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Behaviors in Highly Productive Continuous Improvement Teams:

How to Change a Winning Team

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Abstract

In our aim to identify the typical behaviors of highly productive Continuous Improvement (CI) teams, we characterized behaviors from specific CI literature first. Unfortunately, this could not provide us the essential insights into how such behaviors can support the effectiveness and productivity of these teams; furthermore, the ground for operationalization of these behaviors was missing - as we aimed to measure the behaviors in different ways. Therefore, for an important part of studying the behaviors, a team effectiveness angle was used: we selected behaviors that are typical for effective teams in general (from the team effectiveness literature) to indentify if such behaviors apply for high performing CI teams as well. Moreover, apart from looking for such correspondence, we were especially interested in behaviors that are different - CI specific or of other nature - as compared to the general effective team behaviors. We used case studies with an innovative mixed-method approach and an emphasis on qualitative measures, to provide insights into the key behaviors. We rigorously observed behaviors in real work situations, next to using questionnaires. Our findings suggest that several behaviors, both indentified for effective teams in general and other types of behavior, are typical for high performing CI teams: behaviors that have a positive influence on team climate, specific CI behaviors of innovative nature, backup behavior, adaptability, information sharing and (most likely) team monitoring. These findings especially contribute to current CI literature by including key behaviors and other insights from the team effectiveness literature, and setting an example for studying behaviors in much more detailed and qualitative way as compared to previous research.

Behaviors in Highly Productive Continuous Improvement Teams: How to Change a Winning Team

Continuous Improvement (CI) within organizations is widely known to result into sustainable high performance; already many companies attribute their success in part to methods like Lean or Operational Excellence. Various researchers have tried to unravel CI and its success. Just as Bessant, Caffyn, and Gallagher (2001), we see great opportunities in studying typical CI behaviors, as one of the key elements in the success of CI.

What makes this research different from other CI research, is that we are looking at CI behaviors from a team effectiveness angle: we selected behaviors that are typical for effective teams (from the team effectiveness literature) to see if these behaviors apply to high performing CI teams as well. By doing so we aim at better understanding of the extent to which the success of the high performing CI teams can be explained by the typical behaviors that are characteristic for effective teams in *general*. Or, could such success be better explained by the *typical* CI behaviors (as a result of the CI strategy that they use)?

What is also different and perhaps even more interesting, is that we rigorously observe behaviors in real work situations, rather than *only* measuring them with large-scale questionnaires and organizational level self-assessments (see e.g., Caffyn, 1999; Middel, Op de Weegh, & Gieskes, 2007). We use questionnaires as well, but together with fieldnotes and video-observations. This exploratory research is part of a larger study on behavior in CI teams and builds upon the first bit of a vast amount of ‘rich’ data we collected with video-observations. For this exploratory part we used some of the film material to exemplify *key behaviors* that we found with our observations and the questionnaires that we used.

The following paragraphs provide a more extended introduction. We give a short

overview of the CI literature, our research questions and the rationale behind the research.

Introduction and Research Questions

In search of the factors that determine the success of Japanese companies with their superior production organization and management systems, Continuous Improvement (CI) got increasing attention in research since the 1970's (De Lange-Ros & Boer, 2001). The growing interest in CI as a management approach is seen as a way of coping with "increasing competition, structural changes in the global market, rapid development of technology and increasing customer orientation", and therefore, such approach is expected to lead "towards improving business performance" (Gieskes, Baudet, Schuring, & Boer, 1997, p. 51). Continuous Improvement is commonly defined as "the planned, organized and systematic process of ongoing, incremental and companywide change of existing practices aimed at improving the company performance" (De Lange-Ros & Boer, 2001; Gieskes, Boer, Baudet, & Seferis, 1999; Middel, et al., 2007; Schuring, Harbers, Kruiswijk, Rijnders, & Boer, 2003).

Because CI is rooted in the Japanese automotive industry and it was 'the *machine* [italics added] that changed the world' (Womack, Jones, & Roos, 1991), previous CI research has focused predominantly on industrial settings. Nevertheless, Boer and Gertsen (2003) have shown a trend from CI to Continuous Innovation, in which the attention for CI linked to manufacturing dropped substantially. Nowadays more service firms and the public sector are choosing for a CI strategy as well, and consequently more research on CI is conducted in these settings (see e.g. Piercy, & Rich, 2009). Still, there is not as much research done in these settings as compared to industrial setting (see Bessant, et al., 2001). This calls for research that takes different settings into account.

Already many researchers have tried to explain the success of CI (e.g. Bessant, et al.,

2001; Boer & Gertsen, 2003; De Lange-Ros & Boer, 2001; Gieskes, et al., 1999; Jørgensen, Boer, & Gertsen, 2003; Magnusson & Vinciguerra, 2008; Middel, et. al., 2007). In light of this it should be noted that the literature for CI strategies (e.g. Womack & Jones, 2003) indicates that much of the value of a product or service is created in the bottom of the organization pyramid. Thus it suggests that it is here on the 'front-line' of the organization that continuously improving is especially important. Front-line teams create an important part of the value and perform better by the week, striving for perfection, are therefore an important part of CI and its success.

Hence 'front-line employees' are recognized to add much value through the production of the products and services, especially when they engage in the continuous improvement of daily operational processes. However it is striking to see the lack of detailed studies on the behavior in CI teams at the bottom of organizational pyramids. What is it that makes a CI team on the 'front-line' a success? Is this just about the CI methods they employ, or rather the way they interact as a team? To answer these questions it is essential to (literally) *zoom in* on how these teams work, get better and strive for perfection. Following: what does the team work of an high performing (possibly effective) CI team look like in daily practice? How do the team members behave? As mentioned earlier, even though previous studies have included CI behavior, they were not rigorously observed in real work situations.

Furthermore, Boer and Gertsen (2003) make a statement based on a literature review, for further research on 'configurations' (ideal states) with links to CI and the effects on performance, as well as on 'process research' (the working reality), for more knowledge and understanding of a (CI) process (to effectively manage it). De Lange-Ros and Boer (2001) argued in their reflection of the literature, that research on CI, which contributes to the knowledge of empirical observations and analyzes ways to organize and manage CI (for example by discussing and

explaining the types of improvement teams that exist and how they function), is relatively rare.

In view of the abovementioned literature, a prominent aim of the current study is to provide insight in the *team process* of high performing CI teams. The most important aspect of giving this insight is identifying key behaviors of these CI teams – not only with questionnaires, but rigorously observed in work situations as well. Therefore the goal of this research is two-fold. Firstly, we want to know more about the daily practice of working teams in their process to high performance, and secondly, in our process of learning about this, share the knowledge and experience of rigorously and empirically observing these behaviors.

In short, by exploring CI teams at the shop-floor level, in different types of settings, we seek to understand how these teams actually behave and interact, and how these behaviors (and some other factors related to the team process) support their team effectiveness. Hence this research will contribute to acquiring insights into the ways how to manage team behaviors and thus the team performance.

Consequently, based on the abovementioned literature, we distilled the main question of our research:

> What are the typical behaviors of high performing front-line teams who adopted Continuous Improvement work principles?

In order to answer the main question, we have split it into the following sub-questions:

1. What are the typical (CI) behaviors within front-line teams who adopted the CI work principles, that are different from those behaviors generally mentioned in team effectiveness literature?

2. To what extent do high performing front-line teams who adopted Continuous Improvement work principles apply behaviors that are generally mentioned in team effectiveness literature?
3. How are the most typical behaviors of high performing teams who adopted the CI work principles shown in daily practice?

The topic of this research (and the way it is conducted) is relatively new, and moreover, it is the *first* part of a larger study. Therefore this research is of *explorative* nature. We chose to examine CI teams that already proved themselves: high performing teams (we further define this type of team below). We expect that the chances are higher that these type of CI teams already apply the same behaviors as effective teams in general do, when compared to CI teams that are not performing well (yet). The rationale of this, is that their high performance would be (in part) explained by their effectiveness. Another reason to examine high performing teams first, is that we might learn even more about the *ideal* team process. However judging from the point of *continuous improvement*, even these teams might reveal some imperfections. Thus in this light, this research could also contribute to the search for *perfection* in an already high performing team, in other words we would learn about *how to change a winning team*.

The following paragraphs reveal the most important literature for the topic and the way we studied it.

In Search of Key Behaviors of Highly Productive CI Teams: from Defining the Teams and Indicating CI Behaviors, to a Need for Initiating Team Effectiveness and -Process Theory.

*Defining high performing CI teams***.** Previously we have already mentioned the type of teams we studied for this research (and reasons why): *high performing front-line teams who*

adopted the CI work principles (abbreviated as: *high performing CI teams*). But before we move on with the research there is a need to define these teams.

Cohen and Bailey (1997) distinguish four types of teams in an organizational setting: work teams, parallel teams, project teams, and management teams. According to these researchers, work teams "are continuing work units responsible for producing goods or providing service" (Cohen & Bailey, 1997, p. 242). This description gives a good idea about the type of teams we aimed for in our study. More specifically, we looked for the employees organized in a team on the bottom of the organizational pyramid (the 'shop-floor'), doing the practical work – making a concrete product. Using specific tools (e.g. machines, computer software) these people are operating on the front-line of the organization to work on a specific product or service, hence the term *front-line* team.

The *high performing* part of our definition comes from our interest in the role of behavior in *team effectiveness*. In this sense, it might seem that CI teams are per definition a good target group for us, because continuously improving already implies a strive to get better all the time and thus being as effective as possible. But, as this is only the first part of a larger study, we need to narrow down the types of teams more specifically by starting to describe the team process of teams that already have proven themselves in their performance. This asks for theory that can give a clear indication of high performance. Hackman (1987) distinguishes three criteria for effective teams: 1. the 'productive output' of the work group should meet or exceed the performance standards of the people who receive and/or review the output; 2. the 'social processes' used to carry out the work should maintain or enhance the capability of members to work together on subsequent team tasks; 3. the 'group experience' should, on balance, satisfy rather than frustrate the personal needs of group members. Many researchers based their

measurements on these criteria (e.g., Higgins, Young, Weiner, & Wlodarczyk, 2009; Van den Bossche, Gijselaers, Segers and Krischner, 2006; Wageman, Hackman, & Lehman, 2005). Although most of these measures focused on *team* output, we also acknowledge the importance of some team members' *individual* performance output. For example, it is argued that continuous improvement is based on sequences of learning cycles (see e.g. Bessant, Caffyn, Gilbert, Harding, & Webb, 1994), and the amount of learning and growth that team members experience can be used as an individual performance measure of team effectiveness (Higgins, et al., 2009). Edmondson (1999) also uses an 'internal motivation' scale in her team learning research, which seems an important performance indicator because of the relation with team-level performance measures like turnover and absenteeism (De Dreu & Weingart, 2003).

The last important aspect of the teams we studied is the notion of CI. We have chosen to speak of teams that *adopted the CI principles*, so what are those principles and when can a team adopt them? The following five principles are used to identify key principles of a CI strategy (Emiliani, 1998; Womack & Jones, 2003). First: specification of what does and does not create value from the customer's perspective and not from the perspectives of individual firms, functions and departments. Second: identification of all the steps necessary to design, order and produce the product/service across the whole value stream to highlight non-value-adding waste. Third: realization of those actions that create value flow without interruption, detours, backflows, waiting or scrap. Fourth: production should meet the demand of the customer. And finally, the fifth principle: an urge to strive for perfection by continuously searching and eliminating imperfections. Murray and Chapman (2003) put these principles in other words: 'customer focus, process focus, teamwork, employee participation and continuous improvement' (Murray & Chapman, 2003). Although these principles can be seen as the 'Big 5 of CI', they do not give a

description of *all* typical aspects of a CI strategy. This is also indicated by Kaye and Anderson (1999), who provide a list of *ten* criteria for achieving and sustaining continuous improvement, involving all kinds of (other) important organizational aspects, e.g., management, leadership, the customer, systems, culture, etc. Given the difficulties of finding and defining all important aspects of a CI strategy, it becomes evident that it is also difficult to give an indication about the time it will take to *adopt* a CI strategy; i.e., there are also a lot of aspects that determine that adoption. But it seems reasonable to think that teams that work for *one year* with a CI strategy probably have a firm idea about what a CI strategy is and how to use it. Asking those teams about their experiences with CI since they have started using this strategy and then examining their experience on the five principles illustrated above, can give a good indication of the degree to which they have adopted CI. Moreover, by looking at the abovementioned criteria for effective teams (Hackman, 1987), a complete image of the adoption of CI principles will emerge (i.e., the degree to which they have already adopted CI strategy will be exhibited by the improvements they have undergone so far).

With regard to the identified literature, we define high performing front-line teams who adopted the CI work principles as follows: *teams that work on the front-line of an organization in one location and perform low to medium skilled work in both service and production firms, started more than one year ago to continuously improve their own way of working and, while doing so, showed durable performance growth (e.g. 'team productivity', 'customer satisfaction', 'team learning behavior', 'team member satisfaction', 'team member turnover').*

Typical CI behaviors. Bessant and Caffyn describe in their 'CI Capability Model' (Bessant & Caffyn, 1997; Bessant, et al., 2001) *key behaviors* (or routines) that are generic (apply to all organizations) and might be essential for the long-term success of CI (Caffyn, 1999). The

behaviors develop over time, are displayed by individuals and groups, and are closely related to specific abilities in an organization – for example 'the ability to share knowledge across boundaries' (Bessant, et al., 2001). Caffyn (1999) identified a list of these key behaviors, which is summarized in Table 1 (A). Another example of literature that attends to CI behavior is that of Beale (2007), who studied the motivation of employees to adopt Lean behaviors. She divided 7 behaviors (table 1 (B)) that are even more generic than those denoted by Caffyn. Especially when trying to observe these behaviors in daily practice, they need to be more specific in order to be of practical use.

The behaviors mentioned by Emiliani (1998) seem more specific, but they are only specific when considering *all* behaviors that are possible in an organization. With not less than 26 behaviors (see Table 1 (C)), one can imagine that these behaviors are not really typical for CI alone. And moreover, again, it is very difficult to observe them in real work situations (see e.g., 'Self-awareness', 'Calmness').

Concluding from this short overview of CI literature on typical CI behaviors it emerges that it does not reveal one clear conceptualization of CI behaviors and measurable way how to study them. Therefore there is a need for yet other literature which could provide ground for operationalization of these behaviors. Moreover we still lack knowledge of how these behaviors are embedded in, for example, its relation to the team process, performance, and effectiveness. Hence, we turn to the organizational behavior and team effectiveness literature. We will start with the well known IPO-model. This should provide us with a better understanding, clear taxonomy and a (visual) base of team behavior and surrounding topics concerning high performance and team effectiveness, which would contribute to our conceptualization and operationalization of CI behaviors.

