

**THE EMERGENCE AND CONSEQUENCES OF VOICE CLIMATE**

by

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## **Abstract**

The objective of this thesis was to further the nascent paradigm on team-level voice, specifically voice climate and team voice. First, in Study 1, I examined how and why voice climate emerges in teams. In particular, I proposed that leaders stimulate shared perceptions of voice climate depending on how they previously responded to voice (i.e., voice acceptance or rejection). In turn, I proposed that voice climate enhances teams' subsequent voice, as mediated by team risk, fear, efficacy, and vitality. I tested these propositions with a between-subjects team experiment, in which I manipulated a confederate leader's responses to their team's voice, and assessed its effects on team affect, cognitions, and subsequent voice.

Next, in Study 2, I conducted a multi-wave training experiment to explore whether we can train leaders to successfully encourage their teams to speak up. First, I developed a one-hour training program that focussed on leader openness and responsiveness to voice, based on insights from the voice and leadership training literatures. Next, I randomly divided 65 students into either a 1-hour voice or control condition, and administered the training. Finally, approximately one week later, these students participated in a 1-hour team task, after which their team members rated leaders' openness and responsiveness to voice, as well as voice climate and team voice.

Finally, in Study 3, I investigated whether, how, and why voice climate ultimately affects team functioning by focussing on the mediating mechanisms that link voice climate to team learning and performance. In particular, I proposed that voice climate enhances team effectiveness through its sequential effect on negative and positive team affect (i.e., fear and vitality), cognitions (i.e., risk and efficacy), and voice (i.e., quantity and quality). I assessed these propositions with multi-sourced field surveys with 59 teams from 8 Canadian companies.

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## **Statement of Originality**

I hereby certify that all of the work described within this thesis is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with the standard referencing practices.

Kyle M. Brykman

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## Chapter 1: Introduction and Literature Review

To captivate readers' interest in *employee voice* – discretionary communication of ideas, issues, or information with the intention of improving collective conditions (Morrison, 2011; Van Dyne & LePine, 1998) – researchers often introduce their manuscripts by highlighting the benefits of voice for teams and organizations (Bashshur, & Oc, 2015; Morrison, 2014). Researchers deploy this framing tactic to highlight the value of voice as a collectively beneficial and important behaviour worth studying; however, few studies have actually examined its effects on team<sup>1</sup> or organizational performance (Detert, Burris, Harrison, & Martin, 2013; Frazier & Bowler, 2015; Mackenzie, Podsakoff, & Podsakoff, 2011). Rather, most scholars have implied the benefits of voice from individual-level research that links voice to such outcomes as enhanced creativity (Zhou & George, 2001) and error-detection (Nemeth, 1986).

The dearth of research on voice in teams is problematic because voice is fundamentally rooted in, and interesting because of, its capacity to fuel constructive collective change; however, individual-level studies are unable to examine such collective outcomes because individual inputs rarely cascade up to affect team outputs (Kozlowski & Klein, 2000; Mathieu & Chen, 2010). Moreover, we should not assume that teams will inevitably achieve greater performance for speaking up<sup>2</sup> a lot just because individuals who speak up a lot tend to be rated as better performers. As Klein and Kozlowski (2000, p. 213) warn, “just because the relation holds at the lower level does not mean it will also hold at higher levels”; thus, whether voice initiates constructive change fundamentally depends on the extent to which groups of people speak up, which necessarily behoves investigations into voice in teams (Organ, 1988; 1997; Podsakoff &

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<sup>1</sup> I use the terms “team”, “group”, and “unit” interchangeably throughout this thesis to refer to multiple individuals who regularly interact, share goals, exhibit task interdependence, and are embedded in a larger organizational context (Chan, 1988).

<sup>2</sup> Consistent with prior research, I use the terms “voice” and “speak up” interchangeably throughout this thesis (Liang, Farh, & Farh, 2012; Maynes & Podsakoff, 2014).

MacKenzie, 1997). Ultimately, it is critical that we provide greater theoretical foundations and empirical evidence to explain whether, when, and why voice affects teams and organizations to fully appreciate its power at work (Morrison, 2011; 2014; Podsakoff & MacKenzie, 1997).

Although several researchers have urged for more team and multilevel studies on voice (e.g., Bashshur & Oc, 2015; Fast, Burris, & Bartel, 2014; Morrison & Milliken, 2000; Morrison, 2011; 2014), empirical investigations remain scarce (for exception, see Deng, Leung, La, & Huang, 2017; Detert et al., 2013; Frazier & Bowler, 2015; Huang & Paterson, 2017; Mackenzie et al., 2011; McClean, Burris, & Detert, 2013). This thesis addresses the paucity of research on team-level voice by examining the emergence and consequences of *voice climate* – shared team perceptions of whether group members perceive that they are expected and encouraged to speak up (Frazier & Bowler, 2015; Morrison, Wheeler-Smith, & Kamdar, 2011). Examining voice climate offers a promising avenue towards understanding how voice operates in teams because employees' decision to voice fundamentally depends on whether they expect their work environment encourages and supports voice (Detert & Edmondson, 2011; Dutton, Ashford, Neill, Hayes, & Wierba, 1997; Milliken, Morrison, & Hewlin, 2003). Indeed, research indicates that voice climate is significantly positively related to both individual voice (Frazier & Fainshmidt, 2012; Morrison et al., 2011) and team voice (Frazier & Bowler, 2015).

At the same time, there is scarce research on voice climate because it is a novel construct (Morrison et al., 2011). Indeed, I am aware of only four studies to-date to have actually examined voice climate (Frazier & Bowler, 2015; Frazier & Fainshmidt, 2012; Morrison et al., 2011; Wei, Zhang, & Chen, 2015), and only one of which examined its effects on team voice (Frazier & Bowler, 2015). As such, we still know very little about the structure and function of voice climate. In particular, three questions stand out: (1) How does voice climate *emerge* in teams? (2) Can we *train* leaders to be more supportive of voice? (3) *How* and *why* does voice climate affect

team functioning? I address each question in this three-study thesis. See Figure 1-1 for the proposed thesis model.

Overall, the objective of this thesis is to expand our understanding of team-level voice, with particular attention to how voice climates emerge and subsequently influence team voice and team functioning. Drawing on theories of social organizing (Salancik & Pfeffer, 1978) and climate development (Schneider & Reichers, 1983), I propose that voice climate emerges in teams largely because of leaders' prior responses to voice (i.e., whether leaders accept or reject voice). Leaders' responses send strong signals about the likely benefits and consequences of voice, which converge in teams through shared experiences, vicarious learning, and intra-team sensemaking communication.

Second, I respond to several calls in the voice and organizational citizenship literature (e.g., Nembhard & Edmondson, 2006) by developing and testing a training program, based on best practices in leadership development (Kelloway & Barling, 2000; Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017), to teach leaders how they can effectively motivate and support their team's voice. I propose that this training will have positive downstream consequences on a team's leadership perceptions, voice climate, and team voice.

Finally, building on theories of team affect and cognitions (Barsade & Knight, 2015; Fredrickson, 2001; Weiss & Cropanzano, 1996), I propose that voice climate influences team voice and team effectiveness through its effects on both team cognitions (i.e., risk and efficacy) and team affect (i.e., fear and vitality). In turn, I integrate implicit voice theory (Detert & Edmondson, 2011) to propose that team affect and cognitions subsequently influence team effectiveness via their effects on team voice quantity and quality. Altogether, I attempt to explain how voice climates develop in teams and why they subsequently influence team functioning.

## 1.1 Literature Review

### Voice

*Employee voice* refers to discretionary communication of information, ideas, and issues with the intention of improving collective policies, procedures, and conditions (Morrison, 2011). This definition reflects voice as a type of organizational citizenship behaviour (OCB), which denotes an array of proactive employee behaviours intended to benefit others (Bateman & Organ, 1983). Thus, it is distinct from voice as described in the justice literature, which denotes the presence of due process and having opportunities to participate in decision-making (Tangirala & Ramanjuam, 2008). Although Van Dyne and LePine (1998) originally defined voice in relation to challenging the status quo, Morrison's (2011) updated definition aligns with recent conceptualizations in the voice literature that voice is not strictly challenging, but also promotive (Liang et al., 2012), supportive (Burris, 2012), and defensive (Maynes & Podsakaoff, 2014).

Although prior research has predominately focused on the extent to which individuals speak up (i.e., voice quantity), researchers have also urged for more considerations into the quality of what employees express as an important, but neglected component of voice (e.g., Liu, Tangirala, & Ramanujam, 2013; Morrison, 2011; 2014). Indeed, recent research suggests that voice quality is significantly linked with managers' value of voice (Burris, Rockmann, & Kimmons, 2018), implementation of voice (Brykman & Raver; 2018), and ratings of employee performance (Brykman & Raver, 2016; Whiting, Maynes, Podsakoff, & Podsakoff, 2012). In particular, *voice quality* reflects receivers' perceptions of the expected utility of voice, which manifests in message rationale, feasibility, organizational-focus, and novelty (Brykman & Raver, 2016); juxtaposed to *voice quantity* which reflects the extent to which individuals' speak up.

### Structure of Team Voice and Voice Climate

It is critical that we first identify and describe the structure (i.e., how they emerge from collective actions) and function (i.e., how they influence outcomes) of team voice and voice climate (Morgeson & Hofmann, 1999) because we should not assume that individual voice is isomorphic to the team (Chan, 1998; Kozlowski & Klein, 2000). For example, team voice may emerge as isomorphic to individual voice (e.g., based on sum or average), discontinuous to individual voice (e.g., based on dispersion), or somewhere in the middle (e.g., based on minimum or maximum behaviours; Kozlowski & Klein, 2000).

Consistent with prior conceptualizations of team OCB (Ehrhart & Raver, 2013) and team voice (McClellan et al., 2013), I conceptualize team voice as an *additive collective construct* (Chan, 1998). Additive constructs manifest from the average of individuals' behaviours, such that higher-level units simply represent the sum or average of the behaviours of unit members (i.e., isomorphic composition; Chan, 1998); thus, *team voice* reflects the total amount of voice that a team expresses. Accordingly, in this thesis I measure team voice by averaging team members' self-rated voice or voice intentions (Studies 1 and 2), as well as by asking leaders to evaluate their team's overall voice quantity and quality (Study 3).

In contrast, voice climate has been conceptualized as a *shared construct* (Chan, 1998; Kozlowski & Klein, 2000), which means that team members develop shared perceptions of voice climate based upon their collective experiences and/or exposure to similar circumstances in the team. As Kozlowski and Klein (2000, p. 30) elaborate, shared constructs "originate in individual members' experiences, attitudes, perceptions, values, cognitions, or behaviours and tend to converge among group members as a function of attraction, selection, attrition, socialization, social interaction, leadership, and other psychological processes". This perspective aligns with Schneider, Ehrhart, and Macey's (2013, p. 362) definition of climates as "shared perceptions of and the meaning attached to, the policies, practices, and procedures employees experience and

the behaviours they observe getting rewarded and that are supported and expected”. That is, climates do not simply reflect the presence of certain policies or systems, but rather the messages that they convey and the shared meaning attached to them (Ehrhart & Raver, 2013).

Accordingly, I refer to *voice climate* as shared team perceptions of whether team members perceive that their leader encourages, supports, and rewards voice (Frazier & Bowler; 2015, Frazier & Fainshmidt, 2012). For that reason, I assess voice climate using a referent-shift approach – by asking team members to report on the extent to which their *team* feels encouraged to speak up – rather than using a direct consensus approach – by asking individuals how encouraged they feel and then aggregating those perceptions to the team (Chan, 1998). Morrison et al. (2011, p. 184) offer a more nuanced definition of voice climate as reflecting shared beliefs about “whether speaking up is safe versus dangerous” (i.e., voice safety) and “whether group members are able to voice effectively” (i.e., voice efficacy). This duality aligns with Dutton et al.’s (1997, p. 411) description of favourable contexts that offer “psychological safety to the potential issue seller, as well as windows of opportunity”. Both definitions tap into the same phenomenon because individuals’ perceptions of whether voice is encouraged and rewarded implicitly manifests in their beliefs of voice safety and efficacy; however, Frazier and colleagues definition is more consistent with how psychological climates have typically been defined (Schneider et al., 2013).

Finally, it is also important to note that voice climate is similar to two established team-level constructs: psychological safety and group efficacy. Voice climate is similar to psychological safety – shared belief that the team is safe for interpersonal risk taking (Edmondson, 1999) – because both reflect feeling safe to engage in risky behaviours. Voice climate is also similar to group efficacy – a team’s beliefs in its capability to perform a particular task (Gibson & Earley, 2007) – because both describe a team’s confidence to successfully

complete tasks. However, voice climate is conceptually distinct from these constructs because it applies specifically to voice, as opposed to other risky behaviours (e.g., setting difficult goals) or general team performances (e.g., publishing in top-tier journals). Moreover, voice climate denotes the combination of feeling safe *and* capable to speak up, as opposed to strictly feeling safe *or* capable of engaging in certain behaviours. Most importantly, in their seminal work on voice climate, Morrison et al. (2011) conducted supplemental factor analyses to demonstrate that voice climate is also empirically distinct from psychological safety and general group efficacy,

### **Leadership and Voice Climate**

According to social information processing theory (Salancik & Pfeffer, 1978), teams should form shared voice climate perceptions through common experiences, vicarious learning, intrateam communication, and sensemaking processes, such as by “reading the wind” to diagnose whether their context supports voice (Ashford, Rothbard, Piderit, & Dutton, 1998; Bowen & Blackmon, 2003; Dutton et al., 1997). While many team factors, such as team composition, can influence team climates (Mathieu & Chen, 2010), leaders generally have particularly profound influences on climate emergence because they regularly interact with each group member, control resources, dictate rewards and punishment, and are looked upon for inspiration, guidance, and support (Kozlowski & Doherty, 1989). According to Schein (1990), leaders communicate the underlying meaning behind team policies and practices through *primary embedding mechanisms* (e.g., what they reward and pay attention to), which are reinforced through *secondary embedding mechanisms* (e.g., organizational structure and systems). For example, leaders communicate support for voice by noticing, rewarding, and encouraging employees to speak up. Indeed leadership is one of the primary antecedents of climates in general (Schneider et al., 2013) and voice climate specifically (Frazier & Bowler, 2015).

Likewise, implicit voice theory (Detert & Edmondson, 2011; Milliken et al., 2003)

highlights leaders' influence on employees' decision to voice. According to implicit voice theory, employees hold taken-for-granted assumptions that leaders will ignore or punish them for speaking up, and consequently are hardwired to remain silent. For example, Milliken et al. (2003) found that 49% of employees generally felt uncomfortable speaking up about problems and 85% have felt unable to openly raise issues to management at one point. They suggest that employees withhold voice because they are afraid of being labeled negatively, damaging relationships, feeling futile, suffering performance detriments, and negatively impacting others.

Detert and Edmondson (2011) expanded on their research by identifying five implicit beliefs that prevent employees from speaking up, namely: voice can offend targets, you need solid data or solutions to speak up, do not bypass the boss, do not embarrass the boss, and voice can have negative career consequences. Indeed research demonstrates that whether employees elect to speak up significantly depends on several features of their leader, including leaders' characteristics (e.g., self-efficacy; Fast et al., 2014), emotions (e.g., affective state; Liu, Song, Li, & Liao, 2015), style (e.g., transformational leadership; Detert & Burris, 2007), receptivity to voice (e.g., responsiveness; Janssen & Gao, 2015), and preferences for voice (e.g., solicitation; Tangirala & Ramanujam, 2008). Overall, research suggests that leadership significantly shapes voice climate, such that employees should feel safer and more comfortable speaking up when they perceive their leader is open, supportive, and responsive to voice (Ashford et al., 1998; Detert & Burris, 2007; Dutton et al., 1997).

### **Function of Voice Climate**

Although limited, prior research indicates that voice climate is an important construct because of its relations with team voice and performance. For example, Morrison et al. (2011) found that voice climate is significantly positively related to individual voice, over and above the effects accounted for by group identification, satisfaction, and procedural justice climate. As



well, Frazier and Fainshmidt (2012) demonstrate that psychological empowerment mediates the relationship between voice climate and individual voice, while Frazier and Bowler (2015) found that voice climate and team voice sequentially mediate the effects of supervisor undermining on team performance. Research also links psychological safety to team voice, although much of this research is based at the individual-level, in which psychological safety is modeled as individuals' beliefs about their team, as opposed to a group climate (e.g., Detert & Burris, 2007; Liang, Farh, & Farh, 2012). With one exception, however, Deng et al. (2017) found that psychological safety climate is indirectly related to team voice through its negative effects on a group's average fear of failure and positive effects on a group's average work motivation.

Altogether, and consistent with implicit voice theory (Detert & Edmondson, 2011), researchers imply that voice climate affects voice because it manifests the risks of speaking up, and employees' perceptions of risk critically affects their decision to voice (Ashford et al., 1998; Dutton et al., 1997; Bowen & Blackmon, 2003; Morrison & Milliken, 2000; Withey & Cooper, 1989). For example, Qin, Drenzo, Xu, and Duan (2014) and Withey and Cooper (1989) suggest that employees with lower levels of job security are less likely to speak up because they are more concerned about the costs of exit (e.g., unemployment) than the costs of voice (e.g., ridicule). As well, Ashford et al. (1998) found that female employees who perceived higher levels of organizational support and had closer relationships with decision-makers perceived lower levels of image risk, and consequently were more likely to speak up about gender-equity issues than those who perceived voice as riskier.

At the same time, however, researchers have paid considerably less attention to voice efficacy – the extent to which employees feel capable speaking up (Ashford et al., 1998; for exception see Duan, Kwan, & Ling, 2014; Tangirala, Kamdar, Venkataramani, & Parke, 2013); thus, we have mostly tapped into the safety component of voice climate, while overlooking how

voice efficacy influences voice. This oversight is especially surprising considering that Hirschman (1970) originally theorized that the costs of voice and the probability that voice will be enacted are two equally critical determinants of whether employees will speak up. Given the mutual links between risk, efficacy, and voice climate, research would benefit from simultaneous considerations of these cognitive mechanisms to determine which one has a greater effect on propelling teams – and individuals – to speak up.

Nevertheless, focussing on risk or efficacy still depicts employees' decision to voice as a profoundly cognitive experience, in which they judiciously weigh the costs and benefits of voice. As such, this perspective neglects how affective processes and experiences can also shape voice. Of the few voice studies that have begun to incorporate affect, most have focused on fear to explain whether, how, and to whom employees voice (Kiewitz, Restubog, Shoss, Raymond, Garcia, & Tang, 2016; Kish-Gephart, Detert, Treviño, & Edmondson, 2009; Liu et al., 2015; Qin et al., 2014). For example, Kiewitz et al. (2016) found that fear moderates the effects of abusive supervision on employee silence, such that fear compels employees to remain silent. As Ashford et al. (1998, p. 29) argue, fear likely influences voice because, “when people are fearful (perceive image risk), they cognitively reassess their expectations for success”. This logic aligns with emotions as social information theory (van Kleef, 2009), which argues that emotions influence behaviours via cognitions.

Unfortunately, just as scholars have emphasized risk, a negative cognition, over efficacy, a positive one, we have primarily focused on negative emotions, fear, while overlooking how positive affect can also propel or inhibit people from speaking up. This oversight is particularly surprising considering that positive affect functions distinctively, but concurrently with negative affect, and given that positive affect influences approach oriented behaviours, including the development and communication of novel ideas (Fredrickson, 2001). Accordingly, I expect that

engaging in a high voice climate will also influence positive team affect, specifically team vitality, which in turn motivates voice (Porath, Spreitzer, Gibson, & Garnett, 2011).

### **Function of Team Voice**

As voice entails making constructive suggestions, pointing out potential issues, and sharing pertinent information, it is expected to benefit team functioning over the long run (Frazier & Bowler, 2015). That is, as Organ (1997, p. 187) elaborates, “not every single discrete instance of OCB [(e.g., voice)] would make a difference in organizational outcomes... but summated across the categories of relevant behaviours, the effect would be positive”. Voice largely stimulates beneficial team outcomes because it stimulates constructive team discussions that helps teams discuss pertinent information (Stasser & Titus, 1985), prevents a rush to consensus (Hackman & Morris, 1975), and provokes creative ideation (De Dreu & West, 2001). Teams that speak up a lot also tend to learn more effectively because voice enables them to identify errors, along with strategies to address them (Morrison & Milliken, 2000). Indeed empirical research supports the links between team voice and increased team performance (Frazier & Bowler, 2015) and team learning (Edmondson, 2003), as well as reduced team turnover (McClellan et al., 2013)

At the same time, however, researchers have also argued that voice can actually hamper team performance by destabilizing processes and creating friction (Bolino, Turnley, Niehoff, 2004; Mackenzie et al., 2011). For example, Mackenzie et al. (2011) found team voice to be curvilinearly related to organizational performance, such that performance is strongest under conditions of moderate team voice, as they reason that too little voice restricts creativity, whereas too much stimulates conflict. Moreover, they found that helping moderates this relationship by counteracting the possible consequences of voice on organizational performance (e.g., conflict).

Accordingly, I propose that team voice quality – perceptions of the expected utility of a team’s voice messages – will be particularly associated with team performance because it

distinguishes high quality information exchange from situations where employees “give inaccurate advice that actually does more harm than good” (Bolino et al., 2004, p. 234). Although there is limited empirical research on voice quality, Marlow, Lacerenza, Paoletti, Burke, and Salas (2018) demonstrate that team communication quality, but not quantity, is significantly positively related to team performance, as they reason that high quality information exchanges enable teams to gather key information, while minimizing confusion. Relatedly, Thomas, Zolin, and Hartman (2009) found that employees who offer higher quality information are regarded as more trustworthy, which should subsequently benefit team processes. Finally, Dooley and Fryxell (1999) found that team dissent enhances decision quality but only under conditions of high loyalty, as they reason that loyalty facilitates constructive oriented dissent. Altogether, team voice quantity and quality likely benefit team outcomes through distinct mechanisms, namely identifying issues and offering high quality solutions; however, I am unaware of any study to-date that has examined or compared their simultaneous effects on team functioning.

## **1.2 Summary of Studies**

### **Study 1**

I address the first research question – how voice climate *emerges* in teams – in Study 1 with a team experiment that examines whether voice climate emerges as a result of leaders’ prior responses to voice (i.e. whether a leader accepts or rejects voice), as well as whether team cognitions (i.e., risk and efficacy) and affect (i.e., fear and vitality) mediate the effects between voice climate and teams’ subsequent voice. Although researchers have uncovered various antecedents (e.g., supervisor undermining; Frazier & Bowler, 2015) and outcomes (e.g., voice; Morrison et al., 2011) of voice climate, we still lack evidence as to how voice climate emerges in teams and why it affects team voice. Further theoretical development behoves an understanding of the *process of emergence* (Kozlowski, 2015) – how team members form shared perceptions of

whether voice is expected, encouraged, supported, and rewarded in their team (Morgeson & Hofmann, 1999) – as well as *why* voice climate affects team voice. Moreover, it is valuable to elucidate how voice climate emerges in teams to prescribe strategies for leaders on how they can actively develop climates that support voice.

## **Study 2**

I address the second research question – can we *train* leaders to be more supportive of voice – in Study 2 with an experimental training study in which I assessed whether we can train leaders to be more supportive and encouraging of voice, thereby creating a voice climate. In particular, I divided a group of 65 leaders randomly into either a 1-hour voice training or control training condition, and assessed training transfer in a subsequent 1-hour team task session. As a result, I hope to contribute to theory and practice by testing whether we can indeed improve leaders' support for voice through training, as well as whether such learning increases voice climate and team voice. Although employees' reluctance to voice is pervasive and potentially harmful, scholars have yet to provide industry leaders with specific recommendations on why and how they can proactively encourage and motivate their team's to speak up. This omission is noteworthy because high quality research in the applied sciences should offer practical implications in addition to conceptual clarity (Klein & Zedeck, 2004).

## **Study 3**

Finally, I address the third research question in Study 3 – how and why voice climate affects team functioning – with a time-lagged multi-sourced field study with 59 teams to examine whether voice climate affects team functioning (i.e., performance and learning) via its sequential effects on team cognitions (i.e., risk and efficacy), affect (i.e., fear and vitality), and voice (i.e., quantity and quality). That is, I propose that voice climate affects teams' cognitive and affective experiences (Barsade, & Knight, 2015), which ultimately affects team functioning by influencing

teams' capacity to develop and propose higher quantity and quality voice. This is one of the first studies that I am aware of to link voice climate to team outcomes, while also accounting for the mediating mechanisms that explains its effects (Bashshur & Oc, 2015). It is imperative that we explain when and why both voice climate and team voice benefits team functioning because it is equally plausible for voice to instead trigger harmful conflict (Bolino et al., 2004; Morrison, 2014); thus, understanding why voice climate affects team functioning is necessary to advance theory and practice on voice climate. Overall, I propose to further develop the team-level voice paradigm by identifying the antecedents, consequences, and mediating mechanisms associated with team voice and voice climate

Overall, the purpose of this thesis is to expand our understanding of team-level voice, in particular how voice climate develops and subsequently influences team voice and effectiveness. I propose to address this objective with three interrelated studies that emphasize internal validity (e.g., Study 1), practical implications (e.g., Study 2), and external validity (e.g., Study 3), thereby providing a holistic understanding of the structure and function of voice climate.

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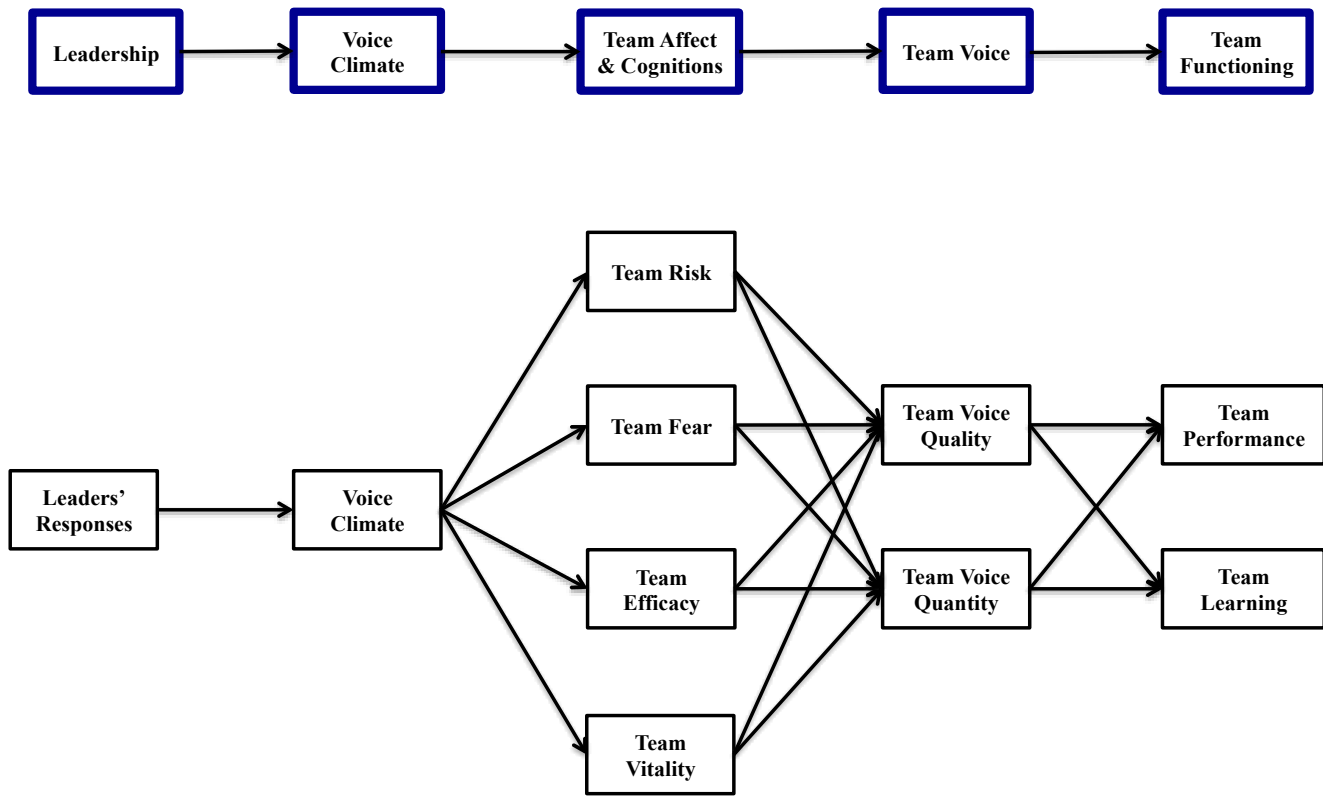


Figure 1 – 1. Proposed thesis model.

