When Competition is the Loser
The Indirect Effect of Intra-team Competition on Team Performance through Task Complexity, Team Conflict and Psychological Safety

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Abstract
With the rise of gamification, competition-inducing game techniques like leader boards have become more commonplace within work teams. This paper investigates how intra-team competition relates to task complexity, psychological safety and level of team conflict. Furthermore, we looked whether mediation effects of task complexity, team conflict and psychological safety had an effect on the relationship between intra-team competition and team performance. To this end, a survey was conducted among 61 different professional work teams in the Netherlands to measure the perceived level of intra-team competition, task complexity, psychological safety, team conflict and team performance.

We found that intra-team competition is negatively related to psychological safety and positively related to task complexity and team conflict. Both psychological safety and task complexity showed a positive relationship with team performance. Task complexity was found to positively mediate the relationship between intra-team competition and team performance.

1. Introduction

The first serious discussions and analyses of competition on the work floor emerged during the 1920s with Whittemore’s research [62] on competitions organized in a printing works. The results showed that when competition was introduced, team effort increased, which resulted in faster work pace but lower quality of work. The experimental task involved both motor and cognitive skills and the result showed that increased competition led to increasing performance on routine motor skills but decreasing performance on non-routine and more complex cognitive skills.

Whittemore’s findings were collaborated by subsequent empirical studies [25][58][44]. Based on this organizations were advised to introduce competition as a performance increasing tool only when the tasks were fairly simple and the benefit of increased work pace would be higher than the negative effects of a possible decrease in quality as a result of the competition [12]. Nowadays, IT applications have simplified complex tasks and helped create routines to both aid team work and encourage a faster pace of work [13]. To counter the potential negative motivational effects of task simplification, managers have been encouraged to find ways to make the work more engaging and challenging. Gamification, defined as using game techniques in a non-gaming context [20], has been one of the emerging strategies to help make functional tasks more enjoyable [34]. One of the most commonly used game techniques within these gamified applications concerns leader boards [35], in which employees are ranked against each other to increase the sense of intra-team competition and challenge on the work floor with the aim of increasing performance. The positive effects on performance as a result of using leader boards have been documented in several studies [7][10][28][32]. The limitation of these studies, and most subsequent research on competition is that performance data was measured shortly after introducing these competition-inducing techniques [3][7][21][28][31][32][57]. Given this relatively short interval, it is plausible that the results are influenced by a so-called novelty effect, which occurs when participants increase their performance based on the fact that something new and exciting is happening. This effect typically wears down after a fairly short period of time [20] and is often mentioned as a critique of gamification in popular media and academics [51].

However, surprisingly little research has been done on the long-term effects of competition on the work floor and the current study is meant to fill this gap. Some explanation could be found in the increased level of team conflict that the introduction of competition brings to the work floor. Competition induces tactics of coercion, threat or deception as individuals try to enhance the power difference in their favor [17]. These same tactics lead to an...
increased sense of distrust among the competing group members. When these tactics become apparent they are likely to give rise to relational conflict on top of already existing task and process-orientated conflict.

One of the issues that we will explore is whether the introduction of competition results in an increased level of team conflict. This increase in conflict could lead to a decreased sense of psychological safety within teams [6].

In this study, we investigate the contingencies under which perceived competition deliver longer-term performance increases. In order to exclude the novelty effect of introduced competition inducing game techniques, we decided to measure existing levels of perceived competition. In addition to the novelty effect a great deal of current research has focused on recently formed teams, e.g. students, laboratory experiments [3][10][12][16][25][43][57][58][62]. We suspect that levels of psychological safety and team conflict are different in these teams compared to pre-existing teams. In order to limit the influence of team processes related to newly formed teams on the level of team conflict and psychological safety in the teams we chose to only accept pre-existing teams into our sample. By creating a deeper understanding on how intra-team competition influences situational and instrumental factors we wish to provide gamification designers and managers with the information needed to decide whether using game techniques that increase perceived competition are desirable tools to improve long-term performance in a specific work situation.

2. Theory

2.1 Theoretical perspectives

One of the most influential studies on competition is by Deutsch in 1949 [16]. The findings of this study, which was similar to that of Whittemore [62], identified competition as a positive factor influencing performance on tasks with low complexity. A limitation of this research was the fact that it dealt with short-term competitions rather than perceived competition as a part of a long-term team culture. Aside from the short-term nature of these previous studies, there is some debate on the effect of competition on intrinsic motivation and resulting longer-term performance. Deci & Ryan defined intrinsic motivation as the desire to take part in an activity for its own sake [15]. Deci et al. furthermore found that when competition is introduced in a task, it undermines pre-existing intrinsic motivation resulting in decreasing performance levels on the long-term [14].

