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Running head: LEADER LANGUAGE AND VOICE

We Can Do It!
Inclusive Leader Language Promotes Voice Behavior in Multi-Professional Action Teams

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Abstract

Although it is known that leaders can have a strong impact on whether employees voice work-related ideas or concerns, no research has investigated the impact of leader language on voice—particularly in professionally diverse contexts. Based on a social identity approach as well as on collectivistic leadership theories, we distinguish between implicit (i.e., First-Person Plural pronouns) and explicit (i.e., invitations and appreciations) inclusive leader language and test its effects on voice in multi-professional teams. We hypothesized that implicit inclusive leader language promotes voice especially among team members sharing the same professional group membership as the leader (in-group team members) while explicit inclusive leader language promotes voice especially among team members belonging to a different professional group (out-group team members). These hypotheses were tested in a field setting in which 126 health care professionals (i.e., nurses, resident and attending physicians), organized in 26 teams, managed medical emergencies. Behavioral coding and leader language analyses supported our hypotheses: Leaders' "WE"-references were more strongly related to residents' (in-group) and explicit invitations related more strongly to nurses' (out-group) voice behavior. We discuss how inclusive leader language promotes employee voice and explain why group membership functions as an important moderator in professionally diverse teams.

Keywords: employee voice, leadership, social identity, language, intergroup context

We Can Do It!

Inclusive Leader Language Promotes Voice Behavior in Multi-Professional Teams

When employees speak up with alternative ideas or voice problems they can improve team or organizational effectiveness. Because hierarchies often impede voice behavior from those with lower status, scholars have emphasized the importance of team leaders and superiors in encouraging subordinates to speak up (e.g., Detert & Trevino, 2010). Several studies have shown that people are more likely to speak up and contribute to their organization or team if leaders are perceived as open for and appreciative of subordinates' input (e.g., Detert & Burris, 2007; Edmondson, 2003; Ilies, Nahrgang, & Morgeson, 2007; Liu et al., 2015, Nembhard & Edmondson, 2006; Tangirala & Ramanujam, 2012). However, the general approach in most of the previous research on leadership and voice is to look at how leaders are *perceived* rather than investigating how leaders actually communicate with their followers. Moreover, most studies have not taken into account how leaders can encourage voice in multi-professional team contexts where different professional identities are salient. Thus, to this point we do not know what exactly leaders should do or say to solicit voice behavior among different followers. This is problematic as in many organizational contexts work is carried out by teams that include members from different professions whose critical input is essential to enhance team performance (e.g., DeChurch, Burke, Shuffler, Lyons, Doty, & Salas, 2011; D'Innocenzo, Mathieu, & Kukenberger, 2014; Mathieu, Gilson, & Ruddy, 2006).

We suggest that leaders can solicit team member voice through inclusive language. Specifically, we distinguish between two different types of inclusive language: *implicit* inclusive leader language, that is, First-Person Plural pronouns such as “WE” and *explicit* inclusive leader language, that is, direct invitations to voice and appreciation of follower input. For implicit

inclusive leader language, we draw on social identity and self-categorization theory, which has shown that leaders can mobilize followers through collective pronouns (i.e., WE, US, OUR) by which they *implicitly* highlight the superordinate team or organizational identity (e.g., Hornsey, Blackwood, & O'Brien, 2005; Steffens & Haslam, 2013). In doing so, followers identify more with their organization or team and, in turn, are more motivated to contribute to it (Ashforth & Mael, 1989; Ellemers, Gilder, & Haslam, 2004; Hogg & Terry, 2000; Hogg, van Knippenberg, & Rast, 2012).

Regarding explicit inclusive leader language, we draw on research showing that employees are more likely to speak up if leaders are perceived as open to subordinates' input (Detert & Burris, 2007; Tangirala & Ramanujam, 2012) and when they feel invited and appreciated by their leader (Edmondson, 2003; Nembhard & Edmondson, 2006).

While we argue that both implicit and explicit inclusive leader language can promote voice, we suggest that differences in professional group membership within multi-professional teams pose a boundary condition and explain which type of inclusiveness is most effective for whom. Based on the social identity perspective (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), we propose that team members who share the same professional group membership with their team leader (in-group team members) can be more effectively addressed by implicit inclusive language ("WE") than team members from a different professional group (out-group team members). This is because in-group team members see leaders as a more prototypical representative of their group and thus are more easily motivated and influenced by them (e.g., Ellemers, De Gilder, & Haslam, 2004; Epitropaki & Martin, 2005; Hogg, 2001; Hogg, van Knippenberg, & Rast, 2012; Platow & van Knippenberg, 2001). Conversely, we suggest that out-group team members need more explicit forms of inclusion than

in-group members as they do not see the leader as a prototype of their group. Moreover, because of their out-group status they are also more likely to doubt whether “it is their place to speak up”. Thus, explicit leader inclusiveness (invitations and appreciations) will help especially out-group team members to feel psychologically safe to speak up with suggestions or concerns (Edmondson, 1999; Nembhard & Edmondson, 2006).

By investigating how leader language can promote voice within multi-professional teams, we contribute to several areas of leadership research. First, our study contributes to and extends previous research on leader behaviors and voice, such as managerial openness (Detert & Burris, 2007) or leader consultation (e.g., Tangirala & Ramanujam, 2012), by highlighting the specific communication patterns through which leaders can solicit and listen to employees’ suggestions or work-related concerns.

Moreover, by investigating the impact of collective leader language on employee voice, we relate to leadership theories that differentiate between personalized vs. socialized leaders, that is, leaders who are concerned with exerting power and influence over others vs. those who are oriented towards the common good (Bass & Steidlmeier, 1999; House & Howell, 1992). Against this background, our research informs so-called “collectivistic” approaches to leadership that recently came under scrutiny. It has been noted that leaders who emphasize the “WE” in their team can foster team performance as they bypass traditional authority structures and recognize the potential of their followers in adopting leadership functions rather than exerting authority and promoting obedience (e.g., Yammarino, Salas, Serban, Shirreffs, & Shuffler, 2012). Relatedly, it could be shown that leaders who empower their followers—for example, through a shared vision and participative decision-making—can positively affect team effectiveness (Mathieu et al., 2006; Wang, Waldman, & Zhang, 2014), and facilitate employee

creativity (Amabile, Schatzel, Moneta, & Kramer, 2004; Sun, Zhang, & Chen, 2012). Our findings complement this line of research as they show that by using collective language (“WE”-references and invitations to speak up) leaders de-emphasize hierarchical barriers and highlight the importance of the group as a whole. This, in turn, encourages employees to engage in discretionary, extra-role behaviors such as voice. This is important given that team and organizational effectiveness benefit from followers who are not only creative or good performers but who also proactively challenge the status quo (Morrison, 2011).

A second major contribution of our study relates to the multi-professional team context, in which we examine the relationship between leader language and voice. Building on a social identity approach to leadership (e.g., Ellemers et al., 2004; Hogg & Terry, 2000), we provide insights into why some forms of leader inclusion efforts work better for some groups than for others and discuss the role of social identity/self-categorization processes occurring within an intergroup context. In specifying which professional group benefits optimally from implicit vs. explicit inclusive leader language, we speak to the effects of professional diversity in teams (van Knippenberg, De Dreu, & Homan, 2004; van Knippenberg & Schippers, 2007). We highlight how inclusive leader language can function as a form of intergroup leadership and thereby enhance the potential of professionally diverse teams (Hogg, van Knippenberg, & Rast, 2012).

A final contribution of our study is that we investigate the proposed relationships within a high-risk organizational context (i.e., multi-professional healthcare teams). Thus, we connect with research on leadership within extreme environments, which has emphasized “dynamic delegation” of the leader, that is, situations, in which leaders actively seek input and contributions from followers vs. situations in which their leadership is more directive (Klein, Ziegert, Knight, & Xiao, 2006). At the same time, we believe that the proposed effects are by no

means restricted to high-risk organizations. In today's increasingly complex and rapidly changing organizational landscapes, leaders must be able to effectively and timely solicit input from a diverse set of employees to ensure optimal team performance and organizational effectiveness. Our findings speak to these demands by showing how inclusive leader language can facilitate employee proactivity on the spot even when teams have to deal with highly complex problems under enormous time pressure.

