifically within agile teams offers added value where organizations also have to recognize the importance of EI. It has already been discussed that observed High EI teams generally came through the meetings in a more structured and cohesive way than Low EI teams, whereby conflict situations also seemed to be dealt with better in general, meaning that EI appears to create a more controlled reaction when negative verbal behaviours were vented which is also what should be brought up in the training of employees, where efforts should be made to improve such among employees. This is what we emphasize strongly in our research as negative verbal behaviours can be better responded to and also be better expressed in a more subtle and less offensive way, which means that the combination of EI with negative verbal behaviours leads to a lesser possible escalation of a conflict. Indeed, it does become clear that EI, especially the higher subdimensions UOE and MOE, seem to play a major role in shortening and managing conflicts as well as achieving the collective goals of a team (Schlaerth et al., 2013). Following on from these findings, we emphasize the importance of improving EI in team members. As Mayer et al. (2008) stated that they believe EI is an ability and can be trained in humans, we are therefore directing our message to managers who should take the lead to reflect on the importance of EI in team dynamics and to create and promote a contemporary awareness of the key role of emotions in an agile environment. The practicality of stirring up team member’s EI can be achieved in two ways, where the first relates to the selection of existing employees who become part of a team (when a team is being be formed), where the selection should be done by assessing the degree of EI in potential team members via the way of self-assessment (e.g., surveys), where possibilities also could arise to assess potential new employees’ degree of EI as best as possible already during the recruitment process (Daher, 2015).

However, as can be stated from our results, caution is advised here due to the before-mentioned lack of validity in assessing someone’s own level of EI, indicating that it should be done with a sharp eye (Dasborough et al., 2021). The second way involves the training of EI of team members, which can be done by providing teaching by a professional. This can be achieved for example by: workshops,

counselling or coaching on mediation by a professional. When an individual scores low on one or more dimensions of EI, it could be considered to provide for additional training directed specifically to this person or entrust this employee from a task other than participating in an agile team (Daher, 2015). By taking this into consideration, our research has signalled a first disclosure in which our practical recommendations for managers are allocated by training EI among employees by means of a professional and also assessing the degree of EI of new potential employees with the aim of getting through conflict situations in a better and more controlled way.

6. Limitations & Future Research

Despite the fact that we did our utmost in our research to keep it comprehensive, we need to acknowledge the limitations of our research. Firstly, our data was limited to one single organization, and as mentioned earlier, that this also seemed to cause the data to be strongly centred around certain people in the dataset, which in our opinion has caused the non-normal distribution of our data. For example, when looking at the teams, it seems that two or three people within a team are responsible for the most EI moments which contributes to a skewed distribution. In the same regard, conflict also seemed to be limited to a few individuals within a team and only four out of nine teams actually did show conflict. Therefore, we propose a larger sample size in future explorations where EI and conflict are more widespread in the teams of the dataset. As a result, there is a possibility that observed EI manifests itself differently in such conflict situations. Here, we also propose to take into account the possibility that the results might have differed if the same research had been carried out in completely different sectors, so that we also call for similar studies to be made in different sectors for future explorations. The same could also apply to the fact that we only focussed on the retrospective meetings, which in itself forms a limit in our research and which makes us suspect that the results might have been different if the planning or refinement meetings had been included in the analysis. Besides, the Product Owner’s role may also have potential for future research, in exploring how his/her role manifests itself in conflict management and EI display, considering this individual's importance and centrality in an agile team.

Secondly, an important statement must be engraved in one's train of thought, namely the fact that our research is one of the first to be based on video observations which may have to do with teething problems that still need to be improved and refined to date. We made use of ground-breaking video observations in consultation with the newly developed verbal behaviours codebook of the OCBB department (Wilderom, 2021), which means that we are one of the first to work with this new way of analysis and implement it in exploratory research. Here, the use of the OBCC codebook also still needs to be improved to increase reliability. Coded work by previous students was used, which avoided observer bias by coding in groups of two trained observers. It can be argued here that the reliability of this coded work can be questioned as there have been situations where the quality of the videos left

something to be desired due to, for example, the placement of the cameras in inconvenient locations and thus showing insufficiently the faces of team members. In addition, we could also question the fact that sound quality as well as image quality turned out to be mediocre or even bad in some of the videos. The transcripts also showed unfinished sentences due to a team member making a statement that could only be partially understood in the videos and thus leaving the door open to uncertainties. Therefore, in our opinion it is important that both image and sound quality, as well as the locations of the cameras, are optimized to increase the reliability of the encoding. In this regard, as conflict was ultimately coded by three different people at different times, the same could have been done for EI moments, which were only coded by one person. Therefore, we believe that for this variable too, multiple people interpreting moments of EI would increase the reliability of the analysis which we deem necessary to be called for in future research.