Intra-team competition is a state within a team where members compete against each other, but do not compete with other groups [43]. As a result of being part of a team the members also have a level of interdependence and share common goals [47]. They share these common goals, while at the same time pursuing individual goals. These conflicting goals are mutually exclusive; since the success of one team member requires the failure of another [45]. These goals can be pursued for either tangible (e.g. financial rewards) or intangible results. The latter include results such as, recognition for performance and status within a team. These types of results have been measured in the study at hand.

A relevant definition of experienced task complexity is the activation theory from Scott in 1966 [56], Scott suggests that an individual's activation level is directly related to the intensity, variation, uncertainty, and meaningfulness of the stimulus. Within the same study Scott suggests that experienced task complexity can increase if a performance-contingent reward is present. Rather than claiming that task complexity moderates the relationship between intra-team competition and team performance, we believe that intra-team competition makes the experience of the task more intense and meaningful. When a task requires an individual to use his or her different skills and talents the task becomes more intrinsically motivating, resulting in increased performance. [33][8] As more complex tasks are more likely require a wider variety of skills we expect increased task complexity to have a positive effect on team performance. In addition to the impact of skill variety on intrinsic motivation, Hackman & Oldham suggest that more complex tasks may also satisfy the drive to learn, as well as increasing the intrinsic motivation and resulting team performance [33]. In a separate study on task complexity and performance Tauer & Harackiewicz propose that perceived difficulty of the task appears to reflect engagement with the task itself [58].

We believe that intra-team competition will increase the sense of task complexity and consequently lead to an increase in effort and performance [48][56]. If however the complexity falls outside the range of what the individual believes is achievable, this will result in decreased effort towards the task and lower subsequent performance [2][60].

Games in general and competition in particular depend on the presence of a conflict of [63]. Within teams this may lead to a breakdown in the cooperative organizational system, which would negatively affect the existing balance in high
performing organizations [53]. Conflicts in general are a combination of relational, task and process-orientated conflicts [40]. Relationship conflicts focus on interpersonal relationships, task conflicts focus on the content and the goals of the work, and process conflicts focus on how the work gets done. Process-orientated conflicts can increase as a result of team members wanting to make use of shared time and resources to benefit their own performance. [19] Increased relational conflicts can arise as a result of this increase in process conflicts [40].

Aside from a diminishing cooperation, competition can also harm the levels of inter-communication of ideas, coordination of efforts, friendliness and pride in the group and ultimately the level of harmony and cohesion in the group [17][45]. Perhaps unsurprisingly, the lack of harmony, cohesion and cooperation that comes with increased team conflict have a negative effect on the performance of the team [26][55][61][18]. Process-oriented conflict can however also play a positive role as process conflict fosters healthy debate and assists in facilitating creativity within teams [42].

As far as we are aware, there are no previous studies that have looked at the mediating effects of team conflict between intra-team competition and team performance. Based on the discussion above we expect that intra-team competition induces increased process-orientated conflict which in turn results in improved performance on the short-term. Prolonged process-orientated conflict potentially turns into relational conflicts, which would have a negative effect on team performance. Given that within this study we deal with pre-existing teams and perceived competition over a longer period of time we expect team conflict to negatively mediate the relationship between intra-team competition and team performance.

Psychological safety refers to the shared belief of team members that the team is a safe environment for interpersonal risk taking and involves a “sense of confidence that the team will not embarrass, reject, or punish someone for speaking up” [23] When co-workers have competing goals, fail to understand each other’s roles or suffer from a lack of respect for each other’s roles, they are less friendly towards each other, more likely to blame each other for failures, and therefore less likely to experience psychological safety [6][59][16].

Psychological safety has a strong positive relationship with team performance due to a. the fact that team members share ideas more openly, b. the safety for team members to take risk and c. the reduced fear of punishment for bad decisions [4][27]. This psychological safety is needed in order for a team to benefit from the potentially positive effects of process-conflict, e.g. increased creativity within the team.

