

Humble Leadership and Team Voice

The Mediating Effects of Information Exchange, Team Psychological Safety, and Team-Efficacy

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Abstract

This study examines the direct and indirect effects of humble leadership on team voice. Although the relationship between leadership styles and voice is widely investigated, humble leadership and team voice, both relatively new constructs, remained out of sight. Drawing upon social interdependence theory, information exchange, team psychological safety, and team-efficacy are proposed to mediate the relationship between humble leadership and team voice. Research is conducted at the team-level analysis and involved 209 team members from 52 teams in 21 companies collected through a snowball sample. Results were provided by the SPSS macro PROCESS using the regression-based approach and bootstrapping techniques. Findings showed that humble leadership is positively related to team voice. Furthermore, findings supported the mediating effect of information exchange. However, no support was given for the mediating effects of team psychological safety and team-efficacy. Theoretical and practical implications of the findings are addressed.

Keywords: humble leadership, information exchange, team psychological safety, team-efficacy, team voice, and social interdependence theory.

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1. Introduction

Nowadays, organisations cope with great competition, globalisation, and a fast pace of innovation. Throughout the years, academics have studied the important role of voice in such dynamic business environment and it became clear that voice is critical to organizational performance (Morrison & Milliken, 2000; Senge, 1990). Although voice provides information oftentimes crucial to organizational well-being, it challenges and upsets the status quo of the organization and its power holders (Detert & Burris, 2007). Therefore, leaders are essential for the interplay between voice and the organisational environment. They are able to both reduce the perceived cost of speaking up by employees (Walumbwa & Schaubroeck, 2009) and use voice as input to reveal problems, solutions to problems, and make decisions (Ashford, Sutcliffe, & Christianson, 2009; Van Dyne & LePine, 1998). However, distinct leadership behaviours, such as ethical leadership and transformational leadership, can have different effects on voice (Avey, Palanski, & Walumbwa, 2011; Detert & Burris, 2007; Liu, Zhu, & Yang, 2010; Walumbwa & Schaubroeck, 2009).

This study considers humble leadership as the leadership behaviour of concern for several reasons. First, more and more people advocate an increase of humble leaders in modern-day organisations (Collins, 2001; Poelert, 2015; Schramm, 2002). Researching the relationship between humble leaders and team voice leads to more knowledge and the ability to foresee the consequences of appointing humble leaders in organisations with large amounts of teams. Moreover, gained knowledge is useful to help leaders influence their teams voice behaviour. Second, recent findings by Owens and Hekman (2012) concerning humble leader's behaviours provide relevant information, that was unavailable before, that enable research into consequences of humble leadership that is called for. Furthermore, considering humble leadership in this study helps to provide further validity of the construct.

Despite the academic community's growing interest for employee voice (Detert & Burris, 2007; Klaas, Olson-Buchanan, & Ward, 2012; Morrison, 2011; Van Dyne & LePine, 1998), its beneficial results (Batt, Colvin, & Keefe, 2002; Holland, Pyman, Cooper, & Teicher, 2011; Morrison, 2011; Morrison & Milliken, 2000; Spencer, 1986), as well as teams in organizations (Colquitt, Noe, & Jackson, 2002), few academics have considered team voice as a research topic. On one hand, teams are strong mechanisms that enable employees to exert influence (Kim, MacDuffie, & Pil, 2010) and are composed of two or more people who perform tasks relevant to the organisation and share a common goal (Kozlowski & Bell, 2003; McGrath, Arrow, & Berdahl, 2000). Moreover, teams are embedded in an organisation, its members interact socially and act interdependently (Kozlowski & Bell, 2003; McGrath et al., 2000). On the other hand, voice, although a term with a broad range of definitions, reflects the extent to which people speak up and offer constructive suggestions for change (LePine & Van Dyne, 2001; Van Dyne & LePine, 1998). Speaking up can be explained as openly stating one's views or opinions about workplace matters (Premeaux & Bedeian, 2003). Hence, team voice can be explained as the extent to which a workgroup makes constructive suggestions for improvement, shares new ideas, and speaks up about problems or potential problems (Frazier & Bowler, 2009).

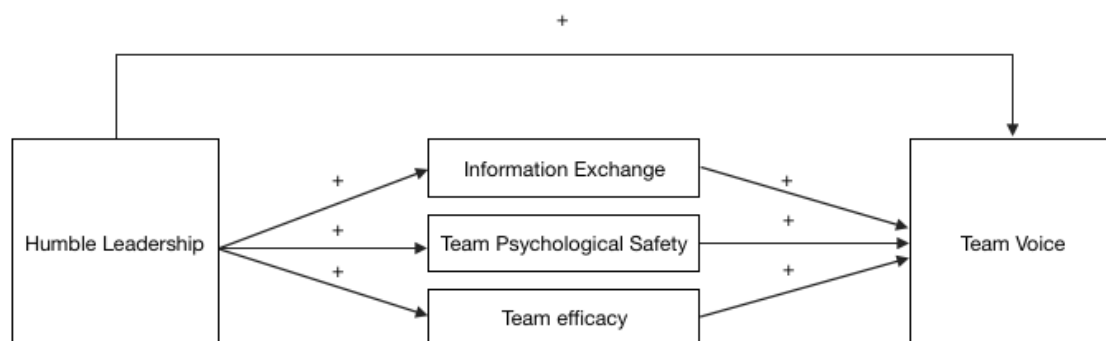
When studying voice by taking a leadership perspective that examines the impact of leadership behaviour on voice behaviour (Detert & Burris, 2007; Walumbwa & Schaubroeck, 2009), the questions why employees do or do not speak up to certain targets can be examined. Detert and Burris's findings (2007) suggest that a proper understanding of voice behaviour asks for such examination of the leader. Moreover, this research contributes to the existing body of literature regarding voice by examining voice from two different angles. First, it answers to Frazier and Bowler's (2015) request to consider workplace voice on a team-level unit of analysis rather than an individual-level unit of analysis. Second, the study takes a

leadership perspective on voice in which it examines the effects of a leadership style on voice. The study answers to Detert and Burris' (2007) call to take leader behaviour and its effect on subordinates voice together with other components of subordinate behaviour into account, such as psychological safety and efficacy. Lastly, this research investigates the mediating effects of information exchange, team psychological safety, and team-efficacy. Not only does it examine the impact of humble behaviour on followers, as called for by Nielsen, Marrone, and Slay (2010), but it also investigates the antecedents of team voice. More insights in the antecedents of team voice, makes a start in defining the construct of team voice.

This study's aspiration is to examine three mediating variables that can explain the positive effect of humble leaders on team voice. Three behaviours detected with humble leaders (Owens & Hekman, 2012) are assumed to increase team voice through three separate mediators. Social interdependence theory (Deutsch, 1949) is drawn upon to support the reasoning behind the intervening effects. Figure 1 illustrates the conceptual model for this study.

Figure 1

Conceptual model of the main variables



2. Theory and Hypotheses Development

2.1 Humble Leadership and Team Voice

The 21st century seems to prelude a time where the glorification of charisma in leaders is redeemed for humbleness (Morris, Brotheridge, & Urbanski, 2005). When Jim Collins asked himself how a good company could become a great one, the answer he found was unexpected but undisputable: a successful company needs a leader that possesses the qualities of both personal humility and professional will (Collins, 2001). Additionally, both the former mayor of New York (Schramm, 2002) and the manager of labour market information in The Netherlands (Poelert, 2015) agree with the need for more humility in leadership. Such recognition of the need for humble leaders in organisations can be explained by provided evidence for beneficial results of humble leaders in organisations (Owens, Johnson, & Mitchell, 2013; Vera & Rodriguez-Lopez, 2004) in the last decade.

This study aims to expand the list of humble leaders' beneficial effects in organisations by proposing that humble leaders have a positive relationship on team voice. However, it is important to first explicitly discuss the meaning of team voice and its relation with voice behaviour. Voice behaviour is described as the extent to which people speak up towards authority, offer constructive suggestions for change (LePine & Van Dyne, 2001; Van Dyne & LePine, 1998), and challenge the status quo with the intent of improving the situation (LePine & Van Dyne, 1998). Speaking up gives team members the ability to influence the decision-making and work activities because they are able to raise concerns, express interests, and solve problems (Holland et al., 2011). Also, voice is not driven by dissatisfaction but based on constructive suggestions (Premeaux & Bedeian, 2003). Although voice behaviour is widely discussed in academic journals on the individual level, the influencing effects of factors in social dynamics of the workplace have been neglected (Greenberg & Edwards,

2009). Few researchers consider the collective expression of voice within teams. Yet, work teams can only discover gaps in its plans and make changes accordingly if team members discuss differences of opinion and test assumptions openly, rather than privately or outside the group (Edmondson, 1999). Moreover, groups that speak up collectively with suggestions and concerns are more likely to be taken seriously and acted upon, than single individuals speaking up taking the risk to go unheard or be seen as an outlier (Frazier & Bowler, 2009). Team voice can be explained as the extent to a workgroup makes constructive suggestions for improvement, shares new ideas, and speaks up about problems or potential problems (Frazier & Bowler, 2009). Hereby, the emphasis is placed on the effect of a groups overall speaking up rather than a single individual speaking up.

Although both humble leadership and team voice literature do not consist of an extended collection of research, behaviours can be identified that give reason to belief that humble leaders positively affect team voice. First, humble leaders model ‘teachability’, or, in other words, display themselves as models of learning (Owens & Hekman, 2012). Humble people are actively engaged in gathering and utilizing information in interactions with others in order to modify the self (Nielsen et al., 2010). Humble leaders, therefore, have a reason to stimulate their team to speak up. Since the leader aims to improve as a team leader, team voice is more valuable to the leader than voice expressed individually. Through listening to suggestions made aimed at improvement in interactions with the team, humble leaders are able to gather and utilize information that the team as a whole considers useful and valuable. Thus, humble leaders are likely to stimulate team voice.

Second, humble leaders express their humanness by acknowledging their limitations (Owens & Hekman, 2012) with which Comte-Sponville (2001) agrees by suggesting that humility arises from a proper understanding of one’s strengths and weaknesses. By being open about their weaknesses and going against the superhuman image that leaders oftentimes

have (Morris et al., 2005), humble leaders put themselves in a position where they lower the barrier for team members to express team voice. They acknowledge their weaknesses, which leaves room for the team to speak up by making suggestions and giving constructive feedback how to handle the imperfections in order to become more competent as a leader.

Third, humble leaders push their followers into the spotlight by showing more recognition, appreciation, and by praising their strengths (Owens & Hekman, 2012). Tangney (2000) emphasized the ability to forget the self and appreciate the value of everything next to conscious self-appraisal which is supported by Ben-Ze'ev's (2000) argument that humility requires the recognition of positive value in all human beings. All in all, "humility encourages the individual to be more sentient about the self and its relation to others" (Nielsen et al., 2010). The emphasis on team members' strengths and the strengths of the team collectively, gives the team confidence in the value of its contributions and raises the willingness to speak up. Again, leadership behaviour lowers the barrier to speak up by emphasizing team members' strengths and giving more confidence to the team's capabilities.

Based upon the detected behaviours that humble leaders show, it is predicted that the barrier to express team voice is lower. Therefore, it is expected that humble leaders make it easier for teams to speak up. Hence, the following hypothesis has been developed.

Hypothesis 1: Humble leadership is positively related to team voice.

2.2 Social Interdependence Theory

Not only does this research predict a positive relationship between humble leadership and team voice, it also proposes that three mediators can explain the positive relation. The reasoning for the mediating effects is based on social interdependence theory as proposed by Deutsch (1949). He states that people's beliefs about how their goals are related determine the way in which people interact. When interdependence is recognized, a state of tension arises

that motivates people to work towards the achievement of goals (D. W. Johnson & Johnson, 2009) and determines the way in which the team is going to do that. Tarricone and Luca (2002) mention attributes of positive interdependence that are recognized in humble leaders' behaviour. Examples are giving and seeking help and assistance with tasks and personal issues, exchange of resources and information, giving and seeking feedback, challenging and influencing each other's reasoning, and consciously reflecting on the effectiveness of the team as crucial attributes for successful teamwork.

Humble leaders play an important role in making interdependence in a team visible on different aspects. By displaying themselves as models of learning (Owens & Hekman, 2012), they show that the team together can work on the leader's functioning. As a result, information exchange is predicted to increase among the team, which also leads to higher team voice. Furthermore, when leaders acknowledge their own limitations (Owens & Hekman, 2012), they signal towards the team that it is human to not be perfect. Then, the team feels more safe with interpersonal risk taking (Edmondson, 1999), and questioning suggestions and decisions (Burke, Stagl, Salas, Pierce, & Kendall, 2006) so together they can overcome the weaknesses. Therefore, team psychological safety is expected to increase which also leads to an increase of team voice. Lastly, the leader's recognition, appreciation, and praising of team member's strengths (Owens & Hekman, 2012) displays that every team member is valuable to the team in its own way. Interdependence between team members is emphasized since then the team is able to perform well. In this way, team-efficacy is predicted to increase, which also leads to higher team voice.