Thirdly, regarding the OBCC codebook, we believe here that it contains certain verbal behaviours that cannot always be placed in a positive or negative category as there could be more consideration when assessing a person's EI such as voice use, facial expressions or body language. Therefore, the way people behave, and not only what they say, should also be taken into account to fully grasp EI. We hereby call on this to be included in future studies, for example by means of technological equipment where, if the latter are added, it makes the way of assessing the videos increasingly extensive but also increasingly complete, which strengthens overall reliability.

Lastly, the interplay between the qualitative and quantitative part of our research would be the next point of limitation that should not be left unspoken. Despite the fact that we used a mixed method approach, it should be made clear that the focus in our research rested more heavily on the video observations, reasoning that it is a more valid and disruptive way of research. Hence, the results of our research, could have differed strongly in the case of a different research design where the reliance on quantitative data would have been stronger. We should keep in mind that EI is still a relatively new concept that originated only in the early 1990s (Salovey & Mayer, 1990), indicating that there is still a lot of research to be made about this variable solely. Hence, when taking into consideration the early stage of research in which this variable is positioned at present, and that given our innovative methodology, perhaps more qualitative exploratory research should be conducted before testing the hypotheses, especially given the small sample size. This can be considered of additional significance to explore deeper relationships between the variables studied and to generate better explanations for them. An example can be made regarding hypothesis 5 and 6 where, despite the fact that the t-tests made us conclude that we must reject our hypotheses, the relationship between team effectiveness, observed EI and observed conflict could still be revealed and that more can be discovered the deeper one dives into the data. For example, looking at team effectiveness in relation to observed subdimensions of EI, instead of the whole EI construct, could perhaps reveal significant differences between High effective teams

and Low effective teams, and also as EI and conflicts become more widespread in the teams of the dataset as was proclaimed previously.

7. Conclusion

Our study sought to test the relation of the variables observed EI, perceived EI, observed conflict, and perceived team effectiveness using qualitative and quantitative data in a sample of 68 individuals. The most value-adding and also only result that we were able to prove in our study, is that observed EI did appear to shorten conflict duration in High EI teams, implying that, merely this association between observed EI and conflict duration was accepted in this exploratory research. In addition, we also recognize the fact that High EI teams had a shorter average conflict duration, better conflict management overall, and a better handling of negative verbal behaviour, which underlines the main positive finding of our study, even though observed EI did not appear to be most commonly displayed specifically during task or relationship conflicts. Further associations between observed and perceived EI, based on correlations with Spearman's R, showed negative results that were not significant, suggesting that this is a confirmation of the theory of Hoogeboom et al. (2021), which argued that perceived EI might be insufficiently valid in relation to someone's actual observed degree of EI. Furthermore, the correlation between observed EI and observed conflict was positive but not significant, which we believe is due to the limited sample size. Here, our suggested associations between observed EI and conflict type were again rejected with again our last-mentioned conjecture regarding sample size. According to our opinion, the limited sample size also resulted in a non-normal distribution that required us to use a Welch test for testing the relationship between team effectiveness with observed EI and observed conflict. Again, the results were not significant here as well, which in our opinion is again due to the sample size. Given that most results were contradictory to our suggested associations, this can be conflated with the fact that video observations, on which our research depended most, is still in its infancy and needs improvement. Apart from these tests, some analysis results have come to light through deductive analysis of the videos, which has led to a number of peculiarities, namely that the frequency of observed EI in the subdimensions showed large differences, that almost all verbal behaviours can fit in each of the four subdimensions, and as mentioned before, that observed High EI teams showed on average shorter conflict durations, coped overall better with conflict and appeared to be better able to deal with negative verbal behaviours. These, after all, provide breeding grounds for potential future investigations in this field that could be more in-depth in nature. We therefore can see this as important inducements that leave us with a positive feeling and expectation regarding the future of EI research.

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9. Appendix

9.1 Appendix A: Descriptive statistics

Descriptive Statistics

		N	Mean	SD	Skewness	Skewness Std. Error	Kurtosis	Kurtosis Std. Error
Individual level	EI	45	.021	.019	1.925	.354	4.753	.695
	SEA	31	.031	.021	.915	.421	.109	.821
	OEA	25	.030	.019	1.941	.464	4.076	.902
	UOE	33	.027	.021	1.376	.409	1.125	.798
	MOE	35	.025	.020	1.247	.398	1.225	.778
	EI Survey	65	5.383	.604	.067	.297	.001	.586
Team level	EI	9	.015	.007	1.386	.717	2.866	1.400
	SEA	9	.029	.015	.242	.717	-.384	1.400
	OEA	9	.017	.015	2.428	.717	6.688	1.400
	UOE	9	.043	.026	2.462	.717	6.527	1.400
	MOE	9	.024	.013	1.039	.717	-.266	1.400
	EI Survey	9	5.381	.244	.999	.717	1.665	1.400