## **Chapter 2: Reject Me Once, Shame on You: How Leaders' Prior Responses Shape the Emergence of Voice Climate**

### **Abstract**

This study focuses on the *process* through which voice climate emerges in teams. Voice climate reflects shared team perceptions about whether team members feel safe and capable speaking up. Although research indicates that voice climate is a central antecedent to individual and team voice, we know little about *how* voice climate emerges in teams and *why* it affects team voice. These oversights are problematic because we cannot prescribe strategies for leaders to create a voice climate without first understanding how team members develop shared voice climate perceptions. Accordingly, I conducted a multi-wave team experiment to examine whether voice climate emerges as a result of leaders' prior responses to voice (i.e., voice acceptance or rejection), as well as whether team affect (i.e., fear and vitality) and cognitions (i.e., risk and efficacy) influence team voice. As predicted, I found that accepting voice enhances voice climate, whereas rejecting voice weakens voice climate, and that voice climate significantly affects team voice as mediated by team efficacy and vitality. Overall, this paper highlights the significant effects of leadership behaviours and positive team affect and cognitions on team voice.

*Once an employee has expressed a concern leaders can do something with employee's input or they can fail to act on it*  
– Ashford, Sutcliffe, and Christianson (2009, p. 181)

## 2.1 Introduction

For decades researchers have questioned whether and why people speak up at work. This research has predominately focused on the individual-level antecedents to employee voice, such as personality (e.g., extraversion, Van Dyne & LePine, 1998) and job attitudes (e.g., satisfaction, Withey & Cooper, 1989). In contrast, there is a dearth of research on voice in teams. Indeed I am aware of only a few studies that have actually empirically examined team voice (e.g., Frazier & Bowler, 2015; Huang & Paterson, 2017; Mackenzie, Podsakoff, & Podsakoff, 2011), which is problematic because the ultimate power of voice depends on whether groups of people speak up (Bashshur & Oc, 2015; Morrison, 2014; Podsakoff & MacKenzie, 1997).

Recent research suggests that leaders can motivate their teams to speak up by creating a voice climate – shared team perceptions that team members feel encouraged, supported, and rewarded for speaking up (Frazier & Bowler, 2015; Morrison, Wheeler-Smith, & Kamdar, 2011). At the same time, however, research on voice climate also remains scant. For example, I am aware of only one study to-date that actually examined its effects on team voice (Frazier & Bowler, 2015). Consequently, we lack an appreciation as to how voice climate *emerges* in teams and *why* voice climate affects team voice. That is, how do leaders create a voice climate and why does creating a voice climate ultimately provoke teams to speak up?

It is important to clarify how and why team members' perceptions converge to form a shared team climate because we cannot be certain that voice climate indeed manifests as a team construct, as opposed to individuals' perceptions of their team, without specifying its emergent processes (Kozlowski & Klein, 2000). Indeed, researchers generally assume emergence based on

aggregation statistics, but overlook *the processes of* emergence, which is critical to ensure the construct reflects a team perception (Kozlowski, 2015). It is also valuable to explicate the mediating mechanisms that link voice climate to team voice, as scholars currently lack a theoretical foundation to explain *why* teams speak up. From a practical perspective, it is important that we explain how voice climate develops to prescribe strategies for leaders on how to create a supportive climate that encourages people to speak up. Moreover, considering the positive links between voice climate and team voice, and the links between team voice and reduced team turnover (McClellan, Burris, & Detert, 2013) and enhanced team performance (Detert, Burris, Harrison, & Martin, 2013), clarifying the processes through which voice climate emerges and influences team voice has critical downstream consequences on team functioning.

Overall, I focus on two overarching questions: How does voice climate develop in teams and why does voice climate affect team voice? To address the first question, I draw from social information processing theory (Salancik & Pfeffer, 1978) to propose that voice climate emerges as a result of leaders' prior responses to voice – whether leaders previously accepted or rejected voice. In particular, I expect team members to form shared perceptions of voice climate through direct observations of their leader's behaviours, vicarious learning, and intra-team sensemaking (Dutton, Ashford, Neill, Hayes, & Wierba, 1997; Kish-Gephart, Detert, Trevino, & Edmondson, 2009; Morrison & Milliken, 2000). I focus on leaders' prior responses to voice because research indicates that leaders significantly shape individuals' decision to speak up (cf. Detert & Burris, 2007; Detert & Edmondson, 2011), though most studies focus on general perceptions of leaders, as opposed to narrowing in on their precise behaviours (Burris, 2012; Morrison, 2014).

To address the second question, I draw from contingency theory (Naylor, Pritchard, & Ilgen, 1980) to propose that voice climate affects team voice through its effects on both negative

and positive team affect (i.e., risk and vitality) and cognitions (i.e., fear and efficacy). According to contingency theory, whether individuals elect to speak up depends on the extent to which they were previously successful, as this information conveys the costs and benefits of voice. As such, voice climate essentially manifests employees' cost-benefit calculus, which is a critical antecedent to voice (Ashford, Rothbard, Piderit, & Dutton, 1998; Milliken, Morrison, & Hewlin, 2003; Withey & Cooper, 1989). I focus on these four mediators because voice climate derives from perceptions of safety and capability (Morrison et al., 2011); thus, it should simultaneously influence teams positive and negative thoughts and feelings about their leader and whether to speak up in the future (Fredrickson & Losada, 2005; Kish-Gephart et al., 2009).

I assessed these questions with a multi-phased team-level experiment in which a trained confederate leader responded to his/her team's voice by either accepting or rejecting voice during two team task ideation sessions, following which participants rated their team's voice climate and the mediating mechanisms of team affect and cognitions. Although voice researchers typically conduct survey studies to approximate how much employees speak up, this approach is limiting to explore reactions to voice and climate emergence because surveys are unable to capture nuance inherent in the interrelations between successive voice episodes (Janssen & Gao, 2015; Liu, Song, Li, Liao, 2015). As Ashford, Sutcliffe, and Christianson (2009, p.185) argue, it is important to account for prior voice experiences because "if employees see repeatedly that their voices have no impact on outcomes, they may become disenchanted, discouraged, and frustrated"; however, most studies capture voice at a snapshot in time, as opposed to a process that fluctuates based on prior experiences. Altogether, I propose that leaders' prior responses to voice influences teams' subsequent voice through its sequential effects on voice climate, and team cognitions and affect. See Figure 2 – 1 for the theorized model.

## 2.2 Conceptual Foundations

### Voice and Voice Climate

*Voice* denotes discretionary communication of information, ideas, and issues that challenge the status quo with the intention of improving conditions (Morrison, 2011; Van Dyne & LePine, 1998), whereas *voice climate* denotes shared team perceptions of whether voice is expected, encouraged, supported, and rewarded in the team (Frazier & Bowler, 2015). More specifically, Morrison et al. (2011) proposed that voice climate reflects two distinct dimensions: whether speaking up is safe and whether team members are able to voice effectively.

Voice can benefit teams, such as by enhancing decision quality (Dooley & Fryxell, 1999), stimulating learning (Edmondson, 2003), and improving retention (McClean et al., 2013). Employees can also personally benefit from speaking up, such as by gaining more recognition (Whiting, Podsakoff, & Pierce, 2008) and higher performance ratings (Whiting, Maynes, Podsakoff, & Podsakoff, 2012); however, they tend to suppress voice because it has the potential to backfire (e.g., disrupt relational processes). Indeed, voice can result in lower performance ratings under certain conditions, such as when a leader has low levels of self-efficacy (Fast et al., 2014) or disagrees with how much the employee speaks up (Burris, 2012)

In particular, implicit voice theory suggests that employees hold taken-for-granted assumptions that speaking up is risky largely because they expect their manager will punish them or be unreceptive to voice (Detert & Edmondson, 2011; Milliken et al., 2003). For example, Detert and Edmondson (2011) found that employees withhold voice in part because speaking up is likely to offend or embarrass their manager and result in negative career consequences. Similarly, Milliken et al. (2003) found that employees withhold voice because they expect it to be futile and are afraid of being viewed negatively and damaging work relationships.

These implicit reservations are not context-dependent, but rather vary across situations. As such, managers may be able to debunk employees' hardwired reservations depending on whether they signal support or opposition for voice. Indeed research suggests that employees speak up more to highly transformational leaders (Detert & Burris, 2007; Liu, Zhu, & Yang, 2010) and to leaders who demonstrate a willingness to enact voice (Detert & Burris, 2007; McClean et al., 2013), as well as when they perceive their leader is in a positive mood (Liu et al., 2013) and have a strong relationship with their leader (Liu, Tangirala, & Ramanujam, 2013). Considering that leaders also tend to significantly affect team climates (Kuenzi & Schminke, 2009; Schneider, Ehrhart, & Macey, 2013) and team voice (Frazier & Bowler, 2015), it follows that leaders play a central role in the emergence of a team's voice climate.

### **Voice Climate Emergence**

Prior research has largely focussed on individuals' static perceptions of their leader's general characteristics or behaviours with survey approaches. This methodology is limited for assessing climate emergence, however, because climates necessarily emerge over time through sequences of behaviours and interpretations (Kozlowski et al., 2015; Morgeson & Hofmann, 1999). Consequently, I depart from prior investigations by focusing on the interdependencies between sequential voice expressions, leaders' responses, and team members' perceptions and reactions (cf., Garner, 2013; Janssen & Gao, 2015). In particular, I propose that leaders' early responses to voice – whether a leader accepts or rejects voice – affects voice climate and, in turn, team voice by indicating whether team member's should expect to be rewarded or punished for speaking up. In particular, that teams develop shared voice climate perceptions through intrateam discussions and nonverbal communications (e.g., emotional contagion) as they attempt to make sense of their leader's responses (Salancik & Pfeffer, 1978; Schneider & Reichers, 1983).

Overall, I propose that leaders can either reinforce or suppress voice depending on whether they previously accepted or rejected voice and that, over time, these reinforcements become embedded in team members' consciousness and from shared team climate perceptions.

According to the broader climate literature, leaders significantly affect the emergence of various climates, including service climate (Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005) and safety climate (Griffin & Curcuruto, 2016), through *primary embedding mechanisms*, which implant a leader's assumptions onto the group. Primary embedding mechanisms refers to such behaviours as "how leaders react to critical incidents and organizational crises" and "what leaders pay attention to, measure, and control" (Schein, 1985, p. 115). Teams are motivated to attend to their leader's preferences, attitudes, and behaviours, such as whether their leader applauded or chastised employees for speaking up, because leaders set the team tone and direct rewards and punishments (Kozlowski & Doherty, 1989; Zohar, 2000). That is, leaders shape voice climate, just as they influence individuals' decision to voice, by signalling the likely consequences of speaking up (Milliken et al., 2003; Morrison et al., 2011). In turn, team members' perceptions regarding appropriate behaviours should converge because they are subject to similar policies and practices (Liao & Rupp, 2005), as well as because they are apt to observe similar behaviours and exchange information to form an understanding of workplace contingencies and expectations (Morrison et al., 2011; Salancik & Pfeffer, 1978).

### **Leaders' Responses and Voice Climate**

Overall, I propose that leaders positively influence voice climate through positive reinforcement, specifically accepting voice, because it demonstrates support for employee input (Edmondson, 2003). In contrast, I propose that leaders negatively affect voice climate through punishment, specifically rejecting voice, because it threatens individuals' self-concept (Ashford



& Cummings, 1983) and indicates that speaking up is futile and thankless (Frese, Teng, & Wijnen, 1999). More specifically, I draw from social information processing theory (Salancik & Pfeffer, 1978), to propose that leaders' prior responses facilitates voice climate emergence – shared climate perceptions – through collective experiences, vicarious learning, and intra-team communication and sensemaking (Kelley & Michela, 1980; Luthans & Stajkovic, 1999).

First, teams should form shared perceptions of voice climate by collectively witnessing their leader either accept or reject voice because this reaction suggests whether others will also be rewarded or punished for speaking up (Naylor et al., 1980; Schneider & Reichers, 1983). Moreover, leaders' responses, “such as an instance where a group member spoke up and was chastised” (Morrison et al., 2011, p. 185), should stand out as an especially salient event in a team's history, and thus be extensively discussed and remembered, because it provides insights about how to gain rewards and avoid punishment (Morrison & Milliken, 2000).

Second, employees also tend to extract knowledge about their environment through vicarious learning experiences (Kozlowski & Doherty, 1989). That is, employees tend to learn what behaviours are safe by evaluating whether others have failed (e.g., rejection) or succeeded (e.g., acceptance; Bledow, Carette, Kuthel, & Pittig, 2016), as it is far safer to trust colleagues' advice and experiences than to risk punishment through trial-and-error. As Morrison and Milliken (2000, p. 716) argue, “even if one's personal experience suggests that voice is welcomed, if others seem to regard the organization as unreceptive to voice, then the individual will tend to adopt this view as well”. Indeed, Milliken et al. (2003) argue that employees learn to remain silent in part from observing other employees, as they found that employees who felt uncomfortable raising certain issues generally believed that others felt equally uncomfortable. Thus, voice climate may emerge simply from witnessing a leader accept or reject others' voice.

Finally, teams should form shared perceptions of voice climate through sensemaking discussions, as they derive meaning from a series of interrelated events (Salancik & Pfeffer, 1978; Schneider & Reichers, 1983) and form a single perception (Morrison & Milliken, 2000). Risky and personally relevant behaviours, such as voice, tend to stand out as particularly memorable, and thus are more likely to influence a team's perception. Accordingly, leaders' reactions should affect voice climate because they tend to be highly visible and salient in a team's memory (Gundlach, Douglas, & Martinko, 2003; Kozlowski & Doherty, 1989). Overall, voice climate should emerge in teams as members look to their leader's responses to develop shared perceptions of what is rewarded and what is punished. Thus, I propose:

*Hypothesis 1:* Leaders' prior responses to voice influences voice climate, such that positive responses (i.e., accepting voice) are positively related to voice climate, whereas negative responses (i.e., rejecting voice) are negatively related to voice climate.

### **The Mediating Effects of Team Affect and Cognitions**

According to contingency theory (Naylor et al., 1980), individuals determine how to behave by calculating the costs and benefits of behaviours. This calculation stems from observing the relationship between prior behaviours and outcomes, which inform the probability that an outcome (e.g., rejection) is *contingent* on a behaviour (e.g., voice). As voice climate develops from social information communications, it should also subsequently affect how teams think and feel about speaking up by manifesting a team's general sentiment of whether members are safe and capable to voice. That is, teams attitudes and feelings about speaking up depend on considerations of voice climate, which stems from their leader's historical reactions to voice, and in turn link voice climate to team voice. Indeed research suggests that leadership generally affects voice by shaping the cognitions and emotions that drive individuals' decision to speak up (Ashford et al., 2009; Kish-Gephart et al., 2009).

Teams will develop shared affect and cognitions as a result of the same interactions that spurred shared voice climate perceptions (e.g., observing and discussing leaders' behaviours; Weiss & Cropanzano, 1996). For example, teams should experience similar cognitions about speaking up by collectively witnessing their leader accept voice, as this reaction indicates that voice is encouraged and supported. At the same time, teams should also develop similar affective reactions because emotions tend to spread in groups through contagion-like process, such that group members essentially catch each other's emotions through such processes as automatic mimicry (Barsade, 2002; Barsade & Knight, 2015). Additionally, emotions tend to spread in groups by providing social information, such as the sense that voice is risky by sensing others' anxiety about speaking up (Ashford et al., 2008; Liu et al., 2013). Altogether, emotions tend to spread in groups by providing social information and through mimicry (Van Kleef, 2009).

I focus specifically on the mediating effects of team risk, fear, efficacy, and vitality because they reflect countervailing positive and negative affective and cognitive mechanisms linking voice climate, which is itself a positively and negatively oriented perception, to team voice. It is particularly valuable to consider positive and negative affective and cognitive pathways simultaneously because affective experiences tend to spillover and shape cognitions, and because positive and negative affect tends to results in distinct effects (Ashkanasy & Dorris, 2017; George & Dane, 2016). Indeed, the voice literature has largely overemphasized the effects of risk and fear, thereby discounting alternative positive explanations (e.g., voice efficacy; Duan et al., 2014). Overall, I propose that voice climate is negatively related to team risk and fear, such that teams should perceive voice as riskier and feel more afraid of speaking up under conditions of low voice climate, whereas I propose that voice climate is positively related to team efficacy

and vitality, such that teams should feel more capable and invigorated about speaking up under conditions of high voice climate.

**Team Risk.** *Risk* denotes beliefs about the likelihood and severity of repercussions in response to voice (e.g., being passed over for a promotion; Wei, Zhang, & Chen, 2015). Teams with lower levels of voice climate will perceive voice as riskier because this climate signals that voice is not appreciated (Morrison & Milliken, 2000) and likely to result in social consequences (Ashford et al., 1998; Dutton et al., 1997; Gundlach et al., 2003). In turn, I propose that risk will affect team voice, such that employees will feel motivated to remain silent when they perceive voice as riskier and more likely to backfire (Milliken et al., 2003; Wei et al., 2015). Ashford et al. (2009, p. 183) argue that employees determine the costs and benefits of voice in part by considering “whether the intended voice target has a history of being receptive to input”, while Dutton et al. (1997) demonstrate that employees perceive voice as riskier after their manager rejects their ideas. In contrast, research shows that employees tend to speak up more often when their manager demonstrates support for voice (Edmondson, 2003; Takeuchi et al., 2012) and when they feel safe taking risks (Detert & Burris, 2007). Thus, I propose:

*Hypothesis 2a:* Risk mediates the effects of voice climate on team voice.

**Team Fear.** *Fear* reflects an intensely negative discrete emotion that often stems from potential threats, such as the sense that one will be punished for speaking up (Kish-Gephart et al., 2009). As research suggests that employees tend to feel more fearful about speaking up in unsupportive environments (Dutton et al., 1997; Milliken et al., 2003), it follows that teams will experience more fear under conditions of low voice climate. In turn, affective events theory (Weiss & Cropanzano, 1996) suggests that work conditions affect employees’ behaviours through their effects on employees’ affective reactions. Fear should specifically motivate

employees to suppress voice because it inhibits action and fosters pessimistic judgments of future outcomes, such as the probability that voice will be rejected (Kish-Gephart et al., 2009; Lerner & Keltner, 2001; Smith, Haynes, Lazarus, & Pope, 1993). Indeed, Kiewitz, Restubog, Shoss, Raymond, Garcia, and Tang (2016) provide empirical support that fear stimulates silence, which suggests that employees suppress voice when they are afraid of its consequences (Detert & Edmondson, 2011; Kish-Gephart et al., 2009). Thus, I propose:

*Hypothesis 2b:* Fear mediates the effects of voice climate on team voice.

**Team Efficacy.** Voice efficacy reflects a learned belief in one's competency to effectively speak up (Kish-Gephart et al., 2009). While voice efficacy is a component of voice climate (Morrison et al., 2011), it is also a consequence of leaders responses to voice as voice efficacy develops "through repeated successful, or even partially successful, experiences speaking up" (Kish-Gephart et al., 2009, p. 183); thus, whether managers accept or reject voice also directly affects voice efficacy. In turn, voice efficacy should influence voice by heightening individuals' sense of personal control and ability to cope with fears related to speaking up (Frazier & Fainshmidt, 2012; Kish-Gephart et al., 2009). Teams that experience higher levels of efficacy should also speak up more because they are more confident in their abilities (Ashford et al., 1998; Janssen & Gao, 2015). Indeed Duan, Kwan, and Ling (2014) demonstrate that voice efficacy mediates the effects of individuals' generalized self-efficacy, servant leadership, and perceived organizational support on voice. Similarly, Huang and Paterson (2017) found that team ethical voice efficacy mediates the effects of ethical leadership on team ethical voice, as they reason that leaders' ethical stance enhances voice efficacy, which affects voice by increasing teams' confidence and motivation to report ethical issues. Thus, I propose:

*Hypothesis 2c:* Efficacy mediates the effects of voice climate on team voice.

**Team Vitality.** *Vitality* denotes a highly positive affective experience of feeling energized and alive, which tends to motivate goal-directed behaviours (Nix, Ryan, Manly, & Deci, 1999; Porath, Spreitzer, Gibson, & Garnett, 2011). I expect vitality to mediate the effects of voice climate on voice by increasing team members' energy developing and communicating voice. Indeed research suggests that feeling supported to engage in autonomous behaviours like voice enhances individuals' sense of vitality (Carmeli, Ben-Hador, Waldman, & Rupp, 2009; Nix et al., 1999). That is, employees should feel more energized when they are encouraged to freely express ideas and concerns. In turn, vitality should affect team voice because feeling invigorated motivates creative thinking and information search, which are foundations to voice (Quinn, Spreitzer, & Lam, 2012). More generally, positive emotions tend to motivate rationale deduction and the discovery of unique ideas, which should directly affect teams willingness to voice (Fredrickson, 2001; Porath et al., 2011). Thus, I propose:

*Hypothesis 2d:* Vitality mediates the effects of voice climate on team voice.

### **Mediated Relationship**

Altogether, my theoretical model predicts that leaders' responses affect team voice as via its sequential effects on voice climate, team risk, team fear, team efficacy, and team vitality. That is, voice climate emerges over time based on leaders' responses to voice, which signal whether voice is expected and encouraged. In turn, these expectations affect team voice by influencing teams' affect and cognitions. For example, leaders facilitate positive voice climate perceptions by accepting voice, and, in turn, voice climate affects team voice by reducing team risk and fear, while enhancing team efficacy and vitality. Thus, I propose:

*Hypothesis 3:* Leaders' responses is significantly related to subsequent team voice, via its sequential effects on voice climate and, in turn, team affect and cognitions (i.e., risk, fear, efficacy, and vitality).

## 2.3 Methods

### Study Design

I conducted a between subjects team experiment to test these hypotheses, in which a confederate leader either accepted or reject his/her team's ideas, depending on the experimental condition. I recruited participants into teams of five, including the confederate, to participate in a study on "team ideation" in which they would be tasked with developing novel product ideas for "retailers that they frequent" over three successive 7-minute tasks (see Girotra, Terwiesch, Ulrich, 2010). To ensure that I addressed voice specifically, as opposed to ideas in general, the instructions outlined that the companies were interested in "*constructive* suggestions that *challenge* conventional practices". To compensate for common method bias, I measured participants' perceptions of voice climate following Task 1, risk, fear, efficacy, and vitality following Task 2, and voice following Task 3 (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

### Sample

I recruited 176 students from a research subject pool at a large Canadian business school. I divided participants into 48 teams comprised of 3 or 4 students and the confederate team-leader (avg. team size = 4.67). I conducted pilot tests with 6 teams comprised of 22 participants; thus the final sample consisted of 154 participants in 42 teams, with 21 teams for each experimental condition. Fifty-five percent of these participants identified as female and 68% as Caucasian. Their average age was 19.5 (SD = 1.18). These characteristics were consistent with the demographics of the undergraduate student population in the business program, and did not vary significantly between pilot and main sample groups. Each group was randomly assigned to one of the two experimental conditions: leader-accept or leader-reject.

### Procedures

Upon arrival for the study, participants read the experimental instructions, which outlined the overall goal of the study to “develop three novel product ideas for the student market for three different companies with ties to the business school”, along with the multiple-phase nature of the experiment, which alternated between ideation tasks and surveys. To motivate sufficient effort, the instruction outlined that an expert panel would evaluate each team’s ideas and that members of the team judged to have contributed the best ideas would win \$50 gift cards to the Campus Bookstore (though in reality I randomly selected 4 participants for this prize, after a through debrief). Finally, the instructions noted that one team member would be assigned the role team lead, scribe, and timer. It identified the leader’s responsibilities as moderating the team discussion and selecting the top ideas, the scribe’s responsibilities as recording the team’s ideas, and the timer’s responsibilities as ensuring that the team finished each task on time. I included the scribe and timer roles to reduce suspicion towards selection of the confederate leader.

Following the instructions, I identified which team member was selected for each position. To enhance the confederate leader’s legitimacy, I explained that s/he was selected on the basis of a pre-screening creativity survey that all participants completed and invited the leader to sit at the head of table. Finally, I provided participants with instructions for Task 1 and invited them to begin the task (see Appendix A for details on the task instructions).

The session then alternated between ideation and surveys for three consecutive ideation-survey combinations (See Appendix B for the session ordering). More specifically, participants first engaged in Task 1 – a 7-minute team ideation task during which the experimental manipulation was implemented – following which they completed Survey 1. Next, participants engaged in Task 2 – a 3-minute individual brainstorming followed by a 7-minute team ideation task during which the experimental manipulation was repeated – following which they



completed Survey 2. Next, I asked the leader to step out of the room for 5 minutes for the team to engage in a ‘process pause’. I instructed teams to reflect on their processes and experiences, and provided a few questions to stimulate discussion (e.g., “As a team, how effective do you think you’ve been at contributing ideas?”, “What have been your experiences working in this team?”). The purpose of this pause was to simulate real-world intrateam discussions and social information sharing. Next, I invited the leader back into the room, but informed participants that the final task would be a 7-minute team ideation without the leader. The leader did not participate in the final task to enhance study robustness, as it allows us to examine whether the effects of voice climate hold even when a leader is not present. Finally, participants completed Survey 3 and were debriefed about the study. I randomized the task order for each session.

### **Experimental Manipulation**

I hired and trained two research assistants as confederate leaders for this study. I compensated for potential issues of gender-bias by recruiting both a male and female confederate; however, controlling for leaders’ gender did not significantly affect the results. I provided each confederate with approximately 30 hours of training, which included reading relevant articles on voice and climate emergence, participating in 5 pilot sessions each, and watching videotapes of sessions to resolve discrepancies. I instructed the confederates to moderate the group discussion and write their top ideas consistently across both conditions to match their responsibilities, as outlined in the task instructions. For example, they began each task by reading the task details (Appendix A), and then moderated the group discussion by asking questions about students’ needs (e.g., “what kind of sports do students/you play?”), requesting input and ideas (e.g., “who wants to get started?”), and seeking clarification about idea details (e.g., “how would that work?”).

While the confederate leaders moderated their team's discussions consistently across experimental conditions, they *responded* to their team's ideas using different verbal and non-verbal cues depending on the specific condition. In particular, in the 'accept condition' the confederates reacted to their team's voice with head-nods and engaged postures (e.g., leaning in). They responded with agreeable and encouraging statements, such as "ya, that would actually be awesome" and "I really like that idea", as well as by building on their team's ideas to demonstrate support. They also picked the top three ideas in consultation with their team members. In contrast, in the 'reject' condition the confederates' reacted to their team's ideas with headshakes and detached postures (e.g., arms crossed). They responded with a disagreeable tone and questioning statements, such as "do you really think students would be interested in that?", "that might be too expensive", "I don't think that's going to work", and "I don't know if that's too new of an idea... it's not that creative". They also picked the top three ideas themselves, regardless of their team's preferences.