Leadership and Voice Behavior

Voice behavior is the "discretionary communication of ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning" (Morrison, 2011, p. 375). The term *speaking up* refers to an upward voice, that is, voice from those further down the hierarchy that challenges the actions and opinions from those further up. We will use the terms voice and speaking up interchangeably referring to suggestions, ideas, opinions or concerns from employees that challenge the status quo. Voice as a form of proactive workplace behavior or extra-role behavior has been found to have positive effects on organizational functioning across a variety of settings (e.g., Detert & Burris, 2007; Morrison & Milliken, 2000; Tangirala & Ramanujam, 2012).

Despite the importance of voice, it has been argued that people often choose 'the safer option' and remain silent (Morrison & Milliken, 2000). Many reasons have been offered as to why people do not voice, such as the desire to maintain positive relationships with co-workers and supervisors, feelings of futility (e.g., 'no one will care what I have to say'), a lack of individual agency (Weiss et al., 2014) and most importantly, fear to be punished by those further up the hierarchy (Detert & Edmondson, 2011; Morrison & Milliken, 2000).

There is ample evidence that leaders can have a crucial impact on subordinates' voice behavior (e.g., Den Hartog & Belschak, 2012; Detert & Burris, 2007; Edmondson, 2003; Liu, Zhu, & Yang, 2010; Nembhard & Edmondson, 2006; Tangirala & Ramanujam, 2012). Most of these studies have stressed that certain leadership styles and behaviors, such as transformational leadership (Den Hartog & Belschak, 2012; Liu et al., 2010), managerial openness (Detert & Burris, 2007), a high-quality social exchange (i.e., LMX) between the leader and his/her followers (Botero & Van Dyne, 2009; Van Dyne, Kamdar, & Joireman, 2008), or leader consultation behaviors (Tangirala & Ramanujam, 2012) can positively affect voice behavior.

A common thread that ties these findings is that leaders who exhibit a more social or "collectivistic" leadership style, that is, those who promote critical thinking among their followers rather than controlling or manipulating them to pursue their own personal goals are more likely to facilitate voice behavior (Bass & Steidlmeier, 1999; House & Howell, 1992; Yammarino et al., 2012). Similar discussions of how leaders exercise power have been made within the context of charismatic leaders, ethical leadership as well as transformational leadership (Bass & Avolio, 1993). When leaders de-emphasize hierarchical barriers, they foster a climate of trust and psychological safety where employees feel safe to not only share suggestions, but more importantly, raise concerns regarding work-related issues (Edmondson, 1999; 2003; Hsiung, 2012; Gao, Janssen, & Shi, 2011; Nembhard & Edmondson, 2006). Yet, most of this prior research has studied employees' perceptions of their leaders as well as reported voice rather than looking at how leaders actually communicate with their followers. Thus, there is a gap in our knowledge regarding the concrete communication processes occurring between leaders and their followers. This is problematic as communication is a major factor shaping the

leader-follower relationship (Fairhurst, 1993) and thereby determining whether employees are likely to entrust themselves to their leader and engage in voice (Hsiung, 2012; Gao et al., 2011).

The Importance of Inclusive Leader Language

We argue that “inclusive” leader language can positively affect employee voice behavior. Nembhard and Edmondson (2006) have introduced the concept of leader inclusiveness, defined as “words and deeds by the leader or leaders that indicate an invitation and appreciation for others’ contributions” (p. 947). Leader inclusiveness has been described as being related to team leader coaching (Edmondson, 1999), and participative leadership (Yukl, 1998). It also bears resemblance to leader consultation behaviors, that is, employees’ perception of their leaders as soliciting and listening to employees’ suggestions or concerns on work-related issues (Tangirala & Ramanujam, 2012). As Nembhard and Edmondson (2006) point out, leader inclusiveness differs from these leadership constructs as it particularly refers to situations in which power differences between the leader and the subordinates are highly salient—as is often the case in multi-professional teams or units. The authors conducted a large survey study within multiple hospital units and found that when leaders were perceived as being appreciative of input from their team, nurses and other groups with lower professional status reported that they felt more motivated to engage in quality improvement efforts (Nembhard & Edmondson, 2006). Yet, it is still unclear whether inclusive leader communication really has a positive impact on employee voice behavior. In our study, we are the first to introduce and empirically test the effect of two forms of leader inclusiveness on voice: *implicit* and *explicit* inclusive leader language.

Implicit Inclusive Leader Language. Based on the social identity approach (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) as well as on the collectivistic leadership approaches we have discussed earlier (e.g., Yammarino et al., 2012), we

conceptualize implicit inclusive leader language as personal pronouns used by the leader that convey inclusion and highlight the team as a whole. Within the context of social identity and self-categorization theory (Tajfel & Turner, 1979; Turner et al., 1987), it has been shown that priming the word “WE” can induce a shift from a personal to a more collective self-definition (Brewer & Gardner, 1996). When people are confronted with collective pronouns they think of themselves more in collective than in individualistic terms. This, in turn, can enhance their self-worth and self-efficacy as people derive meaning and agency from their group membership(s) (Bandura, 2000; Greenaway et al., 2015).

It has been argued that leaders’ potential to communicate and create a sense of shared identity is an important determinant of followers’ attitudes, motivation, and performance (Ellemers, De Gilder, & Haslam, 2004). For example, it has been shown that political candidates who use more “WE”-referencing in their language are more likely to succeed in an election because they craft a sense of shared identity among their followers (Steffens & Haslam, 2013). Moreover, use of collective language can also positively affect follower performance. A qualitative study analyzing communication within cockpit crews has demonstrated that the Captain’s use of the First-Person Plural can positively affect team performance because it decreases hierarchical barriers and promotes communication within the crew, which in turn enhances team decision-making (Sexton & Helmreich, 2000).

We argue that when team leaders frequently use the First-Person Plural (i.e., WE, US, OUR) they can promote team member voice. First, when the leader uses more collective (“WE”) rather than subjective (“I”) references, team members will identify more with the team and thus are more motivated to contribute to the group (Ellemers et al., 2004). This heightened sense of belonging to a team can boost team members’ sense of being able to change their environments.

Feeling self-confident and agentic has been shown to promote speaking up within team contexts (Weiss et al., 2014). Second, leaders who make frequent “WE”-statements signal a more collectivistic orientation and downplay hierarchical differences between themselves and the rest of the team (Yammarino et al., 2012). They emphasize that it is the team as a whole—and not their own personal authority—which is important to solve the task at hand. This sense of collectiveness likely promotes team members’ perceptions of psychological safety, the feeling that the team is safe for interpersonal risk taking, which has been shown to be an important prerequisite for speaking up (Edmondson, 1999; Nembhard & Edmondson, 2006). We thus hypothesize that:

Hypothesis 1: Team members speak up more often when leaders use more First-person Plural pronouns (i.e., WE, US, OUR) in their language.

Explicit Inclusive Leader Language. In addition to implicit forms of inclusion, we argue that leaders can also convey inclusion more directly and explicitly. Based on the concept of leader inclusiveness (Edmondson, 2003; Nembhard & Edmondson, 2006), we conceptualize explicit inclusive leader language as invitations (e.g., *What do you think?*) and appreciations (e.g., *Thank you for this idea!*) of team member input. Edmondson (2003) investigated surgical teams during the implementation phase of a novel surgical technology. She found that teams in which people felt that the team leader encourages speaking up with questions were more successful in adapting to the new technology. Nembhard and Edmondson (2006) showed that perceived leader inclusiveness in hospital settings was positively related to nurses’ sense of psychological safety, which in turn predicted their motivation to engage in extra-role behaviors such as taking charge in quality improvement efforts in their work unit. Inviting followers to speak up may thus serve as a form of empowerment through which leaders mobilize their

followers and teams. It has been shown that empowering leadership can enhance employee creativity, that is employees' creation of novel ideas (e.g., Sun, Zhang, & Chen, 2012; Zhang & Bartol, 2010) and that it serves as an important moderator between leader trust and employee voice (Gao, Janssen, & Shi, 2011). Thus, we suggest that invitations and appreciations can also empower followers to not only share novel ideas but also concerns and suggestions to improve team decisions. On the basis of these findings, we hypothesize:

Hypothesis 2: Team members speak up more often when team leaders express invitations and appreciations of team member input.