2.3 The Mediating Effect of Information Exchange

Based upon in-depth interviews, Owens and Hekman (2012) concluded that one of the reasons that humble leaders are perceived as such is because they are more open to new ideas

and information which makes them receptive to feedback and more willing to listen to followers before speaking. Moreover, they determined that instead of telling followers what to do, humble leaders place themselves in the role of the follower and model their tasks to, then, seek feedback and develop work processes together. Hence, the leaders initiate role reversals with followers. Owens and Hekman (2012) named this kind of behaviour ‘modelling teachability’. As a result of modelling teachability, humble leaders are able to foster a positive attitude among followers by learning new things and gaining a deeper understanding about how to best help followers overcome challenges.

This study assumes that, partly because of the leader’s behaviour of modelling teachability where open communication is stimulated, humble leadership increases team voice through information exchange. Social interdependence theory (Deutsch, 1949) proposes that people’s beliefs about how their goals are related determine the way in which people interact. Humble leaders make interdependence within the team visible by emphasizing the possibility to develop work processes together. In order to achieve this, the team needs to communicate by sharing and exchanging information.

Information exchange can be separated into three dimensions: willingness to share information, access to information, and the intensity of information sharing (Boutellier, Ullman, Schreiber, & Naef, 2008). Open communication in a team, in this case promoted by humble leaders, helps the team to understand that sharing is valuable to the work community they wish to support (Constant, Kiesler, & Sproull, 1994). Besides, the humble leaders’ receptiveness of feedback and openness to new ideas makes the leaders more accessible as a source of information as well since, then, team members know where information is located and are more likely to retrieve information from the leaders (Yuan, Fulk, & Monge, 2007). Also, information exchange will increase when group members engage in teamwork and mutually supportive behaviour. Then, team members look out for the interests of the others

members in the group and insights and lessons learned by one are shared with the others so that all benefit from one single experience (Jensen, Johnson, & Johnson, 2002).

The exchange of information is a signal of interdependence between group members that makes them realize that their goals are related. In order to achieve goals, in this case developing work processes together, the team can express team voice. Edmondson (1999) explains that work teams can only discover gaps in its plans and make changes accordingly if team members discuss differences of opinion and test assumptions openly, rather than privately or outside the group. Since groups that speak up collectively with suggestions and concerns are more likely to be taken seriously and acted upon, than single individuals speaking up, team voice is a mean to achieve the goals. The humble leader's behaviour that stimulates the information exchange among the team indicates the positive interdependence of team members where they recognize that they share the same goals and can help each other achieve these goals (D. W. Johnson & Johnson, 1995) by, for instance, speaking up and exerting team voice. Therefore, it is proposed that within teams that exchange information regularly there exists a low barrier to express team voice since a feeling of interdependence is shared. The team is used to sharing information, opinions, and ideas among each other, so team members can also express their voice in the form of suggestions, ideas, fears, and feelings towards the team leader. Hence, the following hypothesis is developed:

Hypothesis 2: The positive relation between humble leadership and team voice is mediated by information exchange.

2.3 The Mediating Effect of Team Psychological Safety

As indicated by Owens and Hekman (2012), a second category of leadership behaviours of humble leaders discusses the way in which humble leaders acknowledge their personal limits, faults, and mistakes towards their followers. Humble leaders are not ashamed

to show their human side instead of their superhuman strengths (Morris et al., 2005; Owens & Hekman, 2012). Hence, they can agree with their followers upon occasions that their leadership failed, or when they made bad decisions based on bad judgment. They are fine with admitting when they have knowledge gaps (Owens & Hekman, 2012). Humble leaders also feel comfortable asking their followers to help them overcome the leader's weaknesses. This requires leaders to first admit their weaknesses and then work on them as well. Besides the aspects of humility in leadership in retro respect such as accepting blame for failures, humble leaders are also confident to acknowledge when they lose control at the moment (Owens & Hekman, 2012).

This study expects team psychological safety to mediate the relationship between humble leadership and team voice. The second mediation is predicted, again, because of the social interdependence theory where a collective belief in interdependence creates a motivation to achieve goals (Deutsch, 1949). Acknowledging one's own weaknesses and limitations sends out a message to others that it is okay to not be perfect. A leader who is available, approachable, and invites input and feedback sets an example for team members to do the same in the work environment (Edmondson, Kramer, & Cook, 2004; Walumbwa & Schaubroeck, 2009). The humble leader's behaviour emphasizes the interdependence between the team members to work together and complete each other on their limitations. In addition, by acknowledging one's own shortcomings, a humble leader sends a signal that it is possible to discuss such weaknesses in the team. As a result, humble leaders make the interdependence between team members visible and motivate the team to work towards a state where it is not held back by personal weaknesses by discussing them. Therefore, it is predicted that the humble leader's behaviour stimulates team psychological safety.

Psychological safety is an employee's sense of ability to show him- or herself without the fear of negative consequences to one's self image, status or career (Kahn, 1990). When

individuals feel psychologically safe, they feel free to question suggestions and decisions (Burke et al., 2006). Edmondson (1999) defined team psychological safety as a shared belief that the team is safe for interpersonal risk taking. Overall, team psychological safety is constituted of a climate of trust and mutual respect in which people are comfortable being themselves (Edmondson, 1999). Thus, psychological safety is focused on the individual's feelings whereas team psychological safety focuses on a shared feeling within a team.

Speaking up freely occurs when people are not constrained by the possibility of negative personal consequences that might accrue to them as a result, and, thus, when people feel psychologically safe (Nembhard & Edmondson, 2006). Furthermore, Chiaburu, Marinova, and Van Dyne (2008) also state that employees should feel a sense of psychological safety in order for them to express voice, because voice behaviour can challenge current circumstances. When a team shares a feeling of psychological safety, it allows the team members to speak up about concerns and problems since they perceive the potential benefits of speaking up to be larger than the costs (Edmondson et al., 2004). It is crucial that leaders reduce the perceived cost of speaking up, as it oftentimes discourages employees to express their voice (Walumbwa & Schaubroeck, 2009). Hence, the following hypothesis is proposed:

Hypothesis 3: The positive relation between humble leadership and team voice is mediated by team psychological safety.

2.4 The Mediating Effect of Team-Efficacy

As a third kind of behaviour, Owens and Hekman (2012) detected that humble leaders spotlight their follower's strengths. Humble leaders specifically emphasize the contributions their followers make to the team and the overall organisation. They recognize, appreciate, and praise followers' strengths and compliment the followers on their efforts and

accomplishments. Moreover, when humble leaders have to present contributions to upper management, they feel comfortable with attributing good suggestions and ideas to followers instead of themselves (Owens & Hekman, 2012). The humility aspect in this kind of behaviour lies in the shift of attention. For positive circumstances the leader pushes the attention to the followers instead of pulling it to him-/herself, whereas attention for negative events is pulled towards the leader rather than pushed to the followers.

This research is aimed at determining a third mediating variable explaining the relationship between humble leadership and team voice. A humble leader makes interdependence between team members visible by spotlighting the contributions and strengths of all team members. Hereby, the leader shows that each team member is valuable to the team and the team is expected to grow larger team-efficacy.

The observation that humble leaders focus on followers' strengths and capabilities creates the expectation that humble leaders increase team-efficacy. Team-efficacy refers to a team's belief that it can successfully perform a specific task (Lindsley, Brass, & Thomas, 1995). It is important to note that this study considers team-efficacy rather than collective-efficacy or individual-efficacy. Team-efficacy focuses solely on teams, whereas collective-efficacy refers to teams, in addition to departments, organizations and other groups (Gully, Joshi, Incalcaterra, & Beaubien, 2002). Moreover, team-efficacy considers shared perceptions of task-specific capabilities instead of individual perceptions on capabilities, as is the case with individual-efficacy. When leaders emphasize the valuable aspects and strengths of a team, the team's confidence to perform successfully increases (Srivastava, Bartol, & Locke, 2006).

A team's increased feeling of team-efficacy can work as a motivator (Gibson & Earley, 2007) to speak up. Although literature does not expand on the relationship between team-efficacy and voice, other studies have provided evidence that individuals with high self-

efficacy are more inclined to take active steps to work on their performance (Bono & Colbert, 2005) and express voice (McKee, Simmers, & Licata, 2006). For this study, the same reasoning goes when a reference shift changes self-efficacy into team-efficacy, and voice into team voice. The humble leader increases team-efficacy by emphasizing the value of team members and the interdependence between team members. When a team is more certain of its capabilities, it is also more certain of the value of its contributions. Therefore, it is inclined to be more active in expressing voice. In a way, team-efficacy can set a lower barrier for the expression of team voice since confidence in competences and contributions is increased. Hence, the following hypothesis is developed:

Hypothesis 4: The positive relation between humble leadership and team voice is mediated by team-efficacy.

3. Method

3.1 Procedure

Since the unit of analysis of this research is the team, data were collected through a web-based survey designed for and targeted at team members and their accompanying team leader. Due to time and budget constraints, the type of sampling design applied is restricted, non-probability sample in the form of snowball sampling. A non-probability sample is appropriate in this case as there is a need for a sample whose subjects vary sufficiently on the variables under investigation (Blumberg, Cooper, & Schindler, 2014). Teams suited to participate in this study had to consist of one team leader and a minimum of two team members (Kozlowski & Bell, 2003; McGrath et al., 2000) and had to be currently working together. In order to gather as many teams as possible in a restricted amount of time, contact persons in organisations were asked for help since they could help gather even more team leaders and team members to participate. In the end, this appeared to be a good decision as especially team leaders were more willing to participate when there was a direct or indirect relationship to the researcher.

The first step was to inform suitable contact persons working in teams via email about the research. Enclosed in the email was a flyer designed to draw attention to the research and appropriate for distribution within organisations (appendix A). Furthermore, a website was created (URL: <http://www.mariekevoorhuijzen.nl/sannikluitenberg/>) including more detailed information concerning the content of the study, the suitable participants, the procedure of participation, contact information, and a short biography. Besides, business cards were made and distributed to make it easier for those interested in participation to receive more information or to apply (appendix B).

In order to encourage teams to participate, a team activity was promised to one of the teams that completely filled in the questionnaires. In a later stadium it was decided that, especially to thank the contact persons, every team that participated and completed the questionnaires in addition received a voucher (appendix C) for a free bottle of wine in grand café Amadeus in Geleen. Moreover, every participating team was offered a report, and if desired, a personal explanation concerning the results of the study.

Through personal relations with team leaders that were suited and willing to participate in the research, other teams were triggered to participate as well. Through personal relations a sample of 69 teams in 28 companies was formed. It became clear that teams were more willing to cooperate in the study when there was a direct or indirect relation to the researcher. The main issues raised by team leaders against cooperation in the study were the lack of time to fill in the surveys and the unwillingness to share perceptions on leadership and teamwork. In other cases, it took team members too long to receive permission of team leaders to jointly participate in the research or no answer was given at all.

However, when team leaders agreed to participate in the research they were asked in a follow-up email to provide the email addresses of their team members. Data was collected via a web-based survey created with the online survey tool Qualtrics. Using this tool team leaders and team members were able to fill in the survey using their smartphone, tablet, and computer at all times. The surveys were distributed by sending team leaders and team members separate emails to their personal email addresses. Each email contained a cover letter (appendix D and E) assuring confidentiality and anonymity, the link to the accompanying survey, and a code to identify the right team members with the accompanying team leaders. A minority of team leaders indicated the preference to see both surveys before they were send to the team members. These team leaders received two emails: one containing the cover letter and link for the team leader survey, and one containing the questions for team members in a separate file,

the cover letter and link for the team member survey. Then they were in charge of forwarding the latter to the team members. Filling in the questionnaires took the team leaders a maximum of 5 minutes, and the team members a maximum of 10 minutes. Participants had 4 weeks to fill in the survey and after every week all participants received a reminder email including, again, the link to the questionnaire and their team code to increase the response rate.

Since all participating teams were based in Dutch companies, the survey was conducted in Dutch. Therefore, the English measures were translated into Dutch applying the translation and back-translation technique (Brislin, 1970) (appendix F). Besides, in order to minimize errors, a team leader and team members who were not participating in the study tested the survey in a pilot phase.

For the data analysis, it was not necessary to have complete teams fill in the questionnaires (Maloney, Johnson, & Zellmer-Bruhn, 2010). Hence, incomplete and complete teams consisting of a team leader and a minimum of two team members participated in the study. Unfortunately, respondents were deleted from the sample because of too much missing data. In addition, team members without a team leader and team leaders without team members were deleted from the sample. Besides, random missing data on items of each scale were replaced by the mean. In the end, 17 teams had to be deleted from the sample. The final sample was composed of 209 team members and 52 team leaders across 52 teams in 21 companies. This adds up to a final sample size of 261 respondents. Since originally 69 teams agreed to participate with a total of 427 individuals, 61.1% of individuals made it to the final sample. 34.6% of teams in the final sample had 100% of members responding. 78.8% of teams had at least 50% of within-group response. There were an average of 4.04 respondents per team ($SD = 2.33$) and each team had between 2 and 10 respondents.