## **Measures**

**Survey 1.** Following Task 1, participants completed a survey that assessed their voice climate perceptions. In particular, I adapted Frazier and Bowler's (2015) 6-item voice climate scale for this context. The scale prompt asked, "to what extent do members of your team feel encouraged to" followed by six scale items (e.g., "develop novel ideas", "voice ideas, even when they challenge others").

**Survey 2.** Following Task 2, participants completed a survey that measured the mediating variables. I measured *risk* with an adapted version of Wei et al.'s (2015) 8-item scale. Example items include "speaking up will damage my relationship with my group/leader", and "It is risky to speak up to my group/leader". I measured *fear* with Watson, Clark, and Tellegan's

(1988) 6-item PANAS subscale, which asks participants to rate the extent to which they feel (e.g., “afraid”, “nervous”, “shaky”). I measured voice efficacy with Duan et al.’s (2014) 10-item scale, which asks participants about the extent to which they “feel capable of effectively doing” several behaviours, including “advising the team against undesirable behaviours that would hamper team performance” and “proactively suggesting new ideas that are beneficial to the team”. Finally, I measured *vitality* with Porath et al.’s (2011) 5-item measure. Example items include “I feel alive and vital”, and “I have energy and spirit”.

**Survey 3.** Following Task 3, participants completed a survey to assess their subsequent voice intentions, along with manipulation-check questions, prior familiarity with their team members, and suspicion of the confederate. In particular, I assessed *team voice* with an adapted version of Burris’ (2012; Van Dyne & LePine, 1998) 6-item measure. The scale prompt asked “If I continued working with this team I would...” followed by six items (e.g., “challenge others to deal with problems around here”, “speak up and encourage others to get involved in issues that affect this team”). All of the measure were anchored on 5-point scales ranging from “1” (Strongly Disagree) to “5” (Strongly Agree), except for fear, which was anchored from “1” (Very Slightly or Not at All) to “5” (Extremely). The full scales are listed in Appendix C.

### **Analyses and Results**

First, I evaluated whether it is appropriate to aggregate voice climate, team affect and team cognitions to the team-level. Each construct exhibited  $r_{wg(J)}$  values greater than .82, which suggests good within-group agreement (James, Demaree, & Wolf, 1984). As well, ICC(1) tests had significant results for voice climate (.10) and team vitality (.19); however, team fear (.03), team risk (.10), and team efficacy (.02) had nonsignificant ICCs. The  $r_{wg}$  statistic differs from ICC(1) because it strictly measures inter-rater agreement (i.e., consensus), whereas ICC(1) also

captures the extent to which there is between group variability (Bliese, 2000). Therefore, given their distinct meaning and results, we can infer that team members generally shared similar perceptions of voice climate, cognitions, and affect; however, these shared perceptions were not meaningful in that they did not significantly vary between groups (Klein & Kozlowski, 2000). The aggregation results for team fear effectively manifests these difference because it exhibited relatively high inter-rater agreement ( $r_{wg(J)} = .96$ ), yet relatively low inter-rater reliability ( $ICC(1) = .03$ ), likely because teams reported low levels ( $M = 1.20$ ) and variances ( $SD = .21$ ) on fear.

Nevertheless, as the  $r_{wg(J)}$  results support aggregation, I proceeded to aggregate all of these constructs to the team-level; however, it is important to note that the effects of team risk, fear, and efficacy should be interpreted with caution because the nonsignificant  $ICC(1)$ s suggest that there is insufficient group variance. I did not assess aggregation for team voice because it reflects an additive construct (cf., McClean et al., 2013), which is not expected to converge in teams (Chan, 1998). Aggregation statistics are listed in Table 4 – 1. Descriptive statistics and correlations are listed in Table 4 –2.

Next, I conducted manipulation checks to ensure that participants correctly identified their leader's responses as either accepting or rejecting voice. In particular, at the conclusion of the experiment I asked participants four questions pertaining to whether their leader accepted or rejected their voice and their team's voice (e.g., to what extent did your leader "support your ideas", "accept your team's ideas"), following which I created a composite score based on an average of the two 'leader accept' questions and the two 'leader reject' questions. As expected, ANOVA results indicated that teams in the accept condition believed that leader had accepted their ideas ( $M = 4.69$ ,  $SD = 0.25$ ) significantly more than participants in the reject condition ( $M = 3.22$ ,  $SD = 0.65$ ) [ $F(1, 40) = 94.56$ ,  $p < .01$ ]. Likewise, ANOVA results indicated that teams in

the reject condition believed that leader had rejected their ideas ( $M = 2.94, SD = 0.68$ ) significantly more than participants in the accept condition ( $M = 1.31, SD = 0.29$ ) [ $F(1, 40) = 100.78, p < .01$ ]. As these results support the intended manipulation, I proceeded with hypothesis testing.

First, I assessed Hypothesis 1 – whether leaders’ responses significantly affect voice climate. ANOVA results provide support for Hypothesis 1, as teams in the accept condition reported significantly higher levels of voice climate ( $M = 4.01, SD = 0.27$ ) relative to teams in the reject condition ( $M = 3.75, SD = 0.27$ ) [ $F(1, 40) = 9.53, p < .01$ ]. ANOVA results of leaders’ responses on voice climate and other dependent variables are listed in Table 2 – 3.

Second, I assessed whether voice climate affects team voice. Although this direct effect is not a necessary precondition for mediation (Hypothesis 2), I nevertheless first assessed whether voice climate indeed affects team voice to provide more context to the relationships. Results support this direct effect ( $\beta = .33, p < .05$ ), which lends further evidence to the power of voice climate on team voice.

Third, I assessed Hypothesis 2 – whether risk, fear, efficacy, and vitality mediate the effects of voice climate on team voice (see Figure 2 – 2) – through a multiple mediation analysis in MPlus 7.0 (Muthén, & Muthén, 1998–2010), which enables inferences into indirect effects through a bias-corrected bootstrapping procedure. In particular, multiple-mediation enables inferences regarding the relative magnitude of each mediator, while compensating for potential missing variable problems that would arise from conducting four separate mediations, because all of the mediators are entered concurrently (Preacher & Hayes, 2008). Results indicate that voice climate is significantly positively related to team vitality ( $\beta = .47, p < .01$ ), which, in turn, is significantly positively related to team voice ( $\beta = .42, p < .01$ ). Similarly, voice climate is

significantly positively related to team voice efficacy ( $\beta = .33, p < .05$ ), which is significantly positively related to team voice ( $\beta = .37, p < .01$ ). Results from the bootstrapping procedure for the indirect effect at 95% confidence interval excluded zero for both vitality (.03, .52) and efficacy (.01, .34), which suggests that voice climate affects voice in part because of its effects on vitality and efficacy (Preacher & Hayes, 2008). In contrast, although voice climate was significantly related to team risk ( $\beta = .44, p < .01$ ), team risk was not significantly related to team voice ( $\beta = -.05, n.s.$ ) and the confidence interval for the indirect effect overlapped with zero (-.12, .22). As well, team fear was not significantly related to voice climate ( $\beta = -.28, n.s.$ ) or team voice ( $\beta = .05, n.s.$ ); thus I only found support for mediation of team efficacy and team vitality. See Table 2 – 4 for mediation results for Hypothesis 2.

Finally, I conducted a path analysis in MPlus to assess Hypothesis 3 – whether leaders' responses affect team voice via its sequential effects on voice climate and team affect and cognitions. Given that I only found support for mediation by vitality and efficacy in Hypothesis 2, I removed risk and fear from this path analysis because they cannot serve as mediators. Results demonstrate good model fit:  $\chi^2(2) = 5.820, \chi^2/df = 2.910, CFI = 0.93, RMSEA = 0.21, SRMR = 0.05$ , which accounted for 43% of the variance in team voice. In particular, as reflected in Figure 2 – 3, I found that leaders' responses directly influenced voice climate ( $\beta = -.45, p < .01$ ). In turn, voice climate was significantly positively related to team vitality ( $\beta = .37, p < .01$ ), which was significantly positively related to team voice ( $\beta = .41, p < .01$ ). In contrast, voice climate was not significantly related to team efficacy ( $\beta = .18, n.s.$ ); however, leaders' responses directly influenced team efficacy ( $\beta = -.33, p < .05$ ), which subsequently influenced team voice ( $\beta = .37, p < .01$ ).

## 2.4 General Discussion

This study responds to several calls in the voice literature by explicating the process through which leaders' responses to voice affects teams' subsequent voice, including specific calls for more research on how leaders' *behaviours* affect voice (Ashford et al., 2009; Burris, 2012), *why* voice climate affects voice (Frazier & Fainshmidt, 2012), and how voice functions in teams (Bashshur & Oc, 2015; Morrison, 2011, 2014). In particular, the results indicate that leaders' prior responses to voice ultimately influences team voice through its effects on voice climate, team vitality, and team efficacy. Stated otherwise, leaders who previously accepted, rather than rejected, voice positively influence teams' subsequent voice in two ways: One, voice acceptance increases voice climate, which is in turn related to increased vitality, which is subsequently related to higher levels of team voice. Two, voice acceptance increases teams' efficacy to voice, which in turn is related to higher levels of team voice.

### **Theoretical Implications**

This study offers several important theoretical contributions to the voice and climate literatures. Foremost, it describes the process of voice climate emergence by demonstrating that leaders' prior responses to voice stimulate the emergence of shared team perceptions regarding whether voice is encouraged and supported (Kozlowski, 2015; Morgeson & Hofmann, 1999). In essence, leaders' responses shape voice climate by enabling employees to approximate "what will happen if I raise this issue?" (Milliken et al., 2003, p. 1467). This study also helps to further team-level theory on voice climate by providing empirical support that voice climate emerges in teams through a process of reinforcement, which stimulates contingencies regarding whether speaking up is generally punished or rewarded. Consequently, this study furthers theoretical

integration of the voice climate construct by explicating both its structure (i.e., emergence) and function (i.e., consequences; Kozlowski & Bell, 2008; Morgeson & Hofmann, 1999).

Second, this study demonstrates that leaders' prior responses to voice significantly influence teams' subsequent voice intentions. Interestingly, I did not observe a significant direct effect from leaders' responses to team voice ( $r = -.09$ ), but rather that leaders' responses indirectly influenced a team's subsequent voice intentions because of its effect on voice climate, team efficacy, and team vitality. Stated otherwise, teams reported greater intentions to speak up in the future if their leader previously accepted voice because voice acceptance enhances team voice efficacy, as well as because it enhances voice climate, which is in turn related to increased team vitality. Overall, this unique relationship suggests that the impact of leaders' behaviours on teams' subsequent voice flows through teams' cognitions about whether speaking up is encouraged; thus, voice climate, which emerges based on leader's prior responses, has a more dramatic effect on teams' voice intentions than leaders' behaviours.

It is also important to note that I did not find support for the propositions that team risk and fear mediate the effects of voice climate – and leaders' responses – on team voice. These null effects may be driven by the lack of personal consequences for speaking up in an experimental setting, relative to real work situations in which voice can actually damage an individual's career prospects and relationships. Indeed teams reported relatively low levels of risk ( $M = 1.52$ ) and fear ( $M = 1.20$ ) in this study. At the same time, fear and risk exhibited differential effects, as fear was not significantly related to voice climate ( $r = -.28$ ) or team voice ( $r = -.22$ ), whereas risk was significantly related to voice climate ( $r = -.44$ ) and team voice ( $r = -.40$ ). I conducted an additional mediation analysis just with risk to better understand its relationship with voice climate and team voice. Results from this subsequent analysis indicate



that risk was still unrelated to team voice, and thus could not serve as a mediator. This finding suggests that risk did not mediate the effects of voice climate on team voice because voice climate assumed additional explained variance on team voice, and not because of suspected multicollinearity issues with the other mediators. Nevertheless, more research is needed to tease apart the mechanisms linking voice climate to team voice, especially in real work settings.

Finally, this study contributes to the voice literature by demonstrating that positive affective and cognitive team experiences – specifically team vitality and efficacy – help to explain why teams speak up. On the one hand, the significant mediating effect of team vitality suggests that leaders' prior responses to voice influences teams' voice via its effects on voice climate, which subsequently affects teams' vitality to speak up. On the other hand, the significant direct effect on team efficacy suggests that leaders' responses also directly influence teams' beliefs in their capabilities to speak up, which ultimately affects team voice. The latter result in particular highlights the importance of accounting for mediating cognitive and affective mechanisms as its effects hold beyond voice climate. Altogether, these results align with Duan et al.'s (2014) proposition that we have failed to fully capture the antecedents of voice by overemphasizing negative emotions and cognitions (e.g., risk and fear) over positive ones. That is, whereas fear and risk may prohibit individuals' *from* speaking up, positive emotions propel people *to* speak up, and thus should be considered in tandem.

These results also have important practical implications as well, as they reflect on the sheer magnitude of the consequences of leaders' prior responses on stimulating voice climate and team voice. Considering that 'bad is stronger than good' (Baumeister, Bratslavsky, Finkenauer, Voh, 2001), these results caution leaders about the consequences of voice rejection as it can reduce team voice by decreasing voice climate and team voice efficacy. This study also

points to possible interventions for organization to encourage individuals and teams to speak up. Most notably, it suggests that we should train leaders to avoid outright rejecting individuals' ideas, lest they create a climate that stifles subsequent voice.

### **Limitations**

These contributions should nevertheless be considered in light of some limitations. First, the experimental methodology is limiting because team climates are expected to emerge over time, yet the experiment was only conducted over an hour-long session. Moreover, although I tried to create realistic scenarios for students to develop novel product ideas, voice expressed in this laboratory setting is likely distinct from voice expressed at work. At the same time, however, the experiential methodology offers a number of potential benefits over traditional survey studies. In particular, experiments enable observations into specific leader behaviours, as opposed to perceptions of a leader's general tendencies, as well as causal inferences regarding the process of voice climate emergence with teams that have not previously established a climate. Moreover, given that organizations are increasingly deploying temporary teams to accomplish project-based work (Edmondson, 2012), it is particularly valuable to explore how climates develop in newly formed teams.

Second, given that the experimental manipulations behave a leaders' response to voice, I was unable to include an equivalent control group because there is not a fair comparison relative to voice acceptance and rejection (Cooper & Richardson, 1986). For example, a condition such as "no response" would create an unfair comparison because the leader is still charged with moderating the team discussion. Consequently, we are unable to infer whether accepting voice produces stronger effects on voice climate than rejecting voice, as these conditions can only be compared against each other. Third, the team-level properties of fear and efficacy should be

interpreted with caution because these constructs did not demonstrate adequate within team convergence. Surprisingly, voice efficacy still mediated the effects of voice climate on team voice despite low between team variability ( $SD = 0.28$ ). This nuance suggests that the relationship between leaders' responses, voice efficacy and team voice may have been even more pronounced if there was greater discrimination between teams on team voice efficacy. Finally, although we can draw causal inferences regarding the effects of leaders' responses on subsequent outcomes (e.g., voice climate, team voice), we are unable to draw causal conclusions between voice climate and team affect, cognitions, or voice because these variables were measured during the experiment. I tried to compensate for common method bias by separating measurements of these variables throughout the session, however it is important to clarify that temporal separation does not enable causal interpretations.

### **Future Directions**

Despite these limitations, there are a number of interesting avenues for future research. First, I hope that future research on voice and climate will consider more experimental work, which enable researchers to separate cause from effect. Experimental work can be especially valuable for investigations into interdependencies between voice episodes, such as how and why leaders' behaviours affect voice (Ashford et al., 2009; Burris, 2012) or voice climate (Morrison & Milliken, 2000), especially because they permit videotaping and qualitative coding of teams' behaviours, which is difficult to accomplish in field settings. For example, to offer more objective assessments of team voice and voice climate, I propose to expand this study by behaviourally coding teams' voice quantity and quality in each task, as well as coding teams' emergent voice climate perceptions based on their discussions during the process pause. Indeed researcher notes from the experimental session include paraphrased quotes such as "everyone is

afraid to share ideas” and “all of our ideas are getting shut down” which suggests that voice climate indeed manifests in intra-team discussions. Overall, experimental work can help to compensate for the paucity of research on how voice emerges in teams.

Second, future research would benefit from accounting for potential moderators that qualify, and mediators that explain, these findings. In particular, it would be valuable to uncover potential moderators that offset the negative repercussions of voice rejection on voice climate and team voice because managers simply cannot endorse every idea that they hear. For example, perhaps gratitude expressions can moderate these effects, such that leaders who express gratitude for voice amplify the effects of voice acceptance, and attenuate the effects of voice rejection, on team affect, cognitions, and voice. As research shows that gratitude is a powerful motivator for a variety of prosocial behaviours (cf., Grant & Gino, 2010), leaders who reject voice while expressing gratitude should be able to negate employees’ assumptions that voice will be punished (Detert & Burris, 2007), while motivating a sense of responsibility to effect change (Fuller, Marler, & Hester, 2006).

Finally, future voice research would benefit from greater considerations into positive affective and cognitive experiences. Indeed this is one of the only studies that I am aware of that emphasized and assessed the effects of positive emotions on voice, as most research has instead focused on negative emotions, particularly fear and anger (Kirrane, O’Shea, Buckley, Grazi, & Prout, 2017; Kish-Gephart et al., 2009). Considering that positive emotions tend to be instrumental in generating creative ideas (Fredrickson, 2001), they may also help to explain how employees develop higher quality voice (Brykman & Raver, 2016).

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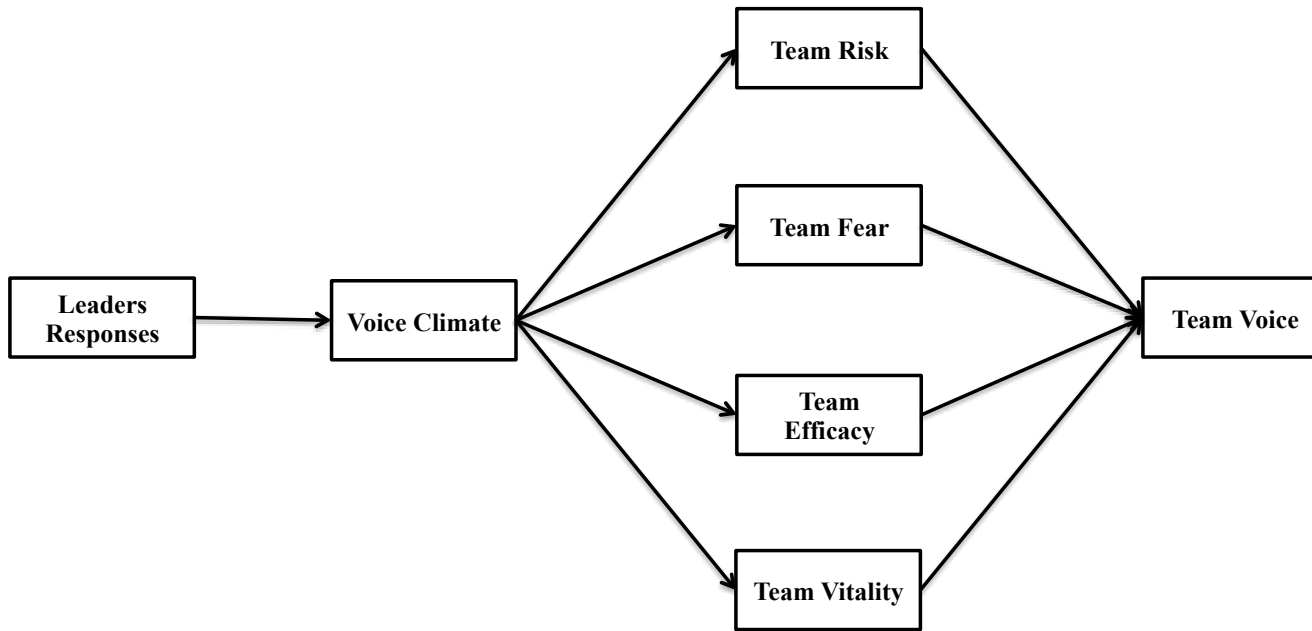
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<https://doi.org/10.1037//0021-9010.85.4.587>





*Figure 2 – 1. Chapter 2 theorized model.*

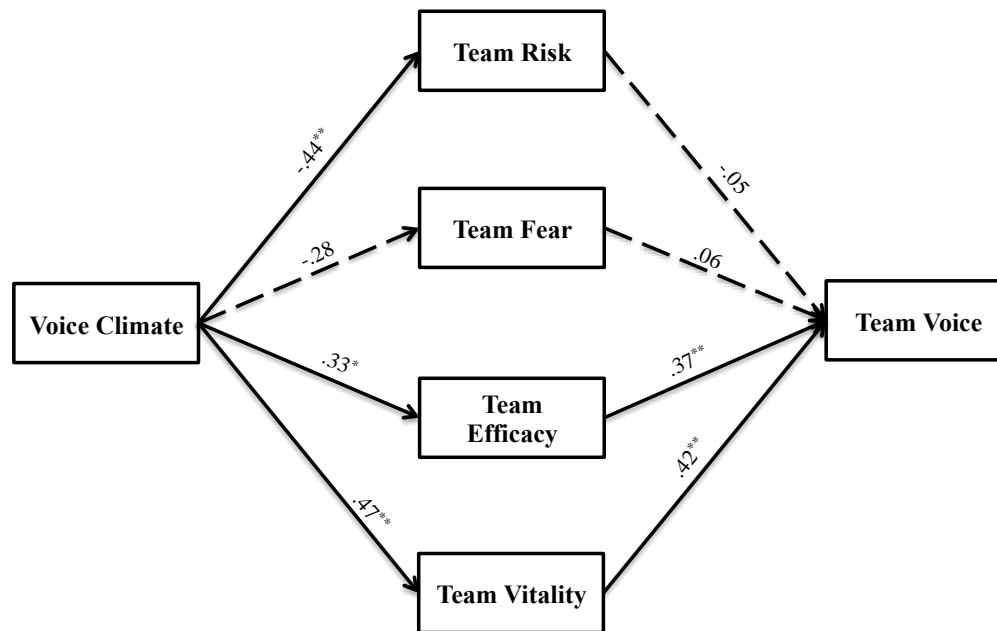


Figure 2 – 2. Mediation analysis from voice climate to voice through team risk, fear, efficacy and vitality (Hypothesis 2).

\*\*  $p < .01$ . \*  $p < .05$ .

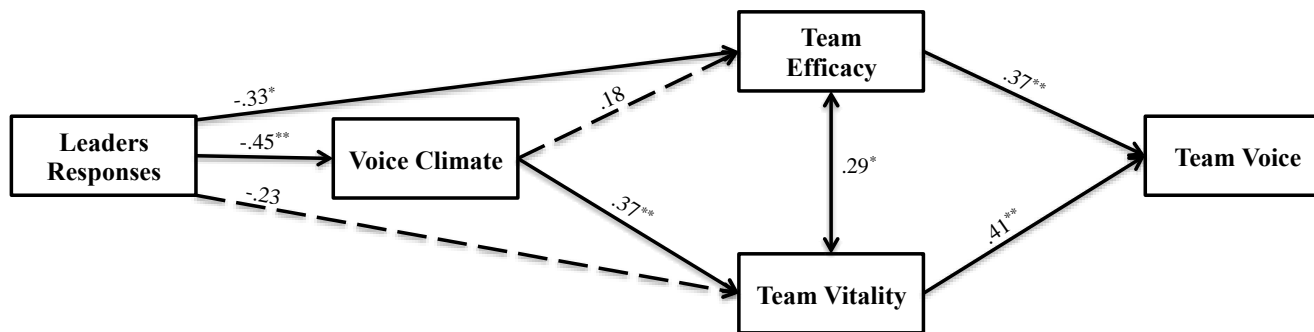


Figure 2 – 3. Path analysis from leaders responses to voice through voice climate and team efficacy and vitality (Hypothesis 3).

$\chi^2 (2) = 5.820, \chi^2/df = 2.910, CFI = 0.93, RMSEA = 0.21, SRMR = 0.05. ** p < .01, * p < .05.$

Table 2 – 1: Aggregation Statistics for Team-Level Variables

<b>Variable</b>	<b>F</b>	<b><i>r</i><sub>wg(J)</sub></b>	<b>ICC(1)</b>	<b>ICC(2)</b>
1. Voice Climate	1.48*	.92	.12	.33
2. Team Risk	1.39	.89	.10	.28
3. Team Fear	1.13	.96	.03	.12
4. Team Vitality	1.86**	.82	.19	.46
5. Team Efficacy	1.00	.93	.02	.06

\*\*  $p < .01$ . \*  $p < .05$ .

Table 2 – 2: Descriptive Statistics and Correlations

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. Leaders Responses	1.50	0.51	-						
2. Voice Climate	4.08	0.32	-.45**	(0.76)					
3. Team Risk	1.52	0.40	.43**	-.44**	(0.93)				
4. Team Fear	1.20	0.21	.22	-.28	.51**	(0.86)			
5. Team Vitality	3.62	0.45	-.39**	.47**	-.44**	-.33**	(0.85)		
6. Team Efficacy	3.58	0.28	-.42**	.33*	-.54**	-.31**	.44**	(0.87)	
7. Team Voice	3.86	0.35	-.09	.30*	-.40**	-.22	.57**	.55**	(0.80)

Note. "SD" = standard deviation. Scale reliabilities are reported on the diagonal in parentheses. \*\*  $p < .01$ . \*  $p < .05$ .

Table 2 – 3: ANOVA of Leaders’ Responses on Voice Climate, Team Affect and Cognitions, and Team Voice (Hypothesis 1)

Condition	Dependent Variables					
	Voice Climate	Team Risk	Team Fear	Team Efficacy	Team Vitality	Team Voice
Accept						
Mean	4.01	1.36	1.27	3.69	3.80	3.90
s.e.	0.06	0.07	0.05	0.05	0.08	0.07
<i>n</i>	21	21	21	21	21	21
Reject						
Mean	3.75	1.69	1.30	3.46	3.45	3.83
s.e.	0.06	0.08	0.06	0.06	0.10	0.08
<i>n</i>	21	21	21	21	21	21
Mean Difference	0.26	-0.33	-0.03	0.23	0.35	0.06
<i>F</i>	9.53**	8.97**	0.16	8.31**	7.20**	0.33

Note. \*\*  $p < .01$ .

Table 2 – 4: Mediation of Team Affect and Cognitions (Hypothesis 2)

Variable	X → M		M → Y		X → Y		Indirect Effect			
	$\beta$	S.E.	$\beta$	S.E.	$\beta$	S.E.	Est	S.E.	LLCI	ULCI
Voice Climate					.17	.16				
Team Risk	-.44**	.17	-.05	.14			.02	.08	-.12	.22
Team Fear	-.28	.10	.06	.30			-.02	.06	-.22	.07
Team Efficacy	.33*	.12	.37**	.18			.13	.08	.01	.34
Team Vitality	.47**	.26	.42**	.12			.20	.12	.03	.52

Note. Direct effects are based on standardized results, whereas indirect effects are based on unstandardized results. X = Voice Climate, Y = Team Voice. \*\*  $p < .01$ , \*  $p < .05$ .

### **Chapter 3: Can We Train Leaders to Be More Supportive of Team Voice?**

#### Abstract

Whether employees elect to speak up with novel ideas, impending issues, or critical information can boost their standing (e.g., performance ratings), while also improving team and organizational functioning (e.g., innovation, decision-making). At the same time, however, extensive research suggests that employees are hardwired to prefer silence to voice because they implicitly believe that they will be ignored or punished for speaking up (e.g., passed over for a promotion). This presents an unfortunate paradox, as voice is generally beneficial, yet frequently suppressed. In this study I deviate from traditional theoretically oriented research on voice by instead adopting an applied perspective that attempts to fix the voice paradox by addressing employees reservations to speak up. In particular, I integrate insights from the voice literature with research on leadership development to develop a skills-based leadership training program that teaches leaders how they can better encourage and support voice. Next, I assessed the effectiveness of this training program with a multi-wave between-groups experiment, in which I trained two groups of leaders (treatment vs. control) and subsequently compared their team's perceptions of leader openness, responsiveness, voice climate, and voice behaviours. Overall, I respond to several calls in the voice literature for more work designed at teaching leaders how they can proactively encourage and motivate employees to speak up.