Implicit and Explicit Inclusive Leader Language and Team Members' Professional Group Membership

We argue that within multi-professional teams, team members' professional group membership explains for whom implicit and explicit inclusive leader language is most effective to solicit voice. Within professionally diverse teams, some team members share the same professional group membership with the team leader while others do not. This creates an intergroup context in which people's attitudes and behavior are determined by their identification with their own group, the "in-group", and relations with other groups, the "out-group" (e.g., Hogg, 2003; Tajfel, 1982). In health care teams, for example, there is a strongly pronounced intergroup context between nurses and physicians: Team leaders (who are often senior attending physicians) and residents both belong to the group of physicians and thus identify with the same professional group. Nurses, on the contrary, belong to a different professional group. This creates an in-group/out-group context between physicians and nurses in the team. A similar intergroup context arises in other organizational contexts such as multi-disciplinary research and

development teams in which the team leader and other team members are engineers while other team members are project managers.

As we have discussed earlier, by using implicit inclusive language (“WE”) leaders can emphasize the team as whole and thus increase the likelihood that team members will voice. Yet, we argue that social identity processes represent an important boundary condition in this context. Our key point is that some groups may be more easily addressed than others by “WE”-references or implicit forms of inclusiveness and therefore are more likely to voice.

Leaders’ ability to influence followers has been shown to be affected by the degree to which leaders and followers share the same group membership (Ellemers, De Gilder, & Haslam, 2004). For example, when followers share the same group membership with their team leader (in-group), they are more likely to be influenced by the leader’s suggestions (McGarty, Haslam, Hutchinson & Turner, 1994), to see the leader as more charismatic (Platow, van Knippenberg, Haslam, van Knippenberg, & Spears, 2006), to feel a closer “bond” between themselves and the leader (Steffens, Haslam, & Reicher, 2014), and to propose creative ideas to the leader (Hirst, van Dick, van Knippenberg, 2009).

Because they identify more with their in-group than with an out-group, people are more influenced by leaders who embody prototypical features of their in-group (Hogg, 2003). As has also been discussed by implicit leadership theory, the degree to which leaders are seen as prototypical members of their group determines their influence because followers see them as more “ideal” representatives of their group (Epitropaki & Martin, 2005; Kenney, Schwartz-Kenney, & Blascovich, 1996). What does this imply for the effectiveness of implicit inclusive leader language (“WE”)?

Findings show that followers are more likely to be influenced by leader “WE”-references, when leaders are representative of their in-group than when they are representative of an out-group (Hornsey, Blackwood, & O’Brien, 2005). Recent evidence from a functional MRI study also indicates that followers process collectively oriented statements from in-group leaders more effectively (i.e., stronger activation of areas associated with semantic processing) than personally oriented statements while the converse effect was found for out-group leaders (Molenberghs, Prochilo, Steffens, Zacher, & Haslam, 2015).

Because different profession-based identities are highly salient in multi-professional teams, we suggest that implicit forms of inclusive leader language (“WE”) should be related to more voice for some professional groups but not for others. Specifically, those who share the same group membership with their team leader—the in-group team members—should feel more readily addressed by more subtle or implicit forms of leader inclusiveness (i.e., “WE”-references) because they relate more easily to their leader as a prototypical representative of their group. This, in turn, will positively influence their motivation to contribute to the task at hand and to speak up with ideas and concerns.

Importantly, we do not mean to suggest that out-group members will not feel motivated to speak up when leaders frequently make “WE”-references. Saying “WE” highlights the superordinate team identity and is likely to lead both in- and out-group team members to identify more with their team (and to feel more motivated to contribute ideas and suggestions). But since they are aware of their own professional identity and the intergroup context in which they are situated, out-group team members will not be motivated to speak up *as much* as those who share the same professional background with the leader. Thus, we propose that:

Hypothesis 3: Implicit inclusive leader language and professional group membership interact to affect team member voice such that team members belonging to the same professional group as their leader (in-group members) speak up more when leaders use more “WE”-references than team members belonging to a different professional group as their leader (out-group members).

Following up on the previous arguments, we also argue that explicit inclusive leader language will lead to more voice for some professional groups than for others. This is because a profession-based intergroup context is likely intertwined with social status, such that some professions garner higher status than others (Lichtenstein, Alexander, McCarthy, & Wells, 2004; Magee & Galinsky, 2008). Because the team leader is usually the one with the highest social status in a team, in-group team members (those with the same professional group as the team leader) should be seen as higher in status than out-group team members (those from a different professional group as the team leader).

When people have relatively lower status because of a certain group membership they feel less legitimized to raise concerns because they are more likely to underestimate their contribution (Berger, Fisek, Norman, & Zelditch, 1977). Moreover, groups who have lower status often identify more strongly with their own group (e.g., Doosje, Spears, & Ellemers, 2002). This creates a feeling of distinctness that may lead them to focus more on their own and less on an superordinate group context, that is, the team as a whole (Ellemers et al., 2004). As a consequence, out-group members may feel less involved in the team decision-making process than in-group members and question whether “it is their place to speak up”. Thus, they need more explicit reassurance from their team leaders that their opinion is desired and appreciated. Only when their leader directly addresses them and asks for their input, out-group members may

be likely to offer their suggestions and concerns regarding a certain course of action. As we have argued before, we do not suggest that direct invitations are not useful for in-group team members. But explicit leader inclusive language should be *more* useful for out-group team members than for in-group members as it reassures them that their input is needed despite of their out-group status. This likely enhances their feelings of psychological safety, which in turn encourages them to speak up with their opinion (Edmondson, 1999; 2003).

Hypothesis 4: Explicit inclusive leader language and professional group membership interact to affect team member voice such that team members belonging to a different professional group as their leader (out-group members) speak up more than team members belonging to the same professional group as their leader (in-group members) when team leaders use explicit invitations and appreciations of team member input.

Figure 1 provides a summary of our hypothesized research model.

Methods

Organizational Context

To test how leader language promotes voice behavior, we investigated communication processes within multi-professional health care teams consisting of multiple nurses and residents that are lead by a senior physician. Specifically, we studied acute care teams (ACTs) working on an acute medical problem. ACTs are intra-hospital health care teams who operate in emergency care, in the intensive care unit, and in anesthesia. These teams often have to deal with non-routine events and other unexpected crisis situations such as a cardiac arrest during surgery, a post-surgical complication, or a trauma patient delivered to the emergency room (Flin & Maran, 2004). ACTs form ad-hoc for a specific treatment cycle and are composed of nurses, resident physicians and attending anesthesiologists who function as the team leader. We chose this

context for two main reasons: First, within ACTs, and hospital settings in general, intergroup relations between nurses and physicians are highly salient. Moreover, hierarchical barriers between nurses and physicians are so prevalent within the medical profession that nurses (or resident physicians) often do not dare to question physicians' orders even when they are not appropriate and could jeopardize patient safety (Kobayashi et al., 2006; Weiss, Kolbe, Grote, Spahn, & Grande, 2017). Such status-related communication issues within health care teams are one of the main reasons why medical errors occur (Kohn, Corrigan, & Donaldson, 2000; Pronovost & Freischlag, 2010).

Second, ACTs are so-called *action* teams, which means that they have to engage in dynamic group-based decision making as medical problems are often highly complex and require immediate action (Sundstrom, De Meuse, & Futrell, 1990). In this context, team leaders have to effectively and efficiently manage their team while team members have to speak up with their suggestions and ideas in order to treat a patient effectively.

Testing these hypotheses in a hierarchical action team context in which problems are highly complex, symptoms can point to multiple diagnoses, and team members belong to professional groups with different levels of status provided the ideal approach to study how implicit and explicit inclusive leader language relates to team member voice behavior. Thus, by studying health care teams at work, we offer novel theoretical and practical insights that help to improve teamwork and safety performance in health care organizations (Ramanujam & Rousseau, 2006; Salas & Rosen, 2007).