3.2 Participants

Of all team leaders participating in the study, 75.0% was male and 25.0% female. The average age was 45.9 years ($SD = 9.038$) and the majority of team leaders (53.8%) possessed an undergraduate degree, whereas respectively 15.4% and 7.7% had a graduate degree and a PhD. Among the participating teams 32.7% worked in the industry sector, 21.2% in trade, catering, and repair, 15.4% worked for the government, 13.5% was employed in the health sector, 5.8% in the financial sector, 5.8% as well in the energy and water sector, 3.8% in transport, storage, and communication, and 1.9% worked in the construction sector. The team leaders worked as such for an average time of 105.2 months ($SD = 98.7$) and lead on average 20.9 employees ($SD = 23.7$). For the team members that filled in the questionnaire, 53.1% was male and 46.4% was female. The average team member was 40.8 years old ($SD = 13.3$) and the majority of team members (61.7%) did not possess an undergraduate degree, whereas a minority did possess an undergraduate (29.2%), graduate (6.2%), or PhD degree (1.4%). Of all participants 21.5% had a temporary contract compared to 78.5% who were permanently employed. Moreover, 52.2% worked more than 36 hours a week. Team members worked on average 150.9 months ($SD 133.1$) for the particular company and 68.4 months on average ($SD = 71.37$) in the particular team.

3.3 Measures

The web-based surveys collected via Qualtrics consisted of existing and validated scales. Furthermore, this research is conducted on a team-level. Therefore the measurements focus explicitly on team-level behaviour and activities, and refer to teams (with exception of the humble leadership measure that focuses on the leadership style of the team leader). The team leader survey was shorter than the team member survey and assessed team proactivity and team voice (appendix G). The team member survey assessed humble leadership, team

proactivity, team voice, information exchange, team psychological safety, and team efficacy (appendix H). All items in both surveys were measured on a 5-point Likert scale. Calculating the Cronbach alpha on individual level (N=209) tested the internal reliability of each scale. A principal component analysis was executed, as well on the individual level (N=209), for each variable to test the validity of the items (appendix I). In order to perform this analysis, the statistical program IBM SPSS version 23 was used.

Humble leadership. The 9-item scale by Owens et al. (2013) measures the independent variable ‘humble leadership’ and includes items such as “my leader actively seeks feedback, even if it is critical” and “my leader shows appreciation for the unique contributions of others” from 1 (*strongly disagree*) to 5 (*strongly agree*). Only the team members were asked to report on humble leadership as humble behaviours can rather be observed from others than judged by the self. This data set is valid as the Kaiser-Meyer-Olkin measure of sampling adequacy (from hereon KMO) is .880, which is higher than the required 0.6 and the Barlett’s test of sphericity is significant. Based on the Eigenvalues of all components it can be conclude that the construct has 1 component (Eigenvalue >1). Cronbach alpha is .89 (N=209) and indicates internal reliability as it exceeds the cut-off point of .7.

Team voice. The 6-item scale by Frazier and Bowler (2015) rated from 1 (*strongly disagree*) to 5 (*strongly agree*) examines the extent to which voice is encouraged in the team with items such as “my colleagues and I are encouraged to develop and make recommendations concerning issues that affect the group” and “My colleagues and I are encouraged to speak up with new ideas or changes in procedures”. This data set is valid as well since KMO is .829 and the Barlett’s test of sphericity is significant. Based on the Eigenvalues, it can be conclude that the construct has 1 component. Cronbach alpha is .82 (N=209) and indicates internal reliability.

Information exchange. According to Boutellier et al. (2008) information exchange can be measured through three scales.

Access to information. 4-item scale rated from 1 (*strongly disagree*) to 5 (*strongly agree*) including items such as “the amount of information available to me is sufficient for me to make good decisions” (Yuan et al., 2007).

Intensity of information exchange. Johnson and Lederer (2005) suggested measuring the intensity of information exchange with the item “how often do you exchange information about important business issues with your team members during a typical week?” Answers are given on a scale from 1 (*less than once per week*) to 5 (*more than once per day*).

Willingness to share information. “Information used to make key decisions is freely shared among the members of the team” is an example of the 3-item scale by Bunderson & Sutcliffe (2002). The respondents are asked to answer these items on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*).

This data set is valid as well since KMO is .772 and the Barlett’s test of sphericity is significant. Based on the Eigenvalues, it can be conclude that the construct has 2 components. The 2 components reflect the possibility of information exchange on the one side with Yuan et al.’s scale (2007) that measures access to information, and the extent of information exchange on the other with the scales considering intensity of information exchange (A. M. Johnson & Lederer, 2005) and willingness to share information (Bunderson & Sutcliffe, 2002). Cronbach alpha is .73 (N=209) and indicates internal reliability. Therefore, it is decided to keep all items.

Team psychological safety. Edmondson (1999) suggests a 7-item measure on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to measure team psychological safety. Examples of items are “It is safe to take a risk on this team” and “if you make a mistake on this team, it is often held against you”. Prior to the analysis, three items has been reverse-

scored (item 1,3, and 5). This data set is valid since KMO is .804 and the Barlett's test of sphericity is significant. Based on the Eigenvalues, it can be conclude that the construct has 2 components and only the sixth item fitted to the second component. Since the item targets active sabotaging one's efforts, the fit with the other items is not that well. Therefore, it is decided to eliminate this item from the scale. Without item 6, Cronbach alpha is .74 (N=209) and indicates internal reliability.

Team-efficacy. For the measurement of team-efficacy another one of Edmondson's (1999) scales is used. Again on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) respondents are asked to rate the items "achieving this team's goals is well within our reach", "this team can achieve its task without requiring us to put in unreasonable time or effort", and "with focus and effort, this team can do anything we set out to accomplish". Cronbach alpha is .627. This data set is valid as well since KMO is .646 and the Barlett's test of sphericity is significant. Based on the Eigenvalues, it can be conclude that the construct has 1 component. Cronbach alpha is .62 (N=209) and does not indicate internal reliability. However, Cortina (1993) explains that a small Cronbach alpha can be a result of the small number of items in the scale. Kline (1999) says that when dealing with psychological constructs values below even .7 can, realistically, be expected because of the diversity of the constructs being measured. Therefore, it is decided to keep the scale in the dataset.

3.4 Control Variables

In order to purify observed relationships among variables of interest, control variables are included.

Gender. First of all, gender can have an influence on team voice and is, therefore, taken into account as a control variable. Johnson and Schulman (1989) indicated that males have the tendency to participate more in groups than females do. Moreover, men tend to

initiate communications and provide opinions, whereas women tend to be more reactive and strive for consensus (Strodtbeck & Mann, 1956). Therefore, team voice within teams with a majority of men can be higher as they are more inclined to speak up.

Education. Education is included as a control variable as well since LePine and Van Dyne (1998) suggested that a higher level of education conveys general knowledge that leads to a greater ability to recognize problems or opportunities and to offer a greater number of possible solutions. In that sense, teams where team members on average have had higher education are more able to contribute and, thus, can have higher team voice. Team members were asked to indicate their level of education where they had the option to choose from high school diploma, undergraduate degree, graduate degree, and PhD.

Team tenure. Moreover, employees with larger team tenure, as Pfeffer (1983) suggested, have been in the position long enough to overcome the initial complications caused by lack of experience and novelty. Team members who are active in the team for a longer period of time feel more comfortable speaking up (Stamper & Van Dyne, 2001). Thus, team members were asked about their time of activity in the team in months.

3.5 Data Aggregation

As described in previous sections, this research involved individual team members rating team-level constructs (humble leadership, team voice, information exchange, team psychological safety, and team-efficacy). To statistically verify whether the data can be aggregated to the team-level, sufficient homogeneity is necessary within teams and heterogeneity is necessary between teams (Bliese, 2000; LeBreton & Senter, 2007). This study employed two techniques to establish validation of data aggregation. First, the Interrater Agreement Index, $r_{wg(j)}$, was calculated to establish within-team agreement (James, Demaree, & Wolf, 1984). For humble leadership the average $r_{wg(j)}$ was .96 (SD = .05), for team voice it

was .93 (SD = .11), for information exchange .94 (SD = .05), for team psychological safety .99 (SD = .09), and for team-efficacy the average $r_{wg(j)}$ was .87 (SD = .24) (appendix J). All results are above the cutoff-point of .7 and, therefore, support aggregation of the data (James et al., 1984). Second, the intra-class correlation coefficients (ICC1 and ICC2) were calculated. ICC1 can be interpreted as the proportion of the total variance that can be explained by group membership (Bryk & Raudenbush, 1992) whereas ICC2 provides an estimate of the reliability of mean dissimilarities between teams (Bliese, 2000). Using the formula's by Bartko (1976) and Bliese (2000), and ANOVA tests (appendix K), the ICCs were computed. The ICC1 for humble leadership (.34) ($F(51, 157) = 3.07, p < .00$), team voice (.26) ($F(51, 157) = 2.43, p < .00$), and information exchange (.31) ($F(51, 157) = 2.85, p < .00$), indicated that group membership has a large effect on judges' ratings (Murphy & Myers, 1998). The ICC1 for team psychological safety (.13) ($F(51, 157) = 1.578, p < .018$), and team-efficacy (.14) ($F(51, 157) = 1.65, p < .01$), indicated a medium effect. However, ICC2 showed results below the cutoff-point of .7 for all variables with .67 for humble leadership, .59 for team voice, .65 for information exchange, .37 for team psychological safety, and .39 for team-efficacy. The low ICC2 results can be explained by the small team sizes in the sample ($M = 4.04$) (Bliese, 2000). All else supporting aggregation, a low ICC2 value should not withhold aggregation (Kozlowski & Hattrup, 1992). All in all, data aggregation is validated.

3.6 Analytical Strategy

On forehand, preliminary analyses (descriptive analysis and correlation) were calculated to paint an overall picture of the data. It was decided to take a regression-based approach since the model includes one dependent variable, which is metric. Then, in order to test the hypotheses, model 4 of the SPSS macro PROCESS by Hayes (2013) was utilized to analyse the mediating effects of information exchange, team psychological safety, and team-

efficacy. In addition, bootstrap confidence intervals (95%) using 10,000 bootstrap samples measured the proposed indirect effects. Analyses were run on IBM SPSS version 23.

4. Results

4.1 Descriptive Statistics

Table 1 provides an overview of the means, standard deviations, and correlations among the variables of interest in this study. Based on the correlations, it can be concluded that there is no problem with multicollinearity as there are no high correlations between variables and all are well below 0.9 (Field, 2005). Moreover, outliers do not drive the data since the standard deviations are not extreme with the exception of the standard deviation for team tenure. In addition, the majority of main variables are significantly correlated with each other. A significant correlation is only missing between humble leadership and team-efficacy ($r = .26$, $N = 52$, $p = .06$).

Table 1

Means, Standard Deviations, and Intercorrelations Among Variables

Variable	M	SD	1	2	3	4	5	6	7	8
1. Humble leadership	3.84	.46	.89							
2. Information exchange	3.60	.42	.50**	.73						
3. Team psychological safety	3.85	.35	.42**	.49**	.74					
4. Team-efficacy	3.54	.37	.26	.59**	.35*	.62				
5. Team voice	3.75	.42	.63**	.66**	.48**	.50**	.82			
6. Gender	1.46	.50	.07	.13	-.07	.21	.06	-		
7. Education	1.46	.68	-.22	-.07	-.17	-.21	-.06	.10	-	

8. Team tenure	63.76	44.00	.03	-.01	-.08	-.04	.06	-.20	.13	-
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Note: N=52 for all variables except mean and standard deviation for gender (N=209) and education (N=209). The Cronbach's alpha internal consistency estimates are on the diagonals (N=209).

**. Correlation is significant at the .01 level (2-tailed).

*. Correlation is significant at the .05 level (2-tailed).

Before assessing the support of the hypotheses, the relationships between the control variables and dependent variable have to be evaluated. Table 1 shows no significant correlations between gender, education, and team tenure on one side and any of the main variables on the other side. In order to check whether the control variables indeed have no influence on the model, their significant effects are assessed in the PROCESS model of the proposed hypotheses. First a regression was done with PROCESS adding only the main variables. Later the control variables were added to the model to evaluate whether they influence the model or not. No model showed a significant relationship between the control variables gender, education, and team tenure on one hand and the main variables on the other (appendix L). Therefore, it is decided to conduct the hypotheses tests in PROCESS using model 4 without control variables (appendix M) to enhance the power of the model.