No previous research has investigated the mediating effect of psychological safety on the relationship between intra-group competition and team performance. Research by Ames suggests that collaborative reward allocations promote trust and mutually supportive behavior among team members, thus promoting performance, whereas competitive reward allocations were expected to have a contrasting effect [1]. We tested whether intra-team competition had a negative effect on the perceived psychological safety within a team, and through this a negative effect on team performance.

Based on the above we do not believe that there is a direct relationship between perceived level of intra-team competition and team performance, rather we believe this relationship is indirect and influences team performance through task complexity, psychological safety and team conflict.

**Figure 1. Theoretical model**

![Figure 1. Theoretical model](image)

### 2.2 Hypotheses

**Hypothesis 1**: Intra-team competition has a positive relationship with experienced task complexity.  
**Hypothesis 2**: Task complexity has a positive relationship with team performance  
**Hypothesis 3**: Experienced task complexity has a positive mediation effect on the relationship between intra team competition and team performance.  
**Hypothesis 4**: Intra-team competition has a positive relationship with team conflict.  
**Hypothesis 5**: The level of team conflict in a team has a negative relationship with team performance.  
**Hypothesis 6**: Experienced levels of team conflict have a negative mediation effect on the relationship between intra-team competition and team performance.  
**Hypothesis 7**: Intra-team competition has a negative relationship with psychological safety.
Hypothesis 8: The level of experienced psychological safety within a team has a positive relationship with team performance.

Hypothesis 9: Experienced levels of psychological safety have a positive mediation effect on the relationship between intra-team competition and team performance.

3. Methodology

3.1 Sample and procedures

The participants of this study were professional organizational work teams from the Netherlands consisting of 5 to 12 members, including a team leader. The organizational work teams were characterized by interdependent tasks, common objectives and joint accountability for collective outcomes. The teams worked together full-time, met on a daily basis and performed somewhat complex tasks [42] in which cooperation was needed to be successful. The educational level of participants was set to intermediate vocational training or higher. The teams were recruited using the extended networks of students at the University of Groningen. Students were not allowed to be part of the teams surveyed, and participants needed to be paid employees in order to be accepted. For this research we approached 67 teams, (mean size 6.69, SD = 1.63) In total these teams included 67 team leaders with, mean age 44.03, SD = 10.46) and 370 team members, 32.3% females, the mean age was 39.47 (SD = 12.54). 60.09% of the respondents had higher vocational education.

A distribution of participating organizations per sector can be found in Table 1.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Sector Frequency in percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Construction</td>
<td>3.1%</td>
</tr>
<tr>
<td>2. Financial services</td>
<td>6.3%</td>
</tr>
<tr>
<td>3. Trading (Exp'/ Imp)</td>
<td>6.3%</td>
</tr>
<tr>
<td>4. ICT</td>
<td>10.9%</td>
</tr>
<tr>
<td>5. Manufacturing</td>
<td>7.8%</td>
</tr>
<tr>
<td>6. Education</td>
<td>10.9%</td>
</tr>
<tr>
<td>7. Real estate</td>
<td>1.6%</td>
</tr>
<tr>
<td>8. Telco &amp; Postal</td>
<td>1.6%</td>
</tr>
<tr>
<td>9. Logistics</td>
<td>6.3%</td>
</tr>
<tr>
<td>10. Professional services</td>
<td>10.9%</td>
</tr>
<tr>
<td>11. Healthcare</td>
<td>10.9%</td>
</tr>
<tr>
<td>12. Other</td>
<td>23.5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.2 Measurements

The questionnaire consisted of 6 categories, 1 for general information including industry sector and 5 categories to measure each variable. Each contained a set of statements for which participants scored on a 7 point Likert scale. The Likert scale was anchored by 1, which stood for disagree, 4 stood for neither agree or disagree and 7 stood for completely agree. Each item was translated into Dutch on the final questionnaire.

The individual scores per statement forming each of the categories were averaged to form a composite score per variable. This composite score was then aggregated by team as an indicator of the level of intra-group competition, task complexity, psychological safety, team conflict and performance per team.

The final result of our questionnaires thus consisted of composite items with interval data that had team-based scores ranging from 1-7 for intra-team competition, task complexity and team performance. An overview of the scales, and items per scale can be found in Table 2.

Intra-group competition (α = .920) was measured using a scale with 3 statements that were based on the ‘learning environment inventory’ scale developed by Fraser [30]. We changed the statements to describe the participants teams rather than classroom environments. These items were scored individually on intra-team competitiveness. The questionnaire completed intermediate vocational education level, resulting in our final dataset of 61 teams.
included statements like: “There is much competition between the members of my team”, “The members of my team try to “win” from each other” and “Within my team there is a continuous fight about who is best”.