Participants

This study was conducted at a hospital's simulation center and implemented within one-day simulation training sessions for anesthesia physicians and nurses. The study was conducted

in the context of regular simulation-based team trainings in the hospital. Ethics approval was obtained from the local Research Ethics Committee. The data collection phase encompassed 26 training days spread over six weeks with up to seven individuals participating each day. All participants were informed that the study was part of a training evaluation and written consent was obtained. In all, 126 participants (81 female, 45 male) participated in the training period, comprising 40 anesthesia nurses, 16 recovery room nurses, 52 resident anesthesiologists and 18 attending anesthesiologists as a convenience sample. In all, 26 acute care teams were formed to manage a simulated medical emergency. Depending on staff availability on a given training day, team size ranged from 4 to 7 persons, that is, one to three nurses, one or two residents and one team leader (i.e., either the attending anesthesiologist or the most experienced resident physician participating on that training day). While the physicians participated voluntarily for training purposes and during their regular working hours, the nurses received credits for mandatory professional training.

Apparatus and Materials

We implemented medical “high-fidelity” training simulations with ACTs. Such simulations typically involve a fully equipped hospital room, a patient simulator, and a scripted simulation scenario that outlines a specific medical condition (Beaubien & Baker, 2004; Gaba, Howard, Fish, Smith, & Sowb, 2001; Gaba, 2007). The patient simulator is a full-scale manikin with realistic anatomic and physiological features that can be controlled from a computer. The patient simulator can display chest movements, its heart and lung sounds can be heard with a stethoscope and the pulse can be palpated. Vital parameters such as heart rate, pulse, respiratory rate and oxygen saturation can be displayed on a monitor in the simulated hospital room.

Depending on the participants' interventions, the vital parameters can be adjusted such that participants receive real-time feedback from the "patient".

An important aspect of high-fidelity simulations is the scripted scenario designed by medical and simulation experts to maximize learning outcomes for the participants (e.g., Schick et al., 2015). Three senior anesthesiologists and two psychologists from our research team scripted three simulated scenarios on the basis of critical incident reports. As data collection was carried out during three different training periods, we designed three different medical cases that are prevalent in emergency medicine and in anesthesia and posed equal levels of task complexity: a post-surgical intra-abdominal bleeding, a post-surgical rupture of one bronchus after thoracic surgery, and an eclampsia, which is an acute and life-threatening complication during pregnancy involving seizures, unconsciousness, arterial hypertension, and liver failure. Figure 2 shows an ACT during a simulated scenario.

Procedure

On arrival, all participants were introduced to the simulation facilities and completed a questionnaire assessing demographics such as age, gender, and work experience. Participants received an extensive introduction to simulation-based team trainings, which involved a short lecture about simulation-based trainings, its aims and procedures as well potential caveats and drawbacks as opposed to real life. In this context, we aimed to establish a sense of psychological safety such that participants were encouraged to ask questions and raise concerns about the simulation. We explained that we— in our dual role as simulation instructors and researchers— aimed at maintaining an engaging learning atmosphere in which everyone can and should be able to make mistakes. As the pre-simulation briefing has been shown to affect participants' learning

potential and their engagement with the simulation (Rudolph, Raemer, & Simon, 2014), the overall preparation required a minimum of one and a half hours.

Before the simulation started, participants were asked to form as an acute care team just as they would do in their daily work context. The physician with the most clinical experience (i.e., usually an attending physician) assumed the role of the team leader. The team received general information about the condition of the patient through a pre-simulation briefing (e.g., *“This scenario will involve a woman, 33 years old, 36 weeks pregnant, found unconscious in bed by her husband and delivered to the emergency room. This is her first pregnancy and she did not have any pregnancy complications so far.”*). This briefing was designed to resemble a handover between an emergency physician and the admitting ACT and was conducted by a physician from our research team. Each team managed one of the three different scenarios (a post-surgical intra-abdominal bleeding, a post-surgical rupture of one bronchus after thoracic surgery, or an eclampsia). Before entering the simulated hospital room, a confederate physician briefed the team about the “patient” whom they were expected to treat. Next, the team entered the simulation room and started with an assessment and subsequent management of the case. The simulated medical scenario lasted approximately 20 minutes and was videotaped and coded retrospectively for leader utterances and team member voice behavior. Following the simulation, participants received a comprehensive debriefing (approximately 45 minutes) designed to maximize their learning experience and to discuss selected medical and teamwork-related aspects of the performance during the simulation (Kolbe et al., 2013).

Measures

Professional group membership. On the basis of participants’ professional group membership, we distinguished between team members sharing the same group membership as

the team leader (in-group members) and those from a different professional group (out-group members). In our sample, this resulted in the differentiation of two professional groups: physicians (i.e., attending physicians or resident physicians) and nurses (i.e., recovery nurses, anesthesia nurses). We created a dichotomous variable coded 1= in-group team members (physicians) and 0 = out-group team members (nurses).

Implicit inclusive leader language. To assess the amount of implicit inclusive leader language, we used the videotaped scenarios to transcribe all leader utterances word-by-word. That way, we obtained a text file that included all leader utterances, which we segmented into a meaningful sense unit (i.e., divided either by a pause or other team members' interruptions) and the time of the occurrence in the video. A sense unit could either be composed of one or more words, a complete grammatical sentence, or several inter-related sentences. To ensure that transcripts were accurate, a second coder compared a random sample of the transcripts with the videotapes (12% of the data), which confirmed correct identification of the First-Person Plural pronouns. To count how many times the team leader used the First-person Plural within each sense unit, we programmed a word count algorithm using Excel to count the occurrence of "WE", "US", and "OUR" in the transcripts (cf. LIWC; Tausczik & Pennebaker, 2010). For example, the utterance "*We need to auscultate* [i.e., examine the lung with a stethoscope]!" would be counted as one sense unit containing one First-Person Plural pronoun, namely WE. The utterance "*Let's make a reassessment: A is ok. B, we just checked... C... what's with C? We need to re-check the blood pressure*" would also be counted as one sense unit containing three First-Person Plural pronouns, namely, US, WE, and WE.

Explicit inclusive leader language. We used the transcripts of the videotaped leader utterances to code for explicit inclusive leader language. Based on Nembhard and Edmondson's

(2006) definition, we measured explicit inclusive leader language by counting the amount of invitations and appreciations. Behavioral markers for *invitations* encompassed questions or requests that conveyed that the team leader seeks input from the team by addressing either one person or the team as a whole (e.g., “*What do you think?*” or “*Do you have any ideas?*”, “*Let me know what you think.*”). Behavioral markers for *appreciations* encompassed acknowledgements and approvals of input from a team member. For example, when a team member provided a suggestion (e.g., “*Did you want me to call the chief surgeon?*”) and the team leader responded with appreciation and/or gratitude (e.g., “*Yes, thank you, that’s a great idea!*”).

To identify these codes within the leader communication stream, one coder analyzed each of the transcribed leader utterances. This coder read all pre-defined sense units and denoted each either as 0 (i.e., no explicit invitation or appreciation used) or 1 (i.e., explicit invitation or appreciation used). A second trained coder double-coded the transcribed utterances of three randomly selected leaders (12% of the data). Inter-rater reliability was very good (Cohen’s Kappa = .97).

Team member voice behavior. To identify voice behavior in team members’ communication stream, we used Co-ACT, a validated coding manual developed to code communication and coordination in acute care teams (Kolbe, Burtscher, & Manser, 2013; Kolbe et al., 2014). The manual contains 12 categories of explicit and implicit action- and information-related communication. It differentiates speaking up from other forms of verbal assertiveness such as giving instructions, providing information, or talking to the room. The initial coding scheme entailed only one code for voice. In accordance with prior studies coding voice behavior in health care teams (Weiss et al., 2017; Weiss et al., 2014), we used four speaking up sub-codes: problem-, suggestion-, doubt-, and opinion-focused voice (see Table 1). The problem-focused

code differentiates between voicing a problem (e.g., “*I still don’t have a heart beat though*”) or actively stopping a person from a certain action—either verbally (e.g., “*Stop, you can’t do that!*”) or non-verbally (i.e., holding another team member back from the patient). Because problem-focused statements could also be conceived of as information sharing in teams, which is necessary to execute tasks, we only coded statements as problem-focused when they contained an “urgency” element. For example, when a person simply conveyed task-related information (“*oxygen decreasing...*”) this was not coded as problem-focused voice. It was, however, coded as voice when the problem was stated with more urgency and a need for action was stressed (e.g., “*The oxygen saturation is decreasing, we need to do something now!*”). For each sub-code we defined such specific behavioral markers (i.e., example statements), which served as a guideline throughout the coding process. Although it was not our goal to test different hypotheses regarding different forms of voice behavior, we aimed for a most precise identification of voice behavior to make sure that the coders were aware of the different voice types.