4.2 Hypotheses Tests

The effect of humble leadership on team voice

Hypothesis 1 predicted a positive relationship between humble leadership and team voice. The output of regression model 4 in PROCESS shown in table 2 supports the hypothesis and shows a significant, positive effect ($\beta=.35$, $p<.01$), using a 95 % bootstrap confidence interval of LLCI=.15 to ULCI=.56 where zero falls outside the interval. Humble leadership indeed affects team voice in such manner that teams with humble leaders express more team voice compared to teams without humble leaders. Thus, hypothesis 1 is supported.

Table 2

Direct effect of humble leadership on team voice

Team voice						
	Effect	SE	t	p	LLCI	ULCI
Humble leadership	.35	.10	3.43	.00	.15	.56

The mediating effect of information exchange

Hayes (2013) explains that mediation exists when an independent variable (Premeaux & Bedeian) has an effect on a mediating variable (M) with regression coefficient a and the mediating variable (M) as well has an effect on the dependent variable (Y) with regression coefficient b . The indirect effect ab , then, tells how two variables that differ by one unit of X differ ab units on Y as a result of the mediating effect of M. Using model 4 in PROCESS, the mediating effect of information exchange is tested. Hypothesis 2 proposes that information exchange mediates the positive effect of humble leadership on team voice. Table 3 shows that both a ($\beta=.45$, $p<.01$) and b ($\beta=.31$, $p<.05$) are significant and positive. In addition, table 4 shows an indirect effect of information exchange on team voice of .14 and a 95% bootstrap confidence interval from LLCI=.02 to ULCI=.39 excluding zero. Therefore, hypothesis 2 is supported.

Table 3

Regression coefficients and significance for the mediator information exchange

Information exchange					Team Voice			
B (a)	SE	t	p		B(b)	SE	t	p

Humble	.45	.11	4.06	.00	Information	.31	.14	2.28	.03
leadership					exchange				

Note: N=52 teams. Unstandardized regression coefficients are reported.

SE=standard error of estimate.

**. Correlation is significant at the .01 level (2-tailed).

*. Correlation is significant at the .05 level (2-tailed).

Table 4

Indirect effect of humble leadership on team voice

	Effect	Boot SE	BootLLCI	BootULCI
Total	.22	.11	.05	.53
Information exchange	.14	.09	.02	.39
Team psychological safety	.04	.05	-.05	.16
Team-efficacy	.04	.05	-.01	.23

The mediating effect of team psychological safety

Hypothesis 3 predicts that team psychological safety mediates the effect of humble leadership on team voice. Table 5 shows a significant, positive effect of .31 ($p < .01$) of humble leadership on team psychological safety, but a non-significant effect ($\beta = .13$, $p > .05$) of information exchange on team voice. Table 4 indicates a 95% bootstrap confidence interval from LLCI = -.05 to ULCI = .16 including zero. Therefore, hypothesis 3 is not supported.

Table 5

Regression coefficients and significance for the mediator team psychological safety

Team psychological safety					Team Voice			
B (a)	SE	t	p		B(b)	SE	t	p

Humble	.31	.10	3.25	.00	Team	.13	.14	.93	.36
leadership					psychological				
					safety				

Note: N=52 teams. Unstandardized regression coefficients are reported.

SE=standard error of estimate.

**. Correlation is significant at the .01 level (2-tailed).

*. Correlation is significant at the .05 level (2-tailed).

The mediating effect of team-efficacy

Also hypothesis 4 proposes a mediating effect, this time of team-efficacy between humble leadership and team voice. Table 6 shows that both the path from X to M₃ ($\beta=.31$, $p>.05$) and the path from M₃ to Y ($\beta=.21$, $p>.05$) are insignificant regression coefficients. In addition, table 4 indicates a 95% bootstrap confidence interval from LLCI=-.01 to ULCI=.23 which includes zero. Therefore, it can be concluded that it is not for 95% certain that the indirect effect is larger than zero. Hypothesis 4 is not supported.

Table 6

Regression coefficients and significance for the mediator team-efficacy

	Team-efficacy					Team Voice			
	B (a)	SE	t	p		B(b)	SE	t	p
Humble	.20	.11	1.89	.06	Team-efficacy	.21	.14	1.56	.13
leadership									

Note: N=52 teams. Unstandardized regression coefficients are reported.

SE=standard error of estimate.

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

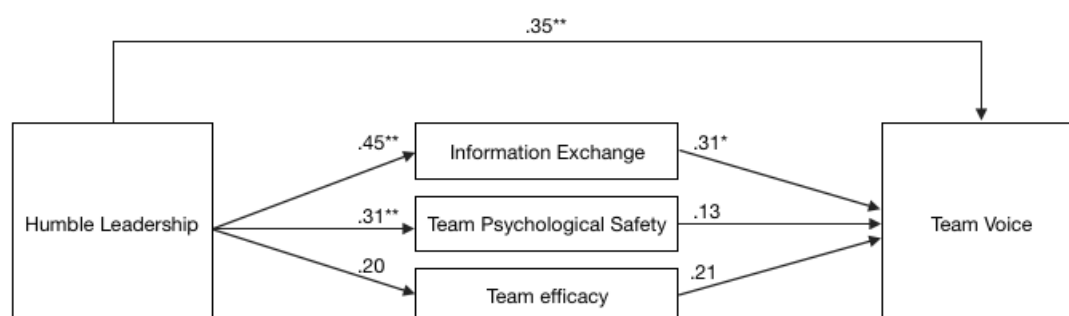
*. Correlation is significant at the 0.05 level (2-tailed).

Figure 2 illustrates the regression coefficients and the significance of the regression coefficients of all relationships between the main variables. All in all, the direct effect and the

mediating effect of information exchange show significant, positive results that support hypothesis 1 and hypothesis 2. The mediating effects of team psychological safety and team-efficacy are not significant which leads to no support for hypotheses 3 and 4.

Figure 2

Statistical diagram of the main variables



4.3 Discussion

This thesis aims to clarify the effect that humble leadership has on the expression of team voice by examining the mediating roles of information exchange, team psychological safety, and team-efficacy. The results indicate that a positive relationship between humble leadership and team voice indeed exists as well as a mediation effect by information exchange. However, the results showed no support for the mediation by team psychological safety and team-efficacy.

Theoretical implications

This study aimed to expand the emerging body of literature concerning leadership and its influence on voice by considering humble leadership and team voice. Recent research has

provided evidence that leadership behaviours have an influence on voice (Detert & Burris, 2007; Walumbwa & Schaubroeck, 2009), yet humble leadership has not been analysed in its relation to voice. A call for more humility in organisations (Collins, 2001; Poelert, 2015; Schramm, 2002) asks for an investigation of humble leadership in order to be able to foresee the effects of the leader's behaviour in the organisational environment. The importance of knowing such effects lies in the difference humble leadership has with more extroverted leadership styles such as the frequently investigated transformational leadership (Grant, Gino, & Hofmann, 2011; Tse & Chui, 2014).

Furthermore, there is a large request for further investigation of voice on a collective level (Frazier & Bowler, 2015; Frazier & Bowler, 2009; Greenberg & Edwards, 2009; Kim et al., 2010), still scholars have not yet embraced it as a research topic. Therefore, by investigating the relationship between humble leadership and team voice, a new research field is entered which connects the academic conversation regarding leadership and voice (Detert & Burris, 2007; Walumbwa & Schaubroeck, 2009), and the need for investigation of team voice (Frazier & Bowler, 2015; Frazier & Bowler, 2009; Greenberg & Edwards, 2009).

The support of hypothesis 1 demonstrates that humble leaders are able to stimulate their team to make constructive suggestions for improvement, share new ideas, and speak up about problems or potential problems. In retrospect, the used scale for team voice does not measure the actual expression of team voice, but rather the encouragement of team voice by the leader. Therefore, the significant, positive relationship is rather predictable since Owens and Hekman (2012) determined that humble leaders are eager to receive and give feedback. The findings now show that humble leaders encourage teams to speak up, which was already determined by Owens and Hekman (2012). Therefore, the contribution of the results is further validation of the construct.

Moreover, hypothesis 2, that predicted the mediating effect of information exchange, was supported. Social interdependence theory as proposed by Deutsch (1949) was drawn upon to explain how the humble leader makes interdependence within the team visible and therefore increases team voice through information exchange. The theory explains that humble leaders make it clear to the team that they need each other's information to perform well. The results provide evidence for the increase of information exchange when teams have humble leaders. The results also support the increase of encouragement of team voice when information exchange is high within a team. This can mean that in an environment where information is widely shared within a team, the humble leader encourages the team to speak up and discuss all known information. Not only does the leader want everybody to have the information, the team also needs to work with the information and critically think about it. This validates the behaviour determined by Owens and Hekman (2012) that humble leaders are open to and invite feedback, and are willing to develop work processes together with the team.

Findings only supported hypothesis 2 which investigated the mediating effect of information exchange. The non-support for the mediator team psychological safety in hypothesis 3 and team-efficacy in hypothesis 4 are striking, as psychological safety and efficacy are variables oftentimes investigated and showing significant results in relationship with voice. The results did not support the relationship between humble leadership and team-efficacy. However, the p-value was just over .5 ($p=.6$) and the bootstrap confidence interval nearly excluded 0 (LLCI=-.01 to ULCI=.23). Reason for this can be the rather low sample size. However, the divergent team voice scale can explain the non-support for the relationship between team psychological safety and team voice, and team-efficacy and team voice. Teams high on team psychological safety do not need encouragement to speak up as they already feel comfortable and safe to speak up with suggestions and ideas. In addition, teams high on team-efficacy are already certain of their capacities and competences, so are in no need for

encouragement to speak up as well. Teams high on team-efficacy feel confident in the message they want to express and in their contribution. No help is needed for them to speak up.

It was decided to conduct a supplementary analysis in PROCESS with model 2 where team psychological safety and team-efficacy are treated as moderating variables (Appendix N). In the conditions where teams feel psychologically safe and have high team-efficacy, the relationship between humble leadership and the encouragement of team voice is expected to be negative. Humble leaders have no need to encourage their team to speak up when the team feels already comfortable expressing suggestions and ideas, and is confident in its competences and contributions. Findings demonstrated no significant results. Future research can focus on the development of a scale for team voice. Then, further investigation of the topic can be continued.

Limitations and future directions

This research holds several limitations which have to be mentioned and can be considered as basis for future research. First of all, the measuring scale of team voice by Frazier and Bowler (2015) appeared not to be suitable to measure team voice as such. The scale used to measure team voice in this study emphasized the extent to which team members are *encouraged* to speak up. Because encouragement is more aimed at the team leader's behaviour, team members' ratings of team voice were used rather than the team leaders' ratings. In retrospect it would have been more appropriate to measure team voice with items more focused on the extent to which teams *actually* speak up. Then, team voice can be measured with ratings from team leaders as they are in the best position to report on actual team voice. However, a measurement scale for team voice that is widely used by the academic community is not yet in place. A scale developed by Kim, MacDuffie, and Pil

(2010) is aimed more at the influence team members have on day-to-day decision-making than the extent of speaking up. Future research can be directed at the development of a measurement scale for team voice.

Second, the sample size of 52 teams can be considered rather small. Although other research with comparable sample sizes is conducted resulting in significant results (Frazier & Bowler, 2015; Frazier & Fainshmidt, 2012), a small sample size in this study has set constraints to the statistical power of the results. Especially because the study aims to explain the mediating effects of three variables on the dependent variable, a larger sample size can help to obtain results with higher statistical power. The small sample size can be a reason for the absence of support for hypothesis 3 since the significance was just over .05 for hypothesis 3. Therefore, it is recommended to use a larger sample size in future research.

Third, all teams participating in the study worked for Dutch companies in the province of Limburg. Including only Dutch firms constraints the generalizability of the study. Conducting the same research in another geographical area can result in different conclusions since cultural differences can arise on both national as international level. Moreover, future research can evaluate national differences within The Netherlands by comparing the present study conducted in Limburg to future studies conducted in other parts of the country.

Fourth, this study has a cross-sectional design. All variables were measured at one point in time without taking into account the possible changes in perceptions on variables over time. A suggestion for future research is to conduct a longitudinal study that measures the variables at several points in time since perceptions on variables such as team psychological safety, team-efficacy, and team voice can unfold over time especially when team members are only active in the team for a short period of time.

Practical implications

Findings suggest that humble leaders, through their behaviour, make teams more willing to make constructive suggestions for improvement, share new ideas, and speak up about problems or potential problems (Frazier & Bowler, 2009). The results have practical implications for organisations. When organisations are open to and highly value that teams speak up and share their suggestions and ideas, it is needed to make team leaders aware of their behaviour towards the team. Leaders have to realize how their behaviour influences the extent to which teams are willing to speak up. Therefore, organisations can make use of this study's insights in terms of management selection and training. Firms have to be aware that their managers can stimulate team voice by exhibiting certain types of behaviour. Leaders should be open and acceptant of feedback, be aware of their own limitations, and appreciative of their team members strengths and value. Thus, in addition to traditional selection criteria, expressed humility in the interaction with others can be a new point of attention for management selection.