Experienced task complexity (α = .926) was measured using three statements from an instrument developed by Morgeson & Humphrey [52]. These statements were: “My work is simple and uncomplicated”, “My work consists of relatively uncomplicated tasks” and “My work consists of the execution of relatively simple tasks”.

Team performance (α = 0.860) was measured using 6 items adapted from Brown & Leigh [5]. The team leader scored these items relative to the performance of his team as a whole. These factors included: achieving team goals, meeting deadlines, speed of work, quality of work, productivity and effectiveness. Team conflict (α = .921) was measured using 9 statements adapted from the Intergroup Conflict Scale from Jehn [39]. These items were scored separately on the level of team conflict, and involved statements such as: “In my team, irritations regularly arise among team members”, “there is often friction between my team members” and “There are occasional emotional clashes between team members”, “There are regular disagreements about the allocation of time and resources”.

Psychological safety (α = .707) was measured using 6 statements adapted from Edmondson Psychological safety scale [22]. These items were scored individually on level of psychological safety. A sample of the statements include: “members of this team are able to raise difficult issues”, “No one in this team would deliberately undermine my efforts” and “It is safe to take a risk within this team”, “If you make a mistake within this team it will not be used against you”.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scale</th>
<th>α</th>
<th>Items per scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intra-team competition</td>
<td>Fraser [30]</td>
<td>.920</td>
<td>3</td>
</tr>
<tr>
<td>Task complexity</td>
<td>Morgeson &amp; Humphrey [52]</td>
<td>.926</td>
<td>3</td>
</tr>
<tr>
<td>Team conflict</td>
<td>Jehn [39]</td>
<td>.921</td>
<td>9</td>
</tr>
<tr>
<td>Psychological safety</td>
<td>Edmondson [22]</td>
<td>.707</td>
<td>6</td>
</tr>
</tbody>
</table>

We tested all the mediation effects on the relationship between intra-group competition and team performance using the simple mediation model from Process macro for SPSS [33]. In the simple mediation model, Intra-team competition (X) was modeled to influence team performance (Y) directly as well as indirectly through a single intermediary or mediator variable, being either task complexity, team conflict or psychological safety. (M) this mediator is causally located between intra-team competition and team performance, as depicted in Figure 1. The direct and indirect effects of intra-team competition were derived from two linear models, one estimating the mediator from intra-team competition: \( M = a + a1X + eM \) (equation 1), and a second estimating team performance from both intra-team competition and the mediator: \( Y = i + c'X + bM + eY \) (equation 2)

The direct effect of intra-team competition on team performance is estimated with \( c'1 \) in equation 2. It quantifies how much two cases differing by one unit on intra-team competition are estimated to differ on team performance independent of the effect of the mediator on team performance. The indirect effect of intra-team competition on team performance through the mediator is estimated as \( a1b1 \), meaning the product of the effect of intra-team competition on the mediator (\( a1 \) in equation 1) and the effect of the mediator on team performance controlling for intra-team competition (\( b1 \) in equation 2). It estimates how much two cases differing by a unit on intra-team competition are estimated to differ on team performance as a result of the effect of intra-team competition on the mediator, which in turn affects team performance. Prior to testing the hypotheses, the variables were automatically standardized by Process.

4. Results

4.1 Descriptive Statistics

Means, standard deviations and bivariate correlations are given in Table III. The correlation analysis showed that Team performance did not significantly correlate with intra-team competition (\( r = -.15 \)), task complexity (\( r = .16 \)) or team conflict (\( r = -.15 \)). Team performance did show a significant positive correlation with psychological safety (\( r = .25, p < .05 \)). Psychological safety correlated significantly with both team conflict (\( r = -.47, p < .001 \)) and intra-team competition (\( r = -.51, p < .001 \)). When either intra-team competition or team conflict was high the perceived psychological safety was low and vice versa. Intra team competition correlated significantly
Hypothesis 4 suggested that intra-team competition has a negative effect on team conflict. We found a very strong significant negative relationship in line with our expectations. \( (b=.37, SE=.14, p<.01) \)

Contrary to our expectations in Hypothesis 5, we found no significant relationship between team conflict and team performance. \( (b=-.11) \)

Related to this, contrary to our expectations in Hypothesis 6 we found no indirect effect of intra-team competition on team performance through team conflict.