Table 1

An Overview of Literature Describing Typical CI Behaviors Divided in Three Sub-Tables

Sub-table indication and source	CI behaviors			
A. Caffyn, 1999	Employees demonstrate awareness and understanding of the organisation's aims and objectives			
	Individuals and groups use the organization's strategic goals and objectives to focus and prioritize their improvement activities			
	The enabling mechanisms (e.g. training, teamwork, methodologies) used to encourage involvement in CI are monitored and developed			
	Ongoing assessment ensures that the organization's structure, systems and procedures, and the approach and mechanisms used to develop CI, consistently reinforce and support each other			
	Managers at all levels display active commitment to, and leadership of, CI			
	Throughout the organization, people engage proactively in incremental improvement			
	There is effective working across internal and external boundaries at all levels			
	People learn from their own and others' experiences, both positive and negative			
	The learning of individuals and groups is captured and deployed			
	People are guided by a shared set of cultural values underpinning CI as they go about their everyday work			
B. Beale, 2007	Team working		Multi-skilling/ motivation for skill acquisition	
	Problem-solving		Job rotation/labor flexibility	
	Employee autonomy/ empowerment		Volunteering for extra-job activities	
	Participative decision-making			
C. Emiliani, 1998	Self-awareness	Reflection	Understanding	Objectivity
	Humility	Honesty	Respect	Discipline
	Compassion	Benevolence	Listening	Rectitude
	Suspension	Consistency	Observation	Wisdom
	Deference	Generosity	Trust	Balance
	Calmness	Patience	Sincerity	
	Quietude	Humor	Equanimity	

The IPO model. The "input-process-output ['IPO'] framework for analyzing group behavior and performance" (figure 1) of Hackman (1987, p. 316) was based on an earlier model of McGrath (1964). Hackman was not the only or first one that based his framework (or model)

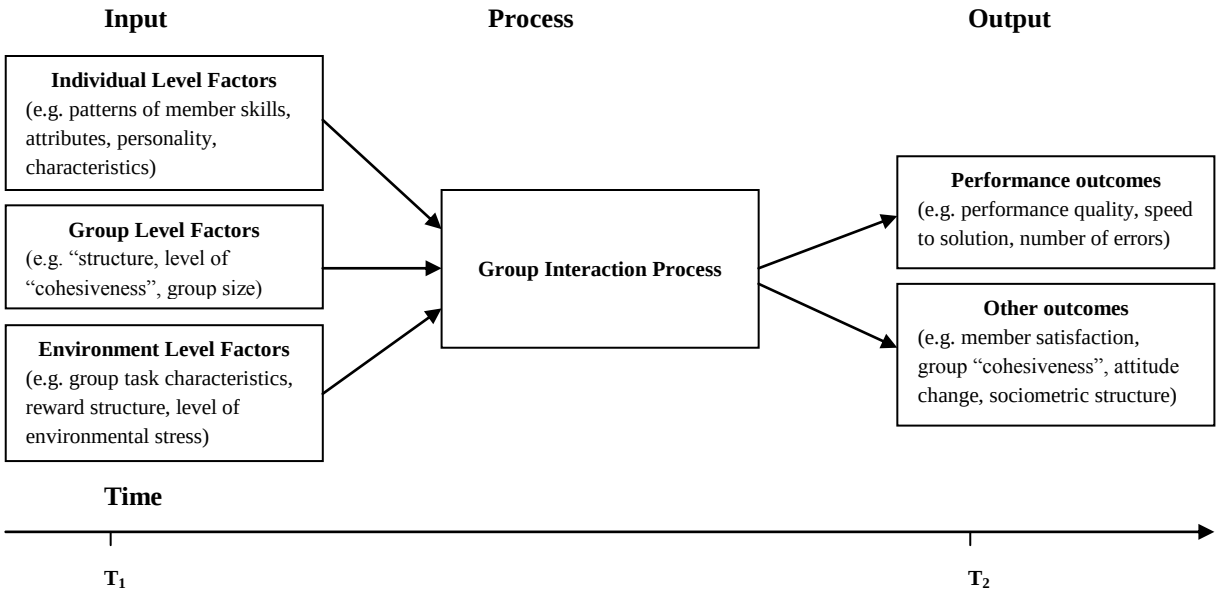

Figure 1. The "input-process-output framework for analyzing group behavior and performance" of Hackman (1987)

on McGrath (see e.g., Gladstein, 1984; Steiner, 1972), but his design is clear, simple, very influential and usable as an important first insight for our study – as we will explain hereafter. Key in this framework, is that the process *mediates* the input-output relationships. For example: a highly cohesive group (input) might perform better (output) on some task than a group low in cohesiveness, and the process (interaction between members) would show and explain the difference in performance between the groups. The way 'process' is described in this study, 'interaction that takes place among members' (Hackman, 1987, p. 317), gives an emphasize on actual behavior in the process. Scholars agree that behavior has an important place in the team process and therefore plays a crucial role in the team output (e.g. performance, satisfaction). Hence, the IPO model gives us a great first insight in where to place team process and behavior. This offers us a basis to discuss team process more elaborately.

Team process taxonomy. First of all, we need to mention that – next to *team process*,

more concepts are used in team effectiveness literature for identifying what actually 'happens' in the team, going from input to a certain output. For example, Salas and colleagues seem to prefer *teamwork* as an explanation for this process (e.g. Salas, Sims, & Burke, 2005). Another widely used term is *team dynamics*, coming from the well known 'group dynamics' (in an organizational context). This is a concept for witch Kurt Lewin (1951) is generally given the credit for coining and popularizing it (see e.g., Forsyth, 1990). These three concepts are often used interchangeably (see e.g., Zaccaro, Rittman, & Marks, 2001). However, nonetheless the differences in terminology, these concepts share one implication: they are always regarded as an important factor that can be influenced in order to improve performance (e.g., Zaccaro, et. al., 2001).

For this research, the choice for the concept and chosen terminology do not play a crucial role, as this study focuses on the team behaviors and does not aim at explaining the functioning of a team as a whole. We use *team process* and refer to the IPO model, in order to visualize in a relatively simple (basic) way how factors influence the team process and, in turn, how process influences other factors. Considering that, we will adopt the definition from Marks, Mathieu, and Zaccaro (2001) of team process, i.e. "members' interdependent acts that convert inputs to outcomes through cognitive, verbal, and behavioral activities directed toward organizing taskwork to achieve collective goals" (p. 357).

Following Marks, et al. (2001) in their taxonomy of team process, we find it important - aiming at acquiring insights in the team process and behaviors - to distinguish team process from two other related concepts. First, there is a need to identify how *taskwork*, i.e. the "team's interactions with tasks, tools, machines, and systems" (Bowers, Braun, & Morgan, 1997, p. 90), is different from *team process*. Taskwork is *what* the team is doing and team process would then be *how* the team is doing this with each other (Marks et al., 2001). The second distinction from

the team process can be made with the so called “emergent states”, i.e. “properties of the team that are typically dynamic in nature and vary as a function of team context, inputs, processes, and outcomes”, or a bit more simple described as the “cognitive, motivational, and affective states of teams, as opposed to the nature of their member interaction” (Marks et al., 2001, p. 357). The point which should be noted here is that, variables such as team efficacy (potency) and cohesion are sometimes proposed to be part of the process (e.g. Campion, Medsker, & Higgs, 1993), as if they belong to the interaction or behavior of team members. While in fact, these variables are more like a given property in the team at some point. In the basic IPO view (team process is influenced by factors and in turn, it also influences other factors), these variables can easily be seen as part of the input or output of the model. Marks et al. (2001) give a good example for this: “teams with low cohesion (an emergent state) may be less willing to manage existing conflict (the process), which, in turn, may create additional conflict that lowers cohesion levels even further” (p. 358). Concluding, for us these *emergent states* can either be something that effects the team process (i.e. input), or be a result of the team process, but strictly does not belong to the team process.

Finally, although we use a relatively simplified version of team process - visualized by the IPO model, we want to acknowledge the recent research trend of viewing teams as complex, adaptive, dynamic systems (McGrath, Arrow, & Berdahl, 2000). Considering this trend, there are indeed some limitations to the IPO model. One limitation, for example, is reflected in the distinction we made between team process and ‘emergent states’; with which we isolated the process part of the IPO model. This raises the question: why not to use ‘mediation’ instead of process, in order to reflect the broader range of variables that can mediate between input and output? And another limitation is that the IPO model implies a single (linear) path from input to

output, although the possibility of feedback loops (e.g., team cohesion can influence team process, but cohesion may also change in response to a team's level of effectiveness) has been evident for a long time (already even noted by Hackman, 1987). An alternative model for IPO, the 'input-mediator-output-input' (IMOI) is indeed anticipating on both these shortcomings (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). To conclude, we acknowledge the above, but choose deliberately for a limited vision on teams because we want to focus on the team process and the behaviors within. So neither mediation nor loops will be taken into account and the main importance will be given to the influence of process on performance.

Since not much research was done on this topic using the same elaborate way of measuring as we do now, it makes sense to keep it simple at first. In the section below all the key behaviors we selected are presented. Next to it we explore how these behaviors can influence other factors and each other. Hence, it will also become apparent why we have chosen this basic view on the team process (with the IPO-model as a visualization) in our explorative study.

Key behaviors in effective teams. In comparison to the CI literature, the amount of studies on behavior in effective teams as part of the (general) team literature, is overwhelming. We therefore quickly focused our attention on some big, much cited, literature reviews on team effectiveness and team process. For our selection of key behaviors, we were especially inspired by Kozlowski and Ilgen (2006), Marks, Mathieu and Zaccaro (2001), and Salas, Sims and Burke (2005). Below we first provide a short overview of important concepts in team process (distilled from the literature), and explain how we made a selection of key behaviors. Then we draw the list of key behaviors and define them.

Table 2 provides the overview of important concepts related to the team process, without making any differentiation between the type of concept (behavioral, cognitive, affective) yet. In

Table 2

Key Concepts Concerning Team Process of Effective Teams

Kozlowski & Ilgen (2006)	Marks, Mathieu and Zaccaro (2001)	Salas, Sims and Burke (2005)
Unit and team climate	Mission analysis	Team leadership
Team mental models	Goal specification	Mutual performance monitoring
Transactive memory	Strategy formulation and planning	Backup behavior
Team learning	Monitoring progress toward goals	Adaptability
Team cohesion	Systems monitoring	Team orientation
Team efficacy and group potency	Team monitoring and backup behavior	Shared mental models
Team affect, mood, and emotion	Coordination	Mutual trust
Team conflict	Conflict management	Closed-loop communication
Team coordination, cooperation, and communication	Motivation and confidence building	
Team member competencies	Affect management	
Team regulation, performance dynamics, and adaptation		

Note. There is no meaning in the order in with the concepts are displayed.

order to find the key behavioral concepts, we used a three points guideline: 1. The concept clearly had to represent a behavior and these (description of) behaviors needed to be (clearly) related to effectiveness (e.g., team conflict is not clearly a behavior (could be also something affective) and is not related to effectiveness; while conflict management is); 2. The conceptualization of the behaviors should be usable for both questionnaire and observational measurement (which is in line with the aim of this research to rigorously study the behaviors in work situations); 3. It needed to be concepts about what happened between members (so not something a member does by himself or is between the leader and the members).

By using our guideline and looking for overlap in Table 2, we came up with *team monitoring/ backup behavior* (simply "backup behavior"), *communication/ coordination* (combined as "information sharing"), *conflict management*, *team learning behavior* and *adaptability*, as key behavioral concepts. We unpack these behaviors more elaborately below.

The first important behavior in team effectiveness, comes with the 'monitoring' that takes place in the team. Marks et al. (2001) classify two types of monitoring, 1) 'monitoring progress towards goals' (i.e. "tracking task and progress toward mission accomplishment, interpreting system information in terms of what needs to be accomplished for goal attainment, and transmitting progress to team members"), and 2) team monitoring and backup behavior (i.e. "assisting team members to perform their tasks […] by providing a teammate verbal feedback behavior or coaching, […] helping a teammate behaviorally in carrying out actions, […] or assuming and completing a task for a teammate") (Marks et al., 2001, p. 363). For us, the first type of monitoring is too much related to taskwork, which we did not want to include in our team process framework. The second type seems very much usable (for multiple ways of measuring as well). This type corresponds greatly with two of the "Big 5" of Salas et al., (2005): 1) 'mutual performance monitoring' (i.e. "The ability to develop common understandings of the team environment and apply appropriate task strategies to accurately monitor teammate performance", (Salas et al., 2005 p. 560)) and 2) 'backup behavior' (i.e. the "ability to anticipate other team members' needs through accurate knowledge about their responsibilities. This includes the ability to shift workload among members to achieve balance during high periods of workload or pressure" (Salas et al., 2005 p. 560)). From the combination of these two sources of literature the first key behavior emerges: 'Team monitoring and backup behavior', or simply *Backup behavior*, which entails *actively keeping an eye on each other's performance, and assisting when necessary*

with feedback, helping with a task or completely take over the task of a teammate (if regarded necessary).

Another key behavior comes with the 'coordination' and 'communication' within the team. All three articles describe coordination and communication as very much related to each other and see these concepts together as a type of behavior that is very important for the team performance. For example Salas et al. (2005) see (closed-loop) communication as one of the coordinating mechanisms in teamwork. And Marks et. al. (2001) emphasize the importance of communication "especially during periods when members need to coordinate actions and to monitor the environment and the team's progress" (p. 360). But what actually is this coordination in a team? How is communication used for this? And how can we specifically see this, in what kind of distinguishable behavior? Coordination can be defined as *the process of orchestrating the sequence and timing of interdependent actions* (Marks et. al., 2001). Consequently, in light of the team process, communication provides for the interaction between members in the coordinating behavior. The role of communication in coordination as a specific behavioral concept is a bit tricky, because one might see communication as the recognition for almost every kind behavior in effective teams. For example, feedback (a type of communication), in this sense, would be a way to recognize backup behavior. But in our research we want to emphasize the *team process*, i.e. the way the team is actually doing things to get to certain outcomes. In this view the communication is a necessary *mean* to perform certain typical behaviors in effective teams. Therefore we excluded the communication part of a concept. For example, we employed "team monitoring and backup behavior" as a typical behavior, but we omitted "feedback". In this line of reasoning we are searching for a typical behavioral concept which is doing justice to both coordination and communication, and is measurable (recognizable) in more ways as well (i.e.

questioning, observing). Kozlowski and Ilgen (2006) provide for such concept in their findings on coordination, cooperation, and communication as a typical behavioral process. They argue that "communication is most typically regarded as a support for coordination behaviors. In this sense, we can regard all three factors [coordination, cooperation, and communication] as interrelated and important, with coordination of information and effort as primary" (Kozlowski & Ilgen, 2006, p. 95). So the coordination of information and the amount of effort for this, can be seen as the key to it all. Therefore, we employ *information sharing* as a key behavior in effective teams. Information sharing constitutes *the process where individuals mutually exchange their (tacit and explicit) information in the support of their coordinating behaviors* (adapted from De Vries, Van den Hooff & de Ridder, 2006; Kozlowski & Ilgen, 2006). In this concept, effort can be regarded as the amount of information and willingness to share this information.

Also important for the effectiveness of teams, is the way conflicts are handled in teams; Marks et. al. (2001) and Kozlowski & Ilgen (2006) discuss this topic elaborately. This handling is necessary because conflicts can influence team performance in a negative way, e.g., by interfering with team information processing (diverting attention, increasing cognitive load, limiting flexibility) (Carnevale & Probst, 1998; Saavendra, Earley, & Van Dyne, 1993; see Kozlowski & Ilgen, 2006). In contrast, if conflicts occur on a low level they might also have a positive function in teams, e.g., to prevent group-think (the tendency for groups to pressure consensus and conformity; Janis, 1972). Conflicts then enhance different perspectives, which in return might positively influence team innovation and decision quality (Mannix & Neale, 2005; see also Kozlowski & Ilgen, 2006). Furthermore, some scholars see a difference between the type of conflict (relationship, task or even process conflicts; see Jehn & Mannix, 2001) and the way the performance is influenced. There is, or at least was, support for a positive influence of *task*

conflict on team performance (e.g., Amason, 1996; De Dreu & Van de Vliert, 1997; Jehn, 1995; Simons & Peterson, 2000). But on the basis of an extensive literature review of empirical studies, De Dreu and Weingart (2003) conclude that this support cannot hold and call for new research on the very specific circumstances that conflicts may have positive consequences. So in the end, especially because conflicts are just inevitably part of the complexity and interdependence of organizational life (Jehn, 1995), it seems to be all about the way conflicts are *managed* which determines whether the impact of these conflicts on the performance will be positive or at least 'not negative'. Marks et. al (2001) take the same position and define two types of conflict management to resolve or minimize conflict: 1) in the situation before conflicts occur there is the *preemptive* type, that establishes conditions to prevent, control, or guide team conflict; and 2) the reactive type, when conflicts have already manifested, is the management of working through task, process, and interpersonal disagreements among team members. In addition, Kozlowski and Ilgen (2006) emphasize the role of *trust* in such perspective of conflict management, by concluding that "team members should possess interpersonal skills to build trust and to minimize and manage conflicts – both task and interpersonal – when they arise" (p. 95). For us, this last description of the way conflicts are handled in a team, is almost sufficient as a conceptualization of conflict management and its role in team effectiveness. We only want to add that, because the influence of conflicts and the way they are managed in teams are still quite unclear, for the measurement of this concept it is more important that team *believes* and *shows* it is able to handle conflicts. For this research, the way conflicts are handled is less important.

We included team learning (behavior) not only because Kozlowski and Ilgen (2006) mention this as an important concept, but a behavioral learning process is also typical for CI (e.g., Bessant, et. al., 2001). In Edmondson's (1999) description of team learning behavior, she

includes the aspect of improvement by arguing that "learning behavior consists of activities carried out by team members through which a team obtains and processes data that allow to adapt and improve" (p. 351). Apart from the work of Edmondson, little to no research was done outside the laboratory, which limits the observed phenomena in terms of reality (Kozlowski & Ilgen, 2006). Edmondson (1999) provides a model that was rigorously evaluated in 51 work teams, in which team learning and other (underlying) behaviors positively influence team performance. Important in this model is the concept of *psychological safety* in a team – the shared perception that the team is a safe context for interpersonal risk taking. That perception of the team as a save place, is seen as an important cause for applying behaviors like seeking feedback, sharing information, experimenting, asking for help, and discussing errors (Edmondson, 1999, p. 351). Some of those example behaviors of team learning we have already discussed as typical behaviors or concepts in the team effectiveness literature (e.g., feedback and asking for help, as part of backup behavior). Indeed, one could argue that the difference depends on what level and in what context one would look at a behavior. Still, important is that a lot of other distinctive behaviors are conceivable when it comes to collective learning, and therefore, it is matter of 'wait and see' in what is typical for CI teams. Kozlowski and Ilgen (2006) draw, in their review of this topic, two important conclusions in line with the above: 1) the research base to specify the meaning of team learning as a distinct construct is just not yet sufficiently developed; and 2) it is probable that collective learning in teams will indeed show more effectiveness. So, it is desirable to include team learning as a key concept into our research because of its important link to both CI and team effectiveness. We hope to contribute to the development of team learning as a distinct construct with our mixed-method approach.