Another practical implication can be derived from the support for the mediating variable. By drawing on social interdependence theory (Deutsch, 1949), results showed that humble leadership has a positive effect on team voice through information exchange. This suggests that attention should also be given to the extent to which leaders stimulate and are open to information exchange. When team leaders are aimed at increasing team voice, a tool could be to increase information exchange by, for instance, adapting the office layout (Boutellier et al., 2008). Furthermore, scheduling regular team meetings aimed at exchanging new information can give the team more opportunities to speak up.

Conclusion

This study has made a start to investigate the direct and indirect effect of humble leadership on team voice. It aimed to determine three mediating variables that explain the indirect effect of the independent variable on the dependent variable. The results did display a positive, significant relation for the direct relationship between humble leadership and team voice. Moreover, support was found for the mediating effect of information exchange. However, findings did not support the mediating effects of team psychological safety and team-efficacy. Although only one mediator was supported by the findings and generalizability was not guaranteed, this study made first steps towards determination of mediating factors in the relationship. From this study it can be concluded that when leaders are open to feedback and model teachability, acknowledge one's own weaknesses, and are appreciative of other's strengths, such behaviour stimulates information exchange and increases team voice.

REFERENCES

- Ashford, S. J., Sutcliffe, K. M., & Christianson, M. K. (2009). Speaking up and speaking out: The leadership dynamics of voice in organizations. In J. Greenberg & M. S. Edwards (Eds.), *Voice and silence in organizations* (pp. 175-202). Bingley, England: Emerald
- Avey, J. B., Palanski, M. E., & Walumbwa, F. O. (2011). When leadership goes unnoticed: The moderating role of follower self-esteem on the relationship between ethical leadership and follower behavior. *Journal of Business Ethics*, 98, 573-582.
- Bartko, J. J. (1976). On various intraclass correlation reliability coefficients. *Psychological Bulletin*, 83, 762-765.
- Batt, R., Colvin, A. J., & Keefe, J. (2002). Employee voice, human resource practices, and quit rates: Evidence from the telecommunications industry. *Industrial & Labor Relations Review*, 55(4), 573-594.
- Ben-Ze'ev, A. (2000). *The subtlety of emotions*. Cambridge, MA: MIT Press.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349-381). San Francisco: Jossey-Bass.
- Blumberg, B. F., Cooper, D. R., & Schindler, P. S. (2014). *Business research methods*. London: McGraw Hill.
- Bono, J. E., & Colbert, A. E. (2005). Understanding responses to multi-source feedback: the role of core self-evaluations. *Personnel Psychology*, 58, 171-203.
- Boutellier, R., Ullman, F., Schreiber, J., & Naef, R. (2008). Impact of office layout on communication in a science-driven business. *R&D Management*, 38(4), 372-391.

- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*(3), 185-121.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models*. Thousand Oaks, CA: Sage.
- Bunderson, J. S., & Sutcliffe, K. M. (2002). Comparing alternative conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal, 45*(5), 875-893.
- Burke, C. S., Stagl, K. C., Salas, E., Pierce, L., & Kendall, D. (2006). Understanding team adaptation: A conceptual analysis and model. *Journal of Applied Psychology, 91*(6), 1189-1207. doi: 10.1037/0021-9010.91.6.1189
- Chiaburu, D. S., Marinova, S. V., & Van Dyne, L. (2008). Should I do it or not ? An initial model of cognitive processes predicting voice behaviors. In L. T. Kane & M. R. Powell (Eds.), *Citizenship in the 21st Century*: Nova Science Publishers, Inc.
- Collins, J. (2001). Level 5 leadership: The triumph of humility and fierce resolve. *Harvard Business Review, 1*-12.
- Colquitt, J. A., Noe, R. A., & Jackson, C. L. (2002). Justice in teams: Antecedents and consequences of procedural justice climate. *Personnel Psychology, 55*, 83-109.
- Comte-Sponville, A. (2001). *A small treatise on the great virtues*. New York: Henry Holt & Company.
- Constant, D., Kiesler, S., & Sproull, L. (1994). What's mine is ours, or is it? A study of attitudes about information sharing. *Information Systems Research, 5*(4), 400-421.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*, 98-104.
- Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal, 50*(4), 869-884.

- Deutsch, M. (1949). An experimental study of the effects of co-operation and competition upon group process. *Human Relations*, 2(3), 199-231. doi: 10.1177/001872674900200301
- Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350-383.
- Edmondson, A. C., Kramer, R. M., & Cook, K. S. (2004). Psychological safety, trust, and learning in organizations: A group-level lens. *Trust and Distrust in Organizations: Dilemmas and Approaches*, 10, 239-272.
- Field, A. (2005). *Discovering statistics using SPSS*. London: SAGE.
- Frazier, M. L., & Bowler, M. (2015). Voice climate, supervisor undermining, and work outcomes: A group-level examination. *Journal of Management*, 41(3), 841-863. doi: 10.1177/0149206311434533
- Frazier, M. L., & Bowler, W. M. (2009). Voice climate in organizations: A group-level examination of antecedents and performance outcomes. *Paper presented at the annual meeting of the Academy of Management Chicago, IL*.
- Frazier, M. L., & Fainshmidt, S. (2012). Voice climate, work outcomes, and the mediating role of psychological empowerment: A multilevel examination. *Group & Organization Management*, 1-25.
- Gibson, C. B., & Earley, P. C. (2007). Collective cognition in action: Accumulation, interaction, examination, and accommodation in the development and operation of group efficacy beliefs in the workplace. *Academy of Management Review*, 32(2), 438-458.
- Grant, A. M., Gino, F., & Hofmann, D. A. (2011). Reversing the extraverted leadership advantage: the role of employee proactivity. *Academy of Management Journal*, 54(3), 528-550.

- Greenberg, J., & Edwards, M. (2009). *Voice and silence in organizations*. Bingley, England: Emerald.
- Gully, S. M., Joshi, A., Incalcaterra, K. A., & Beaubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as moderators of observed relationships. *Journal of Applied Psychology*, 87(5), 819-832.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Holland, P., Pyman, A., Cooper, B. K., & Teicher, J. (2011). Employee voice and job satisfaction in Australia: The centrality of direct voice. *Human Resource Management*, 50(1), 95-111.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69(1), 85-98.
- Jensen, M., Johnson, D. W., & Johnson, R. T. (2002). Impact of positive interdependence during electronic quizzes on discourse and achievement *The Journal of Educational Research*, 95(3), 161-166.
- Johnson, A. M., & Lederer, A. L. (2005). The effect of communication frequency and channel richness on the convergence between chief executive and chief information officers. *Journal of Management Information Systems*, 22(2), 227-252.
- Johnson, D. W., & Johnson, R. T. (1995). In B. Bunker & J. Z. Rubin (Eds.), *Conflict, cooperation, and justice*. San Fransisco: Jossey-Bass.
- Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, 38(5), 365-379. doi: 10.3102/0013189x09339057

- Johnson, R. A., & Schulman, G. I. (1989). Gender-role composition and role entrapment in decision making groups. *Gender & Society*, 3, 355-372.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724.
- Kim, J., MacDuffie, J. P., & Pil, F. K. (2010). Employee voice and organizational performance: Team versus representative influence. *Human Relations*, 63(3), 371-394. doi: 10.1177/0018726709348936
- Klaas, B. S., Olson-Buchanan, J. B., & Ward, A.-K. (2012). The determinants of alternative forms of workplace voice: An integrative perspective. *Journal of Management*, 38(1), 314-345. doi: 10.1177/0149206311423823
- Kline, P. (1999). *The handbook of psychological testing* (2 ed.). London: Routledge.
- Kozlowski, S., & Bell, B. S. (2003). Work groups and teams in organisations. In C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), *Handbook of Psychology: Industrial and Organizational Psychology* (Vol. 12, pp. 333-375). London: Wiley.
- Kozlowski, S., & Hattrup, K. (1992). A disagreement about within-group agreement: Disentangling issues of consistency versus consensus. *Journal of Applied Psychology*, 77(2), 161-167.
- LeBreton, J. M., & Senter, J. L. (2007). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*. doi: 10.1177/1094428106296642
- LePine, J. A., & Van Dyne, L. (1998). Predicting Voice Behavior in Work Groups *Journal of Applied Psychology*, 83(6), 853-868.
- LePine, J. A., & Van Dyne, L. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with big five

- personality characteristics and cognitive ability. *Journal of Applied Psychology*, 86(2), 326-336.
- Lindsley, D. H., Brass, D. J., & Thomas, J. B. (1995). Efficacy-performance spirals: A multilevel perspective. *Academy of Management Review*, 20, 645-678.
- Liu, W., Zhu, R., & Yang, Y. (2010). I warn you because I like you: Voice behavior, employee identifications, and transformational leadership. *The Leadership Quarterly*, 21, 189-202.
- Maloney, M. M., Johnson, S. G., & Zellmer-Bruhn, M. E. (2010). Assessing group-level constructs under missing data conditions: A monte carlo simulation. *Small Group Research*, 41(3), 281-307.
- McGrath, J. E., Arrow, H., & Berdahl, J. L. (2000). The study of groups: Past, present, and future. *Personality and Social Psychology Review*, 4(1), 95-105.
- McKee, D., Simmers, C. D., & Licata, J. (2006). Customer self-efficacy and response to service. *Journal of Service Research*, 8(3), 207-220.
- Morris, J. A., Brotheridge, C. M., & Urbanski, J. C. (2005). Bringing humility to leadership: Antecedents and consequences of leader humility. *Human Relations*, 58(10), 1323-1350. doi: 10.1177/0018726705059929
- Morrison, E. W. (2011). Employee voice behavior: Integration and directions for future research. *The Academy of Management Annals*, 5(1), 373-412. doi: 10.1080/19416520.2011.574506
- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *The Academy of Management Review*, 25(4), 706-725.
- Murphy, K. R., & Myors, B. (1998). *Statistical power analysis: A simple and general model for traditional and modern hypothesis tests*. Mahwah, NJ: Lawrence Erlbaum.

- Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement effort in health care teams. *Journal of Organizational Behavior*, 27, 941-966.
- Nielsen, R., Marrone, J. A., & Slay, H. S. (2010). A new look at humility: Exploring the humility concept and its role in socialized charismatic leadership. *Journal of Leadership & Organizational Studies*, 17(1), 33-43.
- Owens, B. P., & Hekman, D. R. (2012). Modeling how to grow: An inductive examination of humble leader behaviors, contingencies, and outcomes. *Academy of Management Journal*, 55(4), 787-818. doi: 10.5465/amj.2010.0441
- Owens, B. P., Johnson, M. D., & Mitchell, T. R. (2013). Expressed humility in organizations: Implications for performance, teams, and leadership. *Organization Science*, 24(5), 1517-1538. doi: 10.1287/orsc.1120.0795
- Pfeffer, J. (1983). Organizational demography. In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior* (Vol. 5, pp. 299-357). Greenwich, CT: JAI Press.
- Poelert, E. (2015, 23 September 2015). Aantal managers neemt af: Is dat erg of niet? *De Limburger*.
- Premeaux, S. F., & Bedeian, A. G. (2003). Breaking the silence: The moderating effects of self-monitoring in predicting speaking up in the workplace. *Journal of Management Studies*, 40(6), 1537-1562. doi: 10.1111/1467-6486.00390
- Schramm, J. (2002). Humility is key to leadership. *People Management*, 8(14), 11.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Spencer, D. G. (1986). Employee voice and employee retention. *Academy of Management Journal*, 29(3), 488-502.

- Srivastava, A., Bartol, K. M., & Locke, E. A. (2006). Empowering leadership in management teams: effects on knowledge sharing, efficacy, and performance. *Academy of Management Journal*, 48(6), 1239-1251.
- Stamper, C. L., & Van Dyne, L. (2001). Work status and organizational citizenship behavior: A field study of restaurant employees. *Journal of Organizational Behavior*, 22, 517-536.
- Strodtbeck, E. L., & Mann, R. D. (1956). Sex role differentiation in jury deliberations. *Sociometry*, 19, 3-11.
- Tangney, J. P. (2000). Humility: Theoretical perspectives, empirical findings, and directions for future research. *Journal of Social and Clinical Psychology*, 19, 70-82.
- Tarricone, P., & Luca, J. (2002). Employees, teamwork and social interdependence – a formula for successful business? *Team Performance Management: An International Journal*, 8(3/4), 54-59. doi: 10.1108/13527590210433348
- Tse, H. H. M., & Chui, W. C. K. (2014). Transformational leadership and job performance: A social identity perspective. *Journal of Business Research*, 67, 2827-2835.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41(1), 108-119.
- Vera, D., & Rodriguez-Lopez, A. (2004). Humility as a source of competitive advantage. *Organizational Dynamics*, 33(4), 393-408.
- Walumbwa, F. O., & Schaubroeck, J. (2009). Leader personality traits and employee voice behavior: Mediating roles of ethical leadership and work group psychological safety. *Journal of Applied Psychology*, 94(5), 1275-1286.
- Yuan, Y. C., Fulk, J., & Monge, P. R. (2007). Access to information in connective and communal transactive memory systems. *Communication Research*, 34(2), 131-155. doi: 10.1177/0093650206298067

Appendices

Appendix A. Flyer



Verbeter uw leiderschap en teamwork

Maak kans op een team uitje in Sittard-Geleen!