The last set of hypotheses predicted a negative relationship between intra-team competition and psychological safety (Hypothesis 7) and a positive relationship between psychological safety and team performance (Hypothesis 8). We found strong support for a negative relationship between intra-team competition and psychological safety \( (b=.39, SE=.08, p<.001) \), and weak support for a positive relationship between psychological safety and team performance. \( (b=.31, SE=.18, p<.1) \)

Lastly, according to Hypothesis 9, we expected to see a positive mediation effect on the relationship between intra-team competition and team performance. Our data did not support a significant indirect relationship between intra-team competition and team performance through psychological safety.

### 4.2 Hypothesis testing

The results of our hypothesis tests are summarized in Table IV, V and VI below.

In Hypothesis 1 we suggested that inter group competition was positively related to task complexity. We found very strong support for this hypothesis. \( (b=.61, SE=.16, p<.001) \)

An increase in perceived intra-team competition resulted in an increase in perceived task complexity. For Hypothesis 2 we expected to find that task complexity was positively related to team performance. The data showed significant support for this hypothesis. \( (b=.24, SE=.11, p<.05) \)

Hypothesis 3 stated that there is a mediation effect of task complexity on the relationship between intra-team competition and team performance. There was a significant indirect effect of intra-team competition on team performance through the level of perceived task complexity. \( (b=.15, BCa CI [.03, .31]) \)

This represents a relatively small effect. \( (1^2 = .14, 95\% BCa CI [.02, .26]) \)
5. Discussion

5.1 Findings
In accordance with Hypotheses 1, 4 & 7, intra-team competition had a significant relationship with all three of our mediators: task complexity and psychological safety showed a positive relationship and team conflict a negative relationship. Hypotheses 2, 5 and 8 were concerned with the relationship of our mediators with team performance. Psychological safety had a weak positive relationship with team performance, while task complexity had a strong positive relationship with team performance. Contrary to our expectations team conflict had no direct relationship with team performance.

Hypotheses 3, 6 & 9 focused on potential mediation effects of task complexity, psychological safety and team conflict on the relationship between intra-team competition and team performance. We only found a mediation effect of task complexity. Psychological safety and team conflict did not show significant mediation effects on the indirect relationship between intra-group competition and team performance.

5.2 Theoretical implications
Intra-team competition adds an external stimulus into the experience of the individual performing the task. If the level of stimulation helps the individual to get closer to the optimal level of activation, which will increase the perceived level of task complexity of that individual [56]. This increased task complexity also creates a sense of challenge, which builds intrinsic motivation [33]. In order to continue to benefit from this positive effect it is necessary to increase the level of skills needed to perform the task over time as experienced task complexity is relative to the ability of an individual to perform the task. This ability to perform the task increases by repetition [50][11]. A caveat is in order here: while in general performance increases as a result of increased challenge [47], at high levels of complexity the resulting demands on individuals may begin to exceed their capacities to respond, creating a condition of “overload” which leads to lowered performance [64]. Intra-team competition changes the situational contexts of a team by increasing the level of team conflict and decreasing the experienced level of psychological safety.

Intra-team competitions, have a positive relationship with process conflict due to the presence of mutually exclusive goals and individual benefits to allocation of time and resources [41]. Competition also creates increased suspensions that other members may act out of egoistic motivations, leading to lower acceptance of deviating behavior and creativity, which in turn is associated with lower levels of psychological safety [23].

The direct relationship between team conflict and team performance was not apparent in our research. This was contrary to our expectations but is possibly explained by recent research that suggests that the effect of team conflict on team performance differ for different group processes over time and different types of conflict. Process conflict can help a team become more efficient, while relational conflict is in general negatively related to team performance [41]. Atkinson looked at the interplay between task conflict, psychological safety and team performance [2]. He found that when moderated by a high level of psychological safety, task conflict has a positive effect on team performance. However, some preliminary testing of our own data did not corroborate this. Psychological safety is an emergent state that creates a work environment that is optimized for team learning [22]. In those teams where the complexity of the task and the need for creative solutions is present, psychological safety will positively influence team performance. In our research we found a weakly positive relationship. This relationship may also be explained by the suggestion of Kahn’s research in which he states that psychological safety has a positive influence on engagement on a task [44].