About the concept of *adaptability* there is more agreement in the team effectiveness literature; Kozlowski and Ilgen (2006) and Salas et al. (2005) explicitly describe this as an important concept in their reviews. Adaptability is the "ability to adjust strategies based on information gathered from the environment through the use of backup behavior and reallocation of intrateam resources [..and..] altering a course of action or team repertoire in response to changing conditions (internal or external)." (Salas et al., 2005, p. 560). Research shows that teams with flexible members are viewed as more effective (Campion, et al., 1993). But in order to make adaptability effective (to improve team performance), changes in the environment and tasks should be continuously assessed to see if changes in the team process(es) are necessary in order to reach the team objectives (Salas et al., 2005). Important to mention is that adaptability can be shown in many different forms and situations, for example: in respond to unexpected demands, in identifying the change of conditions or assign meaning to such change, and also develop and execute new plans of action (Salas et al., 2005). The latter makes it clear that the success of adaptability is heavily depended on the capability to change 'normal' behaviors and routines. Furthermore, it is easily arguable that adaptability is related to the concept of team learning and innovation; e.g., the concepts can be seen as a condition or consequence of each other (Burke, Stagl, Salas, Pierce, & Kendall, 2006). It seems that these concepts are not only interconnected, but also well known in the *CI* literature (e.g., Bessant, et. al., 2001). At last, if we look at the way this concept could be measured, for this study it is again at first more important that teams show (or indicate) they are *able* to adapt to multiple situations (e.g., in the forms above), then how they actually do it.

An important goal for this theoretical chapter was to provide insights into the key behaviors of highly productive (presumably effective) CI teams, which are "backup behavior",

"information sharing", "conflict management", "team learning behavior" and "adaptability". This knowledge guided us in our methodology choice and use. In the next section we show how we conducted our research.

Methods

We used case studies with an (for CI) innovative mixed-method approach, to find the answers to our research questions. Although we did use a questionnaire (a much used, large-scale, quantitative measure), in our case it was not the only or most important measure. The role of the questionnaire is quite different next to other (qualitative) measures in case studies (Yin, 2009). Here, the questionnaire outcomes are complemented by the qualitative data sources. And the qualitative measures have an important value themselves, as they are appropriate in exploring little known organizational phenomena or exposing in-depth processes (Marshall & Rossman, 1995). Moreover, mixed measures can build a more holistic picture of the topic under consideration (Jick, 1979).

An important reason to use *multiple* measures, besides collecting richer data, is that this produces a 'stronger array of evidence' than with any single method alone (Yin, 2009, p.63). Because the behavior of effective CI teams has not been studied much, let alone with other methods than (large-scale) questionnaire's, our case study approach appeared altogether the most appropriate. The following paragraphs give a closer look into the sample, setting, procedure, measurements and data analysis.

Research Sample and Setting

Sample. The selection method for our research was as follows. Since we were interested in high performing CI teams, we started with a widely distributed call for the (self-) nomination of those kinds of teams. We used an article on a major Dutch managerial website for this purpose

and announced it in a management-executive journal as well as in various active Dutch (online and offline) networks for Lean/CI managers. This resulted in about 30 nominated teams.

From these 30 teams we then selected nine, most effective teams (on-paper) on the basis of a first preliminary introduction meeting by telephone. Next, we held semi-structured face-to-face interviews with a key informant from each of the nine teams. The most important aim of these interviews was to nominate and describe a high performing front-line team in the organization of the informant, as well as to gather lots of information about key performance indicators. Together with a document study of their key performance indicators, the interviews were used to make a final selection of teams.

Finally we selected five teams that met the following criteria: 1) The team implemented a continuous improvement strategy more than one year prior to this study; 2) The team continuously enhances their own work habits; 3) The team established stable growth in the following quantitative performance measures: employee satisfaction; customer satisfaction; and financial results. From the sample of respondents (N = 60) from the teams 52% was male (48% female) and 58% worked fulltime (42% parttime). On average, they worked for 4,10 years in the team (σ = 3,94) and 17,94 years in the organization (σ = 10,02). An extensive description of the selected teams is displayed in Table 3.

Setting. The research was conducted in five big, quite different, organizations in the Netherlands. The first case study (disregarding the pilot) we did in a factory for small retail products; this company is now situated in almost ten other countries, producing products most people have at home. Another study we did in a mail distributing center. The mail division has some 58.000 employees and is responsible for sorting and delivering of some 16 million mail pieces per day. We also did a study at a tax administration office; this governmental organization

Table 3

Description of selected teams

No.	Type of organization	Main team task	No. of members (excl. leader(s))	Months of working with CI	Average amount of years working in the team	Division of gender		Type of employment	
						male	female	full-time	part-time
1.	Retail manufacturing	Assembling small consumer products	5	87	1.4 (σ = .49)	100%	0%	100%	0%
2.	Truck manufacturing	Truck assembling	10	147	3.4 (σ = 2.35)	89%	11%	67%	33%
3.	Tax administration	Monitoring taxes	9	12	4.6 (σ = 4.79)	56%	44%	44%	56%
4.	Mail distributing	Mails sorting by hand	12	26	5.8 (σ = 4.48)	11%	89%	10%	90%
5.	Health Insurance	Claims handling	35	19	4.3 (σ = 4.14)	36%	64%	68%	32%

with 30.000+ staff members is probably best known for the levying and collecting of taxes. We conducted a case study in truck manufacturing company as well. The main production centre for trucks in Europe is in Zwolle and has some 1500 employees. Finally, we were at one of the biggest (health) insurance companies in The Netherlands – with over two million customers and about 1800 employees.

Procedure and Data Gathering

Our research can be described in three phases (figure 2): the 1) pilot phase, 2) case studies and 3) analysis phase. This description of the procedure and data gathering is divided in these phases.

Phase 1. Our *literature study* was aimed to acquire all the general knowledge about key behaviors for effective teams. We wanted to use this for both the measurement by questionnaire and observation as well. Also, we wanted to learn a good deal about ‘on-site’ observation and using a camera for this – especially for overcoming the ‘observer’s paradox’ (Labov, 1972, p.

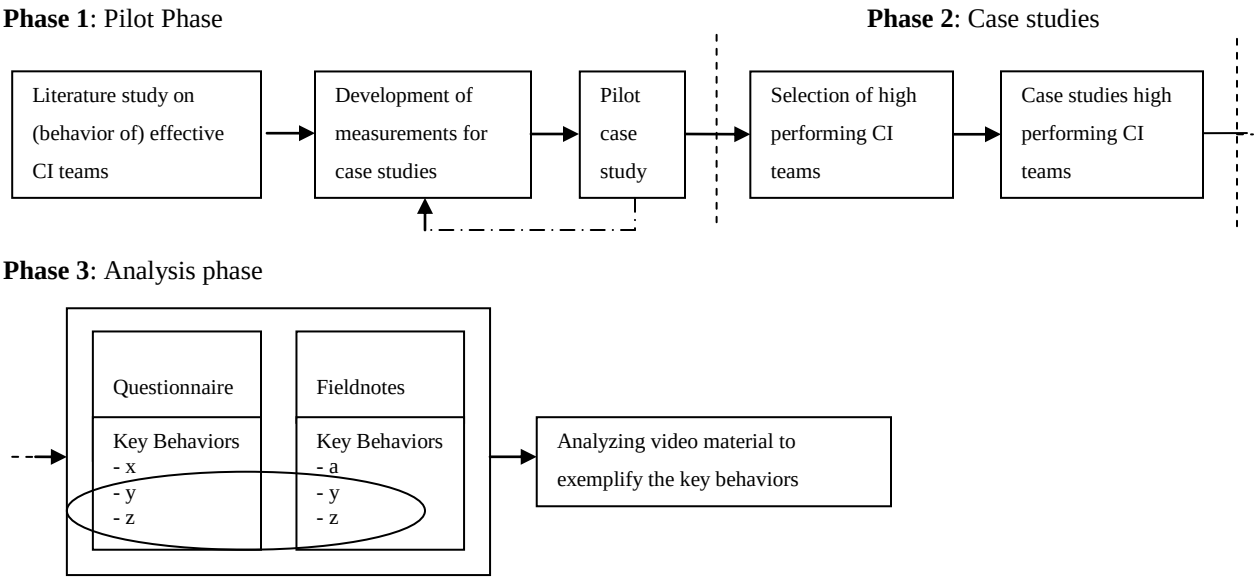

Figure 2. Global description of the research

209) and get sufficient valid data (more in the measurements section).

The *development of the measurements* was based on the literature, but also on the experience, data and feedback that was provided by the pilot case study. We first used the literature and experience of other researchers (e.g. Van Vuuren, & Brummans, 2010; Van Dun, Wilderom, 2010), to 1) develop a pretest for the questionnaire, 2) agree on and note down our observational behavior and 3) make a specific planning of actions. We tested these in the pilot study. After the pilot study we adjusted the measurements on certain points (see also the measurements section).

The procedure of the *pilot case study* was as follows. We took two days to gather our preliminary data and gain experience on observing. During these days we followed a set of 'behavioral rules' (appendix A), to prevent the influencing of data as much as possible and make it possible for other cases (and other researchers) to learn from our experiences. On the first day we started with personal conversations with all team members to get to know each other (we

already got to know the team leaders). We expressed a special interest in their work: 1. to make them comfortable with a topic they knew well; 2. to make them feel we were genuine interested, as if it could be our work, so we might be people just like them; 3. to build some confidence and support for the research (especially needed for the observations, see measurements); and 4. to build up to the informed consent we needed especially for the video-observations. Next we handed out the questionnaires (often directly after the conversation with the individual member).

After the introduction we started in the afternoon gradually with the video-observations. Before starting the recording, we again asked the participants for their permission, following a reinforcement of the informed consent and a reconcilement of expectations. We tried to build up the video-observation by first filming just some situations with people, next filming one or two people from a distance in a work setting, and later following people with doing their work somewhere on the department (we kept the actual 'following' mainly for day two). We always paid attention to make sure they did not feel in any way obliged to be filmed, and took enough time to let them get used to the filming. Day two was mainly about filming some formal setting (meetings) and filming the team leader(s) and members personally – as if we were following them. During the two days we always had paper and pencil with us to write down (as inconspicuously as possible) the notable moments we saw or heard of, to help remembering ourselves when necessary and write it down later in our 'fieldnotes' (see measurements section). See Table 4 for an overview of this part's procedure.

Phase 2. The *selection of highly productive* teams went as described above (see sample). Once selected we had a preparatory meeting with the team leader and one or two stakeholders from the organization, to make our research plans clear and reconcile the expectations of one another. For the *case studies* themselves we had a course of actions planned for a whole week

Table 4

General Procedure Pilot Case Study

	Activities Day 1		Activities Day 2
Morning	get acquainted with team members and the work they do		filming a meeting
	handing out questionnaires and collecting some of them in the end of the morning		filming and following (shadowing) team leader(s) and different team members while working
Afternoon	filming a first meeting	collecting questionnaires	filming and following team leader(s) and different team members while working (shadowing)
	filming some workplaces		

(see table 5). The idea was roughly the same as with the pilot. Starting with connecting to the group, to work on trust and cooperation for the rest of the week. For the real cases we did this even by *working together* with the team as much as possible, on the first one to one and a half day. We have made our own truck radiators and small retail products with machines, and got a real close look at the completion of health insurance declarations, for example. Not only was this a great way to get a good insight in the teamwork behaviors, but it also helped a lot in breaking the barrier between the researcher and the team under investigation. We thought this to be crucial for the observational data (see measurements). After this extensive connection, we handed out the questionnaires and gave a personal instruction for every team member (after the pilot we had learned this was necessary, especially because of the questioning on *team level* instead of individual level; see measurements). Then, the third day we used for filming the 'formal events' (meetings, start of day, etc), and also gradually filming some situations and people on the department – to let them get used to that practice. In this way, the team was reasonably prepared for the more prominent way of filming on the last two days: the video-shadowing (following of people with camera, see measurements). An overview of this procedure is displayed in Table 5.

Phase 3. After the case studies, with the awareness of the enormous amount of 'rich' data

Table 5

General Procedure (Activities) for Case Studies

	Activities				
Part of day**	Day 1	Day 2	Day 3	Day 4	Day 5
Morning	joining 'start of the day' meeting* getting to know the team members	same as day 1 (personal) distribution of questionnaires	filming 'start of the day' meeting* filming 'formal' meetings continue building trust with informal conversations	filming 'start of the day' meeting* following and filming team leader	filming 'start of the day' meeting* following and filming team member(s)
Afternoon	working together with the team informal conversations	distribution and collection of questionnaires		following and filming team member(s)	following and filming team leader

Note. * = if applicable – one team did not have these kind of meetings, although normally it is part of a CI strategy

** = activities were usually not strictly distinguished trough parts of the day; horizontal lines indicate a somewhat stronger distinction

we collected (in particular from the video-observations), it became apparent we had to restrict ourselves in the usage of the data. And indeed, this corresponds with the idea to make this research part of a larger study. Our approach in this phase was to start with a separate data-analysis and result description for the fieldnotes and the questionnaire. We wanted to find the most prominent or significant results per instrument, before linking the data to each other. After that we compared the results from these different data sources, so that we could find the key behaviors of highly productive CI teams based on both sources.

Finally we analyzed some of the video material as well, to see if we had captured (one or more) exemplary scenes of key behaviors. When we had captured these key behaviors or aspects from it by camera, we would describe extensively what we had seen to further enrich the results.

Measurements

Fieldnotes. We designed a specific form to write down our fieldnotes. Four open questions guided us to write down the most important things per day: 1. How did the team

members responded to my presence today? (examples), 2. What did I notice in the meetings that I attended today? (meeting one, meeting two), 3. What did I notice in the 'shadowing' sessions today? (session one, two) and 4. What other notable moments did I see today?

Although it might seem, based on these questions, that we only made notes at the end of the day, we always had a pen and piece of paper with us as well to write down noteworthy moments and behaviors. In this way we managed to gather not only information from events that were the most explicit or striking, so literally 'rememberable' (also known as 'critical' incidents, see Flanagan, 1954), but all kinds of interesting moments and behaviors. See appendix B for an example of the fieldnote-form.

Questionnaire. All constructs were (re)formulated to the team level, because we were mainly interested in teamwork and the functioning of the team members altogether. We used Chan's (1998) typology as a guide for bridging differences in the level of analysis, and made changes to constructs corresponding to the 'referent-shift consensus composition' (p. 238). The constructs were measured on a 7-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. A complete example of the questionnaire is in Appendix C. Below a description of all the scales we used.

We used a selection of items from Seers' (1989) 'Team-Member Exchange quality' (TMX) scale to measure 'team monitoring/backup behavior' (two items, e.g., "In busy situations, team members often help each other out", Cronbach's alpha = .75). We chose that scale because (amongst other mentioned objectives) 'it should measure the member's perception of his or her willingness to assist other members' (Seers, 1989, p. 119).

What was missing in the 'team monitoring/backup behavior' measure to fully cover our

definition of this type of behavior, was ‘feedback’. We resolved this with a separate ‘feedback’-scale (five items, e.g., “Team members bring mistakes under the attention of other team members, but not in a negative way”, Cronbach’s alpha = .72). We constructed the scale ourselves based on items of a ‘Critical Team Behaviors’ observation scheme (Hackman, 1986). We used a few items from the ‘Effectively Giving Suggestions or Criticism’- type of observations on this scheme and completed the scale with some positive feedback items we made up ourselves.

We measured ‘team learning’ with almost all items of the scale developed by Edmondson (1999; five items, e.g., “We regularly take our time to think of ways to improve the work process”, Cronbach’s alpha = .76). The scale is quite unique in the way it is directly assessing the behavior process of team learning (Stagl, Salas and Day, 2007); normally the ‘outcomes of growth’ are used as a proxy for team learning (Stagl, Salas and Day, 2007, p. 371; see also Kozlowski & Ilgen, 2006).