Onderzoek naar bescheiden leiderschap en meningsuiting in teams

Voor dit onderzoek zoek ik teams bestaande uit minimaal 2 personen en een supervisor. Per team zullen drie keer enquêtes worden afgenomen om informatie te verzamelen over teamwork, percepties over de leider en meningsuiting op de werkvloer. De resultaten helpen leiderschap, teamwork en prestaties te verbeteren.

Voor meer informatie, bezoek de volgende website
www.mariekevoorhuijzen.nl/sannikluitenber
of email
s.kluitenberg@student.maastrichtuniversity.nl

 **Maastricht University**

Appendix B. Business Cards



Appendix C. Voucher Café Amadeus



Appendix D. Dutch Cover Letter: Team Member

Beste teamlid,

CODE: XXXX

U bent gevraagd om deel te nemen aan een onderzoek over leiderschap en ik wil u graag nogmaals bedanken voor uw interesse.

Als deze vragenlijst volledig is ingevuld door het gehele team maakt u kans op een **teamuitje** in Sittard-Geleen. Daarnaast wil ik jullie belonen voor het onverwachte enthousiasme en daarom ontvangt **ieder team** een aangename verrassing bij complete invulling van de vragenlijsten. Dit laatste wilt u niet missen, dus houdt uw post in de gaten.

Het invullen van de volgende vragenlijst zal naar schatting 10 tot 15 minuten in beslag nemen. Het is belangrijk om gedurende het invullen van deze vragenlijst continu uw team en teamleider voor ogen te houden om zo de betrouwbaarheid van het onderzoek te garanderen. Bovendien wordt u gevraagd om de gehele vragenlijst naar waarheid in te vullen. Er zijn geen goede en foute antwoorden.

Aan het begin van de vragenlijst wordt u gevraagd naar uw team code. Deze code is hetzelfde voor uw team leider. Uw code is XXXX.

Deze vragenlijst is volledig anoniem en de verkregen informatie wordt als vertrouwelijk behandeld. De team code wordt louter gebruikt voor statistische doeleinden. Er zal ook niemand in staat zijn om u te identificeren, en er zal niemand kunnen bepalen voor welk bedrijf u werkt. Wat u invult op de vragenlijst zal op geen enkele manier invloed hebben op uw huidige of toekomstige werk binnen het bedrijf.

Als u nog vragen of opmerkingen heeft over het invullen van de vragenlijst, kunt u contact opnemen via +316 22 77 37 89 of s.kluitenberg@student.maastrichtuniversity.nl.

LINK NAAR VRAGENLIJST:

https://maastrichtuniversity.eu.qualtrics.com/SE/?SID=SV_efilU7S0F6gOadD

Met vriendelijke groet,

Sanni Kluitenberg

Promotor en supervisor van het onderzoek:

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Web: www.bert-schreurs.com

Gelieve deze enquête in zijn geheel en naar waarheid in te vullen. Verkregen informatie 47 wordt vertrouwelijk behandeld.

Appendix E. Dutch Cover Letter: Team Leader

Beste teamleider,

CODE: XXXX

U bent gevraagd om deel te nemen aan een onderzoek over leiderschap en ik wil u graag nogmaals bedanken voor uw interesse.

Als deze vragenlijst volledig is ingevuld door het gehele team maakt u kans op een **teamuitje** in Sittard-Geleen. Daarnaast wil ik jullie belonen voor het onverwachte enthousiasme en daarom ontvangt **ieder team** een aangename verrassing bij complete invulling van de vragenlijsten. Dit laatste wilt u niet missen, dus houdt uw post in de gaten.

Het invullen van de volgende vragenlijst zal naar schatting minder dan 5 minuten in beslag nemen. Het is belangrijk om gedurende het invullen van deze vragenlijst continu uw team voor ogen te houden om zo de betrouwbaarheid van het onderzoek te garanderen. Bovendien wordt u gevraagd om de gehele vragenlijst naar waarheid in te vullen. Er zijn geen goede en foute antwoorden.

Aan het begin van de vragenlijst wordt u gevraagd naar uw team code. Deze code is hetzelfde voor uw team leden. Uw code is XXXX.

Deze vragenlijst is volledig anoniem en de verkregen informatie wordt als vertrouwelijk behandeld. De team code wordt louter gebruikt voor statistische doeleinden. Er zal ook niemand in staat zijn om u te identificeren, en er zal niemand kunnen bepalen voor welk bedrijf u werkt. Wat u invult op de vragenlijst zal op geen enkele manier invloed hebben op uw huidige of toekomstige werk binnen het bedrijf.

Als u nog vragen of opmerkingen heeft over het invullen van de vragenlijst, kunt u contact opnemen via +316 22 77 37 89 of s.kluitenberg@student.maastrichtuniversity.nl.

LINK NAAR VRAGENLIJST:

https://maastrichtuniversity.eu.qualtrics.com/SE/?SID=SV_6ssag3z0QAJhxWd

Met vriendelijke groet,

Sanni Kluitenberg

—

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Web: www.bert-schreurs.com

Gelieve deze enquête in zijn geheel en naar waarheid in te vullen. Verkregen informatie 48 wordt vertrouwelijk behandeld.

Appendix F. Dutch Translation of Measurement Scales

Humble leadership behaviours: team member survey

Owens et al. (2013).

My leader actively seeks feedback, even if it is critical.	Mijn leider zoekt actief naar feedback, ook als de feedback kritisch van natuur is.
My leader admits it when he/she doesn't know how to do something.	Mijn leider geeft het toe als hij/zij niet weet hoe iets te doen.
My leader acknowledges when others have more knowledge and skills than him- or herself.	Mijn leider erkent het als anderen meer kennis en vaardigheden hebben dan hem/haarzelf.
My leader takes notice of others' strengths.	Mijn leider neemt acte van de sterke punten van anderen.
My leader often compliments others on their strengths.	Mijn leider complimenteert anderen vaak op hun sterke punten.
My leader shows appreciation for the unique contribution of others.	Mijn leider toont waardering voor de unieke bijdrage van anderen.
My leader is willing to learn from others.	Mijn leider is bereid om van anderen te leren.
My leader is open to the ideas of others.	Mijn leider staat open voor ideeën van anderen.
My leader is open to the advice of others.	Mijn leider staat open voor advies van anderen.

Team proactivity: team leader survey

Williams et al. (2010).

The team uses initiatives to make the most of opportunities and being proactive in the way it deals with problems.	Het team maakt gebruik van initiatieven om kansen te benutten en is proactief in de manier waarop het problemen aanpakt.
The team comes up with novel ideas and solutions to problems.	Het team bedenkt nieuwe ideeën en oplossingen voor problemen.

Team proactivity: team leader survey

Griffin et al. (2007)

The team suggests ways to make the work unit more effective.	Het team doet suggesties om het team effectiever te maken.
The team develops new and improved methods to help the work unit perform better.	Het team ontwikkelt nieuwe en verbeterde manieren om het team beter te laten presteren
The team improved the way the work unit does things.	Het team verbetert de manier waarop zij zaken doen.

Team proactivity: team member survey

Williams et al. (2010).

My team uses initiatives to make the most of opportunities and being proactive in the way it deals with problems.	Mijn team maakt gebruik van initiatieven om kansen te benutten en is proactief in de manier waarop het problemen aanpakt.
My team comes up with novel ideas and solutions to problems.	Mijn team bedenkt nieuwe ideeën en oplossingen voor problemen.

Team proactivity: team member survey

Griffin et al. (2007)

My team suggests ways to make the work unit more effective.	Mijn team doet suggesties om het team effectiever te maken.
My team develops new and improved methods to help the work unit perform better.	Mijn team ontwikkelt nieuwe en verbeterde manieren om het beter te laten presteren.
My team improved the way the work unit does things.	Mijn team verbetert de manier waarop wij werken.

Team voice: team leader survey

Frazier & Bowler (in press)

The employees in my work group are encouraged to develop and make recommendations concerning issues that affect the group.	De werknemers in mijn team worden aangemoedigd aanbevelingen te doen betreffende zaken die de groep beïnvloeden.
The employees in my work group are encouraged to speak up and get others involved in issues that affect the group.	De werknemers in mijn team worden aangemoedigd om hun stem te laten horen en anderen te betrekken bij zaken die de groep beïnvloeden.
The employees in my work group are encouraged to communicate opinions about work issues with others in the group even if that opinion is different and others in the group disagree.	De werknemers in mijn team worden aangemoedigd om te communiceren met anderen over hun meningen betreffende werk gerelateerde zaken, zelfs als hun meningen verschillen en teamgenoten het oneens zijn.
The employees in my work group are encouraged to keep well informed about issues where our opinions might be useful to the group.	De werknemers in mijn team worden aangemoedigd om goed geïnformeerd te zijn over zaken waar hun meningen nuttig kunnen zijn voor de groep.
The employees in my work group are encouraged to get involved in issues that affect the quality of life here at work.	De werknemers in mijn team worden aangemoedigd om betrokken te raken bij zaken die de kwaliteit van de werkomgeving beïnvloeden.
The employees in my work group are encouraged to speak up with new ideas or changes in procedures.	De werknemers in mijn team worden aangemoedigd nieuwe ideeën of veranderingen in procedures te opperen.

Team voice: team member survey

Frazier & Bowler (in press)

My colleagues and I are encouraged to develop and make recommendations concerning issues that affect the group.	Mijn collega's en ik worden aangemoedigd aanbevelingen te doen betreffende zaken die de groep beïnvloeden.
My colleagues and I are encouraged to speak up and get others involved in issues that affect the group.	Mijn collega's en ik worden aangemoedigd om onze stem te laten horen en anderen te betrekken bij zaken die de groep beïnvloeden.
My colleagues and I are encouraged to communicate opinions about work issues with others in the group even if that opinion is different and others in the group disagree.	Mijn collega's en ik worden aangemoedigd om te communiceren met anderen over onze meningen betreffende werk gerelateerde zaken, zelfs als onze meningen verschillen en teamgenoten het oneens zijn.
My colleagues and I are encouraged to keep well informed about issues where our	Mijn collega's en ik worden aangemoedigd om goed geïnformeerd te zijn over zaken

opinions might be useful to the group.	waar onze meningen nuttig kunnen zijn voor de groep.
My colleagues and I are encouraged to get involved in issues that affect the quality of life here at work.	Mijn collega's en ik worden aangemoedigd om betrokken te raken bij zaken die de kwaliteit van de werkomgeving beïnvloeden.
My colleagues and I are encouraged to speak up with new ideas or changes in procedures.	Mijn collega's en ik worden aangemoedigd nieuwe ideeën of veranderingen in procedures te opperen.

Information Exchange: team member survey

Access to information

Yuan et al. (2007).

The amount of information available to the team is sufficient for me to make good decisions.	De hoeveelheid informatie beschikbaar voor het team is genoeg om voor mij om goede beslissingen te nemen.
My team has found that information is generally complete enough for us to make good decisions.	Mijn team heeft gemerkt dat wij over het algemeen genoeg informatie hebben om goede beslissingen te nemen.
Most information my team receives is very valuable.	De meeste informatie die mijn team ontvangt is waardevol
My team has full confidence that we make decisions based on accurate information.	Mijn team heeft het volste vertrouwen dat wij goede beslissingen neem gebaseerd op nauwkeurige informatie.

Intensity of information exchange

Johnson & Lederer (2005).

How often does your team exchange information about important business issues during a typical week?	Hoe vaak wisselt uw team gedurende een normale werkweek informatie uit betreffende belangrijke werk gerelateerde zaken?
--	---

Willingness to share information

Bunderson & Sutcliffe (2002).

Information used to make key decisions is freely shared among the members of the team.	Informatie die wordt gebruikt om belangrijke beslissingen te nemen wordt vrij gedeeld onder de teamleden.
Team members work hard to keep one another up to date on their activities	Teamleden werken hard om elkaar op de hoogte te houden van hun activiteiten.
Team members are kept 'in de loop' about key issues affecting the business unit	Teamleden worden op de hoogte gehouden van belangrijke zaken die het bedrijf beïnvloeden.

Team psychological safety: team member survey

Edmondson (1999).