*Leaders who show they are willing to accept input from below, take a personal interest in others, listen carefully, and then take action on what they have heard demonstrate to employees that they can take a risk and communicate honestly.*

Ashford, Sutcliffe, & Christianson (2009, p. 187)

### **3.1 Introduction**

Organizations, managers, and employees all stand to benefit from employee voice – when employees go against the grain by sharing useful information, offering novel ideas, or expressing concerns with constructive intentions (Morrison, 2011; Van Dyne & LePine, 1998). For example, voice can benefit teams by stimulating information exchange and diverse thinking, which improves decision-making and stifles groupthink (Mesmer-Magnus & DeChurch, 2009; Nemeth, 1986). Without such proactive communication, leaders will inevitably struggle to adapt to unexpected changes and identify new opportunities (Ashford, Sutcliffe, & Christianson, 2009; Podsakoff & Mackenzie, 1993). Employees can also personally benefit from speaking up, as voice is linked with enhanced performance ratings (Grant, 2013; Whiting, Podsakoff, & Pierce, 2008) and recognition (Fuller, Barnett, Hester, Relyea, & Frey, 2007).

Nonetheless, despite these prospective benefits, research consistently indicates that employees tend to withhold voice. Foremost, implicit voice theory (Detert & Edmondson, 2011; Milliken, Morrison, & Helwin, 2003), holds that employees are hardwired to suppress voice because they assume it will be futile, damage work relationships, or result in negative career outcomes. Indeed research shows these fears are often valid, as voicers tend to receive lower performance ratings if receivers perceive their voice as especially self-serving, disruptive, or unreliable (Bolino, Turnley, & Niehoff, 2004; Burris, 2012; Whiting, Maynes, Podsakoff, & Podsakoff, 2012). Voice can also fall on deaf ears, leading employees to feel frustrated that they are being ignored (Harlos, 2001) or deceived by managers who claim to have ‘open door’ policies (De Vries, Jehn, & Terwel, 2012). Thus, considering that voice is both volitional and

risky, employees are inclined to suppress voice if they fear retribution (Kish-Gephart, Detert, Trevino, & Edmondson, 2009) or perceive the costs to outweigh the benefits (Ashford, Rothbard, Piderit, & Dutton, 1998; Takeuchi, Chen, & Cheung, 2012).

Altogether, prior research emphasizes that we *want* people to speak up; however, we have yet to offer practical guidance on how leaders can proactively encourage voice. The lack of such research is alarming considering that employees' reluctance to speak up is pervasive and destructive. For example, Milliken et al. (2003) suggest that 50% of employees generally feel uncomfortable speaking up, while McClean, Burris, and Detert (2013) suggest that organizations lose millions of dollars annually from voluntary turnover costs associated with employees feeling silenced. This oversight is especially troubling when we consider that new hires tend to be the most inclined to suppress voice (Detert & Edmondson, 2011; Howell, Harrison, Burris, & Detert, 2015), yet also have especially unique perspectives to offer (Gersick, 1991).

Considering that voice can be a critical catalyst for team and organizational innovation (cf. Podsakoff & MacKenzie, 1993) and turnover (McClean et al., 2013), training leaders to be more supportive of voice has strong potential to affect team functioning. Yet, despite several calls, I am unaware of any study that has explicitly developed or tested a training designed to encourage proactivity (Strauss & Parker, 2015), support voice (Nembhard & Edmondson, 2006; Premeaux & Bedeian, 2003), or teach managers how to best respond to voice (Landau, 2009; King & Van Dyne, 2016). Although high quality research should strive to advance knowledge that organizes and clarifies complex phenomena (Bacharach, 1989), applied organizational research should also emphasize practical guidance for managers (Klein & Zedeck, 2004). For example, while theory can explain *why* leaders' responsiveness and openness affects employees' tendency to speak up, it does not describe whether leaders can learn to be more responsive and

open to voice, how organizations can facilitate such learning, and whether such learning will actually positively affect employees' propensity to voice. To simply suggest for leaders to "be open" obscures and trivializes the complex relationship between leaders' behaviours and employees' cognitive, emotional, and behavioural reactions.

The paucity of such practically-oriented research spurs two important questions: First, can organizations actually affect leaders' support for voice through training initiatives, such that leaders become more effective – specifically more open and responsive to voice – following training? Second, can affecting leaders' openness and responsiveness to voice actually affect their team's subsequent voice behaviours? It is critical that we disentangle these two questions because leaders may retain knowledge about how to effectively support their team's voice, yet their increased understanding may not necessarily translate into increased team voice for several reasons. For example, it is plausible that some leaders are ineffective at supporting voice not because they lack skills or knowledge, but because they have low levels of self-efficacy (Fast, Burris, & Bartel, 2014) or implicitly believe that they know best (Ashford et al., 2009). Alternatively, leaders may acquire new knowledge and skills; yet struggle to apply these principles because of the "transfer problem" – because knowing something is distinct from doing it (Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017; Pfeffer & Sutton, 2000).

I examined these questions with a multi-wave training experiment. First, I invited a group of 65 students to participate in 1-hour leadership training program. They were randomly divided into either the treatment condition, which focussed on promoting voice, or the control condition, which focussed on leadership emergence and cultivating a growth mindset. Next, approximately one-week later, these leaders participated in a team task in which they could apply their training. I evaluated whether leaders in the treatment condition were more effective at encouraging voice

by comparing their teams' perceptions of leader openness, responsiveness, voice climate, and voice behaviours against the control condition. Altogether, this study contributes to the voice literature by identifying whether we can indeed teach leaders to be more open and responsive to voice, as well as whether such improvements affects their teams' voice attitudes and behaviours.

### **3.2 Conceptual Foundations**

#### **Leadership and Voice**

*Voice* denotes discretionary and challenging communication of information, ideas, and issues intended for constructive purposes (Morrison, 2011). Voice can be further divided based on the extent to which individuals speak up (i.e., *voice quantity*; Van Dyne & LePine, 1998) or perceptions of the expected utility of voice based on message content (i.e., *voice quality*; Brykman & Raver, 2016). Although voice is generally studied at the individual-level, it has also been conceptualized as a unit-level behaviour reflecting the average or sum of members' individual voice contributions (e.g., McClean et al., 2013); thus, I refer to *team voice quantity* as the extent to which a team speaks up, and *team voice quality* as the expected utility of voice messages that a team expresses.

Voice is a potentially valuable behaviour for individuals, managers, and organizations alike. For example, voice can lead individuals to receive better performance rating (Whiting et al., 2008), managers to make higher quality decisions (Korsgaard, Schweiger, & Sapienza, 1995), and organizations to select more creative opportunities (Zhou & George, 2001). At the same time, however, voice is an atypical behaviour because it entails significant personal risk. Even if employees intend on helping their leader or organization by speaking up, receivers may interpret voice negatively, and punish voicers accordingly, because voice can seem self-serving, destabilize processes, and challenge conventional practices (Bolino et al., 2004; Burris, 2012).

Overall, research suggests that individuals' perceptions of whether their leader is open and responsive to voice profoundly affects their decision to speak up or remain silent. Foremost, implicit voice theory argues that individuals are hardwired to assume that their leader is averse to voice, regardless of whether that is accurate, as they assume voice will negatively affect their job security and relationship with their leader (Milliken et al., 2003), as well as embarrass or offend their leader (Detert & Edmondson, 2011). Indeed extensive research suggests that individuals' decision to voice significantly depends on several leadership characteristics, including leader openness (Detert & Burris, 2007), responsiveness (Janssen & Gao, 2015), and mood (Liu, Song, Li, & Liao, 2015). As well, employees tend to speak up more often when they report to a highly transformational leader (Detert & Burris, 2007; Liu, Zhu, & Yang, 2010) and when they have a high quality relationship with their leader (Liu, Tangirala, & Ramanujam, 2013; Liu et al., 2010). Moreover, leaders can affect voice by fostering a supportive climate where employees feel fairly treated (i.e., procedural justice climate; Tangirala & Ramanujam, 2008), encouraged to take risks (i.e., psychological safety climate; Edmondson, 1999; 2003), and encouraged to speak up (i.e., voice climate; Frazier & Bowler, 2015). Altogether, prior research suggests that addressing leaders' attitudes and behaviours towards voice can subsequently affect team voice.

### **Leadership Training**

Before examining whether we can train leaders to encourage voice, however, it is important to first examine whether leadership training can indeed improve leaders' behaviours. Much of the early research on leadership emergence and effectiveness focussed on dispositional differences, such as genetics and personality; however, recent research suggests that such innate differences only account for a small portion of the variance in leadership, and that instead leadership emergence and effectiveness largely depend on a leader's experiences (e.g., gaining

opportunities to lead; Avolio, Walumbwa, & Weber, 2009; Barling, 2014). For example, Judge, Bono, Ilies, and Gerhardt's (2002) meta-analysis indicates that personality accounts for only 28% of the variance in leadership emergence and 15% of the variance in leadership effectiveness. Similarly, Arvey, Zhang, Avolio, and Krueger (2007) suggest that only 30% of the variance in leadership style and emergence can be attributed to genetics.

In contrast to this earlier position that 'leaders are born, not made', recent research suggests that leaders can indeed develop and improve over time, especially with the aid of training. For example, Zohar (2002) was able to increase leaders' safety orientation and, in effect, team safety through training. As well, Barling, Weber, and Kelloway (1996) successfully improved leaders' transformational behaviours through training, which positively affected employees' commitment and performance. Indeed, Avolio, Reichard, Hannah, Walumbwa, and Chan (2009, p. 783) recently concluded that, based on a meta-analysis of over 200 intervention studies, "regardless of the type of intervention, it appears that leadership interventions do have an impact on a variety of outcomes". Similarly, Lacerenza et al. (2017, p. 19) meta-analysis of 335 leadership-training studies found that "leadership training programs can lead to a 25% increase in learning, 28% increase in leadership behaviours performed on-the-job (i.e., transfer), 20% increase in overall job performance, 8% increase in subordinate outcomes, and a 25% increase in organizational outcomes". Stated otherwise, leadership training can be very effective.

### **The "Soliciting Voice" Training**

In this study I developed a skills-based program to help leaders encourage voice, which focuses on improving leaders' skills and knowledge through education, experience, and reflection (Mumford, Marks, Connelly, Zaccaro, Reiter-Palmon, 2000a; Mumford, Zaccaro, Harding, Jacobs, Fleishman, 2000b). That is, consistent with best practices in leadership training,

this training program balances knowledge dissemination with teaching behavioural skills and offering opportunities to practice these skills (Lacerenza et al., 2017; Lord & Hall, 2005; Mumford et al., 2000b; Skarlicki & Latham, 1996; 1997). In particular, the training first focused on knowledge about why employees withhold voice (i.e., implicit voice theories) and why voice can benefit leaders, following which it delved into two overarching behaviours to promote voice (i.e., openness and responsiveness) and role-playing exercises to cement these skills.

The voice literature discusses several different leadership behaviours and attitudes that can affect employees' proclivity to voice, including transformational leadership (Detert & Burris, 2007) and leaders' self-efficacy (Fast et al., 2014). However, the training focused specifically on two critical antecedents – leader openness and leader responsiveness – because they reflect complementary mechanisms that specifically map onto voice, as opposed to other behaviours (cf., Dutton & Ashford, 1993; Fast et al., 2014; Morrison, 2011; 2014; Saunders, Sheppard, Knight, & Roth, 1992; Tangirala & Ramanujam, 2008).

It is particularly valuable to consider the simultaneous effects of leader openness and responsiveness because they map onto the two fundamental reasons why employees suppress voice. In particular, leader openness reflects the extent to which individuals perceive voice to be safe or risky, whereas responsiveness reflects the extent to which individuals perceive voice to be futile or worthwhile (Detert & Edmondson, 2011; Milliken et al., 2003; Morrison, Wheeler-Smith, & Kamdar, 2011). Indeed several other researchers have emphasized the duality between openness and responsiveness. Most notably, while reviewing the core antecedents of voice, Morrison (2014, p. 182) concluded that employees will remain silent if they “do not feel that their input will be taken seriously and acted upon or that they may suffer negative consequences”. As well, Garner (2016, p. 47) proposed the “*paradox of openness*” to reflect

leaders struggle to balance openness with responsiveness when they lack the ability or willingness to act on employees' input. In particular, he suggests that "by claiming to be receptive to employee dissent, the manager employs the rhetoric of openness and the positive esteem that such rhetoric entails. And yet, by being unable or unwilling to favourably resolve the issue that triggered dissent for employees, that manager demonstrates that openness only applies to certain domains".

More specifically, *leader openness* reflects the extent to which a leader is perceived as approachable and available, actively solicits and requests inputs, and shows genuine appreciation for voice (cf., Liu et al., 2013). Individuals speak up more to leaders who demonstrate greater openness because these behaviours imply that voice is safe, encouraged, and appreciated (Dutton et al., 1993; Saunders et al., 1992). Indeed several studies demonstrate that voice is significantly positively related to leader openness (Ashford et al., 1998; Detert & Burris, 2007) and leader solicitation (Fast et al., 2014; Tangirala & Ramanujam, 2008). For that reason, researchers often control for leader openness when examining other potential antecedents to voice (e.g., Burris, 2012; Howell et al., 2015; Liu et al., 2013). Although I am unaware of any study that examined the effects of leader appreciation on voice, research suggests that expressing appreciation is also a powerful motivator for prosocial behaviours (Bartlett & DeSteno, 2006; Grant & Gino, 2010). Accordingly, I expect appreciation to also affect voice by negating followers' assumption that they will be punished for speaking up (Nishii, Lepak, & Schneider, 2008) and by motivating a sense responsibility to effect change (Fuller, Marler, & Hester, 2006). In effect, appreciation should influence voice because it is a behavioural manifestation of leaders' openness.

In contrast, *leader responsiveness* reflects listening to voice and either taking action or providing explanations for inaction (Janssen & Gao, 2015; Saunders et al., 1992). Individuals are



generally less inclined to speak up to leaders who show that voice is futile and will fall on deaf ears, than those who demonstrate that something will happen if they speak up (Detert & Trevino 2010; Harlos, 2001; Landau, 2009). Indeed several empirical studies demonstrate that leader responsiveness is significantly positively related to voice (Janssen & Gao, 2015; King & Van Dyne, 2016; Saunders et al., 1992; Tangirala & Ramanujam, 2012). Moreover, McClean et al. (2013) found that leader responsiveness has a trickle down affect on unit turnover, such that teams are less likely to leave organizations when their leader responds to their input because responsiveness demonstrates that voice is worthwhile. In contrast, leaders signal that there is no point to speak up when they consistently ignore employees' input (De Vries et al., 2012; Harlos, 2001). Thus, altogether I propose:

*Hypothesis 1:* Leaders who receive the Soliciting Voice Training (i.e., treatment condition) will be evaluated as significantly more open and responsive to voice by their team relative to leaders who receive the control training.

*Hypothesis 2:* Teams whose leader received the Soliciting Voice Training (i.e., treatment condition) will perceive higher levels of voice climate and contribute higher levels of voice quantity and quality relative to teams whose leader received the control training.

### **3.3 Methods**

I conducted a multi-wave experiment to assess these hypotheses. Wave 1 consisted of a one-hour leadership training program in which two groups of leaders were randomly divided into either the treatment or control condition. It was important to ensure that the control training still engaged students with relevant skills, yet focussed on content that is unrelated to encouraging voice. Approximately one week later, during Wave 2, each leader participated in a team task – the Lost on the Moon simulation (Hall & Watson, 1970) – through which I assessed whether leadership training affected leaders' behaviours and their team's subsequent voice climate perceptions and voice behaviours.

## Sample

I recruited 355 participants – 71 as leaders and 284 as team members – from a research subject pool at a large Canadian university. To enhance their credibility, the leaders were required to be in at least their third year to participate. Although I designed each team task to consist of 1 leader and 4 team members, I nevertheless proceeded with the study provided that at least 3 team members arrived for their scheduled task to ensure consistency across sessions as it could influence leaders' attempts to engage their team. To reduce attrition, I informed leaders that their compensation was contingent on participating in both the training and team task.

I first conducted a pilot study with 6 leaders and their teams, which included separate leadership trainings and team tasks. I used the pilot study to validate the content and length of the leadership training and team task, such as by ensuring that the team task offered opportunities for leaders to engage their team to speak up. Next, I conducted the main study training (i.e., Wave 1) with a sample of 65 leaders; however, the final sample for the team task (i.e., Wave 2) consisted of only 60 leaders and their teams, which were comprised of 228 team members (avg. team size = 4.80), because 1 leader did not attend the team task and more than 2 team members did not attend the team task for the other 4 leaders. Of the final sample of 60 leaders, 32 were assigned to the treatment condition and 28 to the control condition, based on the two training options that were available upon registration. The average age of the leaders was 20 years and 43% were in at least their 4<sup>th</sup> year of university. Fifty-eight percent identified as female, 64% as Caucasian, and 27% as Asian. Eighty-eight percent indicated that they had more than 1 year of managerial experience and 65% indicated that they were very interested in the training. In contrast, the average age of the team members was 19 years and only 24% were in at least their 4<sup>th</sup> year of university. Fifty-two percent identified as female, 61% as Caucasian, and 31% as Asian.

## Procedures

**Study Recruitment.** First, I recruited the leaders to participate in a multi-wave study on “how leadership training affects decision-making in newly formed teams” through a posting on the research pool website. After completing an online pre-screening survey, which assessed participants’ eligibility and a number of possible control variables, I contacted all eligible participants with an invitation to select a preferred timeslot for the leadership training and team task. I provided 2 timeslot options for the leadership training – one for the treatment condition and one for the control condition – though participants were unaware that each time corresponded with a different type of training. I also provided 65 timeslot options for the team task, which the leaders registered for simultaneously. Next, I recruited 4 team members for each of these 65 team task timeslots through a separate study posting on “how newly formed teams make decisions”. The leadership training and team task took 1-hour each to complete. Participants received 1 research credit for each hour of participation.

**Wave 1: Leadership Training.** I developed both leadership training programs based on established best practices (e.g., Kelloway & Barling, 2000; Lacerenza et al., 2017). More specifically, I began both conditions with didactic classroom style training in which I described what leadership means and why it matters (10 minutes), after which I focussed on core training content (20 minutes). In particular, the treatment training focused on knowledge about why voice is important and why people remain silent, along with specific skills to encourage voice. In contrast, the control training focussed on knowledge about leadership emergence, along with specific skills to cultivate a growth mindset. Next, the training transitioned to an experiential focus in which the leaders engaged in role-playing exercises to practice the material (10 minutes; Taylor, Russ-Eft, & Taylor, 2009), along with a goal-setting activity to help cement knowledge

transfer (2 minutes; Latham & Seijts, 1997; Madera, King, & Hebl, 2013). Finally, leaders completed an evaluation form to assess training effectiveness (Kirkpatrick, 1996) and a reflection form to assess whether they indeed learned the intended material, which served as a manipulation check (5 minutes). See Appendix D and E for PowerPoint slides for both training sessions<sup>3</sup>.

While the core content and role-playing scenarios varied between conditions, both trainings followed the same format to ensure a fair comparison (Cooper & Richardson, 1986). Furthermore, I subsequently compared participants' evaluations of both training programs to ensure consistency in that training delivery or interest did not vary between conditions. See Appendix F for a copy of the Training Evaluation form (cf., Kirkpatrick, 1996). Although I found that participants in the treatment condition rated the materials (4.61 vs. 4.05,  $p < .01$ ) and practice (4.23 vs. 3.90,  $p < .05$ ) significantly higher than those in the control condition, there were no significant differences on content ratings (4.61 vs. 4.27, *n.s.*), instructor ratings (4.71 vs. 4.53, *n.s.*), or overall ratings (4.15 vs. 3.83, *n.s.*) between conditions, which offers partial support for their distinction. Table 3 – 1 lists ANOVA comparisons between conditions.

**Wave 2: Team Task.** Approximately 1-week later the leaders returned for Wave 2 and were randomly paired with 4 team members that did not participate in Wave 1. Upon arrival, participants read the Letter of Information, signed the Consent form, and completed Survey 1. Once participants completed Survey 1, I distributed instructions for the team-task – the Lost on the Moon simulation (Hall & Watson, 1970). I used this task because it prompts extensive team deliberations, which enables leaders to apply principles from the voice training. Among other details, the instruction explained that their team crash-landed on the moon and that they are

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<sup>3</sup> Note that I video-recorded the training sessions, which I am happy to share upon request.

tasked with sorting a list of 15 items in terms of their importance for survival. The instructions also outlined the session structure and timing, and explained that the team commander, who participated in a leadership-training program “to prepare for situations just like this”, is responsible for facilitating the team discussion and ultimately determining the team’s overall ranking. The full experimental instructions are listed in Appendix G.

After participants read the instructions, I identified the commander and invited him/her to the head of the communal table. I also reiterated the key points contained in the instructions, including the session timing – that participants have 15 minutes to form their own independent ranking and rationale, followed by 25 minutes to form their ranking as a team, and then 5 minutes for a final survey. As well, to help facilitate team discussions, I provided the commander with a correspondence from “mission control”, which encouraged them to establish team norms and procedures at the beginning of the team discussion. These procedures were identical for both the treatment and control conditions.

## **Measures**

**Wave 1: Pre-Screening Survey.** Prior to Wave 1, leaders completed an online pre-screening survey to assess their eligibility for the study (i.e., that they are at least 3<sup>rd</sup> year students). I also included controls for leadership experience and interest in training. As well, I assessed leaders’ affective-identity motivation to lead using Chan and Drasgow’s (2001) 4-item subscale (e.g., “I usually want to be the leader in the groups that I work in”) to account for whether some leaders are simply more effective because of their passion for leadership.

**Wave 2: Survey 1.** Before beginning the team task, all participants completed Survey 1, which asked about their personality and demographic information. With regards to personality, I assessed extraversion and proactive personality because highly extroverted and proactive

participants are more likely to speak up in the team setting (Morrison, 2014; Seibert, Kraimer, & Crant, 2001) and generally rated more favourably (Barrick & Mount, 1993). In particular, I measured *extraversion* with Goldberg's (1999) 10-item IPIP measure (e.g., "I am skilled in handling social situations") and *proactive personality* with Seibert et al.'s (2001) 10-item measure (e.g., "I love being a champion for my ideas, even against others' opposition").

**Wave 2: Survey 2.** At the conclusion of the team task, all participants completed Survey 2, which assessed their familiarity with the task and their team members. Additionally, the Leader Survey 2 followed with manipulation check questions, whereas the Team Survey 2 followed with measures for the core dependent variables. In particular, I assessed *leader openness to voice* with Detert and Burris' (2007) 3-item scale (e.g., "My leader takes action on things brought up by me"), *leader responsiveness to voice* with a condensed 3-item version of Saunders et al.'s (1992) 14-item scale (e.g., "My leader gives high priority to handling employee concerns"), and *leader solicitation of voice* with Fast et al.'s (2014) 4-item scale (e.g., "My leader asks me to tell him/her about things that I think would be helpful for improving this team").

Additionally, I assessed *voice climate* with Frazier and Bowler's (2015) 6-item referent-shift scale (e.g., "Members of my team are encouraged to develop and make recommendations concerning issues that affect the team"), *team voice quantity* with a modified version of Burris' (2012) 6-item scale (e.g., "Members of my team give suggestions about how to make our team better, even if others disagree"), and *team voice quality* with a modified version of Brykman and Raver's (2016) 4-item scale (e.g., "When members of my team speak up they provide evidence to support the suggestion"). Finally, I assessed team members' perceptions of the extent to which their leader is a prototypical leader using Antonakis, Fenley, and Liechti's (2011) 3-item scale

(e.g., “My leader acts like a typical leader”), to control for the possibility that participants’ ratings were unduly influenced by a halo effect driven by their perceptions of their leader’s overall character. Every scale was anchored from “1” (Strongly Disagree) to “5” (Strongly Agree). The full scales are listed in Appendix H.

**Manipulation Checks.** I conducted two manipulation checks – one at the end of each wave – to assess whether leaders in the treatment condition indeed learned more about encouraging voice relative to those in the control condition. Without such evidence we cannot conclude that the leadership training indeed significantly affected participants’ knowledge or skills about encouraging voice, and thus whether differences between groups is attributable to the training or other unaccounted factors. I specifically conducted two manipulation checks – after Wave 1 and after Wave 2 – to distinguish between whether the information was retained after the leadership training and whether it was recalled after the team task.

The first manipulation check, after Wave 1, consisted of 9 “true or false” questions (TF) – 3 for the treatment, control, and both conditions respectively. Example statements include “People are hardwired to not speak up to their leader” for the treatment condition, “What predicts leadership emergence also predicts leadership effectiveness” for the control condition, and “Leaders shape their team’s culture through their actions and words” for both conditions. The second manipulation check, after Wave 2, consisted of 6 multiple-choice questions (MC) – 3 for the treatment and control conditions respectively. Example questions include “Which of these captures the BEST overarching strategy to encourage people to speak up?” for the treatment condition and “Which of these is NOT an effective strategy for leaders to cultivate a growth mindset?” for the control condition. I assessed both manipulations by summing participants’

correct responses for each of the five question categories described above. The questionnaires are listed under Appendix I and J.

## **Analyses and Results**

First, I evaluated the appropriateness of aggregating voice climate. While tests of  $r_{wg(J)}$  (James, Demaree, & Wolf, 1984) indicated good within-group agreement (0.92), ICC tests for group differences was non-significant ( $F = 1.28, n.s., ICC(1) = 0.07, ICC(2) = 0.22$ ).

Considering that voice climate also exhibited low variance between teams ( $SD = 0.29$ ), the difference between  $r_{wg}$  and ICC(1) was likely driven by a lack of discrimination *between* teams on voice climate scores, as opposed to a lack of within-team consensus (Klein & Kozlowski, 2000; LeBreton & Senter, 2007). Thus, I nevertheless aggregated voice climate, though the results should be interpreted with caution in that it only reflects an average of team member's voice climate perceptions. Second I assessed the manipulation checks by conducting ANOVA comparisons for the 5 manipulation questions. Results from both manipulation checks suggest that leaders in the treatment condition learned significantly more about soliciting voice than those in the control condition (TF: 2.86 vs. 2.20,  $p < .001$ . MC: 1.80 vs. 0.72,  $p < .001$ ).

Likewise, results suggest that leaders in the control condition learned significantly more about leader effectiveness and growth mindsets than those in the treatment condition (TF: 2.29 vs. 2.93,  $p < .001$ . MC: 0.89 vs. 1.45,  $p < .01$ ). At the same time, there were no significant differences between conditions with regards to the general information that was presented to both groups (TF: 2.00 vs. 1.94,  $n.s.$ ). Table 3 – 2 lists the full results of the manipulation comparisons.

Finally, I assessed Hypothesis 1 and 2 – whether leaders in the treatment condition were evaluated as significantly more encouraging and supportive of voice, as well as facilitated greater



levels of voice climate and team voice, relative to leaders in the control condition. I first conducted 6 ANCOVAs in which I assessed the effects of training on the 6 outcomes while controlling for the aforementioned control variables. As these controls did not significantly influence training results, I report on the results of the 6 ANOVAs instead. These results suggest that the treatment condition was not significantly different from the control condition for any of the outcomes, except voice quality [ $F(1, 58) = 6.80, p < .01$ ]; however, in this case, the treatment condition ( $M = 4.23, SD = 0.28$ ) actually generated lower scores for voice quality than the control condition ( $M = 4.41, SD = 0.26$ ), which suggests that participating in the voice training actually facilitates lower levels of team voice quality relative to participating in the control training. Altogether, I did not find support for either hypothesis. Descriptive statistics are listed in Table 3 – 3 and ANOVA results are listed in Table 3 – 4.