We found a ‘knowledge sharing’ scale from De Vries, et al. (2006) to measure ‘information sharing’ (eight items, e.g., “When team members need certain knowledge they ask other team members for it”, Cronbach’s alpha = .86). The benefit of using this scale for ‘information sharing’ was that sharing *knowledge* is not just about ‘some’ information. It is about important work-related information, and therefore it also gives an indication of *trusting* each other such important things. Indeed, we had also found trust to be an important related factor for the behavioral processes of effective teams (e.g. Kozlowski &Ilgen, 2006).

To assess the way conflicts are handled in teams, we used Tekleab, Quigley and Tesluk’s (2009) ‘conflict management’ scale (four items, e.g., “Our team knows what to do when a conflict occurs between team members”, Cronbach’s alpha = .79).

We used almost all items of the ‘Perceived cohesion scale’, adjusted for groups by Chin, Salis, Pearson and Stollak (1999; originally from Bollen & Hoyle, 1990), to measure ‘team cohesion’ (five items, e.g., “Team members have the feeling that they belong to the team”, Cronbach’s alpha = .88).

Angle and Perry (1981) made an ‘organizational adaptability’ scale (based on Mott, 1972), which we used to measure ‘team adaptability’ (four items, e.g., People in this team do a good job in keeping up with changes in new equipment and new ways of doing things”, Cronbach’s alpha = .77).

Van den Bossche, et al. (2006) managed to form an internal consistent scale, containing all dimensions of team effectiveness according to Hackman (1987): performance, viability, and learning. We used this scale to get an indication about the ‘team performance’ based on a self-reported measure (e.g., “We are satisfied with the performance our team”, Cronbach’s alpha = .68). In this way we could see if our selection of the high performing team based on performance measures, was reflected in the team’s own opinion about their performance.

Video-observations. As mentioned in Table 5 (‘General procedure (activities) for case studies’) the video-observation focused on two main subjects, 1) *meetings* and 2) *participants*, with two sub-subjects each: 1. a. ‘Start of the day meetings’, 1. b. Other formal meetings, 2. a. The shadowing of team members. 2. b. The shadowing of the team leader. Besides these subjects we also collected some material on specific ‘situations’, for example, the filming (mostly from one point) of a place in the organizational setting with a lot of social activity (e.g. near the coffee machine), or an overview of a workplace of multiple team members.

The description of our way of observing earlier, indicated that we share a contemporary view on observations, which means: we see the observations more as a collaboration between the

observer and subjects, rather than trying to pretend to stand outside of the setting – merely observing (Banks, 2001). We applied a form of 'participant observation' by working together with the participants in the beginning of the week, in which we familiarized with them and tried to gain their trust. Indeed, this approach was practiced in the observations with our naked eye as well (the fieldnotes measure), but it played a much more important role when we started using our cameras. As Banks (2001) puts it: "Her [the social researcher] exercise of agency is more obvious – literally so as she lifts a camera to her eye – and […] she should take steps to ensure that people understand what she is doing and why" (p. 113). This indicates that we could not just start filming without the careful preparation we described previously in the procedure paragraph.

In sum, after two days of 'participatory observation', we started on the third day with filming. We made the team get used to the cameras on that day by filming 1) meetings where the cameras were on placed on a tripod at a distance, and 2) 'just some' situations and people, as practice material (not necessarily meant to be used as data). On the last two days we did the most important video-observations. For meetings with the whole team (for example 'start of the day'-meetings) we used one camera aimed at the team leader, and another camera for an overview – to capture all (or at least the most) team members. When we followed (shadowed) the team leader or a member, we normally tried to do this as unobtrusively as possible (from a small distance and the side or back of the person) and only made a conversation when it seemed appropriate (for example: the person seemed uncomfortable or unease, e.g. not working continuously or in the our same pace, and looking to camera often). See Appendix A for a more extensive description of our behavior during the observations.

Data Analysis

In the pilot-phase we used fieldnotes, comments and verbal feedback from the

respondents, as well as Cronbachs Alpha in SPSS to improve the questionnaire and our set of behavioral rules for the observations. Only minor changes were made in terms of phrasing, clearness and comprehensibility.

After the case studies we used multiple analyses to come up with the results. For the fieldnotes we used a grounded theory approach based on Strauss and Corbin (1998). We started with a 'line-by-line analysis'- way of open coding (Strauss & Corbin, 1998). We used a coding scheme coding scheme based on existing literature (Ruona, 2005), to increase external validity. Further, we could also indicate if a sentence described the opposite of a behavior that we had coded, by giving it an '-'. See Appendix D for an example of our coding scheme.

For the classification of behaviors, we started with concepts we had derived from the interviews with stakeholders from the organization at the moment of selecting them as a high performing team. They had indicated themselves what kind of behaviors were important for the success and effectiveness of their team. We complemented them with other behavioral concepts, whereby we tried to cover all the sentences that described behaviors of team members.

Then we first tried our concepts as actual codes. We did a 'microanalysis' for this in a way that was reflective of how we did our earlier code (see Strauss & Corbin, 1998) to see if we could indeed cover all sentences. The results was that we could 1) distinguish the sentences with too much of our interpretation from the ones that describe something more just as it is, 2) distinguish the behaviors from the non-behaviors, 3) distinguish the behaviors that did not have any direct relation with the team members (for example: a description of a management-meeting) from the ones that did, and 4) make each concept more clear, combine a few, delete one or two, etc. What really helped is that we could also explain to each other (the two researchers that had observed 2 or 3 teams) the context of a certain situation. This helped with formulating and

finalizing the behavioral concepts, but also to agree on the actual coding of the behaviors (i.e. reach a high inter-coder agreement).

After this we had a coding scheme with which we could code a specific selection of lines from the fieldnotes with only *actual behaviors between team members*. We (the two observers/ researchers) coded the behaviors *each* separately for all teams (so not only the teams we individually observed). The inter-coder (percent) agreement was high (90%).

Another important step in the fieldnote analysis was to do a simple form of 'axial coding' (Strauss & Corbin, 1998), to find some covering categories for the behavioral concepts. We first came up with categories that applied to some of the behavioral concepts, but were not or less related to the behaviors from the team effectiveness literature. That left us in the end with a 'remaining category' of behavioral concepts that could be related to those of team effectiveness literature. In other words, with this approach we deducted a list of behaviors from the fieldnotes that we could compare with a list of behaviors from questionnaire results. We also indicated the most important behaviors of the fieldnotes (per category) by ordering the behaviors according to their *occurrence in the most teams* and then by the *most found example sentences*.

For the *questionnaire* a whole line of other analysis was appropriate because of its quantitative nature. First, we did a test for the internal consistency of the scales (Cronbach's Alpha). We also did some standard analysis, e.g., means and standard deviations – for the behavioral scales as well as for some demographic measures. We did not do a lot more 'extensive' analyses (e.g. factor analysis). This was because of the low number of respondents (N = 60), some other characteristics of the data (e.g. not normally distributed) and, more importantly, the role of the questionnaire next to the other qualitative measurements. We did do a correlation analysis, to get a first indication of important (key) behaviors from the respondents'

own points of view (considering the self-reported subjective nature of the measure). We measured the correlations of all behavioral scales with each other, and also the correlations of the behavior scales with the 'team effectiveness' scale – to get an indication about whether we selected the right behavioral concepts for the questionnaire. Furthermore, we did a regression analysis in addition to the correlation analysis. This was meant to get a more clear picture (although still as an indication) of the behaviors (independent variables) that are important in team effectiveness (dependent variable).

Results

The presentation of the results is structured around the types of data gathered in this study (from the fieldnotes, questionnaire and video-material) and the usage of that data in answering the research questions. First, the results of the *fieldnotes* are described and discussed separately to find the behaviors that are different from those generally mentioned in team effectiveness literature. Then, the results of the *questionnaire* are described separately as well. Next, a *comparison* between the results of the questionnaire and the fieldnotes is presented. Both the result of questionnaire and the following comparison of results were meant to indicate the extent to which the teams apply behaviors that are generally mentioned in team effectiveness literature. At last, a selection video material is described as an illustration of the ways in which typical behaviors are shown in daily practice.

Fieldnotes

We had a certain sequence in analyzing and categorizing the fieldnotes (Figure 3). First, we filtered out the *opposing* behaviors, i.e. examples of behaviors that were exactly the opposite of, or clearly of negative influence on, a coded type of behavior (indicated with a '-' in the fieldnote-scheme). After this filtering process, we clustering the total of 16 coded categories of

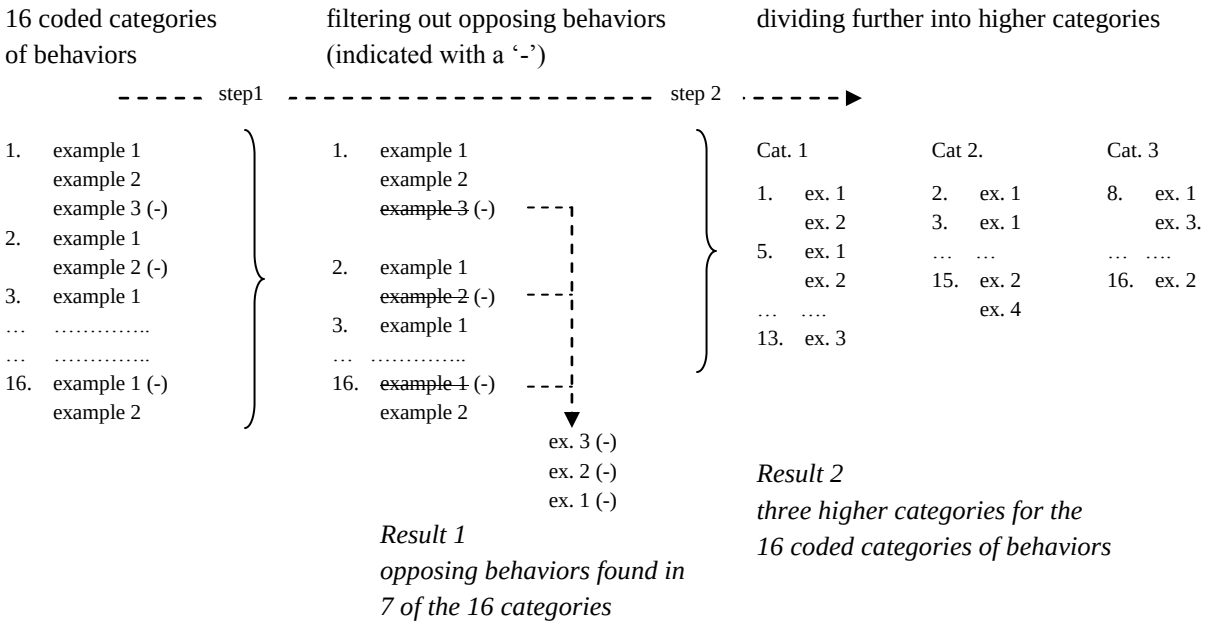

Figure 3. Fieldnotes analysis and result description

behaviors in 3 'higher' categories based on specific properties of the behaviors (the 'axial coding'). We first report separately on the results of the opposing behaviors, because they have an important value on their own. Afterwards the description of the clustered behaviors follows.

Opposing behaviors. Table 6 describes several examples of behaviors that do not contribute to the effectiveness of the team. This result is especially interesting because we selected the teams based on their high performance, but we nevertheless did notice several kinds of these opposing or 'counter-productive' behaviors. We found these opposing behaviors in *7 of the 16* categories that we coded, with numerous examples. This indicates that the highly productive teams are not that perfect when it comes to their behaviors. Looking at the types of behaviors (left column), we see that the opposing behaviors can be found in various categories – related to both the team effectiveness literature (e.g., 'To inform, return with information') and CI (e.g., 'Working according to the standardized work process'). So, the fact that a team is

Table 6

Examples of Behaviors Opposing *to the Coded Fieldnotes Categories, i.e. Ineffective Behaviors*

	Categories in which opposing behaviors were indicated*	Context descriptions of opposing behaviors	Example sentences of opposing behaviors
1	Social talks, making jokes, building a good atmosphere	This team member was observed to disregard social talk with other team members, while others in the team did interact with each other.	"Did not have a lot of contact with other team members"
2	Active participation in continuously improving the work process	The team members agreed to contribute ideas to improve the work process. Some apparently did not actively contribute to the improvement of the work process.	"People were saying that there were only a few people who came up with certain issues to improve"
3	Building the team through social activities and celebrating success	The team had agreed to drink a coffee together as a way to get closer as a team, but some team members felt that this agreement was not applied very well.	"They felt that others were too quick in returning to their work, instead of drinking a coffee together and making a social talk (as agreed)"
4	To inform, return with information	A team meeting observed by one of the researchers. The team leader did not provide feedback on the ideas raised by team members during the last weekly meeting.	"People were not informed about the result of the issues discussed at the last meeting"
5	Autonomous process monitoring, based on performance measures	The team members are supposed to keep an eye on their own performance to see if they could keep up with the targets, but some of them (sometimes purposely) did not.	"People said not to pay any attention to the performance measures, and just instead 'did their own thing'"
6	Working according to the standardized work process	While the team agreed on a certain work standard, this observed team member did not conform to the agreed way of working.	"Has his own way of working"
7	Understanding the strategic importance of CI	Due to the process improvements the team was working more efficiently. At the same time the management team communicated a lay-off. This got team members to think that because the continuous improvement efforts people were going to lose their jobs, whilst there were other reasons.	"[Team member] and others told me about their fear to lose their jobs: the drawback of Lean according to them…"

Note. * = in 7 of the 16 categories opposing behaviors were indicated.

skilled in the CI principles, does not exclude the making of opposing CI behavior.

Clustered categories. The idea of clustering the 16 coded types of behaviors, was getting insight in the distinguishable higher level types of behaviors we were actually looking at, and

also, to isolate the specific behaviors that can be compared with the concepts of the team effectiveness literature. First, we found one category of behaviors that had a *positive influence on the climate* of the team. Then a category was made of *behaviors that are CI-specific* (based on CI principles). In the *remaining category* there were only behaviors left that did not fit in any other category and therefore we used this category to compare with the concepts of the team effectiveness literature. In Table 7 we describe this sequencing way of further categorizing the behaviors, with examples of the fieldnotes and the contexts of what we had seen.

As Table 7 shows, the 'Social talks, making jokes, building a good atmosphere' – type of behaviors from the fieldnotes, seem very important in the teams: we have examples for this type of behavior coming from almost all teams (indicated with the 4 in the second column) and also the amount of example sentences for this behavior is the highest (the 12 in the third column). An important behavior that is CI-related is 'Active participation in continuously improving the work process', which was also seen in almost all teams (again 4) and with several examples (6 to be precise). The most important behavior in the remaining category was 'Process monitoring (with process data) on the initiative of team leader' (seen in 4 teams with 4 examples in total). We discuss this behavior, and some other important behaviors from the remaining category, more elaborately in comparison with the questionnaire outcomes.

An interesting result in general is the 'discovery' of the behaviors that have a positive influence on the team climate. Note that this category is *not* about climate as an 'emergent state' (a thought or a feeling), because we were looking for behaviors. These behaviors influence the climate in a positive way and they might very well influence the performance of the CI teams positively as well. The influence on performance is indicated by the important role these behaviors seem to have in the team process, as they are present in such a prominent way. So

Table 7

Example Sentences from all 16 Coded Behaviors Categories, Divided by 3 Higher Categories of (Subsequent) Clustered Types of Behaviors.