If you make a mistake on this team, it is often held against you.	Als u een fout maakt binnen dit team, wordt dit vaak tegen u gebruikt.
Members of this team are able to bring up problems and tough issues.	De leden van dit team zijn in staat om problemen en moeilijke zaken te bespreken.
People on this team sometimes reject others for being different.	Mensen in dit team wijzen soms anderen af omdat zij anders zijn.
It is safe to take a risk on this team.	Het is veilig om een risico te nemen in dit team.
It is difficult to ask other members of this team for help.	Het is moeilijk om andere teamleden om hulp te vragen.
No one on this team would deliberately act in a way that undermines my efforts.	Niemand in dit team zal opzettelijk handelen op een manier die mijn inspanningen ondermijnt.

Working with members of this team, my unique skills and talents are valued and utilized	Tijdens het samenwerken met deze teamleden worden mijn unieke vaardigheden en talenten gewaardeerd en benut.
Team efficacy: team member survey Edmondson (1999).	
Achieving this team's goals is well within our reach.	Het behalen van de doelstellingen van dit team is goed binnen ons bereik.
This team can achieve its task without requiring us to put in unreasonable time or effort.	Dit team kan zijn taken behalen zonder dat het onredelijk veel tijd of inspanning kost.
With focus and effort, this team can do anything we set out to accomplish	Met focus en inspanning kan dit team alles doen wat we willen bereiken.

Appendix G. Questionnaire Team Leader Dutch

Wat is uw geslacht?

- ☐ Mannelijk
- ☐ Vrouwelijk

Wat is uw leeftijd?

Wat is uw hoogst behaalde diploma?

- ☐ Middelbare school diploma
- ☐ Bachelor diploma
- ☐ Master diploma
- ☐ MBA/PhD

In welke bedrijfstak werkt u?

- ☐ Landbouw, bosbouw en visserij
- ☐ Delfstoffenwinning
- ☐ Industrie
- ☐ Energie- en waterleiding bedrijven
- ☐ Handel, horeca en reparatie
- ☐ Bouwnijverheid
- ☐ Vervoer, opslag en communicatie
- ☐ Financiële en zakelijke dienstverlening
- ☐ Overheid
- ☐ Zorg en overige dienstverlening

Hoe lang bent u werkzaam als teamleider in de huidige organisatie?

Hoeveel werknemers heeft u onder u werken?

	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Het team maakt gebruik van initiatieven om kansen te benutten en is proactief in de manier waarop het problemen aanpakt.	1	2	3	4	5
Het team bedenkt nieuwe ideeën en oplossingen voor problemen.	1	2	3	4	5
	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Het team doet suggesties om het team effectiever te maken.	1	2	3	4	5
Het team ontwikkelt nieuwe en verbeterde manieren om het beter te laten presteren.	1	2	3	4	5
Het team verbetert de manier waarop het werkt.	1	2	3	4	5

	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
De werknemers in mijn team worden aangemoedigd aanbevelingen te doen betreffende zaken die de groep beïnvloeden.	1	2	3	4	5
De werknemers in mijn team worden aangemoedigd om hun stem te laten horen en anderen te betrekken bij zaken die de groep beïnvloeden.	1	2	3	4	5
De werknemers in mijn team worden aangemoedigd om te communiceren met anderen over hun meningen betreffende werk gerelateerde zaken, zelfs als hun meningen verschillen en teamgenoten het oneens zijn.	1	2	3	4	5
De werknemers in mijn team worden aangemoedigd om goed geïnformeerd te zijn over zaken waar hun meningen nuttig kunnen zijn voor de groep.	1	2	3	4	5
De werknemers in mijn team worden aangemoedigd om betrokken te raken bij zaken die de kwaliteit van de werkomgeving beïnvloeden.	1	2	3	4	5
De werknemers in mijn team worden aangemoedigd nieuwe ideeën of veranderingen in procedures te opperen.	1	2	3	4	5

Bedankt voor uw deelname aan dit onderzoek!

Sanni Kluitenberg

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Promotor en supervisor van het onderzoek:

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Appendix H. Questionnaire Team Member Dutch

Wat is uw geslacht?

☐ Mannelijk

☐ Vrouwelijk

Wat is uw leeftijd?

Wat is uw hoogst behaalde diploma?

☐ Middelbare school diploma

☐ Bachelor diploma

☐ Master diploma

☐ MBA/PHD

In welke bedrijfstak werkt u?

☐ Landbouw, bosbouw en visserij

☐ Delfstoffenwinning

☐ Industrie

☐ Energie- en waterleiding bedrijven

☐ Handel, horeca en reparatie

☐ Bouwnijverheid

☐ Vervoer, opslag en communicatie

☐ Financiële en zakelijke dienstverlening

☐ Overheid

☐ Zorg en overige dienstverlening

☐ Anders, namelijk _____

Hoe lang bent u werkzaam in de huidige organisatie?

Hoe lang bent u werkzaam in het huidige team?

Wat is de staat van uw huidige contract?

☐ Tijdelijk contract

☐ Vast contract

Welke omschrijving is op u van toepassing?

☐ Ik werk meer dan 36 uur per week (full-time)

☐ Ik werk minder dan 36 uur per week (part-time)

Wat is het geslacht van uw teamleider?

Geef voor de volgende stellingen aan hoe zeer zij van toepassing zijn op uw team.

	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Mijn leider zoekt actief naar feedback, ook als de feedback kritisch van natuur is.	1	2	3	4	5
Mijn leider geeft het toe als hij/zij niet weet hoe iets te doen.	1	2	3	4	5
Mijn leider erkent het als anderen meer kennis en vaardigheden hebben dan hem/haarzelf.	1	2	3	4	5
Mijn leider neemt akte van de sterke punten van anderen.	1	2	3	4	5
Mijn leider complimenteert anderen vaak op hun sterke punten.	1	2	3	4	5
Mijn leider toont waardering voor de unieke bijdrage van anderen.	1	2	3	4	5
Mijn leider is bereid om van anderen te leren.	1	2	3	4	5
Mijn leider staat open voor ideeën van anderen.	1	2	3	4	5
Mijn leider staat open voor advies van anderen.	1	2	3	4	5
	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Mijn team doet suggesties om het team effectiever te maken.	1	2	3	4	5
Mijn team ontwikkelt nieuwe en verbeterde manieren om het beter te laten presteren.	1	2	3	4	5
Mijn team verbetert de manier waarop wij werken.	1	2	3	4	5

	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Mijn team maakt gebruik van initiatieven om kansen te benutten en is proactief in de manier waarop het problemen aanpakt.	1	2	3	4	5
Mijn team bedenkt nieuwe ideeën en oplossingen voor problemen.	1	2	3	4	5
	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Mijn collega's en ik worden aangemoedigd aanbevelingen te doen betreffende zaken die de groep beïnvloeden.	1	2	3	4	5
Mijn collega's en ik worden aangemoedigd om te spreken en anderen te betrekken bij zaken die de groep beïnvloeden.	1	2	3	4	5
Mijn collega's en ik worden aangemoedigd om te communiceren met anderen over onze meningen betreffende werk gerelateerde zaken, zelfs als onze meningen verschillen en teamgenoten het oneens zijn.	1	2	3	4	5
Mijn collega's en ik worden aangemoedigd om goed geïnformeerd te zijn over zaken waar onze meningen nuttig kunnen zijn voor de groep.	1	2	3	4	5
Mijn collega's en ik worden aangemoedigd om betrokken te raken bij zaken die de kwaliteit van de werkomgeving beïnvloeden.	1	2	3	4	5
Mijn collega's en ik worden aangemoedigd nieuwe ideeën of veranderingen in procedures te opperen.	1	2	3	4	5

	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
De hoeveelheid informatie beschikbaar voor het team is genoeg om goede beslissingen te nemen.	1	2	3	4	5
Ik heb gemerkt dat wij over het algemeen genoeg informatie hebben om goede beslissingen te nemen.	1	2	3	4	5
De meeste informatie die mijn team ontvangt is waardevol.	1	2	3	4	5
Mijn team heeft het volste vertrouwen dat wij goede beslissingen neem gebaseerd op nauwkeurige informatie.	1	2	3	4	5
	<1x keer per week	1x per week	2-3x per week	Dagelijks	>1x per dag
Hoe vaak wisselt u gedurende een normale werkweek informatie uit betreffende belangrijke werk gerelateerde zaken met uw collega's ?	1	2	3	4	5
	Helemaal oneens	Oneens	Niet eens of oneens	Eens	Helemaal eens
Informatie die wordt gebruikt om belangrijke beslissingen te nemen wordt vrij gedeeld onder de teamleden.	1	2	3	4	5
Teamleden werken hard om elkaar op de hoogte te houden van hun activiteiten.	1	2	3	4	5
Teamleden worden op de hoogte gehouden van belangrijke zaken die het bedrijf beïnvloeden.	1	2	3	4	5

	<i>Zeer oneens</i>	<i>Oneens</i>	<i>Neutraal</i>	<i>Eens</i>	<i>Zeer eens</i>
Als ik een fout maak binnen dit team, wordt dit vaak tegen mij gebruikt.	1	2	3	4	5
De leden van dit team zijn in staat om problemen en moeilijke zaken te bespreken.	1	2	3	4	5
De leden van dit team wijzen soms anderen af omdat zij anders zijn.	1	2	3	4	5
Het is veilig om een risico te nemen in dit team.	1	2	3	4	5
Het is moeilijk om andere teamleden om hulp te vragen.	1	2	3	4	5
Niemand in dit team zal opzettelijk handelen op een manier die mijn inspanningen ondermijnt.	1	2	3	4	5
Tijdens het samenwerken met deze teamleden worden mijn unieke vaardigheden en talenten gewaardeerd en benut.	1	2	3	4	5
<i>Helemaal oneens</i> <i>Oneens</i> <i>Niet eens of oneens</i> <i>Eens</i> <i>Helemaal eens</i>					
Het behalen van de doelstellingen van dit team is goed binnen ons bereik.	1	2	3	4	5
Dit team kan zijn taken behalen zonder dat het onredelijk veel tijd of inspanning kost.	1	2	3	4	5
Met focus en inspanning kan dit team alles doen wat we willen bereiken.	1	2	3	4	5

Bedankt voor uw deelname aan dit onderzoek!

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Appendix I. Principal Component Analysis

Humble Leadership

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,880
Bartlett's Test of Approx. Chi-Sphericity Square	929,390
df	36
Sig.	,000

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,888	,893	9

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,870	54,109	54,109	4,870	54,109	54,109
2	,945	10,500	64,608			
3	,787	8,749	73,358			
4	,572	6,359	79,716			
5	,546	6,065	85,781			
6	,409	4,550	90,330			
7	,367	4,074	94,404			
8	,289	3,207	97,611			
9	,215	2,389	100,000			

Extraction Method: Principal Component Analysis.

Team Voice

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,829
Bartlett's Test of Approx. Chi-Sphericity	383,498
df	15
Sig.	,000

Reliability Statistics

	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha	,822	6

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,190	53,171	53,171	3,190	53,171	53,171
2	,734	12,235	65,406			
3	,650	10,829	76,235			
4	,599	9,992	86,227			
5	,454	7,563	93,790			
6	,373	6,210	100,000			

Extraction Method: Principal Component Analysis.

Team Psychological Safety

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,804
Bartlett's Test of Approx. Chi-Sphericity Square	242,356
df	21
Sig.	,000

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,741	,746	6

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,705	38,650	38,650	2,705	38,650	38,650	2,386	34,083	34,083
2	1,040	14,864	53,514	1,040	14,864	53,514	1,360	19,430	53,514
3	,784	11,202	64,716						
4	,731	10,439	75,155						
5	,689	9,848	85,003						
6	,532	7,601	92,604						
7	,518	7,396	100,000						

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component								
	1	2							
Het is veilig om een risico te nemen in dit team.									
Het is moeilijk om andere teamleden om hulp te vragen.									
Als ik een fout maak binnen dit team, wordt dit vaak tegen mij gebruikt.	,736	-,251		,600	,190		,288	,838	
De leden van dit team zijn in staat om problemen en moeilijke zaken te bespreken.	,673	-,020		,629	-,272				
De leden van dit team wijzen soms anderen af omdat zij anders zijn.	,681	-,266					,640	,307	
Niemand in dit team zal opzettelijk handelen op een manier die mijn inspanningen ondermijnt.									
Tijdens het samenwerken met deze teamleden worden mijn unieke vaardigheden en talenten gewaardeerd en benut.									

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Team Efficacy**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,646
Bartlett's Test of Approx. Chi-Sphericity	70,365
df	3
Sig.	,000

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,617	,623	3

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1,710	57,000	57,000	1,710	57,000	57,000
2	,663	22,098	79,098			
3	,627	20,902	100,000			

Extraction Method: Principal Component Analysis.