The lack of significant proof for the expected mediation effect of psychological safety between intra- team competition and team performance can be explained by the low need for learning behavior in the teams. In teams where tasks are more constrained the need for information seeking and learning behavior is less important [22]. Within our research the average scores for task complexity were 2.57 out of a maximum score of 7, suggesting that the respondents were generally working on fairly simple tasks where the need for learning and impact of psychological safety on team performance was too weak to induce a significant mediation effect. As we found no direct relation between team conflict and team performance we no longer expected to find a mediation effect.

The mediation effect of task complexity on the relationship between intra-team competition and team performance can be best explained by noting the positive effect of the challenge created by intra-team competition on tasks that did not provide the optimum level of activation of team members. Or as Csikszentmihalyi put it: “one simple way to find challenges, is to enter a competitive situation” [11]. Paraphrasing this differently, this could also mean: in
order to create a more challenging environment, add some competition. Our findings also show that intra-team competition can create some intrinsic motivation on its own [54]. Part of the reason why intra-competition creates increased performance lies in the fact that it increases the perceived task complexity.

5.3 Practical implications

When and why is competition the loser, and how can we ensure to use competition-inducing tools for the right situations and teams?

In our research setting of professional work teams in the Netherlands we found no indication that higher levels of perceived intra-team competition led to increased team performance. Part of this can perhaps be explained by an individual pre-disposition towards intrinsic motivators related to intra-team competition, like need for achievement [14][54]. In other words: intra-team competition is likely to appeal more to player types with a high need for domination and achievement [36]. Cultural disposition may also play a role, in masculine nations like America or Japan we may find that an increase in perceived competition is more likely to lead to an increase in effort and performance [38]. Based on this, our first practical advise would be to take into account the cultural, organizational and individual differences when considering introducing game techniques that increase the level of perceived competition. While we expect that a leader board provides a suitable tool in a Japanese sales team in which the team members all have a high pre-disposition towards the need for achievement, the same is not likely to be the case in a Dutch CRM team in which the team members show a low pre-disposition for need for achievement.

From a situational point of view, the manager or gamification designer should expect that competition inducing techniques like leader boards or mutually exclusive rewards increase team conflict, specifically process conflict, and as a result possibly relational conflict, and lead to lower psychological safety. In teams where conflict is high to start with, or in which psychological safety is low, the timing may not be right to increase perceived competition. In these situations cooperative game techniques, like joint quests or inter-team competitions are much preferred as they are more likely to improve cooperation and cohesion [43] [59], reduce conflict and improve the trust within the teams. Conflict as a result of increased perceived intra-team competition can be limited by only applying the competition to independent tasks for which there is not a lack of resources.

Competition inducing techniques should especially be avoided in situations where the need for workplace learning is high as low levels of psychological safety have a negative effect on workplace learning [23]. For this reason, we discourage competition as part of induction programs, or within the first couple of months after a new member has joined an organization.

Not all is bad however, and the introduction of competition inducing techniques can fulfill one of the main functions of gamification, which is to provide engagement through an exciting challenge. Particularly for those employees that are slightly underwhelmed by the complexity of their job, intra-team competition can provide an extra stimulus to increase engagement and motivation, which can result in increased levels of team performance.

Lastly, when introducing competition inducing game techniques into a team, a manager should be aware and prepared to intervene if he notices that the increase in competition leads to negative forms conflict and/or reduced psychological safety.

5.4 Limitations

In our research we measured the impact of intra-team competition without a specific competitive reward attached to the day-to-day work. Different effects may be found when the day-today work has specific mutually exclusive competitive tangible rewards connected to it [9]. Furthermore, as mentioned in the start of this research, we also expect results to be different when competition is introduced as a one-time event, since in such situations we expect that the novelty effect can create a direct effect on team performance. Lastly, this research was limited to the Netherlands in which the cultural predisposition to competition is low [38]. In order to get a better international view the same research should be done across different cultures.

5.5 Future research

This study provides a promising starting point to understand how intra-team competition results in performance gains on the work floor, and how it contributes to situational change in terms of psychological safety and team conflict. Furthermore, this study only captures a particular point in the time of the perceived levels of team conflict and psychological safety in relation to team performance. Longitudinal research on the effects of team
competition can show the effects of prolonged levels of high intra-team conflict. Also, his study did not take individual or cultural differences in relation to intra-team competition into account. Finally, we expect to see strong mediation relationships of need for achievement and need for growth on the relationship between intra-team competition and team performance [23][24][25].

6. REFERENCES