The coders were trained in three steps. In a first step, the first and the second author met with the coders and explained the aims and theoretical background of behavioral coding and analysis. In this context, the coders received information about the coding manual and basic information on the medical procedures to give them a better idea of the context. A sample video was used to explain the coding system and the assignment of codes to utterances. In a second step, the coders observed several training simulations to further enhance their understanding of the medical context. In the third step, the coders received a coded file in which the first author had specified the beginning and ending of a person’s utterance. The coders then applied the codes to the pre-specified utterances. This first independent coding was then reviewed by the

first author and, if necessary, incorrect codes were revisited and corrected in agreement. The coders then continued coding independently with the first author supervising the coding process and responding to occurring questions.

We used a person-by-person coding approach, that is, each team member's communication stream was coded from the beginning until the end of the scenario. For example, for a team consisting of one team leader and four team members a video was coded four times to detect each team members' voice behavior. The average duration of a video was 21.14 minutes and a total of 2199 minutes (37 hours) were coded. We applied the Co-ACT codes to pre-defined sense units. For example, the sentence: "*I don't think the patient is stable enough for transfer.*" would be conceived of as one sense unit and would receive the code opinion-focused speaking up. In contrast, if a person said "*Please apply more volume before we transfer the patient!*" this would be coded as 'other' (i.e., as the statement refers to an instruction). Across all 109 team members, we identified 737 sense units that were either coded as one of the five speaking up sub-codes or were assigned the code 'other'. We only coded such utterances as voice behavior when team members (audibly) addressed the team leader or the team as whole as, in line with our theoretical definition, this was considered as "challenging the status quo". As a side note, interpersonal communications (one team member talking to another one) were often poorly audible and could not be coded.

To determine inter-rater reliability two coders independently coded three video records involving a total of 10 coded persons. Note, that these coders were not the same who transcribed the leader utterances and coded explicit inclusive leader language. Moreover, all coders were blind to the hypotheses and extensively trained in behavioral observation methods and the specific clinical context.

We used the coding software INTERACT (Mangold, Germany) to log and code all team member utterances. The first coder defined all events (i.e., beginning and ending of a sense unit) and applied a code from the Co-ACT manual (i.e., either speaking up or other). The second coder received a file with all set events but no codes and recoded all events. The coders then compared their coding and computed Cohen's Kappa, which revealed high agreement between the ratings (Cohen's Kappa = .82).

Control variables. Because team size ranged from 4 to 7 persons, and because it has been found that conformity increases as group size increases (e.g., Asch, 1956; Gerard, Wilhelmy, & Conolley, 1968) we also computed an MLM, in which we examined the effect of team size on voice. We found that team size significantly impacted team member voice such that people spoke up less in larger teams ($\gamma = -.06$, $SE = .03$, $p = .042$). We therefore controlled for team size when testing our hypotheses.

Moreover, we also controlled for the total number of leaders utterances. Studies looking at the effects of pronouns have typically controlled for the total number of utterances (e.g., Slatcher, Vazire & Pennebaker, 2008; Steffens & Haslam, 2013) to allow for the comparison of pronoun use even when the total length of utterances varies. In our study, total number of utterances varied considerably between leaders ($min = 17$; $max = 119$) and MLM results revealed that it significantly and positively impacted team member voice behavior ($\gamma = .004$, $SE = .001$, $p < .001$). Thus, we wanted to ensure that collective pronouns and invitations/appreciations affected team members' voice behavior above and beyond the positive effect of mere leader talking amount.

To ensure that the type of the simulation scenario did not affect team members' voice behavior, we computed a MLM that included scenario type as a fixed team-level predictor and

voice behavior as dependent variable. Findings showed that there was no significant effect of scenario type on voice suggesting that voice behavior did not differ across scenarios ($\gamma = -.11$, $SE = .07$, $p = .126$) and thus we did not control for it.

Results

Preliminary Analyses

Table 2 presents the means, standard deviations and correlations of all variables. As our data is multilevel in nature with individuals nested in teams, we applied multilevel modeling (MLM) using SPSS to test our hypotheses. Specifically, we treated all leader utterances (total number of utterances, explicit & implicit inclusive statements) as a team-level variable. This is because within acute care teams, team leaders speak in very loud manner making orders audible for every team member. When leaders gave orders or made diagnoses they often “talked to the room” rather than addressing one specific person by name. This is a common communication behavior within medical emergency teams (Kolbe et al., 2014).

Because team member voice behavior did not occur very frequently, that is, 61 (43.9%) team members did not speak up at all, the distribution was skewed (skewness= 1.89). Thus, we log-transformed this variable to correct for non-normality (Tabachnik & Fidell, 2001). This transformation altered the range of voice behavior from 8.00 (0 to 8) to 0.95 (0 to 0.95). We found substantial variation with respect to the implicit and explicit leader language characteristics (see Table 3). The frequency of implicit inclusive language (i.e., First-Person Plural) ranged from 1 to 57. However, there was less variation with respect to explicit inclusive language: Of the 26 team leaders, 14 leaders did not use any invitation or appreciation and only three leaders expressed more than one invitation or appreciation (skewness = 2.89). Thus, we

dichotomized this variable into 0 (i.e., no explicit invitations and appreciations) and 1 (i.e., one or more explicit invitation or appreciation).

We followed steps for multi-level modeling as outlined by Hox, Moerbeek, & Van De Schoot (2010). First, we tested a null-model (no predictors) model in which we used the log-transformed voice behavior variable as the dependent variable. We subsequently computed the intraclass correlation (ICC), which suggested that 8% of the variance in voice behavior is between teams (and thus partly explainable by the team leader's language). We thus concluded that applying MLM to our data was justified.¹

Hypotheses Testing

We computed a MLM with team member voice as outcome variable and tested our hypotheses in four steps. First, we computed the null-model. Second, we entered professional group member as individual-level predictor. In the third model, we then entered the main effects of explicit and implicit inclusive leader language (i.e., both team-level predictors) while controlling for the total number of leader utterances and team size². In the fourth model, we added the cross-level effects of professional group membership, explicit, and implicit inclusive leader language.

As can be obtained from Table 4 (Model 3) implicit inclusive leader language is significantly and positively associated with team member voice behavior ($\gamma = .005$, $SE = .002$, $p = .021$). This provides support for Hypothesis 1 by showing that the more frequently leaders use the First-Person Plural (i.e., WE, US, OUR) the more frequently team members engage in voice behavior. There was no significant main effect of explicit inclusive leader language on team member voice behavior ($\gamma = .029$, $SE = .053$, $p = .53$). Thus, Hypothesis 2 is not supported.

Next, we tested Hypothesis 3, which stated that professional group membership moderates the effect between implicit inclusive leader language and voice behavior such that in-group team members (i.e., residents) speak up more than out-group team members (i.e., nurses) when the team leader uses implicit inclusive leader language (i.e., First-Person Plural pronouns). As predicted, Model 4 (Table 4) reveals a significant interaction effect between professional group membership and implicit inclusive leader language ($\gamma = .008$, $SE = .003$, $p = .009$). To determine the direction of the interaction, we plotted the interaction between professional group membership and implicit inclusive leader language on voice behavior at low ($-1 SD$) and high ($+1 SD$) levels of implicit inclusive leader language and as a function of group membership (0 = in-group; 1 = out-group; see Figure 3). Simple slope tests confirmed that the slope from low to high levels of implicit inclusive leader language was significantly different for in-group team members ($B = .01$, $SE = .003$, $t = 4.79$, $p < .001$). For out-group team members, the slope from low to high levels of implicit inclusive leader language also showed a significant positive increase but the effect was not as strong as for in-group members ($B = .005$, $SE = .002$, $t = 2.63$, $p = .009$). Together, these findings support Hypothesis 3.