### **3.4 General Discussion**

In their seminal work on employee voice, Morrison and Milliken (2000, p. 720) cautioned that “the tendency of organizations to discourage employee opinions and feedback is not only likely to compromise organizational decision making and change, but is also likely to elicit undesirable reactions from employees... employees who feel they are not valued, employees who perceive they lack control, and employees who experience cognitive dissonance”. Since then, scholars have demonstrated the value of voice by uncovering its significant relationships with a host of positive outcomes including creativity (Zhou & George, 2001) and team performance (Detert et al., 2013). At the same time, scholars have also found that employees are implicitly averse to speaking up (Detert & Edmondson, 2011; Milliken et al., 2003), fearful of retribution (Kish-Gephart et al., 2009), frustrated with being ignored, (Harlos, 2001), and deceived by organizational policies intended to support input (De Vries et al., 2012).

Thus, despite our theoretical progress on identifying the antecedents, consequences, and boundary conditions that promote voice, we have yet to offer practical strategies to help leaders actually encourage employees to speak up.

I addressed this oversight by developing and conducting a training program designed to teach leaders why and how they can encourage voice. I assessed training effectiveness in a subsequent team task by comparing leaders' effectiveness at stimulating voice between a treatment condition and equivalent control condition. Results revealed that leaders in the treatment condition learned significantly more about how to encourage their teams to speak up than leaders in the control condition; however, this increased learning did not result in increased perceptions of a leader's support for voice, or their team's voice climate and voice behaviours in a subsequent team task.

Altogether, despite our desire to believe that people are infinitely flexible and can learn new skills (cf., Schneider, 1987), these results suggest that it may be difficult to train leaders to be more effective at encouraging and supporting voice. In particular, while training can enhance leaders' acquisition and retention of knowledge about why people remain silent and how to encourage them to voice, this increased knowledge does not significantly affect leaders' support for voice. In effect, these results underscore the "transfer problem" or "knowing-doing gap", in that training may lead to knowledge acquisition, but not necessarily behavioural changes because of it is challenging for individuals to change their learned behaviours and habits (Baldwin & Ford, 1988; Barker, 1997; Pfeffer & Sutton, 2000). In the following section I propose some reasons for these null findings, followed by limitations and future directions on how to improve and reassess voice training in subsequent research.

### **Why Voice Training Failed to Motivate Voice**

The voice training may have failed to positively affect teams' perceptions of their leader or context for several reasons; however, I focus on two overarching ones. First, it is possible that leaders failed to motivate voice due to factors beyond their lack of knowledge, skills, and motivation. For example, leaders may be less receptive because they hold implicit beliefs against voice, such as 'leaders know best', 'dissent is bad for team cohesion', and 'people only voice for self-interested reasons' (Ashford et al., 2009; Morrison & Milliken, 2000). Even well-intentioned leaders may unintentionally suppress voice if they are unaccustomed to incorporating others' ideas, cognitive biases cloud their assessments of voice, or structural constraints limit their ability to enact voice (Ashford et al., 2009; McClean et al., 2013). Moreover, leaders may trigger feelings of deception and frustration in their team if they fail to adequately respond to ideas in some instances, even if they are generally responsive (i.e. deaf ear syndrome; De Vries et al., 2012; Harlos, 2001).

Second, it may be especially difficult to affect individuals' perceptions of their leader's supportive for voice and propensity to speak up because employees are hardwired to assume that all leaders oppose voice (Detert & Edmondson, 2011). I proposed that leaders could debunk these implicit assumptions in certain contexts by actively soliciting and appropriately responding to their team's input; however, this simply may not be possible – leaders may be unable to overcome employees' hardwired reservations to voice or, more likely, it takes significant time for leaders to do so. It may also be difficult for teams' to recognize their leader's openness and responsiveness because these are small behavioural cues and because they may assume these behaviours are part of their leader's general responsibilities.

## **Limitations**

Alternatively, it is important to note that the non-significant findings may stem from deficiencies in the training or team task itself. Although I developed the voice training based on established best practices, I was unable to incorporate every possible leader behaviour linked to voice or all training best-practices because of various structural and resource limitations. Most notably, despite some claims that training length is unrelated to effectiveness (cf., Taylor et al., 2009), recent research suggests that longer training sessions are indeed more effective (Lacernza et al., 2017); however, I was unable to exceed the one-hour training with this student sample because it would exceed the maximum number of allowable hours by the research pool. Alternatively, it is possible that the team task was not long enough or did not cover appropriate content to allow leaders to enact their newly acquired knowledge and skills. As well, it is important to note that the trainings significantly varied on materials and practice, and these differences may explain different results (although they were rated as better for voice training).

The training may also have failed to affect change because I used a sample of students who were randomly assigned as team leaders. Thus, another limitation is that I studied students assigned to leadership roles, as opposed to actual leaders who manage teams, which may have unintentionally influenced how teams' regard and interact with their leader. For example, randomly assigned leaders may have garnered less authority from their team. Indeed teams rated their leaders' prototypically – the extent to which they perceived their leader behaved like a typical leader – relatively low ( $M = 4.02$ ). More importantly, these ratings varied widely between groups ( $SD = 0.62$ ), which suggests that many teams did not regard their leader as possessing typical leader characteristics. Another related limitation is that I assessed training transfer based on knowledge tests of the training material, as opposed to whether the leaders actually behaved differently during the task. Thus, in subsequent research, I propose to examine leaders' actual

openness and responsiveness behaviours by behaviourally coding their team interactions, as opposed to simply based on knowledge tests and comparisons.

Furthermore, it is plausible that the leadership training would have a stronger affect on established teams, who have a history with their leader, because they are able to benchmark changes in their leader's behaviours. The training may have also failed to affect leaders' behaviours in the team task because the task lacks realism relative to actual work situations, and thus it is less risky and rewarding for teams to speak up. Although it can be risky for people to voice in organization because voice can harm their standing (Burriss, 2012), there are no such risks in an experiment because the leader lacks power over teams members' job security and performance.

Finally, the control training may have had an unexpectedly strong influence on the team, thereby obscuring the effects of the treatment training. That is, it is possible that the voice training indeed improved leaders' solicitation of voice; however, that these improvements were negligible compared to the improvements from the control training. I focussed the control treatment on leadership effectiveness and cultivating growth mindsets because I expected these factors to be distinct from voice; however, they may have unintentionally affected leaders' openness for learning and encouraging mistakes, which could have influenced teams' openness and safety perceptions. Relatedly, I may have underestimated participants' pre-existing knowledge of growth mindsets, which may have unduly influenced the results by further cementing an existing knowledge-base.

### **Future Directions**

Building on these limitations, I propose a number of changes to improve upon this study in future research. First, with regards to study design, I propose to assess this training in the field

with a quasi-experimental design. A field study not only enhances external validity by indicating whether voice training affects actual workplaces, it also includes *real* teams in which the risks and benefits of voice are amplified relative to experimental teams. Relatedly, I suspect that it takes time for teams to become aware of changes in their leader's behaviours, after multiple attempts by leaders to demonstrate their newly acquired knowledge and skills. In that case, it is plausible that teams will only notice significant improvements in their leader's support for voice when they differ from the leader's previous behaviours.

Second, I propose three minor changes to enhance training content. First, to better address the transfer-problem, I propose to include details on how leaders can overcome unexpected impediments to motivating voice. For example, by teaching leaders how to respond when they are overloaded with poor quality ideas or are unable to support a position, we may be able to better prepare leaders to manage situations that they will inevitably face. Second, I propose to include details in the training on how leaders can encourage team voice, which is distinct from encouraging one employee to speak up. For example, by teaching leaders that their responses to one group member cascades to affect the entire group, even when others were not present for their reaction, we can better prepare leaders on how they influence voice climate. Third, this training may be most effective when paired with an *employee-centric* training program designed to teach employees how to debunk their implicit fears, along with skills on how to offer higher quality voice that should be more likely to be accepted and implemented. By conducting an employee-centric training, and matching it with and without a leader training in a 2 by 2 design, I would be able to overcome concerns that employees are simply uninterested in speaking up regardless of their specific leader (Detert & Edmondson, 2011).

Finally, I propose to institute a number of changes to the training program itself. Firstly, I propose to include a pure control group that does not receive any training to offer a more lenient test of whether voice training even affects leaders' subsequent behaviours. Secondly, I intend on extending the training program by a minimum of 30 minutes, as well as including an intermediary booster training session to further cement the material. I plan to dedicate most of this additional time to practice scenarios, which I also plan to bolster, such as by incorporating video-based examples to enhance realism. Thirdly, I propose to deliver the training to a smaller group of participants. In this study, I delivered the training to all of the leaders of each condition at the same time to reduce concerns of differences between the same trainings; however, this decision may have unduly influenced participants' immersion in the training by offering a less intimate environment to practice the material. Finally, to improve training transfer, I also plan to hire an external trainer and to ensure voluntary participation (Lacerenza et al., 2017).

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Table 3 – 1: Training Reflection Comparisons Between Treatment and Control Condition

Variable	Treatment Condition		Control Condition		Mean Between Conditions		Condition Comparison
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>
Training Content	4.61	0.76	4.27	0.68	4.45	0.74	3.74
Training Practice	4.23	0.64	3.90	0.66	4.08	0.67	4.12*
Training Materials	4.61	0.54	4.05	0.79	4.35	0.72	11.48**
Training Instructor	4.71	0.71	4.53	0.58	4.63	0.66	1.24
Training Overall	4.15	0.51	3.83	0.96	4.01	0.76	2.91

\*  $p < .05$  \*\*  $p < .01$ .

Table 3 – 2: Manipulation Check Comparisons Between Treatment and Control Condition

Variable	Treatment Condition		Control Condition		Mean Between Conditions		Condition Comparison
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>
TF Treatment Questions	2.86	0.36	2.20	0.41	2.55	0.50	48.37***
TF Control Questions	2.29	0.75	2.93	0.25	2.58	0.66	20.32***
TF General Questions	1.94	0.24	2.00	0.00	1.97	0.17	1.76
MC Treatment Questions	1.80	0.80	0.72	0.75	1.31	0.94	30.44***
MC Control Questions	0.89	0.72	1.45	0.87	1.14	0.83	8.04**

Note. "TF" = True or False. "MC" = Multiple Choice. \*\*  $p < .01$  \*\*\*  $p < .001$ .

Table 3 – 3: Descriptive Statistics and Correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Leadership Training	0.55	0.50	-														
2. Team Size	3.80	0.40	-.03	-													
3. Team Mean Gender	1.47	0.27	.10	.16	-												
4. Team Mean Extraversion	3.66	0.27	.19	.16	.03	(0.86)											
5. Team Mean Proactivity	3.84	0.27	-.01	-.19	.11	.61**	(0.83)										
6. Leader Prototypicality	4.02	0.62	-.12	-.03	-.02	.02	.15	(0.88)									
7. Leader's Leadership Experience	4.02	0.78	-.11	-.04	-.07	-.01	.02	.42**	-								
8. Leader's Interest in Training	4.62	0.56	-.20	.03	-.12	-.04	-.09	.16	.45**	-							
9. Leader's Motivation to Lead	3.39	0.56	-.15	.07	-.08	.13	.13	.28*	.52**	.39**	(0.76)						
10. Leader Openness	4.38	0.30	-.04	-.30*	.01	-.07	.17	.56**	.32*	.18	.16	(0.83)					
11. Leader Responsive	4.13	0.38	-.14	.09	-.04	.03	.08	.59**	.34**	.18	.06	.65**	(0.78)				
12. Leader Solicitation	3.57	0.60	-.11	.05	-.06	.00	.07	.56**	.30*	.10	.15	.44**	.70**	(0.86)			
13. Voice Climate	4.23	0.29	-.05	.03	-.16	.21	.23	.27*	.16	.02	.09	.35**	.50**	.47**	(0.83)		
14. Team Voice Quantity	3.85	0.38	-.19	.00	-.29*	.02	.13	.34**	.09	.08	-.05	.35**	.52**	.58**	.44**	(0.85)	
15. Team Voice Quality	4.31	0.29	-.27*	-.13	-.10	.21	.30*	.23	.07	.04	.04	.38**	.43**	.34**	.37**	.70**	(0.78)

Note. "SD" = standard deviation. Scale reliabilities are reported on the diagonal in parentheses. \*  $p < .05$ . \*\*  $p < .01$ .

Table 3 – 4: ANOVA of Leadership Training on Leader Behaviours and Team Environment (Hypothesis 1 and 2)

Condition	Dependent Variables					
	Leader Openness	Leader Responsiveness	Leader Solicitation	Voice Climate	Team Voice Quantity	Team Voice Quality
Treatment						
Mean	4.36	4.10	3.54	4.23	3.78	4.23
s.e.	0.05	0.07	0.11	0.06	0.07	0.05
<i>n</i>	32	32	32	32	32	32
Control						
Mean	4.39	4.21	3.66	4.22	3.93	4.41
s.e.	0.06	0.07	0.11	0.05	0.06	0.05
<i>n</i>	28	28	28	28	28	28
Mean Difference	-0.04	-0.11	-0.12	0.02	-0.15	-0.18
<i>F</i>	0.23	1.29	0.61	0.06	2.32	6.80**

Note. \*\*  $p < .01$ .

## **Chapter 4: Unpacking the Consequences of Voice Climate on Team Functioning**

### **Abstract**

Recent research highlights the importance of voice climate for facilitating increased team voice and performance. At the same time, research on voice climate is nascent and, consequently, we still know little about its function – why voice climate influences these outcomes. I address this feature in this study by integrating implicit voice theory with affective events theory to examine the affective, cognitive, and behavioural mechanisms through which voice climate influences team outcomes. In particular, I draw parallel hypotheses to compare the mediating effects of positive and negative team affect (i.e., fear and vitality) and cognitions (i.e., risk and efficacy) on team voice (i.e., quantity and quality) on the relationship between voice climate and team functioning. Results of a multisource organizational field study indicate that voice climate is indeed positively related to team learning and performance, as mediated by team risk and voice quality.



## 4.1 Introduction

Teams that feel encouraged, supported, and rewarded for speaking up (i.e., voice climate) are generally more effective than teams in which communicating information and voicing ideas or issues is discouraged, ignored, and punished (Edmondson, 2003; Frazier & Bowler, 2015). Indeed positive team climates tend to be associated with higher levels of team performance (e.g., Colquitt, Noe, & Jackson, 2002), as well as well-being (Sonnetag, 2015) and trust (Kozlowski & Doherty, 1989) among team members. In particular, voice climate is theorized to benefit teams by stimulating more voice, which in turn is expected to reduce groupthink (Ashford, Rothbard, Piderit, & Dutton, 1998) and enhance team creativity (Farh, Lee, & Farh, 2010; MacKenzie, Podsakoff, & Podsakoff, 2011); however, I am aware of only one study to-date that has linked voice climate with team performance (Frazier & Bowler, 2015). Altogether, the voice literature has provided limited theoretical explanations or empirical coverage as to *why* voice climate is positively associated with team voice or team functioning.

The lack of theory to explain, or empirical evidence to demonstrate, the consequences of voice climate is problematic because we may otherwise draw erroneous assumptions about how voice climate functions. For example, we should not assume that voice climate influences team voice simply because it manifests a team's cost-benefit judgments, as this perspective overlooks the fundamental role of teams' emotions in promoting or stifling voice (Gundlach, Douglas, & Martinko, 2003; Kish-Gephart, Detert, Treviño, & Edmondson, 2009; Morrison, 2011; 2014). Likewise, we should not assume that voice climate unilaterally benefits teams simply by stimulating more voice, because in some cases voice can actually detract from team performance (MacKenzie et al., 2011), such as when employees give inaccurate advice (Bolino, Turnley, & Niehoff, 2004) or when socially dominant team members speak up too much (Sherf, Tangirala,

& Awasty, 2018). Overall, this study addresses the limited research on how voice operates in teams (Bashshur & Oc, 2015; Morrison, 2011) by investigating the mediating affective and cognitive mechanisms that explain why voice climate affects team voice and, in turn, how different types of team voice (i.e., quantity or quality) subsequently influence team functioning. See Figure 4 – 1 for the theorized study model.

In particular, I first integrate implicit voice theory (Detert & Edmondson, 2011) with affective events theory (Weiss & Cropanzano, 1996) to propose that voice climate influences team performance and learning via its sequential effects on team affect (i.e., fear, vitality) and cognitions (i.e., risk, efficacy). While implicit voice theory suggests that voice climate influences voice because employees are motivated to remain silent when they perceive voice is risky and futile, affective events theory suggests that voice climate influences voice by affecting teams' emotional experiences, which ultimately influence team members' decision to voice. Although voice scholars assume that fear, risk, and efficacy influence voice, I am aware of only a few studies that have actually empirically examined these mechanisms, even fewer that assessed positive affective experience, and none that compared their effects or explored them in teams.

Accordingly, I intentionally contrast the mediating effects of team affect and cognitions because they are inherently intertwined experiences: Initial cognitive appraisals tend to influence affective reactions, while affective experiences often spillover into cognitions (Frijda, Kuipers, & ter Schure, 1989; George & Dane, 2016; Weiss & Cropanzano, 1996). As well, I contrast the negative (i.e., risk, fear) and positive (i.e., efficacy, vitality) pathways to align with the underlying manifestation of voice climate as reflecting both negative beliefs (i.e., costs and risk) and positive beliefs (i.e., benefits and efficacy). Moreover, climates tend to influence negative

and positive emotions in different ways (Sonnentag, 2005), which in turn have distinct effects on information processing (Fredrickson, 2001).

Additionally, I examine and contrast the effects of team voice quantity and quality on team functioning to better explain the team-level consequences of voice climate. As voice quality is also a new construct, I am unaware of any study to-date that has examined its effects on team functioning or compared its effects against voice quantity. These are noteworthy omissions considering that what teams express should have as much influence on team functioning, if not more so, than how often they express it. Altogether, it is important to examine these mechanisms concurrently because we can only develop a complete understanding of which judgments, experiences, and behaviours link voice climate to team performance by comparing their simultaneous effects (cf., Marlow, Lacerenza, Paoletti, Burke, & Salas, 2018).

I test these propositions with a time-lagged organizational field survey, through which I separated measurements of the predictor, mediator, and outcome variables using multiple raters. In particular, I partnered with eight Canadian companies to assess these relationships by measuring voice climate, affect, and cognitions from team members, and voice and team functioning from team leaders. Overall, this study examines whether teams with higher levels of voice climate indeed function more effectively and, if so, why.

## **4.2 Conceptual Foundations**

### **Voice Climate**

*Voice climate* denotes shared team perceptions of whether team members perceive that voice is expected, encouraged, supported, and rewarded in their team (Frazier & Bowler, 2015), whereas *voice* denotes discretionary communications of information, ideas, or issues that challenge the status quo with constructive intentions (Morrison, 2011; Van Dyne & LePine,

1998). Team members tend to form shared perceptions of voice climate because of common experiences, vicarious learning, and intrateam sensemaking (Morrison & Milliken, 2000; Salancik & Pfeffer, 1978). For example, team members may form shared perceptions that voice is expected and rewarded based on stories that their leader credits employees for speaking up in performance reviews. Alternatively, teams may perceive low levels of voice climate from collectively witnessing one member consistently ridicule others' ideas, which their leader also permits (Frazier & Bowler, 2015; Gundlach et al., 2003; Kozlowski & Klein, 2000).

Once a voice climate develops, it significantly affects the extent to which individual members speak up (Frazier & Bowler, 2015; Frazier & Fainshmidt, 2012; Morrison, Wheeler-Smith, & Kamdar, 2011; Wei, Zhang, & Chen, 2015). Voice climate affects team voice in part because it manifests individuals' perceptions of the costs and benefits of voice, which they implicitly calculate to determine whether voice is safe and worthwhile or dangerous and pointless (Ashford et al., 1998; Detert & Burris, 2007; Dutton, Ashford, Neill, Hayes, & Wierba, 1997; Morrison & Milliken, 2000). Indeed, Morrison et al. (2011) conceptualized voice climate as reflecting two core beliefs: whether voice is safe or dangerous (i.e., voice safety) and whether voice is worthwhile (i.e., voice efficacy), which aligns with the cost-benefit calculation that fundamentally influences voice. Accordingly, voice climate largely affects voice by manifesting employees' safety and efficacy beliefs (Morrison, 2014).

### **Voice Climate and Team Affect and Cognitions**

Voice climates' safety-efficacy duality also aligns with implicit voice theory (Detert & Edmondson, 2011; Milliken et al., 2003), which posits that individuals are hardwired to withhold voice because they hold implicit assumptions that voice is risky (e.g., damage relationships) and pointless (e.g., fall on deaf ears). At the same time, implicit voice theory largely overlooks the

affective mechanisms through which voice climate influences voice, even though fear is closely linked to risk and employees' fear of consequences explains why employees prefer silence. Accordingly, I integrate affective events theory (Weiss & Cropanzano, 1996), which posits that characteristics of the work environment (e.g., voice climate) and work events (e.g., manager' voice rejection) influences individuals' affective reactions (e.g., fear, vitality), and that affect directly influences voice, as well as indirectly influences voice through its effects on team cognitions (e.g., risk, efficacy). Stated otherwise, team affect influences voice through automatic processes (Lam, Rees, Levesque, & Ornstein, 2017), such as when employees speak up with frustration about out-dated policies, as well as through inferential judgements (van Kleef, 2009), such as when employees feel excited that their voice made a difference and in turn believe that speaking up is worthwhile. Affective events theory was developed as a counterbalance to judgment-based theories, such as implicit voice theory, which focus on cognitions. Together, they offer parallel explanations as to how cognitions and affect shape voice.

Before proceeding, it is important to first clarify how risk, fear, efficacy, and vitality converge in teams. First, teams experience similar affect and cognitions as they attempt to derive meaning from one another's emotional experiences and expressions (van Kleef, 2009). That is, affect can spread in groups and influence cognitions by providing social information that guides behaviours (Knight & Eisenkraft, 2015). For example, team members may infer that voice is risky, and thus feel afraid to speak up, by sensing their colleagues' apprehensive facial cues (Ashford et al., 1998; Liu, Tangirala, & Ramanujam, 2013). Second, emotions can spread in groups through unconscious processes, including mimicry and vicarious transfer (Barsade, 2002; Hatfield, Cacioppo, & Rapson, 1994). In effect, that group members can 'catch' each other's emotions simply by interacting in the same context, such as by feeling excited to speak up by

interacting with other energetic colleagues. Finally, recent research suggests that emergent climates directly influence teams' experience of similar emotions and perceptions (Barsade & Knight, 2015). For example, teams should form shared perceptions of risk and efficacy as they discuss the possible consequences of speaking up with their peers (Detert, Burris, Harrison, & Martin, 2013), as well as through nonverbal cues (Salancik & Pfeffer, 1978). Below I describe each cognitive and affective mechanism in greater detail.

**Team Risk.** *Team risk* refers to a team's aggregated beliefs about the probability and severity of suffering negative consequences for speaking up (e.g., being labelled negatively, creating conflict; Wei et al., 2015). Although voice is constructively-intended, it is an inherently risky behaviour because it challenges the status quo, and thus can result in negative relational and career consequences (Detert & Edmondson, 2011; Milliken et al., 2003). For example, employees tend to suffer lower performance ratings for speaking up a lot if their leader has low levels of self-efficacy (Fast Burris, & Bartel, 2014), perceives voice to be especially challenging (Burris, 2012), or do not trust the voicer (Whiting, Maynes, Podsakoff, & Podsakoff, 2012). Consequently, voice climate should affect a team's risk by indicating the likely consequences of speaking up, such that risk decreases under higher levels of voice climate. Thus I propose:

*Hypothesis 1a:* Voice climate is significantly negatively related to team members' shared perceptions of risk for voice.

**Team Fear.** *Fear* reflects a high activation negative discrete emotion (Weiss & Cropanzano, 1996), which tends to arise in response to potential threats (Kish-Gephart et al., 2009; Smith, Haynes, Lazarus, & Pope, 1993). Accordingly, team fear denotes the average of team members' fear, which, as described above, is expected to converge through shared experience, emotional displays, and contagion. Fear is widely regarded as a dominant emotion during the voice process foremost because employees tend to suppress voice when they feel afraid

of negative repercussions (Kish-Gephart et al., 2009; Milliken et al., 2003; Morrison, 2011). Consequently, voice climate should affect team fear by signalling whether voice is safe or dangerous, thereby provoking or lessening a team's apprehension to voice. That is, teams should feel more afraid about speaking up in low voice climate contexts because they imply that voice is unwelcomed and punishable. Indeed Dutton et al. (1997) found that employees feel more afraid of communicating issues when their context discourages voice, whereas Lovelace, Shapiro, and Weingart (2001) provide support that employees feel less fearful about communicating doubts when their climate signals that speaking up is appreciated. Thus I propose:

*Hypothesis 1b:* Voice climate is significantly negatively related to team members' shared perceptions of fear for voice.

**Team Efficacy.** *Team voice efficacy* refers to a team's aggregated belief about whether team members feel confident and capable of effectively speaking up (Kish-Gephart et al., 2009). More specifically, voice efficacy manifests in whether team members believe that they have the requisite knowledge and skills to voice, that there are avenues to speak up, and that their input will be taken seriously (Kish-Gephart et al., 2009; Morrison et al., 2011; Tanigrala et al., 2013). As such, I expect voice climate to influence voice efficacy by signalling whether employees are indeed able to voice and whether voice will actually make a difference. For example, receiving recognition for voice reinforces a team's belief that team members can successfully speak up and make a difference, whereas being rejected reduces a team's voice efficacy by suggesting that speaking up is pointless (Kish-Gephart et al., 2009). Thus I propose:

*Hypothesis 1c:* Voice climate is significantly positively related to team members' shared perceptions of efficacy for voice.

**Team Vitality.** *Vitality* denotes the affective experience of feeling energized and alive (Porath, Spreitzer, Gibson, & Garnett, 2011; Quinn, Spreitzer, & Lam, 2012). Vitality parallels

fear in that both are high activation experiences, yet vitality is positively oriented whereas fear is negative (Weiss & Cropanzano, 1996). As with team fear, team vitality reflects the average of team member's vitality, which converges through shared experiences and contagion processes. Vitality is a particularly contagious feeling in groups (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). For example, Owens, Baker, Sumpter, and Cameron (2016) found that positive energy transfers between leaders and followers through mutual interactions, which subsequently influences followers' behaviours. Accordingly, voice climate should positively influence team vitality because team members tend to feel more capable and autonomous participating in supportive climates, such as when their contributions are supported and recognized (Carmeli, Ben-Hador, Waldman, & Rupp, 2009; Nix, Ryan, Manly, & Deci, 1999). Indeed, Frazier and Fainshmidt (2012) demonstrate that voice climate is positively related to psychological empowerment, which is a similar concept to vitality, as both reflect intensely positive experiences of feeling engaged in meaningful work. Thus I propose:

*Hypothesis 1d:* Voice climate is significantly positively related to team members' shared perceptions of vitality for voice.

### **The Mediating Effects of Team Affect and Cognitions**

Returning to the core theoretical frameworks, implicit voice theory and affective events theory suggest that voice climate not only influences teams' affective and cognitive reactions, but that it also influences team voice through these mechanisms. The structure of team voice is isomorphic from the individual-level to the team-level in that it simply reflects the average or sum of individual members combined voice contributions. Team voice can be further divided into two forms: *team voice quantity* (i.e., the extent to which a team speaks up) and *team voice quality* (i.e., perceptions of the expected utility of voice that a team expresses, which manifests in message rationale, feasibility organizational-focus, and novelty; Brykman & Raver, 2016). In the



following paragraphs, I describe why each of the affective and cognitive mechanisms mediates the relationships between voice climate and team voice quantity and quality.