Information Exchange

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	,772
Bartlett's Test of Approx. Chi-Sphericity Square	410,115
df	28
Sig.	,000

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,726	,759	8

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,064	38,296	38,296	3,064	38,296	38,296	2,367	29,591	29,591
2	1,299	16,237	54,534	1,299	16,237	54,534	1,995	24,942	54,534
3	,895	11,185	65,719						
4	,840	10,499	76,218						
5	,587	7,343	83,561						
6	,523	6,540	90,101						
7	,498	6,223	96,324						
8	,294	3,676	100,000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

Rotated Component Matrix								
	Component							
	1	2						
De hoeveelheid informatie beschikbaar voor het team is genoeg voor mij om goede beslissingen te nemen.	,805	,254	Hoe vaak wisselt uw team gedurende een normale werkweek informatie uit betreffende belangrijke werk	,020	,599	Teamleden worden op de hoogte gehouden van belangrijke zaken die het bedrijf beïnvloeden.	,345	,585
Ik heb gemerkt dat ik over het algemeen genoeg informatie heb om goede beslissingen te nemen.	,831	,134	Informatie die wordt gebruikt om belangrijke beslissingen te nemen wordt vrij gedeeld onder de teamleden.	,080	,814	Extraction Method: Principal Component Analysis.		
De meeste informatie die ik ontvang is waardevol	,492	,142	Teamleden werken hard om elkaar op de hoogte te houden van hun activiteiten.	,240	,727	Rotation Method: Varimax with Kaiser Normalization.		
Ik heb het volste vertrouwen dat ik goede beslissingen neem gebaseerd op nauwkeurige informatie.	,776	,030				a. Rotation converged in 3 iterations.		

Appendix J. $R_{wg(j)}$

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rwg_HL	52	,72000	,99574	,9614767	,04840137
Rwg_TV	52	,26087	,99281	,9317391	,10958123
Rwg_IE	52	,76712	,99174	,9428304	,04803266
Rwg_TPS	52	,53846	,99474	,9259067	,08785063
Rwg_TE	52	-,75000	1,00000	,8709484	,24141413
Valid N (listwise)	52				

Appendix K. ICC ANOVA Tests

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Humble_Leader ship	Between Groups	29,152	51	,572	3,070	,000
	Within Groups	29,230	157	,186		
	Total	58,382	208			
Information_Exchange	Between Groups	24,826	51	,487	2,851	,000
	Within Groups	26,808	157	,171		
	Total	51,633	208			
Team_Voice	Between Groups	25,296	51	,496	2,434	,000
	Within Groups	31,991	157	,204		
	Total	57,286	208			
Team_Psychological_Safety	Between Groups	18,213	51	,357	1,578	,018
	Within Groups	35,525	157	,226		
	Total	53,738	208			
Team_Efficacy	Between Groups	22,561	51	,442	1,648	,010
	Within Groups	42,146	157	,268		
	Total	64,707	208			
Team_Proactivity	Between Groups	23,734	51	,465	1,653	,010
	Within Groups	44,200	157	,282		
	Total	67,934	208			

Appendix L. Regression Model PROCESS With Control Variables

Run MATRIX procedure:

*****PROCESS Procedure for SPSS Beta Release 140712 *****

Written by Andrew F. Hayes, Ph.D. <http://www.afhayes.com>

Model = 4

Y = Team_Voi

X = Humble_L

M1 = Informat

M2 = Team_Psy

M3 = Team_Eff

Statistical Controls:

CONTROL= Gender Educatio Team_Ten

Sample size

52

Outcome: Informat

Model Summary

	R	R-sq	F	df1	df2
p					
	,5100	,2601	4,1296	4,0000	47,0000
	,0060				

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,6778	,5198	3,2280	,0023	,6322	2,7235
Humble_L	,4573	,1174	3,8964	,0003	,2212	,6934
Gender	,0824	,1083	,7605	,4507	-,1356	,3004
Educatio	,0319	,0781	,4088	,6845	-,1253	,1892
Team_Ten	-,0001	,0012	-,1197	,9053	-,0026	,0023

Outcome: Team_Psy

Model Summary

	R	R-sq	F	df1	df2
p					
	,4518	,2041	3,0129	4,0000	47,0000
	,0271				

Model	coeff	se	t	p	LLCI	ULCI
constant	2,9120	,4465	6,5219	,0000	2,0137	3,8102
Humble_L	,3110	,1008	3,0846	,0034	,1082	,5138
Gender	-,0933	,0931	-1,0021	,3214	-,2805	,0940
Educatio	-,0373	,0671	-,5562	,5807	-,1724	,0977
Team_Ten	-,0009	,0011	-,8334	,4088	-,0030	,0012

Outcome: Team_Eff

Model Summary	R	R-sq	F	df1	df2
p	,3502	,1226	1,6420	4,0000	47,0000
	,1795				

Model	coeff	se	t	p	LLCI	ULCI
constant	2,7793	,4935	5,6315	,0000	1,7865	3,7722
Humble_L	,1694	,1114	1,5199	,1352	-,0548	,3936
Gender	,1359	,1029	1,3210	,1929	-,0711	,3429
Educatio	-,0718	,0742	-,9678	,3381	-,2211	,0775
Team_Ten	,0001	,0012	,0756	,9400	-,0023	,0024

Outcome: Team_Voi

Model Summary	R	R-sq	F	df1	df2
p	,7750	,6006	9,4538	7,0000	44,0000
	,0000				

Model	coeff	se	t	p	LLCI	ULCI
constant	-,2459	,6005	-,4095	,6842	-1,4562	,9644
Informat	,2851	,1408	2,0251	,0489	,0014	,5688
Team_Psy	,1408	,1420	,9914	,3269	-,1454	,4270
Team_Eff	,2531	,1437	1,7615	,0851	-,0365	,5427
Humble_L	,3741	,1071	3,4943	,0011	,1583	,5899
Gender	-,0214	,0868	-,2461	,8067	-,1963	,1536
Educatio	,0654	,0617	1,0602	,2948	-,0590	,1898
Team_Ten	,0005	,0010	,5541	,5823	-,0014	,0025

***** DIRECT AND INDIRECT EFFECTS *****

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
,3741	,1071	3,4943	,0011	,1583	,5899

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,2170	,1177	,0316	,5346
Informat	,1304	,0863	,0074	,3825
Team_Psy	,0438	,0566	-,0469	,1869
Team_Eff	,0429	,0529	-,0131	,2263

***** ANALYSIS NOTES AND WARNINGS *****

Number of bootstrap samples for bias corrected bootstrap
confidence intervals:
10000

Level of confidence for all confidence intervals in output:
95,00

NOTE: Some cases were deleted due to missing data. The number
of such cases was:
157

NOTE: Effect size measures for indirect effects not available
for models with covariates

----- END MATRIX -----

Appendix M. Regression model PROCESS without control variables

Run MATRIX procedure:

*****PROCESS Procedure for SPSS Beta Release 140712*****

Written by Andrew F. Hayes, Ph.D. <http://www.afhayes.com>

Model = 4

Y = Team_Voi

X = Humble_L

M1 = Informat

M2 = Team_Psy

M3 = Team_Eff

Sample size

52

Outcome: Informat

Model Summary

	R	R-sq	F	df1	df2
p					
	,4982	,2482	16,5075	1,0000	50,0000
	,0002				

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,8647	,4309	4,3273	,0001	,9991	2,7302
Humble_L	,4526	,1114	4,0629	,0002	,2288	,6763

Outcome: Team_Psy

Model Summary

	R	R-sq	F	df1	df2
p					
	,4173	,1741	10,5402	1,0000	50,0000
	,0021				

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,6414	,3741	7,0612	,0000	1,8901	3,3928
Humble_L	,3139	,0967	3,2466	,0021	,1197	,5081

Outcome: Team_Eff

Model Summary

	R	R-sq	F	df1	df2
p	,2584	,0667	3,5761	1,0000	50,0000
	,0644				

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,7561	,4186	6,5836	,0000	1,9153	3,5970
Humble_L	,2046	,1082	1,8911	,0644	-,0127	,4220

Outcome: Team_Voi

Model Summary

	R	R-sq	F	df1	df2
p	,7644	,5843	16,5126	4,0000	47,0000
	,0000				

Model

	coeff	se	t	p	LLCI	ULCI
constant	,0379	,5261	,0720	,9429	-1,0204	1,0962
Informat	,3118	,1365	2,2842	,0269	,0372	,5863
Team_Psy	,1267	,1359	,9324	,3559	-,1467	,4002
Team_Eff	,2124	,1366	1,5557	,1265	-,0623	,4871
Humble_L	,3523	,1028	3,4280	,0013	,1456	,5591

*****DIRECT AND INDIRECT EFFECTS *****

Direct effect of X on Y

Effect	SE	t	p	LLCI	ULCI
,3523	,1028	3,4280	,0013	,1456	,5591

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,2243	,1108	,0491	,5263
Informat	,1411	,0864	,0177	,3899
Team_Psy	,0398	,0504	-,0475	,1559
Team_Eff	,0435	,0507	-,0108	,2253

Partially standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,5280	,2618	,1476	1,3703
Informat	,3321	,2028	,0444	,9543
Team_Psy	,0936	,1186	-,1270	,3502
Team_Eff	,1023	,1266	-,0292	,5627

Completely standardized indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,2440	,0980	,0686	,4538

Informat	,1535	,0817	,0233	,3556
Team_Psy	,0433	,0540	-,0493	,1701
Team_Eff	,0473	,0460	-,0114	,1938

Ratio of indirect to total effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,3890	,2469	,1015	,9603
Informat	,2447	,1783	,0236	,6390
Team_Psy	,0690	,1063	-,0965	,2599
Team_Eff	,0754	,1024	-,0237	,3933

Ratio of indirect to direct effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
TOTAL	,6367	11,4252	,1034	6,0528
Informat	,4004	6,2171	,0315	3,6909
Team_Psy	,1129	3,1899	-,1450	,6835
Team_Eff	,1234	3,8702	-,0305	2,3282

***** ANALYSIS NOTES AND WARNINGS*****

Number of bootstrap samples for bias corrected bootstrap
confidence intervals:

10000

Level of confidence for all confidence intervals in output:

95,00

NOTE: Some cases were deleted due to missing data. The number
of such cases was:

157

----- END MATRIX -----

Appendix N. Regression model PROCESS moderating variables

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Beta Release 140712*****

Written by Andrew F. Hayes, Ph.D. <http://www.afhayes.com>

Model = 2

Y = Team_Voi

X = Humble_L

M = Team_Psy

W = Team_Eff

Sample size

52

Outcome: Team_Voi

Model Summary

	R	R-sq	F	df1	df2
p					
	,7451	,5552	11,4850	5,0000	46,0000
	,0000				

Model

	coeff	se	t	p	LLCI	ULCI
constant	-2,8730	3,8909	-,7384	,4640	-10,7050	4,9591
Team_Psy	1,4226	,9248	1,5382	,1308	-,4390	3,2842
Humble_L	1,1609	1,0052	1,1548	,2541	-,8626	3,1843
int_1	-,3197	,2403	-1,3306	,1899	-,8033	,1639
Team_Eff	-,0585	,9945	-,0588	,9534	-2,0604	1,9435
int_2	,1207	,2627	,4595	,6480	-,4081	,6495

Interactions:

int_1	Humble_L	X	Team_Psy
int_2	Humble_L	X	Team_Eff

R-square increase due to interaction(s):

	R2-chng	F	df1	df2	p
int_1	,0171	1,7705	1,0000	46,0000	,1899
int_2	,0020	,2112	1,0000	46,0000	,6480
Both	,0171	,8857	2,0000	46,0000	,4193

Conditional effect of X on Y at values of the moderator(s)

	Team_Eff	Team_Psy	Effect	se	t	p	
LLCI		ULCI					
	3,1762	3,4997	,4255	,1258	3,3821	,0015	
,1723	,6788						
	3,1762	3,8474	,3144	,1563	2,0112	,0502	-
,0003	,6290						
	3,1762	4,1950	,2032	,2168	,9375	,3534	-
,2331	,6396						
	3,5422	3,4997	,4697	,1045	4,4930	,0000	
,2593	,6802						
	3,5422	3,8474	,3586	,1168	3,0703	,0036	
,1235	,5937						
	3,5422	4,1950	,2474	,1741	1,4213	,1620	-
,1030	,5978						
	3,9083	3,4997	,5139	,1566	3,2818	,0020	
,1987	,8291						
	3,9083	3,8474	,4028	,1461	2,7573	,0083	
,1087	,6968						
	3,9083	4,1950	,2916	,1792	1,6274	,1105	-
,0691	,6523						

Values for quantitative moderators are the mean and plus/minus one SD from mean

***** ANALYSIS NOTES AND WARNINGS*****

Level of confidence for all confidence intervals in output:
95,00

NOTE: Some cases were deleted due to missing data. The number of such cases was:
157

----- END MATRIX -----