Finally, we tested Hypothesis 4, which predicted an interaction effect between explicit inclusive leader language and professional group membership. Model 4 (Table 4) reveals a significant interaction effect between professional group membership and explicit inclusive leader language ($\gamma = -.269$, $SE = .105$, $p = .012$). Again, to determine the direction of the interaction, we plotted this interaction effect at low (0) and high (≥ 1) levels of explicit inclusive leader language and as a function of group membership (0 = in-group; 1 = out-group; see Figure 4). Simple slope tests confirmed that the slope from low to high levels of explicit inclusive leader language showed a significant positive increase for out-group team members ($B = .12$, SE

= .06, $t = 1.86$, $p = .046$). For in-group team members, there was no significant increase from low to high levels of explicit inclusive leader language ($B = -.13$, $SE = .08$, $t = -1.59$, $p = .11$). This indicates that out-group—but not in-group team members—were more likely to speak up the more frequently team leaders explicitly invited and appreciated input. Thus, Hypotheses 4 is also supported.

As additional analyses, we also tested how leaders' use of First-Person Singular pronouns ("I", "ME") related to voice. We computed a multilevel level model, in which we predicted team member voice by leader's "I"-statements and again controlled for the total number of leader utterances. The results revealed no significant effect of First-Person Singular pronouns on team member voice ($\gamma = .004$, $SE = .003$, $p = .139$), which underlines that team member voice was related to the use of collectively related but unrelated to the use of personally related leader utterances.

Together, these results yield support for Hypothesis 1, 3, and 4: Implicit inclusive leader language was positively related to team member voice and this effect was more pronounced for in-group team members (i.e., residents) as compared to out-group team members (i.e., nurses). Conversely, explicit inclusive leader language was positively related to voice for out-group but not for in-group team members.

Discussion

Research has shown that leaders can impact subordinates' voice behavior, which refers to a constructive and yet challenging input from followers. Up to now, most of that research has focused on perceived leadership styles and behaviors (e.g., leader consultation, managerial openness) rather than investigating actual communication processes between leaders and their subordinates. Moreover, previous works have not considered the effects of leadership on voice

from a group and social identity perspective. We hypothesized that certain leader language aspects can positively affect voice behavior in multi-professional teams. We observed health care teams during crises management (e.g., a post-surgical complication) and found that team leaders differed in the degree to which they implicitly (i.e., “WE”-references) and explicitly (i.e., inviting and appreciating team member input) addressed their team and that this related to differences in team member voice behavior. First, as predicted, implicit forms of inclusive leader language (e.g., “WE”) were positively related to team members’ voice behavior. Second, as hypothesized, we found that professional group membership was a moderating factor in the relationships between implicit and explicit inclusive leader language and voice. Implicit inclusive leader language was even more positively related to voice for team members sharing the same professional group membership as the team leader (in-group team members) than for team members from a different professional group (out-group team members). Conversely, explicit inclusive leader language was related to more voice behavior for out-group but not for in-group team members.

Theoretical Implications

This study makes three important contributions. First, and, most importantly, our study is the first to show how leader language can affect employee voice behavior. In contrast to most previous research that has relied on how perceived leadership behaviors affect voice, we provide a micro-level account of the specific words and expressions that are beneficial to solicit subordinates’ voice behavior. Our findings show that subtle features of leader speech such as the use of “WE”, “US, or “OUR” can positively affect actual voice behavior. We also found that more explicit forms of inclusive language such as invitations and appreciations from the leader resulted in more voice for some groups but not for others. This underlines and extends prior

research, which has shown that when people chose to voice or remain silent, they are especially attuned to their leaders and look for cues that assure them that it is safe to speak up (Detert & Edmondson, 2011; Edmondson, 2003).

One likely explanation for the general effect of inclusive leader language on voice is that leaders who speak in more collective terms, either by frequently using the First-Person Plural or by providing invitations and appreciations, are perceived as more open for input than those who do not (Detert & Burris, 2007). In doing so, leaders convey that they are “one of us” and that everyone in the team is equally important and responsible, thus emphasizing the team as a whole (Yammarino et al., 2012). This fits well with a social identity perspective on leadership which argues that successful leaders are not those who selfishly exert power but those who advocate for the collective and act as “entrepreneurs of identity” (Haslam, Reicher, & Platow, 2011, p. 165). It has been argued that in order to gain influence, leaders need to be able to convey a vision of a shared identity and that this is primarily achieved through language (Haslam et al., 2011). This in turn leads people to identify with and pursue group goals (Ellemers et al., 2004). Our findings extend this perspective as they show that when leaders speak in collective terms people are motivated to challenge the status quo in the group by speaking up with alternative ideas or concerns.

The fact that emphasizing the “WE” in the team can promote voice also underlines the effectiveness of so-called collectivistic leadership approaches, that is, leaders who seek to share responsibilities and encourage their followers to participate, learn and challenge authorities (Yammarino et al., 2012). When leaders use inclusive language they empower their followers to share their ideas and suggestions. This connects and extends prior research on the positive effect of empowering leadership on employee creativity (e.g., Amabile et al., 2004; Sun et al., 2012).

When leaders empower followers through collective language, they also signal that followers cannot only bring up novel ideas but also concerns and critiques that challenge their own ideas. In a broader way, our findings can also be related to the notion of shared leadership, where different team members adopt leadership functions over time (e.g., Carson, Tesluk, & Marrone, 2007, Klein et al., 2006). Shared leadership has been found to be more beneficial for team performance than hierarchical leadership (D’Innocenzo et al., 2014). Our findings provide some insight into how shared leadership can occur and affect team performance. When leaders invite team members to speak up (through “WE”-references or invitations and appreciations), they may also signal that followers can adopt certain leadership functions, for example, when followers suggest a different course of action, which in turn facilitates team performance.

The second implication of our findings relates to the effectiveness of implicit and explicit inclusive leader language as a function of people’s professional group membership. Being an in-group member had an augmenting effect on the relationship between leader “WE”-references and team member voice. This finding connects well with the implications of self-categorization theory: When team members categorize themselves into the same professional group as their leader, they see the leader as a more prototypical representative of their group and thus are more easily triggered by implicit inclusive language (“WE”) as compared to those from a different professional group (e.g., Ellemers et al., 2004; Hogg, 2003; Hogg et al., 2012; Platow & van Knippenberg, 2001). In addition to the effects of self-categorization it is also likely that team members who share the same professional group with their leaders have a different interpersonal relationship than those who have a different professional background.

Leader-member exchange theory (LMX) has argued that leaders have different relationships with their followers—some of which are high-quality and characterized by equal

exchange and trust (the “in-group”), while others are low-quality and characterized by little opportunities for change and influence from followers (the “out-group”). Thus, the terms in-group and out-group do not relate to an intergroup context but to the interpersonal relationships that leaders have with their followers. A high-quality LMX has been shown to be positively related to voice as it decreases employees’ fear that superiors might disapprove of their input (Botero & Van Dyne, 2009; Van Dyne, Kamdar, & Joireman, 2008). We suggest that when team members and leaders have the same professional background, they may also be more likely to have a high-quality LMX relationship. As they engage in the same tasks and jointly solve problems, there may be more opportunities for leaders and followers to interact with one another and to build a relationship that is characterized by trust and equality. Thus, in-group members may be more used to speaking up to their leader and only need minimal reinforcement—collective words such as “WE” or “OUR”—to do so. In contrast, having a different professional background than the leader means that there are generally less opportunities for mutual exchange and hence status differences become more salient. In our research context, this possibility seems likely given that we investigated medical teams, in which nurses and physicians engage in very different tasks and responsibilities. Moreover, profession-based status differences are highly salient in these teams because nurses are subordinate to physicians and prohibited in performing certain medical procedures or making diagnoses (Chattopadhyay, Finn, & Ashkanasy, 2010; Mitchell, Parker, & Giles, 2011; Zwarenstein & Reeves, 2002). As a consequence, they are probably more sensitive to what and how team leaders communicate before they actually speak up with suggestions or concerns regarding the treatment of a patient. Thus, they are more encouraged to speak up when team leaders use explicit invitations as this provides more direct reassurance that their input is needed and appreciated.