First, team risk influences team voice because voice is a volitional behaviour; thus, teams are motivated to speak up to the extent that they perceive voice is safe, whereas they are inclined to remain silent to the extent that they expect voice to backfire. Indeed, several studies show that employees' perceptions of safety significantly influence voice (Detert & Burris 2007; Detert & Trevino 2010; Liang et al., 2012). For example, Tangirala and Ramanujam (2008) found that procedural justice climate influences voice, such that teams members who feel fairly treated perceive voice as safer, and are more likely to voice as a result. Similarly, risk should affect team voice quality, such that increased risk corresponds to decreased team voice quality, because team members should feel less inclined to engage in the effortful development and communication of high quality ideas when they perceive this extra-role behaviour to be especially dangerous (Brykman & Raver, 2016). Indeed Ashford et al. (1998) found that female employees who perceived greater image risk were significantly less likely to “sell” gender-equity issues to top management, which involves communicating well-thought out and organizationally-relevant ideas, as risk even prohibits people from communicating high quality ideas.

Second, fear and risk are closely related in that fear heightens individuals' sensitivity to risk (Lerner & Keltner, 2001). Experiencing fear should also suppress team voice; however, it functions somewhat differently than risk in that fear tends to inhibit action by restricting cognitive functioning, fostering pessimistic judgements about the outcomes, and stimulating avoidance behaviours overall (George & Dane, 2016; Kish-Gephart et al., 2009; Lerner & Keltner, 2001). Fear should also reduce a team's willingness to discuss unshared information by fostering expectations that doing so will be harmful (Ashford et al., 1998; Bower, 1981; Mayer,

Gaschke, Braverman, & Evans, 1992). Altogether, teams that experience elevated levels of fear should be less likely to engage in volitional behaviours, like voice, because fear inhibits action.

Third, team voice efficacy should motivate voice by affecting a team's confidence that voice will make a difference, along with their beliefs that voice is worthwhile, despite the potential costs (Ashford, Sutcliffe, & Christianson, 2009; Kish-Gephart et al., 2009). Indeed several recent studies demonstrate that voice efficacy helps to explain why people speak up, such as by moderating the effects of duty orientation on voice (Tangirala et al., 2013) and mediating the effects of leadership and organizational support on voice (Duan, Kwan, & Ling, 2014; Huang & Paterson, 2017). As with risk, teams should be significantly less motivated to express higher quality voice if they expect it to be futile or have low confidence in their abilities (Ashford et al., 1998; Morrison, 2014). Efficacy should be especially linked to voice quality because it describes whether individuals perceive that they have the skills needed to make a difference on their team; thus, I expect teams that feel more confident in their abilities to voice will in turn offer higher quality voice than teams in which members do not believe in their voicing capabilities.

Finally, team vitality should enhance team voice by invigorating teams to engage in meaningful work and search for novel information (Nix et al., 1999; Porath et al., 2011; Spreitzer et al., 2005). Whereas negative emotions, like fear and anger, tend to inhibit actions, positive emotions, like vitality, tend to propel people to engage in proactive behaviours (Fredrickson, 2001). As an intense positive emotion, vitality should motivate voice by instilling a sense of agency and empowerment in teams (Frazier & Fainshmidt, 2012). Accordingly, teams that experience higher levels of vitality should feel less apprehensive about debating ideas (Keyes, Shmotkin, & Ryff, 2002) and more psychologically resilient to concerns about whether their voice will be rejected (Fredrickson, 2001). As a hallmark of flourishing (Spreitzer et al., 2005),

vitality should have a particularly profound effect on voice quality by broadening employees' thought-action repertoires, which in turn stimulates greater creativity (Fredrickson, 2001; Quinn et al., 2012). Altogether, I propose:

*Hypothesis 2a:* Team members' shared perceptions of risk, fear, efficacy, and vitality significantly mediate the positive effects of voice climate on team voice quantity.

*Hypothesis 2a:* Team members' shared perceptions of risk, fear, efficacy, and vitality significantly mediate the positive effects of voice climate on team voice quality.

### **The Mediating Effects of Team Voice Quantity and Quality**

Voice is expected to provide substantial value to organizations by stimulating such constructive processes as enhanced learning (Edmondson, 1999), creativity (Zhou & George, 2001), and decision quality (Dooley & Fryxell, 1999). Ultimately, whether voice provides constructive collective benefits, depends on whether groups of people consistently speaking up over time, rather than whether a lone employee speaks up (Bashshur & Oc, 2015; Frazier & Bowler, 2015; Organ, 1997). Moreover, team performance likely also depends on the quality of what team members express, as opposed to simply how much they speak up; thus, it is critical that we focus on team voice quantity and quality as they represent distinct forms of voice that stand to influence team performance for different reasons.

Although team-level voice is isomorphic in structure to individual-level voice, in that it simply reflects the total or average of each member's voice, its function differs across levels because each team members' voice is bound by time and the opportunity to voice, as well as influenced by what and how much other members speak up (MacKenzie et al., 2011; Nijstad, Stroebe, & Lodewijx, 2003; Sherf et al., 2018). That is, whether one team member speaks up a lot or a little, as well as provides low or high quality voice, has ramifications for other team

members' voice quantity and quality. Overall, I expect that voice quantity and quality will be positively related to team performance and learning, although for distinct reasons.

On the one hand, voice quantity should positively influence team learning and performance by ensuring that critical information is shared, stimulating valuable discussions, and reinforcing norms for voice. That is, regardless of a team's voice quality, teams that speak up a lot with key information, impending issues, and helpful ideas should benefit from considering contradictory perspectives (Nemeth, 1986; Nemeth and Staw, 1989), counteracting groupthink (Ashford et al., 1998), and distinguishing promising ideas from those that are doomed to fail (De Dreu & West, 2001). In contrast, silence tends to hinder team learning and performance by stifling negative upward feedback (Morrison & Milliken, 2000) and error reporting (Edmondson, 2003). Without voice, teams are unlikely to engage in constructive discussions because members are unaware of opposing opinions (Morrison & Milliken, 2000). Thus, I propose:

*Hypothesis 3a:* Team voice quantity is significantly positively related to team functioning.

In contrast, voice quality should benefit team learning and performance by ensuring that voice is relevant, meaningful, and useful to the team's overall objectives. When voice quality is low, teams may instead discuss tangential information that consumes valuable time, but does not actually benefit the team. As MacKenzie et al. (2011, p. 564) elaborate: "If one team member's suggestions lead to healthy debates between other team members... the result of these debates may lead to enhanced creativity, improved organizational effectiveness, or reduced costs". In contrast, teams that communicate low quality voice may struggle to thoroughly discuss different perspectives because they lack the qualitative richness to build on each other's ideas (Johnson, Johnson, & Tjosvold, 2006). Indeed, Marlow et al.'s (2018) recent meta-analysis suggests that team communication quality, but not quantity, significantly affects team performance, as they

reason that high quality communication provides unilateral benefits, whereas too much communication distracts teams and detracts from team performance. Thus, I propose:

*Hypothesis 3b:* Team voice quality is significantly positively related to team functioning.

### **From Voice Climate to Team Functioning**

Altogether, I propose that voice climate is significantly related to team affect and cognitions, which are in turn related to team learning and performance via team voice quantity and quality. First, according to implicit voice theory (Detert & Edmondson, 2011), I propose that voice climate affects team risk, fear, efficacy, and vitality because it signals whether voice is safe and worthwhile or dangerous and pointless. Second, according to affective events theory (Weiss & Cropanzano, 1996), I propose that these affective and cognitive experiences subsequently affect team voice quantity and quality, such that risk and fear inhibit team voice, whereas efficacy and vitality stimulate team voice. Finally, I propose that team voice quantity and quality are positively related to team functioning as teams should learn and perform more effectively when team members engage in many high quality discussions. Thus, altogether, I propose:

*Hypothesis 4:* Voice climate is significantly positively related to team learning and performance, via its sequential effects on team affect (i.e., fear and vitality) and team cognitions (i.e., risk and efficacy), and, in turn, team voice (i.e., quantity and quality).

## **4.3 Methods**

### **Study Design**

I examined these hypotheses with a time-lagged multi-source field study. In particular, I first conducted a survey with team members, which included measures for voice climate, affect, and cognitions. Next, approximately 2 weeks later, I conducted a survey with team leads, which included measures for team voice and team functioning. I partnered with eight Canadian companies to collect this data on the basis that these companies operate in knowledge-based

industries (i.e. jobs that involve managing and using information). I provided each company with a detailed report about their work environment in exchange for participation. These companies ranged in size from 15 to 400 employees. With regards to industry, six partners were technology companies, one partner was a marketing division of a consumer packages goods company, and one partner was a people services division of a hospital. Given these differences, I first examined whether organizational membership unduly influenced the core constructs and subsequently accounted for organizational differences with multilevel analyses.

### **Sample**

In total, I distributed surveys to 86 teams in 8 companies, which were comprised of 531 team members and 85 team leads. I received responses from 84 of these teams (98% participation), which included responses from 345 team members (65% participation) and 64 team leads (75% participation); however, I removed 25 teams with insufficient data – either because their team lead did not participate (21 teams), or because less than 2 team members participated (4 teams). Accordingly, my analysis was based on data from 59 teams, which were comprised of 267 team members and 58 team leads. Of these team members, 50% identified as female, 59% as Caucasian, and 30% as Asian. Their average was 32 years old and 80% had at minimum a university degree. Of these team leads, 38% identified as female, 64% as Caucasian, and 21% as Asian. Their average was 36 years old and 87% had at minimum a university degree.

As team membership has become increasingly fluid in most contemporary organizations, I specifically defined the boundaries for each team through discussions with my partners, on the basis that team members regularly interact with each other, have shared goals, and report to the same leader(s) (Chan, 1988; George, 1990). To ensure that participants reflected on their experiences with the same team members, I identified team membership at the introduction of

each survey. To be eligible, each team was required to consist of a minimum of 3 members; however, I included data from every team that I received at least 2 responses from ( $n = 10$ ). Although some researchers advocate removing teams that fail to reach a critical number or proportion of responding team members because of interrater agreement issues, removing teams on this basis is equally problematic because it systematically deletes teams that may be different for important reasons, such as low voice climate, thereby creating a biased sample (Cf., Allen, Stanley, Williams, & Ross, 2007; O'Neil, McLarnon, Hoffart, Woodley, & Allen, 2016). In particular, recent research actually advocates against removing teams with few responses because, among other reasons, it reduces statistical power and distorts effect sizes (Hirschfeld, Cole, Bernerth, & Rizzuto, 2013; Stanley, Allen, Williams, & Ross, 2011). Furthermore, I conducted an ANOVA to compare the data for teams composed of only 2 members against teams with 3 or more members and did not observe any significant differences.

### **Team Survey**

**Voice Climate.** I measured *voice climate* using Frazier and Bowler's (2015) 6-item scale. The scale prompt stated, "Members of my team are encouraged to..." followed by the six scale items (e.g., "Develop and make recommendations concerning issues that affect the team" and "Speak up and encourage others on the team to get involved in issues that affect the team").

**Team Affect.** Unlike voice climate, which was based on referent shift composition, team affect and cognition was based on direct-consensus composition (Chan, 1998), as these measures asked individuals to report on their own experiences, which I then aggregated to the group. I measured *fear* using 6 items from the PANAS (Watson, Clark, & Tellegan, 1988). The scale asked "Generally, while working on my team I feel..." followed by the items: Afraid, Frightened, Scared, Nervous, Jittery, and Shaky. I measured efficacy using an adapted 3-item

version of Spreitzer et al.'s (1995; Tangirala et al., 2013) psychological empowerment scale (e.g., "I am confident about my ability to speak up in my team" and "I have mastered the skills necessary to speak up in my team").

**Team Cognitions.** I measured *risk* using a 4-item version of Wei et al.'s (2015) scale. The scale asked "Generally speaking, if I express an idea to my manager, what would happen?" followed by the items (e.g., "He/she would think that I don't respect him/her" and "He/she would evaluate my performance negatively"). Finally, I measured *vitality* using Porath et al. (2011)'s 5-item measure. It was also preceded by the prompt "Generally, while working on my team I feel..." followed by the five items (e.g., "I feel alive and vital" and "I have energy and spirit").

### **Leader Survey**

**Team Voice.** I measured *team voice quantity* with Burris' (2012) 3-item scale. Example items include "members of my team give me suggestions about how to make our organization better, even if others disagree" and "members of my team challenge me to deal with problems around here". In contrast, I measured *team voice quality* with Brykman and Raver's (2016) 4-item scale. The scale asked "When members of my team speak up, they..." followed by the items (e.g., "provide evidence to support the suggestion" and "consider whether we have the resources to implement the idea").

**Team Functioning.** I measured *team performance* using a 6-item scale derived from Alper, Tjosvold, and Law (1998). Example items include "team members search for ways to be more productive" and "team members are committed to producing quality work". Finally, I measured *team learning* with Edmondson's (1999) 7-item scale. Example items include "my team actively reviews its own progress and performance" and "my team relies on out-dated information or ideas (reverse)". All of the measures were anchored on 5-point likert scales



ranging from “Strongly Disagree” (1) to “Strongly Agree” (5), with the exception of fear, which was anchored from “Very Slightly or Not at All” (1) to “Extremely” (5). The full scales are listed in Appendix K.

## **Analyses and Results**

First, I evaluated whether it is appropriate to aggregate the shared team-level constructs. Tests of  $r_{wg(J)}$  (James, Demaree, & Wolf, 1984) indicated good within-group agreement for all of these constructs, with each one exhibiting  $r_{wg(J)}$  values greater than .83. ICC(1) tests had significant results for voice climate (.32), team risk (.15), and team vitality (.11); however, team fear (.01) and team efficacy (.03) had nonsignificant ICCs. Given that  $r_{wg}$  is strictly a measure of inter-rater agreement, whereas ICC(1) also captures the proportion of variance explained by group membership (Bliese, 2000; Klein & Kozlowski, 2000), we can infer that team members formed relatively similar perceptions of fear ( $r_{wg(J)} = .97$ ) and efficacy ( $r_{wg(J)} = .83$ ); however, these perceptions did not meaningfully vary between teams. That is, while within-team agreement was relatively high, between-team discrimination was relatively low. Nevertheless, considering that  $r_{wg(J)}$  results support aggregation for team fear and efficacy, I aggregated all of these constructs to the team-level. At the same time, however, it is important to clarify that the nonsignificant ICCs for team fear and efficacy suggest that there may be insufficient group variance to detect significant effects. As well, these results should be interpreted with caution in that they only infer the average of team members’ fear and efficacy perceptions. Aggregation statistics are listed in Table 4 – 1. Descriptive statistics and correlations are listed in Table 4 –2.

Although all of the relationships were conceptualized at the team-level, I collected data from eight different organizations. Consequently, I first checked for nesting effects because it is possible that the constructs vary due to overarching organizational differences (Bliese, 2000).

Indeed, ANOVA results revealed that organizational membership significantly influenced five constructs: voice climate ( $F = 2.17, p < .05$ ), team risk ( $F = 5.22, p < .01$ ), team voice quantity ( $F = 3.49, p < .01$ ), team voice quality ( $F = 5.41, p < .01$ ), and team learning ( $F = 3.22, p < .01$ ). As such, I assessed all hypotheses with multilevel analyses in MPlus 7.0 (Muthén, & Muthén, 1998–2010), which accounts for organizational-level differences while conducting all of the hypotheses at the within-level.

Next, I assessed Hypothesis 1 – whether voice climate is significantly related to team affect and cognitions – with multilevel multiple linear regression. In support, I found that voice climate was indeed significantly negatively related to team risk ( $\beta = -.63, p < .01$ ), and significantly positively related to team efficacy ( $\beta = .53, p < .01$ ) and team vitality ( $\beta = .61, p < .01$ ). Although voice climate was also negatively related to team fear, this effect was not significant ( $\beta = -.13, n.s.$ ).

Second, I assessed Hypothesis 2 – whether team risk, fear, efficacy, and vitality mediate the effects of voice climate on team voice – with multilevel multiple mediation (see Figure 4 – 2). Given that team fear was not directly related to voice climate, and thus could not serve as a mediator, I dropped it from this analysis. Results indicate that voice climate was significantly related to team risk, efficacy, and vitality, as described above; however, only team risk was significantly related to voice quality ( $\beta = -.35, p < .05$ ), and none of these variables were significantly related to voice quantity. I assessed the indirect effect of risk at a 95% confidence interval. The results excluded zero (.02, .52), which suggests that voice climate affects team voice quality in part because of its effects on team risk. Altogether, I only found support for one of the proposed mechanisms in Hypothesis 2. See Table 4 – 3 for mediation results.

Next, I assessed Hypothesis 3 – whether team voice quantity and quality are significantly related to team learning and performance – with multilevel multiple linear regression. Although team voice quantity and team voice quality were independently significantly related to both outcomes (as seen in Table 4 – 2), I found that team voice quality was significantly related to team learning ( $\beta = .56, p < .01$ ) and team performance ( $\beta = .55, p < .01$ ), whereas team voice quantity was not significantly related to team learning ( $\beta = .03, n.s.$ ) or team performance ( $\beta = .15, n.s.$ ), while accounting for their simultaneous effects. See Table 4 – 4.

Finally, I assessed Hypothesis 4 with path analysis in MPlus. I only included team risk and voice quality in this final model given the non-significant effects of team fear, vitality, efficacy, and voice quantity, as described above. Results demonstrated good model fit:  $\chi^2 (3) = 8.234, \chi^2/df = 2.745, CFI = 0.95, RMSEA = 0.17, SRMR = 0.06$ . The model accounted for 43% of the variance in team performance and 48% of the variance in team learning. In particular, as reflected in Figure 4 – 3, I found a significant negative path from voice climate to team risk ( $\beta = -.63, p < .01$ ). Team risk was in turn significantly negatively related to team voice quality ( $\beta = -.36, p < .01$ ), which was significantly positively related to team performance ( $\beta = .55, p < .01$ ) and team learning ( $\beta = .43, p < .01$ ). At the same time, team risk was also significantly directly related to team performance ( $\beta = .55, p < .01$ ) and team learning ( $\beta = .43, p < .01$ ). Altogether, these results suggest that voice climate is negatively related to team functioning through two pathways. First, voice climate is negatively related to team risk, which is in turn negatively related to team learning and performance. Second, voice climate is negatively related to risk, which is negatively linked to voice quality, which is in turn positively linked with team functioning.

#### 4.4 General Discussion

In this study I assessed why voice climate ultimately influences team functioning by assessing the relative mediating effects of distinct affective, cognitive, and voice mechanisms. In particular, I proposed that voice climate directly affects team risk, fear, efficacy, and vitality, which subsequently influence team performance and learning via its effects on team voice quantity and quality. Results from this multisource field study lend partial support for these predictions, while highlighting the mechanisms that most strongly influence the relationship between voice climate and team functioning. Interestingly, the results suggest that team risk, efficacy, and vitality are all significantly linked with voice climate and team performance; however, when accounting for all of these relationships simultaneously, I found that voice climate affects team functioning via its sequential effects on team risk and team voice quality.

#### **Theoretical Implications**

This study offers several important contributions to the voice literature. First, it demonstrates that voice climate is indeed an important construct worthy of further investigation because it helps to distinguish high functioning teams. In particular, I found that teams with higher voice climates demonstrated greater learning and performed more effectively than teams with lower voice climate in part because they experienced less risk about speaking up, as well as because they communicated higher quality voice. As such, this is the first study that I am aware of to demonstrate *why* voice climate benefits teams, as well as the first to examine its effects on team learning. Considering that teams tend to learn more effectively when members feel safe communicating issues and information (Edmondson, 1999; 2003), I hope this study provokes more research on the links between voice climate and team learning, along with other potentially beneficial team processes (e.g., constructive conflict).

Second, this study contributes to the voice literature by integrating implicit voice theory (Detert & Edmondson, 2011) with affective events theory (Weiss & Cropanzano, 1996) to explain that voice climate affects team functioning via its effects on team affect, cognitions, and voice. Although risk, fear, and efficacy have been extensively theorized as key mechanisms in the voice process (cf., Kish-Gephart et al., 2009; Morrison, 2011), I am unaware of any study that has empirically examined their simultaneous effects. The lack of such synthesis has resulted in fragmented theorizing and little guidance as to which mechanisms have the most powerful influence on voice, including how positive affective and cognitive mechanisms can propel teams to speak up. Consequently, this study also contributes to the voice literature by explicating that, of the four theorized mechanisms, team risk has the strongest mediating effect between voice climate and team voice. Interestingly, risk was also the most strongly intercorrelated with the other mechanisms (avg.  $r = .41$ ), relative to fear (avg.  $r = .26$ ), efficacy (avg.  $r = .34$ ), and vitality (avg.  $r = .31$ ), which suggests it was the most powerful mediator in part because it best captures teams' thoughts and feelings about speaking up.

In contrast, I suspect that fear was not significantly related to voice climate largely because teams in this study imply experienced very low levels of fear ( $M = 1.16$ ), as well as because fear did not significantly vary between teams ( $SD = .18$ ). That is, teams with high voice climates do not significantly vary in their experience of fear relative to teams with low voice climates. Rather, given their theoretical similarities and empirical overlap, it seems that fear manifests in the cognitive appraisal of risk. At the same time, future risk would benefit from measuring fear immediately before or after an individual speaks up, as its high activation may dissipate over time when asking employees to recall affective experiences.

Additionally, I suspect that the mediating effects of vitality and efficacy were non-significant in part because they shared explained variance with risk, which had more powerful effects on team functioning. I conducted supplemental mediation analyses with only efficacy and vitality as independent mediators to test this assumption; however, the effects were still not significant. The lack of significant mediation for vitality alone is understandable given that it was not significantly directly related to team voice in this study (as reported in Table 4 –2); however, the null effects for team efficacy was surprising given that it was significantly directly related to team voice ( $r = .27$ ). Instead, it seems that team efficacy no longer mediated the effects of voice climate on team voice because it did not account for incremental variance relative to the predictive power of voice climate.

At the same time, I hope that future research will continue to examine similar mechanisms simultaneously to better elucidate their distinct effects, especially in relation to different types of voice (e.g., prohibitive voice, Liang et al., 2012). For example, that team risk was the only mediating mechanism to be significantly related to voice quality ( $r = -.36, p < .01$ ), while team efficacy was the only mechanism to be significantly linked to voice quantity ( $r = .27, p < .01$ ), implies that feeling safe to voice has a powerful relationship with the extent to which teams contribute high quality voice, whereas feeling capable to voice has a powerful relationship with the extent to which teams contribute voice in general. Similarly, that risk, efficacy, and vitality were all significantly related to team performance, but risk was the only mechanism to be significantly linked with team learning, suggests that future research would also benefit from greater specificity on the outcomes of voice climate as they relate to distinct cognitive and affective experiences. For example, I suspect that risk was significantly related to team learning because feeling safe to speak up is a critical antecedent to team learning (Edmondson, 1999).

Additionally, I urge future researchers to think more carefully about consistency between scale prompts, including when to use referent-shift or direct consensus composition (Chan, 1998), as this decision may have unexpected effects on the results. With particular regards to this study, I composed all of the team mediators using direct consensus aggregation, although they were oriented towards team experiences (see Appendix K for more details). As such, a referent-shift aggregation approach may have resulted in greater team-level convergence and discrimination. Moreover, I measured risk based on Wei et al.'s (2015) research, which was specific to the risks of voice, whereas the measures for team fear, efficacy, and vitality were not specific to voice, which may account for the significant influence of risk over other mediators.

Finally, this study advances theory by contrasting the benefits of voice quantity against voice quality to appreciate which type of voice has a stronger effect on team functioning. As with the aforementioned affective and cognitive mechanisms, few studies have compared team voice or team communication quantity against quality, which is problematic because voice quantity and quality likely produce distinct effects on team outcomes (Marlow et al., 2018). Indeed, while these results suggest that both voice quantity and quality are significantly directly linked to team performance and learning, only voice quality was significantly related to team functioning after accounting for their simultaneous effects. This finding in particular lends support to Morrison's (2014, p. 191) proposition that "the impact of voice on unit-level performance is likely to depend on such things as the nature of the information being voiced (e.g., whether the suggestions being offered are useful)". It also contributes to the burgeoning research on voice quality at the individual-level (e.g., Brykman & Raver, 2016; 2018; Burrell et al., 2018) by demonstrating that voice quality is significantly related to team outcomes beyond the effects accounted for by voice quantity. In contrast, although voice quantity is significantly

directly related to team performance and learning, it was not a significant pathway in the overall model largely because it overlaps with voice quality ( $r = .50$ ), yet does not have as much influence on team functioning (avg.  $r = .37$  vs.  $.60$ ). These results mirror other findings in the voice (Brykman & Raver, 2016) and communications (Marlow et al., 2018) literatures in that the quality of employees' input generally matters more than how often they contribute ideas. Nevertheless, more research is needed to understand the relationship between voice quantity and quality.

### **Limitations**

Despite these important contributions, this paper also has a number of limitations. First, although I tried to compensate for common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) by collecting data from multiple sources, some of the direct relationships were indeed same-source. In particular, common method bias may have inflated the links between voice climate and team affect and cognitions, as well as team voice and team functioning. Nevertheless, as not all of these relationships were significant (e.g., voice climate and fear), common method bias may not have had a pervasive effect in this study. Second, as mentioned earlier, the team-level properties of fear, efficacy, and vitality should be interpreted with caution because these constructs did not demonstrate adequate within team convergence largely because of low variance between teams (Klein & Kozlowski, 2000). Indeed the lack of between-team discrimination on fear and efficacy may explain why these constructs failed to mediate the effects of voice climate on team voice, as low between team variance restricts the explanatory power of these theorized mediators.

Third, the results may be unduly influenced by my partnership with eight different Canadian organizations. Although most of my partners were technology companies, two did not



fit this general description, and the ones that did greatly varied by size. While conducting surveys with different companies provides robustness to the results in that they are not inflated by one organization's unique environment, it also obscures differences that may be driving the results. I compensated for this limitation by controlling for organizational-level differences with a multilevel path analysis; however, future research may benefit from partnering with one large organization, especially as this enables more objective team performance data.

Finally, it is possible that I overlooked other important variables that may explain the links between voice climate and team functioning, specifically with regards to team affect and cognitions. For example, although there are solid theoretical foundations to expect risk, efficacy, and fear to mediate the effect of voice climate on team voice and functioning (Kish-Gephart et al., 2009; Morrison, 2014), there is scarce foundations to integrate positive emotions within the voice process. I nevertheless theorized and examined vitality as a central mechanism to balance the negative experiences of fear, as well as because research suggests that vitality promotes information search and team engagement (Fredrickson, 2011; Quinn et al., 2012).

### **Future Directions**

This study also points to a number of interesting future research directions. Foremost, for the voice climate construct to gain traction across diverse literature streams (e.g., conflict, justice), researchers should consider alternative outcomes beyond the most obvious and proximal, voice, which is inherent in its definition. For example, researchers may consider the links between voice climate and team conflict profiles (O'Neil et al., 2016), such that experiencing a higher voice climate leads to functional "task" conflict profiles, whereas working in a lower voice climate leads to dysfunctional team conflict profiles. Voice climate may also relate to team humility (i.e., the extent to which team members "acknowledge and appreciate one

another's strengths, listen to one another's feedback and new ideas with openness, and acknowledge mistakes and handle them"; Owens & Hekman, 2016, p. 1091) by creating expectations that speaking up is safe and encouraged, as opposed to a political tool that people emphasize but ignore (Pina e Cunha, Simpson, Clegg, & Rego, 2018). Altogether, I expect that there are a number of potential benefits to creating team environments where employees feel safe and capable of expressing their authentic opinions and constructive suggestions.