				Example sentences per higher category		
				Step 1.	Step 2.	Step 3.
	Behavioral categories	# t*	# x*	Positive influence on team climate	Related to CI principles	Remaining behaviors
1	Social talks, making jokes, building a good atmosphere	4	12	"Team members talk to each other and support each other when emotions run high" This team went through a turbulent period with lay-offs. Team members helped to build a good atmosphere by listening to and supporting each other in this process.		
2	Building the team through social activities and celebrating success	3	4	"Letter from the management team on the coffee table: 'Tomorrow you receive a treat because of the high quality of your work lately'" Example of celebrating the success of the team by the management team: a reward/treat for the hard work and the success as a result of that.		
3	Active participation in continuously improving the work process	4	6		"Employees raise questions about problems and ways to prevent them" Employees see the importance of improvement, and to contribute to this process, they raise problems that can be solved.	
4	Discussing ideas for improvement	2	3		"Issues for improvement are discussed elaborately; sometimes a small debate arises" Ideas for improvement are not only put forward but also elaborately discussed with the (whole) team.	
5	Thinking/reasoning from a	1	4		"[Team leader:] "We can't explain this to our	

				Example sentences per higher category		
				Step 1.	Step 2.	Step 3.
	Behavioral categories	# t*	# x*	Positive influence on team climate	Related to CI principles	Remaining behaviors
	customer, process and chain perspective				customer: ‘Because we don’t feel well the mail is delayed one day ’ ” ” During a team meeting the team leader explains the motivation to pursue work, even though the team received bad news.	
6	Working according to the standardized work process	1	3		“Collaboration with other team member runs smoothly; no clarification between team members is needed during the process; everybody knows what to do due to standard operating procedures ” It was due to the confirmation to the standardized process that everybody was working together so well. Each team member knew what was expected and what to do in what sequence.	
7	Understanding the strategic importance of CI	1	1		“Very excited about Lean” Team member explains the aspects of CI and the way it is applied in the team for better results. This person does this with a big smile.	
8	Process monitoring (with process data) on the initiative of team leader	4	4			“The performance measures were discussed: the trend upwards still appeared to be there, but the level of rising decreased a bit.” The team meets and discusses how the team is doing based on the performance measures. As a result the team hopes to improve things or keep going as they do.
9	To inform, return with	3	3			“He informed about the progress of different

				Example sentences per higher category		
				Step 1.	Step 2.	Step 3.
	Behavioral categories	# t*	# x*	Positive influence on team climate	Related to CI principles	Remaining behaviors
	information					projects" Team members were informed during a team meeting about important information that could influence their own work.
10	Cooperation among team members (in normal way of working)	2	6			"[Team member] splits up the mail that is hard to sort, so that they can sort them together and process the mail" The team receives a high work load and one team member tries to solve this problem. The work of one team member is in benefit for others, so that their work runs smoothly.
11	Short, effective meetings (due to team leader)	2	6			"Short 5 minute meeting just before just before the start of the production" A daily work meeting usually takes five minutes, right before the start of the production.
12	Effort for the team and members in meetings: being on time, active and with attention	2	3			"Everybody was present with full attention (not doing any other things and being quite)" In a team meeting everybody arrived on time and participated with full attention.
13	Discussing facts, flaws, feedback and opposite opinions	2	3			"The mistakes of the previous day were discussed" Clear example of the behavior in a meeting.
14	Autonomous process monitoring, based on performance measures	2	2			"He is setting a goal for himself (based on how the machine is running that day), and he is eager to attain that goal."

				Example sentences per higher category		
				Step 1.	Step 2.	Step 3.
	Behavioral categories	# t*	# x*	Positive influence on team climate	Related to CI principles	Remaining behaviors
						Team member is working with attainable goals and pushing himself to do as much as possible for the team performance.
15	Working focused and without interruption, following the agreed process	1	7			"Meanwhile [team member] just keeps on working" Team member is not distracted by his/her surroundings, but just keeps on working as expected.
16	Team members who help each other when necessary (back-up)	1	2			"She helps others with 'cleaning up the compartments' (this is not her task)" Team member recognizes that others have trouble to do the work in the available time, and uses her own spare time to help them finishing the work on time.

Note. * = frequency columns (# = amount of), with *t* for 'teams' and *x* for 'example sentences'
" " = example sentences from the fieldnotes are between quotation marks, the context descriptions are below those sentences

although influence is indirect (via the climate), the effect on the performance might still be evident. Moreover, looking at the description of the coded behaviors, there seems to be a certain purpose in the behaviors, i.e. *building* the team/ atmosphere. And considering there is a purpose, it would be logical to think the purpose is to have a positive influence (directly or indirectly) on the performance – as it is the most important goal for the team itself.

To conclude this important qualitative part of the results, we have noticed and coded several kinds of behaviors related to 1) positively influencing the climate, 2) CI and 3) presumably, the team effectiveness literature. Following, we again stress the importance of finding remarkable many examples of *behaviors* related to the team climate, because the team effectiveness literature does not consider such behaviors to be (an important) part of the team process of effective teams. The importance of behaviors was indicated by an order of importance based on the number of teams the type of behaviors occurred in and amount of examples we noted down for those behaviors. In this way we got a better idea of the behaviors that seemed the most important from our point of view. Furthermore, we distinguished the behaviors that are presumably largely related to the team effectiveness. This makes it possible to compare these fieldnotes results with the ones from the questionnaire (as the questionnaire is specifically build with constructs of the team effectiveness literature), in order to get a view on these behaviors from both - our perspective and the team's perspective. Below we first present the results of the questionnaire, then we move on to the comparison.

Questionnaire

Table 8 provides an overview of the questionnaire results. An important outcome is that the highest scores are just above 1.00 (see 'M' column) on a scale of -3 to 3 (strongly disagree to strongly agree). This means that the teams at the most 'slightly agree' with statements that

Table 8

Means (M), Standard Deviations (SD), and Intercorrelations of All Scales, with Cronbach's Internal Consistency Reliability (α) on the Diagonal

Scale	M	SD	1	2	3	4	5	6	7
1. Conflict Management	0.24	1.01	.79						
2. Backup behavior	1.35	1.06	.43**	.75					
3. Feedback	0.75	0.93	.43**	.42**	.72				
4. Team Learning behavior	0.67	0.92	.30*	.37**	.57***	.76			
6. Team Adaptability	1.03	0.86	.71***	.55***	.57***	.38**	.77		
7. Information sharing	1.08	0.86	.53***	.52***	.79***	.67***	.56***	.86	
8. Team effectiveness	1.36	0.85	.57***	.57***	.48**	.39**	.68***	.56***	.68

Note. * = correlation significant at .05 level (2 tailed), medium correlation coefficient (Cohen, 1988)
** = correlation significant at .01 level (2 tailed), medium correlation coefficient (Cohen, 1988)
*** = correlation significant at .01 level (2 tailed), high correlation coefficient (Cohen, 1988)

indicate they indeed apply behaviors of an effective team. If they would have scored 2.00 or above, they would agree or strongly agree with statements in favor of applying behaviors of effective teams. This result was quite unexpected. The low mean scores could be explained differences between the teams. Therefore we also created a table (9) with the means and standard deviations per team, and the F-values to indicate the (significant) differences between groups per scale.

Table 9 shows that one team (with the number 3) is clearly scoring lower on all variables, which is distorting the results to some extent. So what would happen if this case was left out is that all variables would have scored somewhat higher. But we have to acknowledge that even then *none* of the variables would have an average score of 2 or higher. So this does not change the essence of the results. That implies that, especially taking our selection of *high performing*

Table 9

The Means and Standard Deviations for All Scales, Divided by Team 1 to 5, Completed with the Values for the Difference and Significance Between Team Means.

Team	1		2		3		4		5		
Scale	M	SD	M	SD	M	SD	M	SD	M	SD	F-value
Conflict Management	1,08	1.28	0,60	1.29	-0,83	.81	0,66	.75	0,12	.96	4.80 **
Backup behavior	2,33	.88	1,30	1.23	0,10	.94	1,41	1.14	1,63	.74	6.36 ***
Feedback	1,17	1.05	0,74	.41	0,10	1.24	0,72	1.14	0,95	.61	2.02
Team Learning behavior	0,43	1.54	0,68	.82	-0,07	.78	0,27	.90	1,27	.66	4.75 **
Team Adaptability	1,96	.29	1,06	.76	-0,20	1.05	1,32	.67	1,16	.75	6.36 ***
Information sharing	1,50	1.09	1,30	.43	0,30	1.19	0,93	1.04	1,30	.64	3.02 *
Team Effectiveness	1,88	.65	0,94	.90	0,33	.88	1,68	.46	1,68	.52	9.91 ***

Note. df = 59 (mostly); $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$

teams into account, it would still hold that the teams would not at least agree (score 2) with statements in favor of applying behaviors of effective teams. More in the discussion section about this.

Besides analyzing means, standard deviations and correlations, we did a 'stepwise' regression analysis to get a better indication about the key behaviors presented by the questionnaire. The result was a model of 2 variables (from 6) that predicted team effectiveness the best: *adaptability* ($\beta = .52$, $t(56) = 4.58$, $p = .004$) and *backup behavior* ($\beta = .34$, $t(56) = 3.01$, $p < .001$). The model explained a significant proportion of variance in team effectiveness ($R^2_{adj} = .56$, $F(2,48) = 32.67$, $p < .001$). We see these two variables as key behaviors from the teams' point of view.

Concluding on this quantitative part of the results, we see the relatively low scores on the behavioral scales as one of the most remarkable findings of this research. Although this result is based on a self-reported measure, it is still quite striking that the teams are (on average) clearly not convinced that they apply the behaviors for which effective teams are known for. We expected a somewhat higher confidence of the teams in respect to their behaviors, considering they are in fact high performing teams. Further, it is also interesting to see some of the differences between the teams, although this result was only meant to provide insight in the low mean scores (however such analysis would go beyond the goals of our exploratory study and therefore calls for further research). Moreover, adaptability and backup behavior were clearly exhibited as the key behaviors from the questionnaire. Remarkable about this result is for example that these two behaviors are both typically related to responding to unusual situations or conditions. The behaviors are discussed more elaborately in the next paragraph and in the discussion part of the research.

Fieldnotes and Questionnaire Comparison

We used the two key behaviors from the questionnaire analysis, adaptability and backup behavior, to compare with behaviors of the remaining category of the fieldnotes analysis (see Table 10). An important aim was to get a *better* indication of the key behaviors which were identified in the team effectiveness literature - as the questionnaire on itself provided only self-reported results. Moreover, the comparison was also of use in the continuing selection process to identify the key behaviors that we could eventually illustrate using the video-material.

An important aspect that emerged from this comparison, displayed in Table 10, is that the key behaviors identified in the questionnaire are not necessary the same as the most important behaviors identified in the fieldnotes. This is indicated by the numbers between brackets that

Table 10

Behavioral Categories from the Clustered Remaining Category of the Fieldnotes Results, Compared with Key Behaviors from Questionnaire Results.

Behavioral categories	Correspondence** Backup.	Adapt.	Explanation of correspondence
Team members who help each other when necessary (back-up) (9*)	+	+/-	The backup behaviors are literally the same. And the backup behavior can be done to help a teammate who did something wrong, but also to *adapt* to busy circumstances.
Autonomous process monitoring, based on performance measures (7*)	+/-	+/-	If the monitoring is aimed at another teammate's work, it might well be the preliminary behavior to backup behavior; monitoring aimed of either one's own work or a teammate's work might be meant for adaptability to the work.
Discussing facts, flaws, feedback and opposite opinions (6*)	+/-	+/-	Discussing facts or flaws might well be aimed to adapt to certain circumstances; feedback aimed to help somebody out in a situation is backup behavior.
Process monitoring (with process data) on the initiative of team leader (1*)	-	+/-	This type of monitoring could logically play an important role in adaptability: the team has to know about (monitor) important developments that are of influence to the work/team, to make necessary *adjustments*
To inform, return with information (2*); Cooperation among team members (in normal way of working) (3*)	-	-	The type of behavior of the fieldnotes is too general to specifically apply to one of the questionnaire behaviors.
Short, effective meetings (due to team leader) (4*); Effort for the team and members in meetings: being on time, active and with attention (5*); Working focused and without interruption, following agreed process (8*)	-	-	No (in)direct or clear correspondence

Note.* = numbers for the order of importance, corresponding with the order from Table 7

** = + = clear, direct relationship with each other
+/- = less clear, indirect relationship with each other
- = not clear, no direct relationship with each other

visualize the order of behaviors from the fieldnotes (see the first column in Table 10). We see that from five of the most important fieldnotes behaviors, only one (with the number 1 as well) has high or medium correspondence with the key questionnaire behaviors.

Furthermore, process monitoring seems to be an important, perhaps overlapping or binding, factor of the most important behaviors from both instruments. This is indicated by the correspondence from both ‘Autonomous process monitoring’ and ‘Process monitoring on the initiative of team leader’ with the key behaviors of the questionnaire. And although backup behavior did not seem very important in our observations (see fieldnotes analysis), the comparison with the questionnaire results suggested more evidence for its importance. Based on this we recognize the importance of both backup behavior and adaptability, not only through the self-reported image of the teams but also from our point of view.

We also made the comparison the other way around, that is by looking at the two most important fieldnotes-behaviors from the remaining category, ‘process monitoring (with process data) on the initiative of team leader’ and ‘To inform, return with information’ (seen in 4 and 3 teams respectively), and mirroring this against the questionnaire results. Only ‘information sharing’ has a clear overlap with those behaviors. If we look back at the means and correlations of behavioral concepts of the questionnaire (Table 8), we see that this concept also has the second highest mean score of all behaviors and moreover the most amount of high (significant) correlation coefficients – with respect to all measured concepts. Therefore, we added this to our key behaviors from team effectiveness literature that apply to high performing CI teams.

Video Analysis to Exemplify Key Behaviors

Based on the previous described results we decided to focus some more attention on the following behaviors: 1) ‘Adaptability’ (important in the team’s own view and recognized with observations); 2) ‘Backup behavior’ (important in the team’s own view and recognized with observations); and 3) ‘Social talks, making jokes, building a good atmosphere’ (as the most important behavior from the fieldnotes). For each type of behavior we describe three example

Table 11

Descriptions of the Video Material, to Exemplify Key Behaviors

		Key behaviors	
	Adaptability	Backup behavior	Social talks, making jokes, building a good atmosphere
1.	Context: start of the day meeting in a factory setting. "The team is standing close to each other on the work floor of a factory. Noise on the background from machines and people that are (already) working. It is a short meeting with different topics. One of them is a rapid rise in sales which will have consequences for the way of working , for example 'shifts are split up'. When a team member asks the team leader a question about what specific modifications are probably necessary, an elaborate answer follows with interruption of and interaction with team members. Members ask things like 'will it be like this, or like that time before?' and confirm with 'oh, like so and so'. It is about tools, installations, processes, time, etc; all kinds of detailed adaptation that might be necessary. There are no prominent emotions shown; it appears a sober, businesslike meeting."	Context: following a team member in a factory setting. "The team is working in a large factory hall, mostly with on the same machines with the same tasks. A lot of noise is coming from the machines and people working. The team member who is followed stands mostly near the machine that the person is operating on. Sometimes this person has to get some new materials for the machine or process some waist, for which a little walk is necessary. During one of these walks the person is going back to the workplace and passes the machine of a team member. When the person sees that the machine is stopped (because something is jammed) and the team member is not around, a quick action by this followed person takes place to solve the problem. The machine runs again, the person is going back to the workplaces, passing the other team member without saying anything about what happened."	Context: following a team member in a factory setting. "The team is working in a factory hall, with all kinds of machinery in different settings. Team members are working next to each other on different and similar tasks. They are standing, walking, collaborating with each other, working on their own. The team member who is followed is just doing some work, walking to get something, standing still for a moment. Than another team member passes and starts with a smile like 'are you still in the mood?' [for working]. Then a few funny remarks follow, back and forth, to end with both a big smile on their faces and just going back to work."
2.	Context: weekly team meeting in an office setting. "The team is sitting in a big circle in a specious office. No noise except for the team discussion. The meeting takes about 40 minutes in total and all kinds of topics about latest developments are discussed. Meeting was interrupted once because of short phone call ('can I call you back, because we are in a meeting at the moment'). One topic is about the acquiring of certain information in the team. Normally this information is send by members to a person who collects it, sometimes	Context: following a team member in an office setting. "The team is working in small offices. The team member who is followed is working together with one other member in the same room. Sometimes team members from another room are coming in the room to discuss something for a short moment. The person who is filmed sits mostly at a desk to work on specific task on a computer. This person regularly asks for help from the other team member in the room, who seems to have an expert role. The help mostly starts with a	Context: following a team member in a factory setting. "The team is working in a large factory-like hall with different paths. Team members can work in those different paths on different tasks. The team member who is followed is working in a path where people sitting next to each other, doing separately the same task. After working for some time without saying anything, the person who is followed starts with one remark aimed to a team member directly next to the workplace. After a moment of silence, the teammate on the next workplace

		Key behaviors	
	Adaptability	Backup behavior	Social talks, making jokes, building a good atmosphere
	the person that collects will have to get it because members are not working that day. There appears to be a difference in the system of how the information is stored, whereby the collector has difficulties acquiring the right information. Not the adaptation itself but the necessity of adapting the system is discussed for some time. Why is there a difference, why is it a problem? Interaction between members, and members and leader, takes place. A conclusion was that there is a need for standardization and a separate meeting of 3 members will be about this."	question from a distance. For the answer the team member mostly walks to the desk of the person who is followed, to verify what was meant by asking more questions and looking over the shoulder to the computer monitor. The person who is followed is helping with the answer by saying 'so it is this and than that, right? And after I do this it is ok, isn't it? Mostly the person who is followed is already right, but just wants to be sure by asking these questions. Only after the question is answered fully and uncertainty seems to be reduced, the team member that was helping out returns to the own desk."	responds with a remark. After a while the teammate starts to tell something, and with the response of the person who is followed a conversation starts. They keep on working (mostly) but combined with a social talk. After about 5 minutes the conversations just stops for some reason (nothing in particular). The team members just keep on working as they did."
3.	Context: following a team member in an office setting "The team is working in an open office layout: the whole team plus other teams are working next to each other, with just a few separating walls and no doors. Most members are sitting at their desk, some are walking through the office setting. The member who is followed by camera is part a sub-team of experts. The member is not only paying attention to his own work, but also to his surroundings. This person and others of the sub-team have to do their own work, help people constantly with questions about the work, have short meetings on the workflow with other members, and more of those different tasks. These tasks constantly change, depending on who's coming to the desk of this person or where this person is asked to go. Also, there appears to be a need to pay attention to other members of the sub-expert team: when they are busy, the followed person should be available for whatever is needed at that moment. For all of this, the team member and the sub-team constantly adapt to the work of other members and each other.	Context: following a team member in a factory setting. "The team is working in a large factory-like hall with different paths. Team members can work in those different paths on different tasks. The team member who is followed is at a certain point done with the work or at least a task. After accompanying a temporary worker to the exit and helping with some forms in between, the person is returning to the hall. Here the person is going to a specific path is quite occupied and busy with working people (team members) and tools they are using. The person hardly can walk through this path. At some point she asks something link 'is there something that I can do over here to help you out'. The person is directed to an area where most help is needed at that moment, and the help starts by taking over some tasks.	Context: start of the day meeting in an office setting. "The team is sitting in a big circle in a relative small area of an open office layout. Instead of the meeting that is planned normally on this time of the day, something else occurs. Because one of the team members is 25 years employed by the company, this is celebrated with a (stage) play executed by the team leader. The play is about the jubilee team member, looking back at memorable moments in the career of this person. The play and the costume are meant to be funny, and also a lot of jokes are made. The whole team is enjoying it and a lot of smiles and laughs are shown by team members."

situations from our video-material (Table 11). In this way we got a better impression of what these key behaviors of high performing CI teams actually are, i.e. what they look like in a real life working context.