Group-related status differences may also explain why in-group team members were not specifically triggered by explicit inclusive leader language—rather, they even tended to speak up less in response to direct invitations. One explanation could be that the resident physicians felt that the direct invitations were directed at nurses—the lower status out-group. Because they are likely to have more frequent exchanges with their leaders than the nurses and because of the fact that they are aware of belonging to the same, high-status group as their team leaders—the physicians—they felt they needed to let the nurses come forward with their suggestion when the leader used explicit invitations. In other words, they might have spoken up less to allow the nurses—as a lower status out-group—to voice their ideas or concerns as an act of benevolence. Of course this explanation is speculative and needs further empirical examination.

The differential interaction effects between professional status and implicit and explicit inclusive leader language thus delineate the importance of an intergroup perspective to understand how leaders can encourage voice in not only in multi-professional but in teams that are composed of team members with different demographic backgrounds (e.g., Hogg et al., 2012; Lichtenstein et al., 2004; van der Vegt & Bunderson, 2005). Even though diverse teams often possess informational advantage—due to their specialized roles and backgrounds (Dahlin, Weingart, & Hinds, 2005)—intergroup processes and “us” vs. “them” mindsets can hinder such teams in achieving optimal outcomes. In this regard, implicit and explicit inclusive leader language could also be considered as a form of intergroup leadership (Hogg et al., 2012), which can enhance the potential of such teams. Similarly addressing different professional groups can be achieved through emphasizing the collective either implicitly or—for team members who do not share the same group membership with the team leader—explicitly through direct invitations and appreciations.

A third contribution pertains to the fact that we investigated the leadership-voice link in the context of action team functioning. As we investigated leader-member communication processes during the treatment of a complex medical condition our results also inform research on decision-making in high-risk contexts. From this viewpoint, such leader-member interactions may also be conceived of as a process of collective sensemaking (Weick & Roberts, 1993). As has been outlined by Waller (1999), collecting and jointly evaluating information is key to teams' ability to timely adapt their actions to an unpredictable environment—such as the efficient and effective management of a postsurgical complication. In such terms, team member voice can be essential for the process of generating multiple ideas and finding the best action alternatives. Inclusive leader language and team member voice responses could thus be seen as an essential team process with important implications for team functioning and performance (Baard, Rench, & Kozlowski, 2013; Kozlowski & Bell, 2008).

In this context, we would like to point out that team member voice may not automatically enhance team decisions as not all voice is supportive or justified. It remains in the hand of the leader to seek input from below or to make an autonomous decision. Klein et al. (2006) have shown that leaders of medical emergency teams dynamically switch between more directive and more shared forms of leadership depending on the complexity of the emergency. In a similar vein, leaders may choose to invite input from the team when tasks are more complex—either implicitly through First-Person Plural or explicitly through invitations and appreciations—but not when tasks are more straightforward. It is thus important to further investigate how and what team members contribute to their team when they speak up. For example, relating leader language to different forms of voice behavior such as promotive vs. prohibitive voice (Liang et

al., 2012) or challenging and supportive voice (Burris, 2012) should be addressed by future research.

Practical Implications

In terms of practical implications, we suggest that one key recommendation for team leaders or managers of multi-professional teams—in action team settings as well as in stable, non-action teams—is to consider the impact of their language on employee voice. Using more inclusive pronouns such as “WE”, “US”, and “OUR” and as well as invitations and appreciations of team member input can help teams to overcome hierarchical barriers and foster input from below. In healthcare, but also in other organizational contexts, individuals are required to “team up” without any or just limited prior team history and yet have to perform effectively on the spot (Edmondson, 2012). The fact that inclusive leader language can have a positive effect on voice behavior is promising news for health care teams but also for other work contexts in which team interactions are dynamic and voice is critical for performance, error prevention and safety.

The current results also provide directions on how inclusive leader language could be enhanced through interventions and trainings. Team trainings such as crises resource management are implemented in many high-reliability contexts (e.g., aviation, military, fire fighting) and have also become more popular in health care as the importance of communication and teamwork skills has gained more recognition for patient safety (Salas, Paige, & Rosen, 2013). Creating awareness for the effects that even specific words can have on team member’s voice behavior is an important starting point to foster a more inclusive leadership style during these trainings.

Another intervention opportunity is the use of after-event reviews or debriefings to reflect communication patterns and specifically the impact of leader language on team members.

Originating from the military, after-event reviews aim at exploring antecedents and consequences of actions, by uncovering individuals' mental models. They are increasingly applied in healthcare but also in other organizational settings to enable teams to learn from past experiences (DeRue, Nahrgang, Hollenbeck & Workman, 2012; Ellis et al., 2003; Kolbe et al., 2013; Tannenbaum & Cerasoli, 2012; Weiss et al., 2017). For example, the team leader or another person in the team can initiate such team reflections either as a follow-up to critical situations or during regular team briefings.

Limitations

Notably, our study has some limitations. First, our findings are based on data assessed within the context of medical simulations. Although high-fidelity simulations are technically advanced, they cannot account for the realistic features of a real patient. Thus, potential behavioral biases may not be completely ruled out (Salas, Paige, & Rosen, 2013). As the study participants were aware of being observed during the simulation it may be possible that team leader and team member interactions were influenced by self-presentation concerns. Moreover one could suspect that the pre-simulation briefing, which served to enhance participants' perception of being in a psychologically safe training environment (Rudolph et al., 2014), might have had a positive bias on team members' voice behavior or on leaders' inclusive language. Yet, the fact that almost half of the team members did not speak up at all—even when it could potentially have facilitated team decisions—suggests that people likely hesitated to speak up even within a simulated setting. Moreover, the fact that the amount of explicit and implicit leader inclusive language varied strongly within and across teams suggests that participants acted rather naturally. This underlines that people often feel quite immersed in simulations and act authentically (e.g., Kaplan, LaPort, & Waller, 2013).

Although we consider the realistic task environment and the fact that we observed fully qualified health care professionals who communicated with each other during a critical task as a definite strength of our study, a second limitation is our rather small sample and the specific team setting. The small number of teams is reflected in relatively small multi-level effects, which may question the robustness of our results. Thus, to further enhance validity, we suggest that an examination with larger samples is necessary. To further increase generalizability, we suggest that future research should investigate larger samples as well as different organizational contexts, where team members work together on a more stable basis and are more familiar with each other than the unstable bounded action teams that we studied. This is because team familiarity could affect the relationship between leader language and voice. Huckman and Staats (2012) could show that when team members have a history of working together (i.e., greater team familiarity) they can overcome the challenges of diversity because they adapt their coordination mechanisms to fit the demands of their team and thus can enhance their team performance.

On the other hand it could be argued that within more stable team or organizational contexts, people already have formed quite robust beliefs about their leaders as being favorable of speaking up or not (Detert & Edmondson, 2011). In such contexts, team members may even be more hesitant to readily respond to more inclusive forms of leader language, especially those who have some kind of out-group status (based on professional background or demographic characteristics). In more stable team or organizational contexts, other leadership-related factors such as non-verbal forms of leader behavior (e.g., gaze direction, affect, facial expressions) may become relevant as well (Liu, Song, Li, & Lao, 2017). Thus, future research is needed to

investigate how inclusive leader language affects voice in more stable team settings and how other aspects of leadership might function as a boundary condition.

A third issue is that we cannot completely determine causality as we are unable to thoroughly tease apart the leader utterances and the follower responses—especially given that team leaders and members communicated in a very dynamic, fast-paced way. Therefore, we cannot rule out that team members' voice behavior lead leaders to communicate in a more inclusive way. Nevertheless, team leaders were the ones who initiated the team communication when the scenario began. Because they were the ones who received the handover, they started to organize their team and give orders when the treatment of the patient started. Thus, they “set the stage” for the team communication and therefore more inclusive leader language likely lead to more voice on part of the team members. This proposition reflects research that has shown that the first three minutes of leader communication within medical teams has strong effects on overall team performance (Streiff et al., 2011). We thus particularly encourage future research to look at the sequence of leader language and subordinate voice to establish causality.