Second, I hope this study provokes further inquiries into the role of individual and team affect, both as an antecedent and consequence to voice climate and voice, juxtaposed to the conventional focus on cognitions (i.e., risk-efficacy calculus; Morrison, 2014). Although these results suggest that affect is less influential than cognitions in motivating voice, it is too early to conclude that cognitions matter most. Rather, I encourage more nuanced investigations into the relative effects of discrete positive and negative affect and distinct types of voice. For example, experiencing fear may drive impulsive lower quality voice that addresses an immediate threat (Kish-Gephart et al., 2009), whereas experiencing compassion may drive highly descriptive voice to prevent others' suffering (Heaphy, Lilius, & Feldman, 2018). Future research may also benefit from more fine-grained considerations of minimum and maximum levels of team affect, including curvilinear relationships (e.g., MacKenzie et al., 2011). For example, fear may only be curvilinearly related to voice, such that low levels of fear motivate voice by reducing anxiety about the social consequences, while high levels of fear motivate voice by provoking a fight or flight response to rectify fear (c.f., Qin, Drenzo, Xu, & Duab, 2014).

Finally, I hope this research helps to promote more investigation into the differences between voice quantity and quality at the team-level. Recent research suggests that voice quality significantly positively influences individuals' performance ratings (Brykman & Raver, 2018)

and managers' implementation of voice (Brykman & Raver, 2018; Burris, Rockmann, & Kimmons, 2017); however, this is the first study that I am aware of to connect voice quality to beneficial *team* outcomes. Relatedly, more research is needed to untangle whether distinct antecedents influence voice quality relative to voice quantity.

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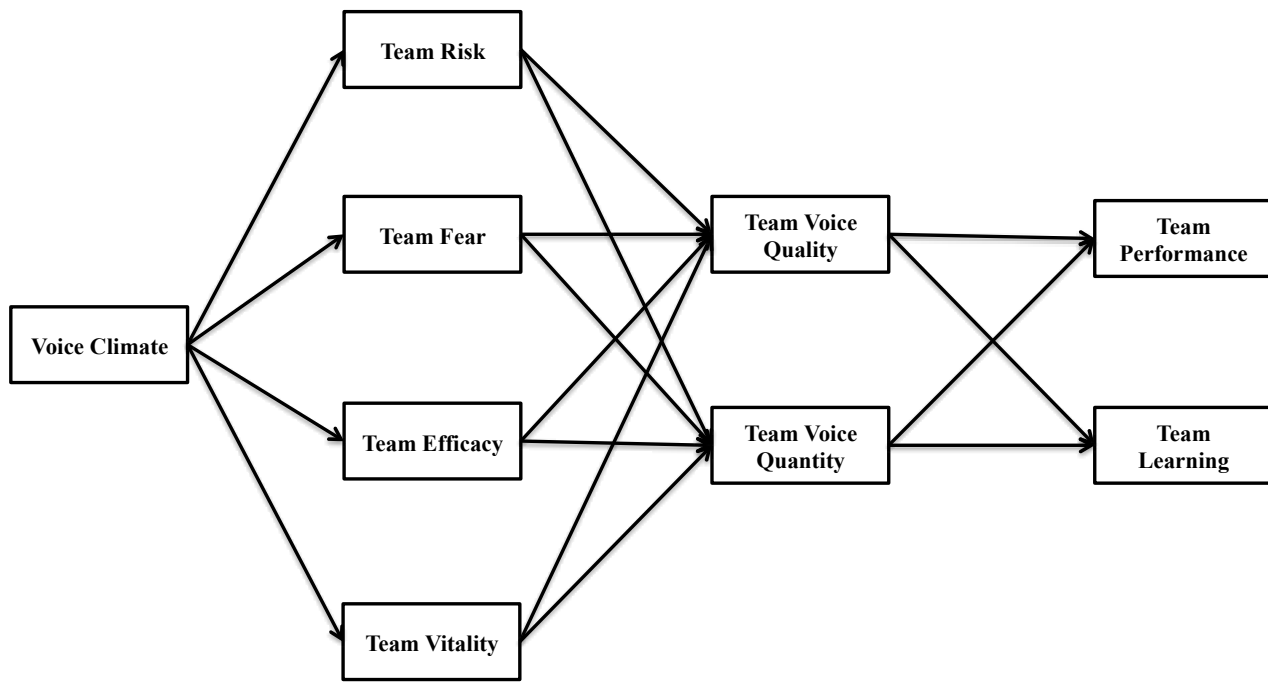
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*Figure 4 – 1. Chapter 4 theorized model.*

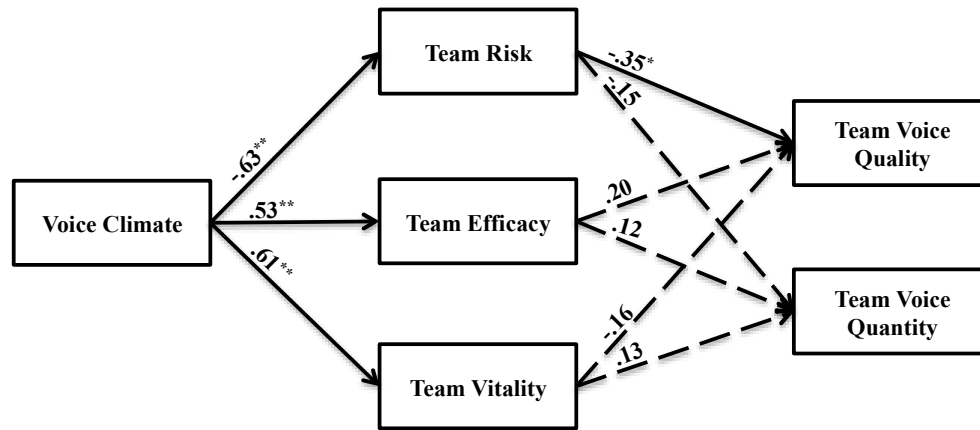


Figure 4 – 2. Mediation analysis from voice climate to team voice through team risk, efficacy and vitality (Hypothesis 2).

\*\*  $p < .01$ . \*  $p < .05$ .

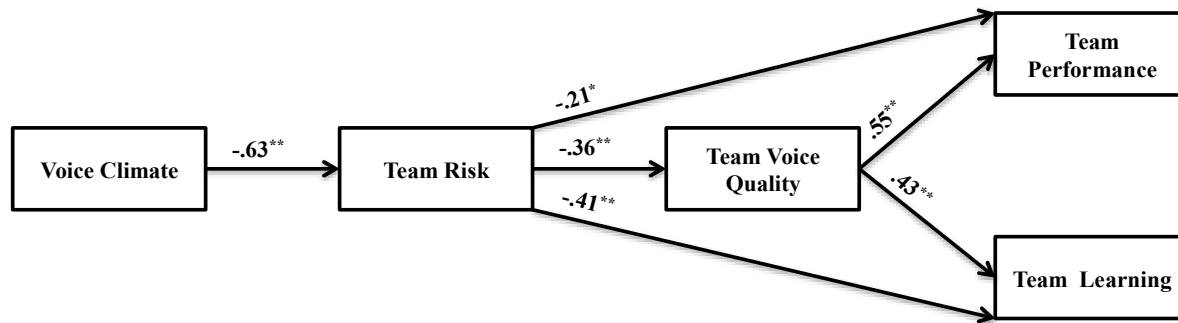


Figure 4 – 3. Path analysis from voice climate to team functioning through team risk and team voice quality (Hypothesis 4).

$\chi^2 (3) = 8.234$ ,  $\chi^2/df = 2.745$ , CFI = 0.95, RMSEA = 0.17, SRMR = 0.06. \*\*  $p < .01$ , \*  $p < .05$ .

Table 4 – 1: Aggregation Statistics for Team-Level Variables

<b>Variable</b>	<b>F</b>	<b><i>r<sub>wg(J)</sub></i></b>	<b>ICC(1)</b>	<b>ICC(2)</b>
1. Voice Climate	3.15**	.93	.32	.68
2. Team Risk	1.77**	.86	.15	.43
3. Team Fear	1.02	.97	.01	.02
4. Team Efficacy	1.16	.83	.03	.14
5. Team Vitality	1.55**	.85	.11	.36

\*\*  $p < .01$ .

Table 4 – 2: Descriptive Statistics and Correlations

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1. Voice Climate	4.30	0.46	(0.90)								
2. Team Risk	1.53	0.41	-.63**	(0.94)							
3. Team Fear	1.16	0.18	-.13	.38**	(0.85)						
4. Team Efficacy	4.06	0.43	.53**	-.36**	-.31*	(0.89)					
5. Team Vitality	3.78	0.40	.61**	-.48**	-.10	.35**	(0.85)				
6. Team Voice Quantity	3.84	0.73	.22	-.24	-.08	.27**	.23	(0.82)			
7. Team Voice Quality	3.74	0.57	.26	-.36**	-.19	.22	.09	.50**	(0.75)		
8. Team Performance	4.28	0.49	.47**	-.41**	-.08	.40**	.30*	.43**	.62**	(0.84)	
9. Team Learning	4.07	0.41	.46*	-.56**	-.23	.23	.25	.30**	.57**	.51**	(0.63)

Note. "SD" = standard deviation. Scale reliabilities are reported on the diagonal in parentheses. \*  $p < .05$ . \*\*  $p < .01$ .

Table 4 – 3: Mediation of Team Affect and Cognitions (Hypothesis 2)

Variable	X → M		M → Y		X → Y		Indirect Effect			
	β	S.E.	β	S.E.	β	S.E.	Est	S.E.	LLCI	ULCI
Y: Team Voice Quantity										
Voice Climate					-.05	.19				
Team Risk	-.63**	.08	-.15	.16			.14	.16	-.17	.46
Team Efficacy	.53**	.09	.20	.14			.16	.13	-.08	.41
Team Vitality	.61**	.08	.13	.16			.12	.15	-.18	.42
Y: Team Voice Quality										
Voice Climate					.07	.18				
Team Risk	-.63**	.08	-.35*	.15			.27*	.13	.02	.52
Team Efficacy	.53**	.09	.12	.14			.08	.09	-.10	.26
Team Vitality	.61**	.08	-.16	.15			-.12	.12	-.35	.11

Note. Direct effects are based on standardized results, whereas indirect effects are based on unstandardized results. X = Voice Climate. \*\*  $p < .01$ , \*  $p < .05$ .

Table 4 – 4: Multiple Regression of Team Voice on Team Functioning (Hypothesis 3)

<b>Variable</b>	<b>Team Learning</b>		<b>Team Performance</b>	
	<i><math>\beta</math></i>	<i>S.E.</i>	<i><math>\beta</math></i>	<i>S.E.</i>
Team Voice Quantity	.03	.12	.15	.12
Team Voice Quality	.56**	.11	.55**	.10
Model R <sup>2</sup>	.33**		.41**	

Note. Based on standardized results. \*\* p < .01, \* p < .05.

## Chapter 5: General Discussion

Voice is fundamentally a social behaviour. It is communicated to others, motivated for collective benefits, affects multiple parties, and is inhibited by fears of social repercussions (Bolino, Turnley & Niehoff, 2004; McClean, Burris, & Detert, 2013; Milliken, Morrison, & Hewlin, 2003). Although voice research has flourished in recent years (Maynes & Podsakoff, 2014), the literature has largely overlooked the team-level foundations and consequences of voice, which is problematic because team factors, such as voice climate, are more likely to affect team voice and performance than individual factors (Mathieu & Chen, 2010). As Organ (1997) warned, individual voice expressions may have little consequence on team outcomes, as voice likely only benefits team functioning when we account for voice expression in the aggregate.

Accordingly, my thesis set out to investigate three important questions: how does voice climate emerge in teams (Study 1), can we train leaders to proactively create a voice climate (Study 2), and why does voice climate affect team voice and team functioning (Study 3). Overall, results suggest that leaders' responses significantly shape voice climate, such that voice climate increases in response to voice acceptance, whereas it decreases in response to voice rejection. In turn, voice climate affects team functioning via its sequential effect on team affect, cognitions, and voice. In particular results from Study 1 indicate that team vitality mediates the effects of voice climate on team voice quantity, whereas team voice efficacy mediates the effects of leaders' responses on team voice quantity. In contrast, results from Study 3 suggest that voice climate affects team voice quality via risk, while team risk and voice quality influence team functioning. Finally, results from Study 2 suggest that although training can enhance leaders' knowledge and about why people withhold voice and how to encourage them to speak up, there is little evidence at this time to suggest that it elicits any benefits on voice climate or team voice.



## **Theoretical Contributions**

This thesis offers several important contributions to the nascent research paradigm on voice climate. Most importantly, it helps to clarify the structure and function of voice climate as a collective construct, thereby facilitating theoretical integration by offering a comprehensive foundation for the construct (Morgeson & Hofmann, 1999). It is important for researchers to not assume that the individual-level mechanisms that influence voice are structurally or functionally equivalent to the team-level, but rather to develop theory and test relationships specific to each level of analysis (cf., Ehrhart, 2004; Morgeson & Hofmann, 1999). As Morgeson and Hofmann (1999, p. 262) elaborate, “Structures emerge from interaction and can, over time, come to influence systems of interaction. Function represent the causal outputs of constructs and provide a mechanism for integrating constructs across levels.”

Results from Study 1 reveal that the structure of voice climate indeed develops based on team members’ repeated experiences speaking up and their interpretations of their leader’s responses to their team’s voice. As well, results from Studies 1 and 3 describe the function of voice climate in that it influences team effectiveness via its sequential effects on team risk, efficacy, vitality, and voice. While we may interpret these results to suggest that different mechanisms explain the effects of voice climate, it is important to recognize that voice climate had a similar influence on teams’ cognitive and affective experiences in both studies, such that it is significantly related to team risk, efficacy, and vitality, but not fear. Moreover, it is important to note that the distinct effects of voice climate on voice may be driven by different measurements of voice across studies. In Study 1 I measured voice based on individuals’ intentions to speak up, which I then averaged to form a team composite, whereas in Study 3 I measured voice based on a leader’s perceptions of their team’s voice quantity and quality.

Accordingly, it is plausible that teams who experience higher levels of vitality *expect* to speak up more in the future because vitality fosters optimistic judgments (Porath, Spreitzer, Gibson, & Garnett, 2011). In contrast, whether teams actually offer higher quality voice depends more so on their perceptions of risk, as actually communicating higher quality voice is far costlier when teams expect it to backfire.

I also contribute to the voice literature by integrating social information processing theory (Salancik & Pfeffer, 1978) with contingency theory (Naylor, Pritchard, & Ilgen, 1980) to explain that voice climate emerges as a result of leaders' prior responses to voice, which converge in teams through direct observations, as well as vicarious learning and intra-team sensemaking. In turn, these emergent voice climate perceptions create contingencies that influence subsequent team voice by stimulating expectations of whether voice is safe or dangerous, and valuable or worthless, based on whether others were successful at speaking up. Moreover, Study 1 also contributes to the voice and climate literatures by highlighting the value of more fine-grained experimental work that counterbalances the external validity offered by field studies in place of greater precision and causal interpretations. In particular, it enabled us to conclude that leaders' responses directly influence voice climate, as well as team risk, efficacy, and vitality, but not team voice. Consequently, we can be more assured that these mediating mechanisms ultimately link leaders' responses to team voice because leaders' responses do not affect team voice alone.

Similarly, I contribute to the voice literature by integrating implicit voice theory (Detert & Edmondson, 2011) with affective events theory (Weiss & Cropanzano, 1996) to explain how teams' perceptions of the risk and efficacy, as well as teams' experience of fear and vitality, mediate the effects of voice climate on team voice, which in turn positively influence team functioning. Consequently, this thesis advances theory by explaining how distinctive affective

and cognitive mechanisms influence voice, as well as by simultaneously comparing these mechanisms with path analysis. As I argue, it is important that we account for these mediating cognitive and affective processes because they may propel distinct types of voice (e.g., prohibitive voice, Liang et al., 2012), as well as because they offer precision on the critical factors that ultimately motivate voice. Indeed, results from Study 1 indicate that team voice efficacy mediates the effects of leaders' responses on team voice without going through voice climate. Overall, the results from this thesis suggest that risk is the most powerful mechanism linking voice climate to team voice, which supports prior research on implicit voice theory

### **Practical Contributions**

This thesis also offers a number of important practical advancements. First, results from Study 1 suggest that voice climate develops from such simple behaviours as whether leaders previously accepted or rejected voice, which in turn influences the extent to which teams speak up. Consequently, it highlights the ramifications for managers who outright reject voice because voice rejection can reduce their team's voice climate and the amount of voice that they receive. As managers must inevitably reject some ideas, either because they are impractical or structural constraints inhibit implementation, these results highlight the possible value for managers to offset the deleterious effect of voice rejection, such as by providing sufficient explanations (King & Van Dyne, 2016) or by recognizing employees for speaking up (Grant & Gino, 2010). At the same time, these results also highlight the prospective value for managers to accept voice in certain circumstances, such as when the costs of implementing voice are low, even when they disagree with the voicer, because it can have long-term benefits by sustaining a positive group climate where employees feel encouraged to speak up. Although an individual voice expression may not be beneficial, listening and enacting that idea may propel useful ideas in the future.

While unfortunate from a broader perspective of making constructive changes in organizations, the non-significant results from Study 2 demonstrate the challenges of actually changing leaders' support for voice via training. It may be especially difficult to create voice training programs that effectively change leaders' behaviours given that leaders (Garner, 2016) and employees (Detret & Edmondson, 2011) both hold implicit reservations against voice. Indeed recent research by Pina, Simpson, Clegg, and Rego (2018) highlights the difficulties of instilling a culture of speaking up, as their research suggests that employees are sceptical about why leaders encourage them to voice and are sensitive to contradictions between what leaders say and do. Consequently, these results implore managers to recognize the difficulties of motivating their teams to speak up, such that being open and responsive to voice may not necessarily lead employees to speak up more. Consequently, it urges managers to be patient and compassionate towards employees, and to avoid assumptions that silence strictly stems from employees' lack of commitment, conviction, or trust in the leader, but rather that it may be attributable to other reasons, such as employees' implicit fears to voice.

Finally, given these challenges, I encourage organizations to consider alternative strategies to promote voice and create voice climates by adopting various organizational policies and/or practices. For example, organizations can stress the importance of voice in their culture by eschewing company values of maintaining openness and responsiveness to voice, with hiring practices that ask for examples when applicants have supported others' voice, or by tying promotion decisions to skills in motivating voice. Organizations may also benefit from addressing the major impediments to voice, namely voice safety and efficacy, via infrastructural changes. For example, organizations can address voice efficacy by adopting online suggestion systems that enable employees to speak up more easily (cf., Brykman & Raver, 2018). At the

same time, I caution organizations against deploying *anonymous* feedback systems, as these can actually reinforce the notion that speaking up is risky (Kincaid & Crandall, 2017; Premeaux & Bedeian, 2003). As well, given that peers' support for voice significantly influences managerial implementation (Brykman & Raver, 2018), organizations may also benefit from creating voice champions or coalitions at the peer-level because voice amongst peers is safer and can increase the probability that managers will take action. Overall, given the prospective benefits of creating voice climates and affecting employees' willingness to voice, I urge organizations and researchers to continue testing training programs aimed at motivating employees to speak up.

### **Conclusion**

The goal of this thesis was to further the team-level paradigm on voice by examining the structure and function of voice climate, with particular attention to its effects on team voice. It is imperative that scholars continue to broaden our understanding of the antecedents, consequences, and boundary conditions of voice climate because it is a significant catalyst for individual and team voice, and consequently team performance and team learning, among other possible benefits (e.g., reduced turnover, McClean et al., 2013). As Morrison (2014, p. 189) argues, in today's organizations "there is a natural reluctance to convey negative or potentially threatening information, particularly to individuals in positions of authority or higher status. This means that active efforts need to be taken to counterbalance these inhibiting forces and to ensure that they are not reinforced by negative leadership behaviours, a climate of fear, or a work environment that causes employees to feel disengaged or powerless." Altogether, my thesis demonstrates that establishing a voice climate can positively influence teams' risk, efficacy and vitality to voice, which subsequently affects team voice quantity and quality, and ultimately team functioning.

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## Appendix A: Chapter 2 Task Details

Task	Task Details
Task 1	You have been retained by a manufacturer of sports and fitness products (e.g., Sport Check, Play-It-Again-Sports) to develop novel product concepts for the student market. The manufacturer is particularly interested in constructive suggestions that challenge conventional practices. These ideas may improve existing products or develop novel products likely to be appealing to students. These ideas can entail products that solve unmet needs or improved solutions to existing needs.
Task 2	You have been retained by a manufacturer of <u>dorm and apartment products</u> (e.g., IKEA, Bed Bath and Beyond, Pottery Barn) to develop novel product concepts for the <u>student market</u> . The manufacturer is particularly interested in <i>constructive</i> suggestions that <i>challenge</i> conventional practices. These ideas may improve existing products or develop novel products likely to be <i>appealing to students</i> . These ideas can entail products that solve unmet needs or improved solutions to existing needs.
Task 3	You have been retained by a manufacturer of <u>electronics products</u> (e.g., Best Buy, Canada Computers, Amazon) to develop novel product concepts for the <u>student market</u> . The manufacturer is particularly interested in <i>constructive</i> suggestions that <i>challenge</i> conventional practices. These ideas may improve existing products or develop novel products likely to be <i>appealing to students</i> . These ideas can entail products that solve unmet needs or improved solutions to existing needs.

**Appendix B: Chapter 2 Experimental Session Order**

<b>Phase</b>	<b>Details</b>
Task 1	7-Minute Team Ideation (With leader) - <i>Leader Response Manipulation</i>
Survey 1	Measures: Voice Climate
Task 2	3-Minute Individual Brainstorming
	7-Minute Team Ideation (With leader) - <i>Leader Response Manipulation</i>
Survey 2	Measures: Risk, Fear, Vitality, Efficacy
Process Pause	5-minute Informal Team Discussion
Task 3	7-Minute Team Ideation (Without leader)
Survey 3	Measures: Subsequent Team Voice

### Appendix C: Chapter 2 Complete Survey Scales

Construct	Items
Creativity (Whetten & Cameron, 1998)	<p>The following test helps to determine attitudes, values, motivations, and interests that characterize creativity. It is based on several years' study of attributes possessed by men and women in a variety of fields and occupations who think and act creatively. Please select the option that BEST corresponds to you. Be as frank as possible. Try not to second-guess how a creative person might respond:</p> <ol style="list-style-type: none"> <li>1. I always work with a great deal of certainty that I am following the correct procedure for solving a particular problem</li> <li>2. It would be a waste of time for me to ask questions if I had no hope of obtaining answers</li> <li>3. I concentrate harder on whatever interests me than most people.</li> <li>4. I feel that a logical step-by-step method is best for solving problems.</li> <li>5. In groups I occasionally voice opinions that seem to turn people off.</li> <li>6. I spend a great deal of time thinking about what others think of me.</li> <li>7. It is more important for me to do what I believe to be right than to try to win the approval of others.</li> <li>8. People who seem uncertain about things lose my respect.</li> <li>9. More than other people, I need to have things interesting and exciting.</li> <li>10. I know how to keep my inner impulses in check</li> <li>11. I am able to stick with difficult problems over extended periods of time</li> <li>12. On occasion I get overly enthusiastic</li> <li>13. I often get my best ideas when doing nothing in particular.</li> <li>14. I rely on intuitive hunches and feelings of "rightness" or "wrongness" when moving toward the solution of a problem.</li> <li>15. When problem solving, I work faster when analyzing the problem and slower when synthesizing the information I have gathered.</li> <li>16. I sometimes get a kick out of breaking the rules and doing things I am not supposed to.</li> <li>17. I like hobbies that involve collecting things.</li> <li>18. Daydreaming has provided the impetus for many of my more important projects.</li> <li>19. I like people who are objective and rational.</li> <li>20. If I had to choose from two occupations other than the one I now have, I would rather be a <u>physician</u> than an explorer.</li> </ol>
Voice Climate (Frazier & Bowler, 2015)	<p>Based upon your experiences in <u>THIS</u> team study. Members of my team are encouraged to...</p> <ol style="list-style-type: none"> <li>1. Develop and make recommendations concerning issues that affect the group.</li> <li>2. Speak up and encourage others to get involved.</li> </ol>

	<ol style="list-style-type: none"> <li>3. Communicate their opinions about issues to others in the group even if their opinion is different and others disagree.</li> <li>4. Keep well informed about issues where their opinions might be useful to the group.</li> <li>5. Get involved in issues that affect the quality of work in the group.</li> <li>6. Speak up in the group with ideas for new projects or changes in procedures.</li> </ol>
<p>Team Risk (Wei et al., 2015)</p>	<p>Please indicate the extent to which you feel that way right now, that is, at the present moment:</p> <ol style="list-style-type: none"> <li>1. If I speak up, my group/leader will think that I don't respect them.</li> <li>2. Speaking up will offend my group/leader.</li> <li>3. Speaking up will damage my relationship with my group/leader.</li> <li>4. It is risky to speak up to my group/leader.</li> <li>5. If I speak up, my group/leader will regard me as a trouble-maker.</li> </ol>
<p>Team Fear (Watson et al., 1988)</p>	<p>Below are a list of words/statements that describe different feelings and emotions. For each word/statement, please indicate the extent to which you feel that way right now, that is, at the present moment:</p> <ol style="list-style-type: none"> <li>1. Afraid.</li> <li>2. Nervous.</li> <li>3. Jittery.</li> <li>4. Frightened.</li> <li>5. Scared.</li> <li>6. Shaky.</li> </ol>
<p>Team Vitality (Porath et al., 2011)</p>	<p>The below statements describe different thoughts and emotions as they relate to your experiences in this study. Please select the option that BEST corresponds to your opinion:</p> <ol style="list-style-type: none"> <li>1. I feel alive and vital.</li> <li>2. I have energy and spirit.</li> <li>3. I do not feel very energetic.</li> <li>4. I feel alert and awake.</li> <li>5. I look forward to each new task.</li> </ol>
<p>Team Efficacy (Duan et al., 2014)</p>	<p>I feel capable of effectively doing each of the following...</p> <ol style="list-style-type: none"> <li>1. Proactively developing and making suggestions for issues that may influence the team.</li> <li>2. Proactively suggesting new ideas that are beneficial to the team.</li> <li>3. Raising suggestions to improve the team's procedures.</li> <li>4. Proactively voicing constructive suggestions that help the team reach its goal.</li> <li>5. Making constructive suggestions to improve the team's operations.</li> <li>6. Advising the team against undesirable behaviors that would hamper team performance.</li> <li>7. Speaking up honestly with problems that might cause serious loss to</li> </ol>


	<p>the team, even when dissenting opinions exist.</p> <ol style="list-style-type: none"> <li>8. Voicing opinions on things that might affect efficiency in the team, even if that would embarrass others.</li> <li>9. Pointing out problems when they appear in the team, even if that would hamper relationships with others.</li> <li>10. Proactively reporting coordination problems.</li> </ol>
<p>Team Voice (Burris, 2012; cf., Van Dyne &amp; LePine, 1998)</p>	<p>If I continued working with this team, I would...</p> <ol style="list-style-type: none"> <li>1. Challenge others to deal with problems around here.</li> <li>2. Give suggestions about how to make our team better, even if others disagree.</li> <li>3. Speak up with ideas to address our needs and concerns.</li> <li>4. Keep well informed about issues where my opinion might be useful.</li> <li>5. Get involved in issues that affect the quality of worklife here.</li> <li>6. Speak up and encourage others to get involved in issues that affect this team.</li> </ol>
<p>Manipulation Check</p>	<p>To what extent do you feel that:</p> <ol style="list-style-type: none"> <li>1. Your leader accepts your team's ideas.</li> <li>2. Your leader supports your ideas.</li> <li>3. Your leader rejects your team's ideas.</li> <li>4. Your leader opposes your ideas.</li> </ol>

## Appendix D: Chapter 3 PowerPoint Slides for Treatment Training Condition

Confirm your attendance.  
Place your bags with computer/cell phone at the front of the room.  
Find a seat to begin.