For the recognition of the behaviors in Table 11, we repeat the definitions of adaptability and backup behavior here; the coded behavior from the fieldnotes (i.e. social talks, making jokes, building a good atmosphere) was already formulated as a definition and therefore repeating would be redundant. Adaptability is the "ability to adjust strategies based on information gathered from the environment through the use of backup behavior and reallocation of intrateam resources [..and..] altering a course of action or team repertoire in response to changing conditions (internal or external)" (Salas et al., 2005, p. 560). Backup behavior entails actively keeping an eye on each other's performance, and assisting when necessary with feedback, helping with a task or (assuming and) completely take over the task of a teammate.

By analyzing the video-material and describing some examples of the key behaviors, we found, first of all, that adaptability behavior is the most easily found in meetings, whereas backup behavior is more common during normal work routines; the 'social behaviors' are visible in all kinds of situations. Furthermore, the behaviors are shown in several kinds of ways, and (despite that) it is reasonably easy to distinguish those ways of behaving. So, although the behaviors are interrelated, they appear to be recognizable as unique properties of the team process.

Moreover, it is very interesting to zoom in on the way behaviors are exhibited in specific situations. For example, from the first illustration of *backup behavior* (at the top of the center column) it appears that team members are not only applying this type of behavior, but they are doing it as if it is the most common thing to do: "…the person is going back to the workplaces, passing the other team member without saying anything about what happened". It seems that (at

least in this team or for this member) backup behavior is not an exception or something special for which you should get some kind of credit, but just a normal thing to do. Consequently, considering this way of behaving might apply for all high performing teams, it might even be *essential* to apply such behavior in this specific way (doing it quickly, without expecting something back) for a team to be *effective*. In order to draw such conclusion it appears to be crucial to look at these behaviors in a very detailed way. Although it was not our aim in this exploratory research (yet) to zoom into the behaviors in such way (we just wanted to give some first illustrations of behaviors from the video-material), by giving these illustrations and exemplify a first interpretation of these behaviors - we do want to contribute to the current literature and make a clear statement for analyzing behaviors in this way.

Following, coming to an overall conclusion for this section, the added value of our results to specifically CI (but also team effectiveness) literature constitutes not *only* in the findings on the key behaviors of high performing CI teams. Another (intended) contribution of this research to previous studies on this topic, was in the innovative mixed method approach and looking at behaviors in a much more qualitative and detailed way. By providing comprehensive insights in how we conducted the research and the kind of interesting new perspectives on team behaviors it produced, we think we added more than just some interesting results to the current literature.

Discussion

The discussion section is divided into three parts: 1) a large subsection for answering the research question and discussing topics related to specific questions, 2) a smaller subsection aimed at reflecting on the research goals and the contribution of this research to the current literature and 3) another small subsection for the limitations and directions for further research.

Discussing the Answers to the Research Questions

The main question we asked ourselves for this study was "What are the typical behaviors of high performing front-line teams who adopted Continuous Improvement work principles?". We searched for the answer to this question with the following sub-questions.

First question. What are the typical (CI) behaviors within front-line teams who adopted the CI work principles, that are different from those behaviors generally mentioned in team effectiveness literature? We searched for the answer exclusively with our observations (the fieldnotes). First of all, we noticed al lot of behaviors that we described as having a *positive influence on the team climate*. This brings us to the discussion of what this found category of behavior actually is, what explanation there might be of seeing all the examples of these behaviors in high performing CI teams, and also, in what ways might this type of behavior be related to the behavioral concepts of the team effectiveness literature.

To begin with the first discussion point, we have to stress that the topic of climate, even on the more specific team level, is too extensive to fully attend to in this discussion (see Schneider, 2000, for a review of climate literature). Therefore we leave it with some remarks about specific aspects of team climate that we think are applicable here – so, related to the *behaviors* that we noticed. Team climate is the climate of the 'proximal work group', as defined by Anderson and West (1998); i.e. the team to which individuals belong, with the people they identify and interact with. Climate is commonly about the shared perceptions (Anderson & West,1998) or shared psychological meanings (James et. al., 2008) that exist in the team, but can also have a more specific *affective* approach (e.g., De Rivera, 1992). In this sense '*positive influence* on the team climate' can mean that the climate is strengthened in the way that 'sharedness' will evolve where individuals are interacting and co-constructing perceptions (e.g.,

Hosking & Anderson, 1992; see Anderson & West, 1998). Or it can mean that the positive contribution is in the specific affective/emotional response (e.g., happy feelings) to interactions and events (e.g., De Rivera, 1992; Pirola-Merlo, Hartel, Mann, & Hirst, 2002). In both ways it is a matter of *behaviors* (in this fieldnotes-category at least) that have a positive influence on team climate and this climate can in turn have a positive impact on team performance (e.g., Pirola-Merlo, et. al., 2002). We had exactly these aspects of team climate in mind when formulating 'positive influence on the team climate'.

When it comes to the second point of discussion, i.e. *why* we found this seemingly important category especially for *these* teams, we also have to restrict ourselves in elaborateness of the discussion. But we do want to try to give a few explanations. First, although not described as one of the *key* principles in CI literature (i.e. it is probably not *essential* in a CI strategy), scholars do see the *celebration of successes* also as an *important* aspect of a CI-strategy (see e.g., De Jager et. al., 2004; Tracey & Flinchbaugh, 2006); And this type of behavior is clearly also an important factor in the 'positive influence on team climate'-category, i.e. 'building the team through social activities and *celebrating success*'. A reason why this is specifically important for CI teams is given by Tracey and Flinchbaugh (2006), who emphasize the importance of acknowledging successes in the implementation of a CI strategy. This is because *continuously* improving implies a never ending journey. Therefore, as clear/objective outcomes might be missing, this could also cause lacking the corresponding sense of accomplishment. In order for CI organizations and teams to do it 'the right way', they need to find ways to celebrate success along the journey, as they then prove to be more successful in the CI strategy (Tracey & Flinchbaugh, 2006). So for this reason it is not entirely surprising that we found these types of behaviors for our *high performing* CI teams; i.e. they try to apply the CI strategy in the best way

possible – including the celebration of success. Indeed, looking at this the other way around, one might say ‘when a team is (getting) more successful, there is also more reason to celebrate…’. So, either way, it appears this type of behavior could be a very important (but not indicated as essential) in applying a CI strategy successfully. Getting to the second explanation of seeing this type of behavior, we thought of an important aspect of the type of *leadership* for teams that adopted a continuous improvement approach. This aspect is in the distribution of responsibilities and skills to team members (e.g., Found & Harvey, 2006; Van Dun, 2008). This means that leaders practice a more facilitative role (Quinn, 1984), instead of the traditional way of ‘command and control’. Subsequently, because it is more of the team members’ own responsibility how they do their work (as long as they do their job well and attain their targets), they have or might feel more freedom for social interaction in CI based organizations. And so, that might also explain (in part) why we saw remarkably many examples of this type of behavior in high performing CI teams.

Concerning the third discussion point we raised about the high occurrence of the climate related behavior, we also searched for links of this behavioral category with the team effectiveness literature. To begin, it appears that a *cohesive* work environment (linked to climate) is related to collegial relationships (e.g., Morrison, 2004; Odden & Sias, 1997). More specifically, the affective climate influences workplace friendship between employees, and such a relationship has a positive influence on the team–member exchange, i.e. TMX (Tse, Dasborough, & Ashkanasy, 2008). To recall, TMX was about the willingness to assist other members and share ideas/ feedback (backup behavior), and provide information to other members (information sharing) (see Seers, 1989). So, such influences seem to work in two ways: there are behaviors that have a positive influence on the climate, and such climate in return has a

clear impact on several (effective team) behaviors. Further, we already mentioned the concepts of psychological safety and trust, and the role they have as a certain context or climate. In such climate or context the acts of seeking feedback, sharing information, experimenting, asking for help, and discussing errors, are *more* (Edmondson, 1999) - and conflicts are *less* likely to take place (e.g., Kozlowski & Ilgen, 2006). Furthermore, although team climate (just as team cohesion) is about "cognitive, motivational and affective states of teams as opposed to the nature of their member interaction" (Marks, et. al, 2001, p. 357), characteristics of affective climate (warmth, support, acceptance, sincerity, and enthusiasm) work as social mechanisms to facilitate and *shape behaviors* of the members (employees) in a team (O'Reilly & Chatman, 1996; see Tse, et al., 2008).

Although it is too complicated to discuss such influences of the behaviors and related concepts on each other, important for now is to recognize that team climate is clearly not an isolated concept in the workings of the team. Moreover, its' influence on both the process and the performance of a team is evident and something which should be kept in mind in further, more detailed, research. Considering our research goals and only taking an uncomplicated version of the team process into account (with the IPO model), this is as far as we go in shedding light on this aspect of team process. Our interests in this research were mainly in seeing the differences and similarities between the high performing CI teams and effective teams in general with respect to their key behaviors and related concepts (like the climate).

To get back to the second question, the behaviors that have a positive influence on team climate were only a part of the answer to 'what behaviors of the high performing CI teams are different from the behaviors mentioned in team effectiveness literature?'. For this, we also found a category of CI specific behaviors. The two most important behaviors were 'Active participation

in continuously improving the work process' and 'Discussing ideas for improvement', which seem actually quite related to each other. They are both about a specific unique feature of the CI teams: always trying to improve the work. The difference is that the first type of behavior is about taking initiative in making improvements (e.g., to bring an improvement to attention or adjusting something for the better) and the second type of behavior is about the specific conversations regarding improvements.

An important topic for discussion that arises here, is (again) about the link between these behaviors and those of the team effectiveness literature. Or, more specifically: what is it actually that makes these CI behaviors unique, and what not? We decided, for example, that 'Discussing facts, flaws, feedback and opposite opinions' was comparable with behaviors of the team effectiveness literature (e.g., backup behavior), but in what way is this different from 'Discussing ideas for improvement'? It is clearly both about discussing something and, for example, to make improvements in a process you definitively need to know all the facts about this process (see Womack & Jones, 2003). And what about feedback? Is this not a specific type of comment to a person, mostly to *improve* the way that person behaves? So, what is the specific characteristic then, that makes such a CI behavior unique compared to the behaviors from the team effectiveness literature?

We found *innovation* to be a key concept in this. This is perhaps best explained by Boer and Gertsen (2003). They see Continuous Innovation as the answer to finding a way to combine *operational effectiveness* and *strategic flexibility* – or exploitation and exploration (Boer & Gertsen, 2003, p. 806). In this sense the behaviors from the team effectiveness literature are more a part of the operational effectiveness, whereas the CI specific behaviors are about strategic flexibility (i.e. developing new configurations, or simply *innovate*). No wonder, Bessant and

Caffyn (1994) defined CI as ‘an organisation-wide process of focused and sustained incremental innovation’. So the CI behaviors are recognizable for their aim to innovate; whether it be the small-step continual improvement activities, or the more dramatic, on-going technological-, organizational- and market-based changes (see also Chapman & Corso, 2005). To conclude, the key behaviors of high performing CI teams besides those more explicitly mentioned in team effectiveness literature are those that have a positive influence on the teams’ *climate* and those that are of specific *innovative* nature.

Second question. To what extent do high performing front-line teams who adopted Continuous Improvement work principles apply behaviors that are generally mentioned in team effectiveness literature? We have looked mostly to the results of the questionnaire for the answer to this question. With these results it became first of all apparent that the teams are quite critical of themselves. Indeed, although we had selected them for their high performance, they still could only at the most *slightly agree* with applying the selected behaviors of effective teams in general. This was also a reason not use the *means* of the questionnaire-constructs as indicator for the most important behaviors, as such perceptions seem to distort the reality. In reflection, the critical attitude is perhaps best explained by the mindset of these CI teams, where nothing is ever good enough (see e.g. Detert, Schroeder, & Mauriel, 2000). Also, three teams were only one to two years away from their start of working with a CI-method, which means they logically can expect to see more improvement in their behaviors for the upcoming years. Even though all team adopted the CI principles from the first year, this does not mean the biggest improvements are only in the first year. And especially improving behavior, in contrast to for example the line of machinery, might implicate a somewhat longer improvement-span.

Moreover, the regression analysis indicated two behaviors, *backup behavior* and *adaptability*, as the most important factors for the effectiveness of the teams. Together with the fieldnotes, the questionnaire results suggest that next to backup behavior and adaptability, *information sharing* (i.e. the proposed combination of communication and coordination) can also be seen as one of the key behaviors. Based on this we conclude that these three behaviors related to team effectiveness literature are the most important in and applied by the highly effective CI teams.

Third question. How are the most typical behaviors of high performing teams who adopted the CI work principles shown in daily practice? It is tempting to answer this with: in various ways. In light of the previously described example behaviors that are indeed quite different and hard to define as an answer, this first intuitive answer is actually not far from reality. Also, considering the *type* of question asked here that is pre-eminently descriptive of nature, the best answer indeed would be 'you have to see it for yourself'. Therefore the results that we described before are as close as we can get with providing an answer to the third question. But, in any way, by describing the behaviors we did also find some other interesting aspects of the team process. It appears that adaptability behavior can mostly be found in meetings, whereas backup behavior clearly happens the most in normal work routines. The third key behavior, 'Social talks, making jokes, building a good atmosphere', is shown in all kinds of situation. Marks et. al. (2001) use a 'Transition and Action Phases' (p. 364) qualification for this distinction; the meetings in this case would be in the transition phase and the normal work routines belong the action type of behaviors. Our findings are partly consistent with this research, as only backup behavior essentially shares the same qualification as Marks et. al. (2001). And further, although Marks and colleagues do not specifically look into behaviors that have a

positive influence on the climate, they do see (for example) ‘motivating, confidence building and affect management’ as part of both phases. So this could easily be a sign of congruence in both studies on this social/affect part of the team process; i.e. these are typical behaviors that can be found in every kind of situation. Adaptability was not included by Marks et. al. (2001), but if we had to place this behavior in their ‘Manifestation of Processes in Transition and Action Phases’-illustration (p. 364), it would be something like the *strategy formulation and planning* type of behavior of that article, that is mostly in the transitions area (comparable with meetings) but also for some part in the action phase (we have also seen some adaptability during normal work routines, but less). When contemplating about this conformity, it might not be that much of a surprise considering both aspects of the process have a ‘looking ahead’ factor - to be prepared for what is coming, so they are indeed somewhat comparable. At last, it is important to notice that our observations were justified and motivated by asking this type of question, simply because getting on the ‘shop-floor’ and looking around was in our opinion the only way to come up such an answer. We have a vast amount of rich data collected in weeks of video-material, from which we only use a bit for the explorative study. So although our illustrations of the video-material provide already a quite extensive image of how typical behaviors of high performing CI teams are shown in daily practice, we still have a lot more to discover.