Moreover, we are unable to specify mediating processes occurring between leader utterances and team member voice. While our findings provide a first account of the impact of leader language on voice within teams, future research is needed to further investigate attitudinal mediators such as team identification or psychological safety. This could be studied by adopting an experimental approach, in which leader language could be manipulated as more or less inclusive and potential mediators could be assessed before team members speak up.

Conclusion

Employees are often reluctant to voice ideas and concerns across hierarchical barriers. This study showed that when team leaders frequently used implicit inclusive language (i.e.,

“WE”, “US”, “OUR”), team members were more likely to speak up with alternative ideas and to voice concerns. We found that this effect was augmented for team members’ sharing the same professional group membership with their team leader (in-group team members). For team members from a different professional group (out-group members), explicit inclusive leader language (i.e., invitations and appreciations) was related to more voice behavior. To conclude, inclusive leader language can promote subordinates’ voice behavior, but depending on their professional group membership they need more implicit vs. explicit forms of inclusive leader language in order to speak up.

Footnotes

¹ Because Maas and Hox (2005) pointed out that the standard errors of the second-level variances can be estimated too small when the number of groups is 30 or lower, we also applied ordinary least squares regression and analyzed our data at the individual level. Thus, we also tested all hypotheses by computing hierarchical regression analyses. The results of these analyses are in line with the results obtained from MLM.

² Following best practices (Berneth & Aguinis, 2016), we also computed all models without including control variables and found that the results are stable.

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Table 1

Coding Scheme for Identifying Team Member Voice Behavior.

Type of voice behavior	Behavioral marker	Example
Suggestion	Using subjunctive, asking questions, providing alternative ideas (e.g., <i>I'd rather..., Don't you think it would be better to...</i>)	<i>I would rather call for additional help right now.</i>
Problem	Voicing problems by emphasizing severity and/or need for action	<i>I still don't have any pressure here!</i>
Problem with explicit stop	Explicitly undermining another person's behavior or suggestion (e.g. <i>No!, Stop!, Don't!</i>)	<i>No, stop, we cannot transfer the patient, we first need to make sure that his airway is stable!</i>
Opinion	Voicing personal assessment, making a diagnosis (e.g., <i>I think, I am sure, I reckon</i>)	<i>I think this is a pneumothorax!</i>
Doubts	Questioning an ongoing procedure or statement	<i>I am not sure if this is the right thing to do.</i>

Table 2

Means, Standard Deviations and Correlations.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Team size	5.26	1.00	-				
2. Total leader utterances	61.50	27.89	-.49*	-			
3. Prof. group membership ^a	.54	.50	.05	-.10	-		
4. Impl. incl. leader lang.	25.34	16.08	-.30***	.72***	-.04	-	
5. Exp. incl. leader lang. ^b	.46	.51	-.09	.18*	.002	.37***	-
6. Team member voice	.23	.29	-.22*	.37***	-.06	.43***	.21*

Note. $N=109$ team members and $N=26$ leaders, correlations of leader's total utterances, implicit and explicit inclusive leader language are obtained by assigning the same score to each member within the same team; means and standard deviations of team size, implicit and explicit inclusive leader language are based on $N=26$ teams. Correlations should be interpreted with caution as they do not take the nested data structure into account.

^a0=nurse, 1=physician.

^b0=no appreciation or invitation, 1 = one or more appreciation or invitation.

*** $p < .001$.

** $p < .01$.

* $p < .05$.

Table 3

Frequencies of Leader Language Characteristics

Language characteristic	Mean	SD	Minimum	Maximum	Median
Total utterances	61.50	27.89	17	119	60.50
WE	24.32	15.60	1	57	20.50
US	.64	1.02	0	4	0
OUR	.07	.26	0	1	0
I	11.69	10.59	0	38	9
Appreciation	.33	.54	0	2	0
Invitation	.64	1.54	0	7	0

Note. N=26 Team leaders.

Table 4

Results of Multilevel Analyses Predicting Team Member Voice Behavior.

Variable	Team Member Voice Behavior			
	Model 1: Testing Null-Model	Model 2: Adding Level 1 variables	Model 3: Testing Main Effects of IML and EXL	Model 4: Adding Cross-level Interaction Effects
<i>Level 1</i>				
Intercept	.233 (.031)***	.261 (.043)***	.200 (.199)*	-.162 (.101)
Professional group ^a		.048 (.051)	.064 (.048)	.291 (.127)*
<i>Level 2</i>				
Leader total utterances			.001 (.001)	.001 (.002)
Team size			-.023 (.028)	-.030 (.027)
Imp. incl. leader language (IML)			.005 (.002)*	.011 (.002)***
Exp. inc. leader language (EXL)			.029 (.053)	.146 (.083)
<i>Cross-level interactions</i>				
IML x Prof. group				.008 (.003)*
EXL x Prof. group				-.269 (.105)*
Pseudo- R^2	—	.07	.08	.17
Pseudo- ΔR^2	—	.08	.01	.09
-2 Log likelihood	33.38	32.58	9.60	1.05

Note. $N = 109$ at Level 1 and $N = 26$ at Level 2, Entries are fixed effects with standard errors reported in parenthesis, Pseudo- R^2 indicates the percentage of the total variance (i.e., within and between group variance) explained in the dependent variable accounted by all variables in the respective model, Pseudo- ΔR^2 indicates the percentage of the total variance (i.e., within and between group variance) explained in the dependent variable accounted by each step,

*** $p < .001$, * $p < .05$,

^a0 = nurse, 1 = physician.

Figures

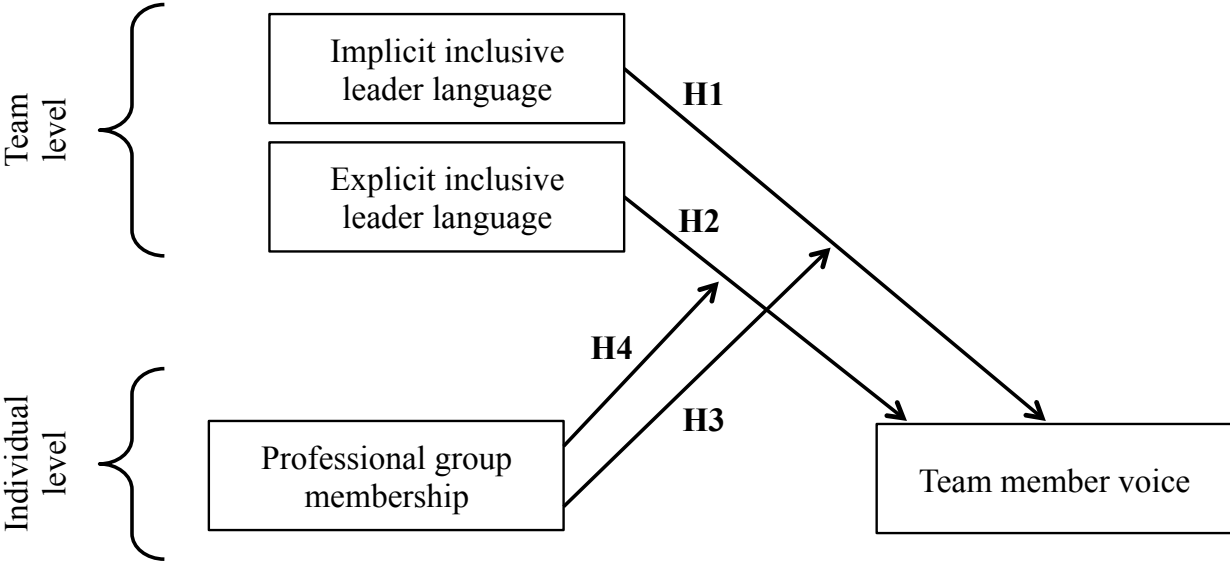


Figure 1. Hypothesized research model; H = Hypothesis.



Figure 2. Example of a simulated medical scenario involving a patient simulator, one resident physician (positioned at head of “patient”), one anesthesia nurse (preparing drugs), one surgeon (in lighter scrub) and one attending anesthesiologist (next to resident) as the team leader.



Figure 3. Interaction effect of implicit inclusive leader language and professional group membership on team member voice.



Figure 4. Interaction effect of explicit inclusive leader language and professional group membership on team member voice.