Main question. What are the typical behaviors of high performing front-line teams who adopted Continuous Improvement work principles? We summarized the previous discussions of the sub-questions and added important complementary remarks for the final answer. As a first part of the answer, we looked for behaviors different from those of the team effectiveness literature – i.e., CI specific and other behaviors. We have discovered an important category of behaviors that are related to the climate of the team. These behaviors strengthen the shared

perceptions of team members and aim for a positive atmosphere. The affective climate is important, because it facilitates and shapes the behaviors in the teams. Furthermore, coming to what makes the teams that adopted CI principles unique, the behaviors that were dominating in a CI specific category of the results, can be described as the ones that improve the work. Taking into account that some of the behaviors from team effectiveness literature have an important role in improvement as well (e.g., team learning, feedback), we explained a unique property of these CI behaviors: the aim for innovation.

For the next part of the answer to the main question, we looked into behaviors from the team effectiveness literature with a quantitative method (questionnaire) and found that the high performing teams have trouble agreeing with applying behaviors of the team effectiveness literature. Besides our given explanations with respect to the content of the research (i.e. the nature of CI teams: good is never good enough), this might well be the exposure of a shortcoming in using a questionnaire to look at behaviors; e.g., a possible tendency towards answering with a social-desirability bias (see e.g., Fisher, 1993). This could be something like ‘to be an example as a CI team, we should show to be never satisfied with our behavioral performance’. Nevertheless, by analyzing the questionnaire results extensively (including a regression analysis and a comparison with qualitative results), a few team effectiveness behaviors were indicated as the most important for the high performing CI teams: backup behavior, adaptability and information sharing.

The last part of the answer to the main question, the way typical behaviors of high performing CI teams are shown in daily practice, was illustrated by examples of three key behaviors (adaptability, backup behavior and social talks, making jokes, building a good atmosphere) selected from the video-material. Different descriptions of the behaviors made it

clear for us that such behaviors are recognizable as unique parts of the process, and moreover, even a qualification of those behaviors in specific settings or phases (i.e. either the transitional/ meeting or the action/ working state of the process) was possible.

To fully the answer the main question we need to revise the concept of (team) monitoring, and stress its importance shown with this research. Initially, we saw this concept mainly as an important part of backup behavior. But based on the results (especially the comparison of the quantitative and qualitative measures) and a fresh view of the literature, we see that the role of monitoring cannot be underestimated in high performing CI teams. Its importance is shown, for example, in the fact that several important behaviors in this research (e.g., backup behavior, adaptability, active participation in continuously improving the work process) are practically impossible without the monitoring of team members and the process. Furthermore, Marks, et. al. (2001) distinguish between three types of monitoring: 1) monitoring progress toward goals, 2) systems monitoring and 3) team monitoring and backup behavior. Considering this, it seems that monitoring is *especially* important in CI teams; i.e. in order to keep on track and improve the process in the same time the team must keep a close eye on the goals, systems and team members. Of course, we have to keep in mind that we focused on team behaviors (teamwork) and not on individual behaviors (that is why we looked mostly into 'team monitoring and backup behavior' at first). But also for the 'monitoring toward goals' it is not hard to imagine cooperation between team members; e.g., looking at each others' progress to see if everybody is on track, provide each other written and verbal information (or advise) about this, etc (in this way it does not necessarily has to by backup behavior). Indeed, there is also an important link with information sharing (in coordination and communication) here. All in all, there are (already in this research) some indications that team monitoring is an important

behavioral factor in the team process of high performing CI teams as well. Next to the other indicated typical behaviors that completes our answer to the main question.

In sum, our findings suggest that the following behaviors are typical for high performing front-line teams who adopted Continuous Improvement work principles: behaviors that have a positive influence on team climate, specific CI behaviors of innovative nature, backup behavior, adaptability, information sharing and (most likely) team monitoring.

Reflecting on Research Goals and Contribution to the Current Literature

Our main research goal was to provide insight into the key behaviors of high performing CI teams. We reached this goal by identifying several typical behaviors (mentioned previously) for these teams. In identifying these behaviors we always tried to make clear connections to the team process in which these behaviors take place, because we saw this process as the way to better understand how these behaviors support the teams' effectiveness and performance. Current CI literature on behaviors does not make such a strong connection with the team effectiveness literature, although importance of effectiveness and performance in a CI strategy are evident.

Furthermore, we also contributed to the CI and team effectiveness literature, through studying behaviors with a mixed-method approach and using an important qualitative way of conducting the research, to provide a much more rich view on the behaviors. And although this was only the first explorative part of a larger study, we already showed important insights for continuing with rigorously observing behaviors and analyzing them. We did this by setting some good examples of describing the behaviors extensively and analyzing them as well, and moreover by discussing our own approach along the way quite elaborately. As sort of a bonus, the highly performing CI teams also showed some clear imperfections in their way of working, which contribute to an insight in *how to change winning team*. Finally, we hoped to say more about the

degree to which the success of high performing teams was due to behaviors that are generic for effective teams, or could the success be better attributed to behaviors that are specific for the CI strategy that they use? Although we could make some clear distinctions between these two types of behaviors, it appeared that CI and team effectiveness also have a lot in common. Therefore, it is hard to say which type of behavior can be given the highest credit. At this point we are inclined to argue that the success is more likely to be not specifically attributed to CI behaviors, as the general behaviors for effective also played an important role and we also found an important other type of behavior (positively influencing the team climate). Hence, we cannot make any strong statements yet before further research is done. We discuss future research more elaborately in the following section.

Limitations and Directions for Future Research.

As we studied only *high performing* CI teams, this is the first clear limitation we need to mention. Although we used multiple methods and carefully reviewed the literature for behaviors of CI and effective teams, we cannot be sure about (for example) finding the behaviors that are *only* typical for high performing CI teams. As this research was of explorative and descriptive nature, this limitation was not a big concern for us at this point. But more research is definitively necessary to make stronger statements about the uniqueness of the behaviors. And therefore, comparing different types of teams in future research is highly recommended.

Further, some comments must be made about the level of specificity in formulating concepts and measuring constructs of the behaviors. Indeed, choosing the level of analysis when using a quantitative measure (questionnaire) can already be challenging, but considering our interest in the team process and behaviors between members this was not our biggest concern (i.e. the team level appeared the most appropriate, because we looked into team behaviors). More

complex was trying to compare team behaviors from different paradigm's (CI and team effectiveness), with different types of measures (quantitative and qualitative). Imagine, for example, 'the big *5*' of Salas et. al. (2005) next to the *26* 'Fat vs. Lean' behaviors of Emiliani (1998), and behaviors *measured on scales* with approximately 5 items or *observed* in an almost endless amount of ways. These are typical examples of measuring the same things with different levels of specificity, which makes it hard to compare them. Although we think we did come up with some very valuable results, this was also for a great extend based on the specific experience and data we collected as the research proceeded. Indeed, this can be seen as a normal aspect of explorative research and mixed-measures case studies (Yin, 2009), but we do emphasize the importance of doing more of this type of research on CI behaviors with mixed-measures. Therefore, in order to make such research more feasible in the future, it is recommendable to make it easy to repeat. Currently, the research execution is for some part depended on the developments in the research itself and at this moment we cannot be sure the same things will work in other studies. Therefore, we see this as a limitation, considering the external validity.

Subsequently, an important direction for further research is the further development of easily comparable measures (both quantitative and qualitative) of typical CI behaviors. A logical step would be the development of an observation scheme based on selected concepts from the literature, for example with Behaviorally Anchored Rating Scales (BARS) or Behavioral Observation Scales (BOS) (see Salas, Burke, Fowlkes, & Priest, 2004). Besides that, studies that gives a more detailed insight in CI behaviors (e.g., Bessant, et al., 2001) – but that are imbedded in a higher level framework of the team process (e.g. Marks et al., 2001; this study), would be a great addition to what is done here. An elaborate coding scheme for video-observations (e.g., Van der Weide, 2007) could provide for a much more detailed analysis of our (recorded) high

performing CI team behaviors. To conclude, we would love to see a stronger link between the CI and the team effectiveness literature, as they are in many ways comparable.

About the reliability and validity of this research in general, some more comments can be made. The low number of respondents is for example something we would have like to see a bit higher for the generalizability of the research, especially considering the low N per case. Moreover, we could have done some more elaborate analyses if we would have had more respondents and a normal distributed sample (e.g., factor analysis), which would contribute to better results. Also, there might be a common method bias in measuring with the questionnaire, as several scales had a high correlation with each other and shared about the same scores in some cases. As an explanation we previously indicated a possible tendency of answering in a social-desirability way, i.e., as they are high performing CI teams (and they know we had selected them for that), they might answer in ways that fits the CI or highly productive image. Nevertheless, in using multiple measures we still think we already got a lot of interesting data and results, and as a result of that: already a quite clear indication of the key behaviors (especially considering the explorative nature of this study).

Further, more training and clearer guidelines for analyzing the observed behaviors (captured in fieldnotes and video material) is recommendable to improve the reliability of the measurements. Due to time constraints we did not look into the observed behaviors (especially from the video material) as well as we would want to.

Finally, the most important direction for future research is (logically) the further exploration of CI behaviors that are rigorously observed. As this research was only the first part of a larger study, we aim to take the lead in this.

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Appendix A

Rules for observations (in Dutch)

Richtlijnen voor ons gedrag bij de casestudies

Gedrag bij participatief observeren

- Meewerken waar het kan
    - om een gevoel/beleving van het werk te krijgen
    - vertrouwen winnen
- Vragen stellen met als doel
    - Vertrouwen en openheid
    - Beeld van normale gang van zaken m.b.t. teamwork
    - Evt. critical incidents opvangen m.b.t. teamwork
    - Let op: het is geen interview!!
        - Niet constant vragen stellen en daarmee beïnvloeden of tegenzin veroorzaken

Gedrag bij het filmen

- In principe filmen zonder vragen te stellen, tenzij:
    - Een ongemakkelijke situatie (stilte) ontstaat (op kantoor is het misschien dan in fabriek – letterlijk en misschien figuurlijk)
    - Dan vraag/vragen stellen over werk zonder te oordelen (minimale 'eigen inbreng')
- Sowieso dus liever vragen (positief, uit interesse) dan opmerken
- Als de geobserveerde vragen stelt -> neutraal/opgewekt antwoorden
    - Liefst omzetten in wedervraag!
        - Vb. 'wat valt u op bij het observeren?'
        - Antwoord van ons: 'is nu nog moeilijk te zeggen… maar gaan uw werkzaamheden wel als normaal nu ik erbij ben?' (bijvoorbeeld)
- Bij het 'meelopen' met een teamleider/lid is het aanvoelen wanneer je dichtbij of onopvallend filmt. Doel is dat de gefilmde persoon niet anders doet dan normaal
    - Een korte vraag in de trend van 'wat ben je eigenlijk' aan het doen kan spanning/onnatuurlijke situatie wegnemen – vertrouwen geven.
    - Letterlijk/figuurlijk afstand nemen kan een persoon ook meer natuurlijk laten gedragen
    - Zeg in ieder geval tegen de persoon die je filmt dat je zowel dichtbij als op een afstandje kan meekijken

Situaties die je in ieder geval gefilmd wil hebben (als het kan):

1. Teamleider langdurig en/of regelmatig filmen (volgen)
2. Genomineerd teamlid (of leden) langdurig en/of regelmatig filmen (volgen)
3. Interactieplaatsen langdurig en/of regelmatig filmen
4. Bewust interactie opzoeken en filmen (let op: dit moet dus duidelijk van te voren aangekondigd zijn en goedkeuring hebben van gefilmde personen).
5. Normale werkomstandigheden filmen, dus nog weer buiten interactieplaatsen, het meelopen, spontane interactie, etc.

Appendix B

Example of a fieldnote form (in Dutch)

Dagboek onderzoekers

Naam onderzoeker:	
Datum:	
Organisatie:	
1. Hoe reageerden de teamleden vandaag op jouw aanwezigheid? Kun je daar een voorbeeld van geven?	
2. *Wat is jou vandaag opgevallen in de vergaderingen die je hebt bijgewoond?*	
Vergadersetting (1):	Omschrijving:
Vergadersetting (2):	Omschrijving:
3. Wat is jou vandaag opgevallen in de meeloopsessies die je hebt gedaan?	
Meegelopen met (1):	Omschrijving:
Meegelopen met (2):	Omschrijving:
4. Welke opvallende momenten heb je nog meer gezien?	

Appendix C

Complete example questionnaire (in Dutch)

[logo organisatie]

Vragenlijst

over de manier van werken bij

[naam organisatie]

UNIVERSITEIT TWENTE.

Toelichting bij de vragenlijst

Doel

Met deze vragenlijst willen we meer te weten komen over het gedrag en de prestaties in uw team. We zijn benieuwd of de bestaande kennis over teams ook bij u van toepassing is, of dat u op bepaalde manieren misschien uniek bent.

We onderzoeken dat niet alleen met deze vragenlijst, maar bekijken ook de dagelijkse praktijk van uw team. Die resultaten vergelijken we met elkaar om een goed beeld te krijgen van uw team. Uiteindelijk kunnen we de kennis over uw team en andere teams beschrijven zodat anderen er van kunnen leren.

Het beantwoorden van de meeste vragen

Vrijwel alle vragen kunnen beantwoord worden door het inkleuren van het hokje die het meeste overeenkomt met uw mening. Er is dan telkens keuze uit zeven antwoorden, waarvan u er één mag kiezen. Stel dat u bijvoorbeeld de volgende stelling krijgt:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Ik vind werken leuk	☐	☐	☐	☐	☐	☐	☐

Als u werken heel leuk vindt dan bent u het dus volledig eens met de stelling. Dan kruist u het linkerhokje aan, zoals hieronder:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Ik vind werken leuk	■	☐	☐	☐	☐	☐	☐

Zo gaat het invullen bij de meeste vragen. Bij de rest van de vragen spreekt het invullen voor zichzelf.

Tot slot van belang

- Het invullen van de vragenlijst duurt ongeveer 15 minuten;
- Het kan zijn dat een vraag niet helemaal op u van toepassing is of lastig te beantwoorden in uw situatie. Toch willen we u vragen ook deze vragen zo goed, eerlijk en snel mogelijk te beantwoorden en de vragenlijst zo volledig mogelijk in te vullen;
- De vragenlijst is **anoniem**. Dat betekent dat niemand te weten kan komen wie welke antwoorden gegeven heeft;
- Als iets onduidelijk is, kunt u altijd een vraag stellen aan [naam onderzoeker].

Bij voorbaat hartelijk bedankt voor het invullen!

1. Vragen over uzelf

Als eerste een vraag over waarden. Hieronder vindt u een lijst met dingen die u belangrijk kunt vinden. In welke mate past u de volgende waarden toe als een belangrijke richtinggever in uw werk?

De mate waarin u het eens of oneens bent, kunt u aangeven met een cijfer variërend van -1, 0, 3, 6 of 7. **Omcirkel** dat cijfer.

		Oneens				*Eens*
1.	Ambitie (hoge doelen stellen)	-1	0	3	6	7
2.	Zelfdiscipline (zelfbeheersing)	-1	0	3	6	7
3.	Eerlijkheid (de waarheid spreken)	-1	0	3	6	7
4.	Initiatiefrijk (ondernemend, inventief)	-1	0	3	6	7
5.	Traditioneel (gebruiken in stand houden)	-1	0	3	6	7
6.	Rechtvaardig (anderen eerlijk behandelen)	-1	0	3	6	7
7.	Meegaand (de regels opvolgen, aanpassen)	-1	0	3	6	7
8.	Experimenteel (nieuwe dingen uitproberen)	-1	0	3	6	7
9.	Teamwerk (samenwerken, coöperatief, meedoen)	-1	0	3	6	7
10.	Onbaatzuchtig (zorgzaam, anderen ondersteunen)	-1	0	3	6	7
11.	Nieuwsgierig (interesses navolgen, onderzoekend)	-1	0	3	6	7
12.	Openhartigheid (zonder grenzen over uzelf praten)	-1	0	3	6	7
13.	Zelfreflectie (terugkijken op eigen gedrag en groei)	-1	0	3	6	7
14.	Continu verbeteren (telkens kleine stapjes verbeteren)	-1	0	3	6	7
15.	Succes (resultaatgerichtheid, presteren, hoge kwaliteit)	-1	0	3	6	7
16.	Hulpvaardig (u inzetten voor het welzijn van anderen)	-1	0	3	6	7
17.	Integriteit (integer omgaan met persoonlijke informatie)	-1	0	3	6	7
18.	Creatief (innovatief, het denken buiten bestaande paden)	-1	0	3	6	7
19.	Gehoorzaam (plichtsgetrouw en verplichtingen nakomen)	-1	0	3	6	7
20.	Gelijkheid (zorg dragen voor gelijke kansen voor iedereen)	-1	0	3	6	7
21.	Verantwoordelijkheid (afspraak is afspraak, doen wat je zegt)	-1	0	3	6	7
22.	Durf (moedig, op zoek naar avontuur, risico’s durven nemen)	-1	0	3	6	7
23.	Ruimdenkendheid (mogelijkheden zien, buiten de kaders denken)	-1	0	3	6	7
24.	Klantgerichtheid (u bent pas tevreden als uw klanten tevreden zijn)	-1	0	3	6	7
25.	Bescheidenheid (niet opscheppen of teveel op de voorgrond treden)	-1	0	3	6	7
26.	Respectvol (oudere medewerkers het voordeel van de wijsheid geven)	-1	0	3	6	7

27.	Vertrouwen in mensen (mensen vertrouwen vanaf het eerste moment)	-1	0	3	6	7
28.	Informatie delen en analyseren (heldere informatie met elkaar bespreken)	-1	0	3	6	7
29.	Zoeken naar afwisseling (op zoek gaan naar verandering en nieuwigheden)	-1	0	3	6	7
30.	Constructieve feedback (op een opbouwende manier terugkoppeling geven)	-1	0	3	6	7

2. Vragen over uw leidinggevende

Hoe vaak vertoont uw leidinggevende het volgende gedrag?
De mate waarin kunt u aangeven met een cijfer variërend van 1 (nooit) t/m 7 (altijd).

		Cijfer:
1.	Controlerend	
2.	Gereserveerd	
3.	Geeft complimentjes	
4.	Toont zich ongeïnteresseerd	
5.	Spreekt medewerkers tegen	
6.	Valt medewerkers in de rede	
7.	Informeert medewerkers goed	
8.	Luistert goed naar medewerkers	
9.	Houdt vast aan zijn/haar eigen mening	
10.	Is vriendelijk naar medewerkers	
11.	Geeft medewerkers duidelijke doelen	
12.	Werkt goed samen met medewerkers	
13.	Beantwoordt vragen van medewerkers	
14.	Geeft negatieve kritiek op medewerkers	
15.	Komt geïrriteerd en beschuldigend over	
16.	Benadrukt zijn/haar positie als leidinggevende	
17.	Laat waardering blijken voor kleine zaken	
18.	Vraagt door naar bepaalde zaken/situaties	
19.	Toont geen belangstelling voor medewerkers	
20.	Delegeert voldoende taken naar medewerkers	
21.	Roept medewerkers, indien nodig, tot de orde	
22.	Toont zich doorgaans een aandachtige luisteraar	
23.	Geeft overtuigend beargumenteerd zijn/haar mening	
24.	Bepaalt grotendeels het onderwerp van gesprek	
25.	Moedigt medewerkers op een positieve wijze aan	
26.	Toont persoonlijke belangstelling voor medewerkers	
27.	Vraagt naar ideeën en/of meningen van medewerkers	
28.	Vertelt medewerkers waar zij informatie kunnen vinden	
29.	Geeft goed structuur aan gesprekken met medewerkers	
30.	Maakt goed gebruik van wat er tegen hem/haar gezegd wordt	
31.	Laat merken wanneer hij/zij het eens is met medewerkers	
32.	Neemt duidelijk de leiding in gesprekken en vergaderingen	
33.	Bediscussieert de belangrijkste prioriteiten met de medewerkers	
34.	Verifieert goed (= gaat regelmatig na wat de stand van zaken is)	
35.	Verdedigt naar medewerkers toe zijn/haar eigen standpunt of belangen	
36.	Kan een moeilijke boodschap behoedzaam en toch helder brengen	

37.	Beoordeelt en/of beloont medewerkers positief (na een goede prestatie)	
38.	Laat zichtbaar merken dat hij/zij iets begrijpt (b.v. door samen te vatten of instemmend te knikken)	

Nog een vraag over uw leidinggevende. Geef aan in hoeverre u het met de volgende stellingen eens of oneens bent:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Onze teamleider is blij met de prestaties van de teamleden	☐	☐	☐	☐	☐	☐	☐
2. Onze teamleider begrijpt de problemen en behoeften bij het werk	☐	☐	☐	☐	☐	☐	☐
3. Onze teamleider ziet de potentie/mogelijkheden van teamleden	☐	☐	☐	☐	☐	☐	☐
4. Onze teamleider helpt met problemen bij het werk	☐	☐	☐	☐	☐	☐	☐
5. Onze teamleider redt/verdedigt ons, zelfs ten koste van zichzelf	☐	☐	☐	☐	☐	☐	☐
6. Onze teamleider doet de juiste dingen	☐	☐	☐	☐	☐	☐	☐
7. Onze teamleider heeft een goede werkrelatie met ons	☐	☐	☐	☐	☐	☐	☐

3. Algemene vragen over uw team

Geef aan in hoeverre u het met de volgende stellingen eens of oneens bent:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Onze teamleden hebben er groot vertrouwen in dat het team effectief kan presteren	☐	☐	☐	☐	☐	☐	☐
2. Teamleden die goed werk leveren worden beloond in de organisatie	☐	☐	☐	☐	☐	☐	☐
3. Ons team is één van de beste teams, van welke organisatie dan ook	☐	☐	☐	☐	☐	☐	☐
4. Ons team krijgt geen nuttige trainingen voor het werk aangeboden	☐	☐	☐	☐	☐	☐	☐
5. Teamleden hebben het gevoel lid te zijn van ons team	☐	☐	☐	☐	☐	☐	☐
6. Ons team heeft veel ‘teamgevoel’	☐	☐	☐	☐	☐	☐	☐
7. Ons team ontvangt alle benodigde informatie om het werk te kunnen plannen en uitvoeren	☐	☐	☐	☐	☐	☐	☐
8. Teamleden zien zichzelf als deel van ons team	☐	☐	☐	☐	☐	☐	☐
9. Ons team kan eenvoudig ondersteuning krijgen van een expert als er iets gebeurt waarvan we niet weten hoe we er mee om moeten gaan	☐	☐	☐	☐	☐	☐	☐
10. Teamleden hebben het gevoel dat ze bij ons team horen	☐	☐	☐	☐	☐	☐	☐
11. Ons team kan bijna elke taak oppakken en afmaken	☐	☐	☐	☐	☐	☐	☐
12. Ons team wordt slecht geïnformeerd over de huidige ontwikkelingen en toekomstplannen die ons werk kunnen beïnvloeden	☐	☐	☐	☐	☐	☐	☐
13. Teamleden zijn blij deel uit te maken van ons team	☐	☐	☐	☐	☐	☐	☐

4. Gedrag in uw team

Geef aan in hoeverre u het met de volgende stellingen eens of oneens bent:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. In ons team is er altijd iemand die ervoor zorgt dat we stoppen om te praten over het werkproces van het team	☐	☐	☐	☐	☐	☐	☐
2. Teamleden vragen teamgenoten wat zij kunnen, wanneer zij bepaalde vaardigheden willen leren	☐	☐	☐	☐	☐	☐	☐
3. Als teamleden iets nieuws hebben geleerd, zorgen zij dat andere teamleden dit ook te weten komen	☐	☐	☐	☐	☐	☐	☐
4. Teamleden raden andere teamleden aan om hun eigen werk te controleren op fouten	☐	☐	☐	☐	☐	☐	☐
5. Teamleden wijzen andere teamleden persoonlijk op hun fouten zonder dat de rest van het team dit merkt	☐	☐	☐	☐	☐	☐	☐
6. Wanneer iemand in het team iets goed kan, vragen teamleden of die collega het hen ook wil leren	☐	☐	☐	☐	☐	☐	☐
7. Teamleden brengen fouten onder de aandacht bij andere teamleden, zonder negatief te zijn	☐	☐	☐	☐	☐	☐	☐
8. Teamleden benadrukken expliciet wat er goed gaat in het team	☐	☐	☐	☐	☐	☐	☐
9. Teamleden maken regelmatig complimenten over de resultaten van het team	☐	☐	☐	☐	☐	☐	☐
10. Teamleden zijn bereid te helpen om werk af te maken dat niet aan henzelf toegewezen was	☐	☐	☐	☐	☐	☐	☐
11. Wanneer teamleden bepaalde kennis nodig hebben, vragen zij anderen in het team daarnaar	☐	☐	☐	☐	☐	☐	☐
12. Ons team is flexibel in het veranderen van werktaken, om het voor anderen makkelijker te maken	☐	☐	☐	☐	☐	☐	☐
13. Teamleden vertellen andere teamleden regelmatig waar ze mee bezig zijn	☐	☐	☐	☐	☐	☐	☐
14. Ons team is geneigd om meningsverschillen persoonlijk af te handelen, in plaats van het meteen in de groep aan te pakken	☐	☐	☐	☐	☐	☐	☐
15. Ons team zoekt regelmatig nieuwe informatie waardoor we belangrijke veranderingen maken	☐	☐	☐	☐	☐	☐	☐
16. We nemen regelmatig de tijd om manieren te bedenken die ons werkproces verbeteren	☐	☐	☐	☐	☐	☐	☐
17. Mensen in dit team brengen regelmatig punten in ter discussie	☐	☐	☐	☐	☐	☐	☐
18. Onze teamleden vinden het belangrijk dat hun collega's in het team weten waar zij mee bezig zijn	☐	☐	☐	☐	☐	☐	☐
19. We nodigen mensen van buiten het team uit om informatie te delen of een discussie met ons te voeren	☐	☐	☐	☐	☐	☐	☐
20. Op drukke momenten zijn er vaak teamleden die anderen willen helpen	☐	☐	☐	☐	☐	☐	☐
21. Mensen in dit team worden graag op de hoogte gehouden	☐	☐	☐	☐	☐	☐	☐

van wat teamgenoten weten

22. Informatie die teamleden hebben, delen zij met anderen in het team ☐ ☐ ☐ ☐ ☐ ☐ ☐

5. Moeilijke situaties in uw team

Geef aan in hoeverre u het met de volgende stellingen eens of oneens bent:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Conflicten worden openlijk afgehandeld in ons team	☐	☐	☐	☐	☐	☐	☐
2. Mensen in dit team zijn goed in het voorkomen van problemen	☐	☐	☐	☐	☐	☐	☐
3. Mensen in dit team zijn goed in het aanpassen aan veranderingen van hulpmiddelen en manieren van werken	☐	☐	☐	☐	☐	☐	☐
4. Ons team is in staat om de negatieve gevolgen van conflicten te voorkomen voordat ze plaatsvinden	☐	☐	☐	☐	☐	☐	☐
5. Als een conflict zich voordoet in ons team, dan nemen de betrokkenen in het conflict onmiddellijk stappen om het op te lossen	☐	☐	☐	☐	☐	☐	☐
6. Als er veranderen plaatsvinden in de werkroutines en middelen, passen mensen zich hier snel op aan	☐	☐	☐	☐	☐	☐	☐
7. Mensen in dit team zijn goed in het omgaan met noodsituaties, veroorzaakt door bijvoorbeeld ongelukken, problemen met hulpmiddelen en werk, of andere oorzaken die ervoor zorgen dat er tijdelijk teveel werk is	☐	☐	☐	☐	☐	☐	☐
8. Ons team weet wat het moet doen als zich een conflict voordoet tussen teamleden	☐	☐	☐	☐	☐	☐	☐

6. Prestaties van uw team

Geef aan in hoeverre u het met de volgende stellingen eens of oneens bent:

	Volledig mee eens	*Mee eens*	*Beetje mee eens*	*Niet eens/ niet oneens*	*Beetje mee oneens*	*Mee oneens*	*Volledig mee oneens*
1. Het lijkt alsof ons team de laatste tijd iets achterloopt in prestaties en wat we bereiken	☐	☐	☐	☐	☐	☐	☐
2. De gevoelens van teamleden worden niet op enige manier beïnvloed door hoe goed ons team presteert	☐	☐	☐	☐	☐	☐	☐
3. De kwaliteit van het werk dat ons team levert wordt steeds beter	☐	☐	☐	☐	☐	☐	☐
4. Werken in dit team vergroot de persoonlijke kennis en vaardigheden van teamleden	☐	☐	☐	☐	☐	☐	☐
5. In ons team worden regelmatig kritieke kwaliteitsfouten gemaakt	☐	☐	☐	☐	☐	☐	☐
6. We voeren ons werk uit op een manier waar we het allemaal mee eens zijn	☐	☐	☐	☐	☐	☐	☐
7. Mensen die het werk van ons team ontvangen hebben daar vaak klachten over	☐	☐	☐	☐	☐	☐	☐
8. Teamleden voelen zich slecht en ongelukkig als ons team het slecht heeft gedaan	☐	☐	☐	☐	☐	☐	☐
9. Als team leren we veel	☐	☐	☐	☐	☐	☐	☐
10. Anderen in het bedrijf, die vaak met ons team contact hebben, klagen vaak over hoe we functioneren	☐	☐	☐	☐	☐	☐	☐
11. Teamleden zouden ook in de toekomst met dit team willen werken	☐	☐	☐	☐	☐	☐	☐
12. Teamleden voelen zichzelf tevreden als ons team het goed doet	☐	☐	☐	☐	☐	☐	☐
13. Creativiteit en initiatief van teamleden worden onderdrukt door het team	☐	☐	☐	☐	☐	☐	☐
14. Teamleden beleven plezier aan het werk dat we in dit team doen	☐	☐	☐	☐	☐	☐	☐
15. Mensen in ons team leren veel van het werk dat ze doen in dit team	☐	☐	☐	☐	☐	☐	☐
16. Het werken in dit team brengt veel frustraties met zich mee	☐	☐	☐	☐	☐	☐	☐
17. Over het algemeen zijn onze teamleden erg tevreden met dit team	☐	☐	☐	☐	☐	☐	☐
18. Als ons team het goed heeft gedaan, dan vinden onze teamleden ook dat ze het goed gedaan hebben	☐	☐	☐	☐	☐	☐	☐
19. We zijn tevreden met de prestaties van ons team	☐	☐	☐	☐	☐	☐	☐

Vul een cijfer van 1 (zeer slecht) tot 5 (zeer goed) in voor de volgende vragen:

1. Hoe beoordeelt u het niveau van continu verbeteren op een schaal van 1 tot 5? …… …..
2. Hoe beoordeelt u het niveau van klantgerichtheid op een schaal van 1 tot 5? ……..
3. Hoe beoordeelt u het niveau van inspraak van de medewerkers in het proces op een schaal van 1 tot 5? ……..

7. Nominatie

1. Noem de naam van uw **niet-leidinggevende collega** die het beste het gedrag laat zien dat volgens u bij een effectief team past?

   ……
……

8. Biografische vragen

1. Wat is uw geslacht?
   - ☐ Man
   - ☐ Vrouw
2. Wat is uw leeftijd? ……..
3. Hoe lang werkt u al in dit team? ……..
4. Hoe lang werkt u al bij de Belastingdienst? ……..
5. Wat is de hoogste opleiding die u heeft afgerond?
   - ☐ LBO
   - ☐ MBO
   - ☐ HBO
   - ☐ Universitair
   - ☐ Anders, namelijk: ……..
6. Wat voor een dienstverband heeft u?
   - ☐ Fulltime
   - ☐ Parttime

Hartelijk bedankt voor het invullen van de vragenlijst!

Hieronder heeft u eventueel de ruimte voor opmerkingen, graag in BLOKLETTERS schrijven.

U kunt de vragenlijst uiterlijk tot en met [datum] inleveren bij [naam onderzoeker].

Appendix D

Example of a coding scheme (in Dutch)

Vraag 2. Wat is jou opgevallen in de vergaderingen die je hebt bijgewoond? Team niveau

# Team	# Dag	#Event	# Regel	Zin	# Code	-	Overige Opmerkingen
1	3	1	1		2		
1	3	1	2		12	-	
1	3	1	3		12	-	
1	3	1	4				Interpretatie (anders 13-)
1	3	1	5				Interpretatie (anders 13-, in combinatie met regel 4)
1	3	1	6		16	-	
2	1	1	1				Samenvoegen met regel 3
2	1	1	2		6		
2	1	1	3		16		
2	1	1	4		2		
2	1	1	4		15		