### Team-Decision Making Study

Part 1: Leadership Training



Tuesday November 14, 2017

### Training Agenda

1. What is Leadership? Why Does Leadership Matter?
2. Training Content: "Maximizing Leader Effectiveness"
  - a. "Big" Questions
  - b. Strategies
3. Role-Playing Scenarios
4. Summary, Goal-Setting, Reflection/Evaluation

**Golden Rule: Respect each other's opinions.**


### What is Leadership?

"Leaders shape the culture of their **TEAM**. They affect what others do and feel through their mindset, words, and actions"

No Clear Definition!?

**100 Answers to the Question: What Is Leadership?**

There are as many definitions of leadership as there are leaders. Here are 100 of the best ways to define leadership.



### What Effective Leaders Do (or Don't Do)



Los Angeles Times

Shuttle Explodes; All 7 Die

Teacher on Board as Challenger Blows Up on Liftoff


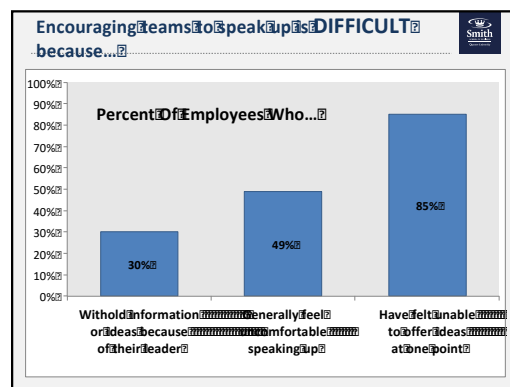
Reagan Postpones Future Flights Pending a Probe

747 Survives Accident, Fire in Canaries



### Encouraging Teams to Speak Up is IMPORTANT because...

- Speaking Up Enhances Team Effectiveness
- Teams Report More Avoidable Errors if They Feel Comfortable Speaking Up
- Organizations Stand to Lose Significant \$\$\$ By Ignoring Employees' Ideas

**Hardwired Assumptions About Speaking Up**

1. Why might people feel afraid, hesitant, or unable to speak up in their teams?

- a) Why have you felt afraid to speak up in the past?
- b) Why do people in general feel hesitant to speak up?




**Hardwired Assumptions About Speaking Up**

1. Why might people feel afraid, hesitant, or unable to speak up in their teams?

- Afraid of sounding dumb.
- Afraid of 'ruffling feathers'.
- Afraid of being judged negatively.

**Unsafe (fear) & Incapable (futility)**

- Don't want to be thought of as 'the complainer'.
- Think there's no point ("it will fall on deaf ears").
- Think they are wrong anyways.
- Feel protective over their ideas.



**Hardwired Assumptions About Speaking Up**

2. What can leaders do to offset peoples' hesitations to speak up?

**Debunk their hardwired assumptions!**


<b>FEAR</b>	<b>FUTILITY</b>
<b>Be Open</b>	<b>Be Responsive</b>
Be Approachable & Available	Actively Listen & Probe for Details
Actively Invite/Request Input	Take Action (or Explain Why You Won't)
Show Genuine Appreciation	

**Openness**

1. **Be APPROACHABLE and AVAILABLE**

- You are open and you care.
  - >> "I want you to know that you can speak freely to me. I am open to your ideas and care about what you have to say"
  - >> "There are no dumb ideas". "Any information is an help"
- **Set the foundation:** Don't assume they know this!


**Anonymous Suggestion systems reinforce fears**



**Openness**

2. **Actively INVITE and REQUEST (quality) input**

- **SHOW** that you really are open by inviting input.
  - >> "What do you think of this idea?"
  - >> "Does anybody have a different perspective or additional information that could affect our team's decision?"
  - >> "I'm trying to do something new with our team... What do you think of this idea? What do you like/dislike?"



**Openness/Responsiveness**


3. **Show genuine APPRECIATION**

- **Positive reinforcement** for desired behaviour
  - >> "Thank you for trusting me by sharing your opinion."
  - >> "Although I disagree with you on this issue, I appreciate your courage and conviction to speak up"
- **SOMETIMES** you may disagree with what they said, but you can **ALWAYS** appreciate their courage to say it.

**THANK YOU!**

**Responsiveness**

**4. Actively LISTEN & PROBE for more details**



**Tips on Effective Listening**

1. Stay open minded.	2. AVOID jumping to conclusions.
3. Ask relevant questions.	4. Paraphrase their message.
5. Maintain eye contact.	6. AVOID being overly emotional.

**Responsiveness**

**5. Take ACTION or EXPLAIN why you won't**

Provide **specific** reasons. Be **sensitive** to their reactions.

- Provide **detailed** rationale.
  - >> "I cannot do anything about your concern because the administration has a policy that..."
  - >> "I understand your perspective, but 2/3 of the team is against so we're going to go in another direction"
- Be **clear** and **timely**.
  - >> "I think we should follow Karl's recommendations on this point because..."

**Open AND Responsive**

- Open, BUT not Responsive = **Hypocritical**
  - You claim to be open, but don't actually do anything.
- Responsive, BUT not Open = **Pointless**
  - You want to act, but people won't speak up to begin with.



**Role-Play Scenarios**

- Divide into groups of 3 (or 2).
- 3 Practice Scenarios (2-3 min each).
- Exchange roles as leader and team member.

**Role-Playing Scenario EXAMPLE**

**What to say if...**

A team member shares an idea that you like and want to follow up on.

**Examples:**

- Proposes a novel tracking system for ordering products.
- Change the company's hiring referral program.

**(1) Be Approachable, (2) Actively Invite Input, (3) Offer Appreciation, (4) Listen & Probe for Details (5) Take Action (Offer an Explanation)**

**Role-Playing Scenario**

**What to say if...**

At a weekly meeting, you want to gather feedback about a program issue.

**Examples:**

- Trying to gather information about possible new regulation (e.g., mortgage regulation changes).
- Better understand competitor's new product (e.g., extra fibre/protein granola bar).

**(1) Be Approachable, (2) Actively Invite Input, (3) Offer Appreciation, (4) Listen & Probe for Details, (5) Take Action (Offer an Explanation)**



Role-Playing Scenario

What to Say if...  
 A team member shares an impractical idea that you do not want to support or simply cannot implement.

Examples:  
 • An expensive revamp of the company's website (e.g., switching providers to jazz-up the feel).  
 • Changing an institutionalized policy (e.g., causal-Friday dress code).

(1) Be Approachable, (2) Actively Invite Input, (3) Offer Appreciation, (4) Listen & Probe for Details, (5) Take Action (Offer an Explanation)

Role-Playing Scenario

What to Say if...  
 A team member notices a potentially important issue that you want to better understand.

Examples:  
 • Believe that you are overlooking an investment opportunity.  
 • Is worried that your ad-campaign may be insensitive to a certain demographic.

(1) Be Approachable, (2) Actively Invite Input, (3) Offer Appreciation, (4) Listen & Probe for Details, (5) Take Action (Offer an Explanation)

Summary

People are hardwired to withhold their input  
**Fear & Futility**

What Can Leaders Do?

BE AVAILABLE, BE APPROACHABLE, ASK QUESTIONS, SOLICIT IDEAS, LISTEN, EXPRESS GRATITUDE, DO SOMETHING, GIVE EXPLANATIONS

Goal Setting **Yours to Keep**

Create an action plan for how you will implement these strategies next week, month, the rest of the semester...

- It should be: specific, personal, challenging, & attainable.
- Can be related to your current leadership experiences, in-class, with friends/family...etc.

Reflection & Evaluation Forms

Please remember to write your ID number on the Reflection form

Thank you!

Questions or comments?  
[k.brykman@queensu.ca](mailto:k.brykman@queensu.ca)


Please do not share information from this training until the study is complete

## Appendix E: Chapter 3 PowerPoint Slides for Control Training Condition

Confirm your attendance.  
Place your bags (with computer/cell phone) in the front of the room.  
Find a seat to begin.

### Team-Decision Making Study

#### Part 1: Leadership Training



Tuesday November 14, 2017

### Training Agenda

1. What is Leadership? Why Does Leadership Matter?
2. Training Content: "Maximizing Leader Effectiveness"
  - a. "Big" Questions
  - b. Strategies
3. Role-Playing Scenarios
4. Summary, Goal-Setting, Reflection/Evaluation

**Golden Rule: Respect each other's opinions.**

### Leadership vs. Management

What is Leadership vs. What is Management?

"Organizations are over-managed and under-led"  
-Peter Drucker

**Management ≠ Leadership**

Leaders are people who do the right things.  
-Warren Bennis



### What is Leadership?

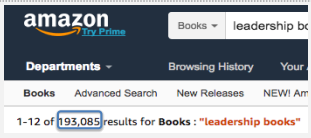
"Leaders shape the culture of their TEAM. They affect what others do and feel through their mindset, words, and actions"

No Clear Definition!?!?

### 100 Answers to the Question: What is Leadership?

There are as many definitions of leadership as there are leaders. Here are 100 of the best ways to define leadership.

### Romance With Leadership

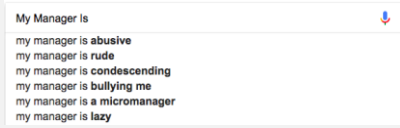


1. WHY are there literally hundreds of thousands of guides, steps, mantras, books, quotes, articles on leadership?!?!

- Leaders...
  - Get all the glory/credit (but take the blame).
  - Looked upon for guidance and support.
  - Are symbols of the organization/team.
  - Control the carrots and sticks (rewards & punishment).
  - Generally have the most power and influence.

### Romance With Leadership (Breakup with Management)

- "People join Companies, But Quit Managers".
  - Over 50% of employees quit their job because of their Manager.
  - Managers affect up to 70% of employee engagement.



- 45% of Managers Behave Destructively.
- 82% of Employees Don't Trust their Manager.

Romance With Leadership

2. Are leaders born or made?

a) Think of famous leaders or leaders you look up to... Do you think they naturally possess leadership qualities or did they develop them over time?



CONGRATULATIONS YOU GOT A LEADER!


Romance With Leadership

2. Are leaders born or made?

- Leaders are "Born" and "Made"

**"Some are born great, some achieve greatness, and some have greatness thrust upon them"** Shakespeare


- Born:** Approx. 30% of leadership emergence is heritable.
- Made:** Effects of early "nurture" (e.g., adversity, parenting).



Leader Emergence/Effectiveness

Emergence	Effectiveness
The process of becoming a leader	The extent to which leaders affect team performance, well-being...etc.

- Early research focused on **traits**
- Some traits can predict leadership **emergence**...
- But traits are poor predictors of leadership **effectiveness**.



Leader Emergence/Effectiveness (Based on Traits)

3. Why are traits poor predictors of leadership effectiveness?

- Context:** Traits ignore different situations.
- Chicken and the egg:** Can't tell if traits make the leader or leaders develop the traits.
- HOW:** Traits don't tell us how leadership affects behaviours.
- You are what you are:** Can't teach traits

**Instead...**

**Effective Leaders Cultivate a Growth Mindset**

Growth Mindset

**Growth Mindset Individuals**

- Really push and stretch themselves
- Confront and learn from their mistakes
- Believe hard work leads to mastery

"Tasks are opportunities for learning... Failure is just evidence that they haven't mastered the task yet"

"People who believe that talent can be developed are the ones who really push, stretch, confront their own mistakes and learn from them"

- Carol Dweck

Fixed Mindset

**Fixed Mindset Individuals**

- Are overly concerned with looking smart
- Don't like making mistakes
- Don't take feedback well

"Believing that the point of execution is to demonstrate competence"

"People who believe in the power of talent tend not to fulfill their potential because they're so concerned about looking smart and avoiding mistakes."

- Carol Dweck

### Why Does Growth Mindset Matter?

**Leaders with a Growth Mindset are....**

<p><b>Trustworthiness</b></p> <p><b>47%</b></p> <p>likelier to say that their colleagues are trustworthy.</p>	<p><b>Ownership &amp; Commitment</b></p> <p><b>34%</b></p> <p>likelier to feel a strong sense of ownership and commitment to the company.</p>
<p><b>Support Risk Taking</b></p> <p><b>65%</b></p> <p>likelier to say that the company supports risk taking, and</p>	<p><b>Fosters Innovation</b></p> <p><b>49%</b></p> <p>likelier to say that the company fosters innovation.</p>

### How to Cultivate a Growth Mindset

- 1) Belief**
  - Abilities/ qualities can be developed over time.
- 2) Challenge**
  - Strive to take on a challenges, step out of comfort zones.
- 3) Learning**
  - View challenges as opportunities for growth.
  - View failure as part of the process towards mastery.

### How Does Growth Mindset Effect Leadership?

#### How can cultivating a growth mindset affect leaders?

- Your leadership abilities can develop over time.
- Your team's skills and abilities can also develop over time!
  - With the proper guidance and support (not being too results oriented).
  - Try to stay open-minded. Everybody has different skills.
- Enhanced team resiliency, learning, innovation...
  - Learning:** View tasks as opportunities for growth.
  - Resiliency:** View failures as opportunities for learning.
  - Innovation:** Remember that success comes from hard work.

### Role-Play Scenarios

- Divide into groups of 3 or 2.
- 3 Practice Scenarios (2-3 min each).
- Exchange roles as leader and team member.

### Role-Playing Scenario EXAMPLE

#### What to say/do if...

Running a team meeting after your team failed to hit their quarterly targets.

Examples:

- Did not hit the forecasted sales numbers against last years predictions.
- Did not develop enough new clients in the quarter.

(1) Challenges as opportunities for growth, (2) Learn from mistakes, (3) Hard work drives success, (4) Qualities can be developed

### Role-Playing Scenario

#### What to say/do if...

Your team encounters a relatively easy situation that they can easily complete.

Examples:

- A client requested a project to be completed in one month, which should only take you 2 weeks.
- Your team gained more funding for the project (property development) than needed.

(1) Challenges as opportunities for growth, (2) Learn from mistakes, (3) Hard work drives success, (4) Qualities can be developed

**Role-Playing Scenario 2**

What to say/do if...

A team member shares an impractical idea that you do not want to support or simply cannot implement.

Examples:

- An expensive revamp of the company's website.
- Changing an institutionalized policy (e.g., dress code).

(1) Challenges as opportunities for growth, (2) Learn from mistakes, (3) Hard work drives success, (4) Qualities can be developed

**Role-Playing Scenario 3**

What to say/do if...

A team member puts down someone else after they made a costly mistake.

Examples:

- Forgot to email pertinent contracts for client on time.
- Failed to notice critical product deficiency that will be very expensive for recall/replacement.

(1) Challenges as opportunities for growth, (2) Learn from mistakes, (3) Hard work drives success, (4) Qualities can be developed


**Summary**

- The Romance of Leadership.**
  - (1) Get all the glory, (2) Offer guidance, (3) Control the carrots and sticks, (4) Symbols of the collective, (5) Have the most influence.
- Leaders are "Born" AND "Made".**
  - Duality of nature and nurture.
- BUT, Leader Emergence & Effectiveness.**
  - And traits are poor predictors of leader effectiveness.
- Instead Focus on Cultivating a "Growth Mindset".**
  - Belief:** You can improve... Success comes from hard work.
  - Challenge:** Push yourself... Tasks as opportunities for growth.
  - Learning:** Strive to improve... Failure as an opportunity to learn.

**Goal Setting** **Yours to Keep**

Create an action plan for how you will implement these strategies next week, month, the rest of the semester...

- It should be: Specific, Personal, Challenging, & Attainable.
- Can be related to your current leadership experiences, in-class, with friends/family... etc.



**Reflection & Evaluation Forms**

Please remember to write your ID number in the Reflection form

**Thank you!**

Questions or comments?  
[k.brykman@queensu.ca](mailto:k.brykman@queensu.ca)

Please remain seated until the end of the training  
 Please do not share information from this training until the study is complete

**Appendix F: Chapter 3 Training Evaluation Form**

## Leadership Training Evaluation Form

**The purpose of this evaluation is to provide constructive feedback to the instructor and to recommend adjustments to the training.**

<i>To what extent do you agree with these statements:</i>		<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neither Agree Nor Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>[A] CONTENT</b>						
1	The content of the training matched the stated objectives.	1	2	3	4	5
2	The content of the training was up-to-date.	1	2	3	4	5
<b>[B] PRACTICE</b>						
3	The role-playing exercises were relevant to the training objectives.	1	2	3	4	5
4	The role-playing exercises were helpful for my learning.	1	2	3	4	5
5	There was enough time to practice the content.	1	2	3	4	5
<b>[C] MATERIALS</b>						
6	The length of the training program was appropriate for the objectives.	1	2	3	4	5
7	The presentation technologies (i.e., powerpoint slides) was effective.	1	2	3	4	5
<b>[D] INSTRUCTOR</b>						
8	The instructor presented material clearly.	1	2	3	4	5
9	The instructor was responsive to participants' questions.	1	2	3	4	5
10	The instructor was knowledgeable about the material.	1	2	3	4	5
11	My learning was enhanced because of this instructor.	1	2	3	4	5
<b>[E] OVERALL</b>						
12	I feel more confident in my leadership abilities after participating in this training.	1	2	3	4	5
13	I would recommend this training program to others.	1	2	3	4	5
14	Overall, this was an effective training program.	1	2	3	4	5

**Do you have any suggestions to improve the training program? Any additional comments?**

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## Survival on the Moon

The year is 2025 and you are part of a crew traveling toward the Moon in the *Orion* spacecraft. This is your first mission with this crew, so you are still developing an “identity” and learning about each crewmember’s strengths, abilities, and interests. *Orion* is a gumdrop-shaped spacecraft designed to carry humans from Earth to the Moon. Attached, or docked, to *Orion* is the Lunar Surface Access Module (LSAM), which you will use to land on the Moon. As your spacecraft enters lunar orbit, you spot the lunar outpost. This outpost has grown, having been built piece by piece during past missions. It is located on a crater rim near the lunar south pole, in near-constant sunlight. This location is not far from supplies of water ice that can be found in the cold, permanently shadowed part of the crater.



After transferring into the LSAM and separating from *Orion*, you prepare to descend. Suddenly, you notice that there is a problem with the thrusters. You land safely, but off course, about 80 kilometers from the outpost. As you look across the charcoal-gray, dusty surface of the Moon, you realize your survival depends on (a) reaching the outpost, (b) finding a way to protect yourself until someone can reach you, or (c) meeting a rescue party somewhere between your landing site and the outpost.

You know the Moon has basically no atmosphere or magnetosphere to protect you from space radiation. The environment is unlike any found on Earth. The regolith, or lunar soil, is a mixture of materials that includes sharp, glassy particles. The gravity field on the Moon is only

one-sixth as strong as Earth's. More than 80 percent of the Moon is made up of heavily cratered highlands.

Temperatures vary widely on the Moon. It can be as cold as  $-193^{\circ}\text{C}$  ( $-315^{\circ}\text{F}$ ) at night at its poles and as hot as  $111^{\circ}\text{C}$  ( $232^{\circ}\text{F}$ ) during the day at its equator. *Survival will depend on your mode of transportation and ability to navigate. Your basic needs for food, shelter, water, and air must be considered. Your team's ability to work effectively together and harness each other's knowledge and skills will ultimately determine your fate! Fortunately, your spacecraft is equipped with 15 items that can help you survive.*

Following these instructions, I will provide you with a list of the 15 items. To prevent against bias, protocol recommends that each crewmember first individually rank each item from 1 to 15 according to their importance. Place the number 1 by the most important item and continue ranking to number 15. Beside each choice, provide a brief explanation for your ranking and how you plan to use the item. You have 15 minutes to work on this individually.

After you have made your own choices, your commander will facilitate a team discussion to arrive at a consensus. Fortunately, your commander recently participated in a leadership-training program to prepare for situations just like this. ***Although you will work on this as a crew, your commander has ultimate veto in determining the crew's strategy. You have 25-minutes*** to work on this as a crew.

Your survival depends on your ability to work with other crewmembers to determine not only the value of these items, but how to use them as well.

**Your challenge: As a crew, rank the 15 items that will help you survive.**



### Appendix H: Chapter 3 Complete Survey Scales

Construct	Items
Leader Control Variables	<p><b>Prior leadership experience:</b> Which of the following BEST describes your leadership experience?</p> <p><b>Interest in training:</b> How interested are you in attending this leadership training?</p>
Motivation to Lead (Chan & Drasgow, 2001)	<p>The below questions ask you to reflect on your general beliefs about leadership. Please select the option that BEST corresponds to your opinion:</p> <ol style="list-style-type: none"> <li>1. Most of the time, I prefer being a leader rather than a follower when working in a group.</li> <li>2. I usually want to be the leader in the groups that I work in.</li> <li>3. I have a tendency to take charge in most groups or teams that I work in.</li> <li>4. I am the type of person who is not interested in leading others.</li> </ol>
Extraversion (Goldberg, 1999)	<p>The below statements refer to your perceptions of your general disposition. Please select the option that BEST corresponds to your opinion:</p> <ol style="list-style-type: none"> <li>1. I feel comfortable around people.</li> <li>2. I make friends easily.</li> <li>3. I am skilled in handling social situations.</li> <li>4. I am the life of the party.</li> <li>5. I know how to captivate people.</li> <li>6. I have little to say.</li> <li>7. I keep in the background.</li> <li>8. I would describe my experiences as somewhat dull.</li> <li>9. I don't like to draw attention to myself.</li> <li>10. I don't talk a lot.</li> </ol>
Proactive Personality (Seibert et al., 2001)	<p>The below statements refer to your perceptions of your general disposition. Please select the option that BEST corresponds to your opinion:</p> <ol style="list-style-type: none"> <li>1. I am constantly on the lookout for new ways to improve my life.</li> <li>2. Wherever I have been, I have been a powerful force for constructive change.</li> <li>3. Nothing is more exciting than seeing my ideas turn into reality.</li> <li>4. If I see something I don't like, I fix it.</li> <li>5. No matter what the odds, if I believe in something I will make it happen.</li> <li>6. I love being a champion for my ideas, even against others' opposition.</li> <li>7. I excel at identifying opportunities.</li> </ol>

	8. I am always looking for better ways to do things. 9. If I believe in an idea, no obstacle will prevent me from making it happen. 10. I can spot a good opportunity long before others can.
Leader Openness (Detert & Burris, 2007)	The below statements refer to your perceptions of your TEAM LEADER in this study.  1. Takes action on things brought up by me. 2. Seriously considers good ideas. 3. Fairly evaluates peoples' suggestions.
Leader Responsiveness (Janssen & Gao, 2015)	The below statements refer to your perceptions of your TEAM LEADER in this study.  1. Gives high priority to handling peoples' concerns. 2. Takes action to correct the concerns that I communicate. 3. Is willing to support me if my concern is valid.
Leader Solicitation (Fast et al., 2014)	The below statements refer to your perceptions of your TEAM LEADER in this study.  1. Asks me personally to tell him/her about things that I think would be helpful for improving our team. 2. Asks me personally to tell him/her about how things have been done in other situations. 3. Seeks out knowledge from me. 4. Asks me personally what skills I have that s/he may not know about that might enhance our team performance.
Voice Climate (Frazier & Bowler, 2015)	Based upon your experiences in <u>THIS</u> team study. Members of my team are encouraged to...  1. Develop and make recommendations concerning issues that affect the team. 2. Speak up and encourage others on the team to get involved. 3. Communicate their opinions about issues to others in the team even if their opinion is different and others disagree. 4. Keep well informed about issues where their opinions might be useful to the team. 5. Get involved in issues that affect work quality on the team. 6. Speak up in the team with ideas (e.g., changes in procedures).
Team Voice Quantity (Burris, 2012)	Based upon your experiences in <u>THIS</u> team study. Members of my team are encouraged to...  1. Challenge each other to deal with problems around here. 2. Give suggestions about how to make our team better, even if others disagree. 3. Speak up with ideas to address our needs and concerns. 4. Keep well informed about issues where our opinion might be useful.

	<ol style="list-style-type: none"> <li>5. Get involved in issues that affect the quality of our work.</li> <li>6. Speak up and encourage others to get involved in issues that affect this team.</li> </ol>
<p>Team Voice Quality (Brykman &amp; Raver, 2016)</p>	<p>Based upon your experiences in <u>THIS</u> team study. When Members of My Team Speak Up They...</p> <ol style="list-style-type: none"> <li>1. Provide evidence to support the suggestion.</li> <li>2. Consider whether we have the resources to implement the idea.</li> <li>3. Offer an idea that is important for our success.</li> <li>4. Propose an innovative solution to address the problem.</li> </ol>
<p>Prototypical Leader (Antonakis, et al., 2011)</p>	<p>The below statements refer to your perceptions of your TEAM LEADER in this study.</p> <ol style="list-style-type: none"> <li>1. Frequently demonstrates leadership behaviours.</li> <li>2. Acts like a typical leader.</li> <li>3. Fits my image of a leader.</li> </ol>

**Appendix I: Chapter 3 Post Training Manipulation Check Questionnaire**

## Post Training Manipulation Check

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**1) Please describe 2-3 key lessons that you learned and/or strategies that you intend to implement based on today's training:**

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**2) Please complete this sentence based on what you learned from today's session:**

a. Leaders can maximize their team's performance by...

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b. One of the biggest challenges of leadership is...

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**3) For each statement, please indicate whether it is True ("T") or False ("F"):**

- F   a. Management and leadership are interchangeable concepts.
- T   b. People are hardwired to not speak up to their leader.
- F   c. What predicts leadership emergence also predicts leadership effectiveness.
- F   d. There is no clear definition of leadership.
- F   e. Leaders should try not to apologize because it shows weakness.
- T   f. Research shows us that leaders are born and made.
- T   g. Leaders shape their team's culture through their actions and words.
- F   h. It only takes 1 "good" behaviour to offset 1 "bad" behaviour.
- F   i. Embracing a fixed mindset can benefit leaders and their team.

## Post Team Task Manipulation Check

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**1) Which of these best captures the reasons why people do not speak up to their leader?**

- a) They are naturally introverted and hesitant.
- b) Their leader cultivates a fixed mindset.
- c) **They feel afraid and think that it's futile.**
- d) They lack status and have nothing to contribute.
- e) Their leader does not motivate or inspire them.

**2) Which of these is NOT and effective strategy for leaders to cultivate a growth mindset?**

- a) Believing that skills/abilities can be developed.
- b) Challenging yourself and your team.
- c) **Emphasizing team performance above all else.**
- d) Learning from mistakes and failure.
- e) All of these are effective strategies.

**3) Which of these is NOT an effective leadership strategy to encourage people to speak up?**

- a) Being approachable and available.
- b) **Creating an anonymous suggestion box.**
- c) Expressing appreciation.
- d) Providing explanations about why you won't take action.
- e) All of these are effective strategies.

**4) Which of these statements is NOT true of leadership emergence?**

- a) It is similar to leadership effectiveness.
- b) Extraversion tends to predict leadership emergence.
- c) **Much of leadership emergence is heritable.**
- d) Experiencing early adversity can affect leadership emergence.
- e) All of the above are true.

**5) Which of these statements is NOT one of the main reasons why traits are poor predictors of leadership effectiveness?**

- a) Traits ignore context.
- b) We can't be sure if traits make the leader or visa versa.
- c) Traits cannot be taught (you are what you are).
- d) Traits don't tell us how leadership *affects* behaviours.
- e) **All of the above are true.**

**6) Which of these captures the BEST overarching strategy to encourage people to speak up?**

- a) **Being open and responsive.**
- b) Being approachable and available.
- c) Offering appreciation and recognition.
- d) Demonstrating growth and learning from adversity.
- e) Being humble and courageous.

**7) Please describe 1 or 2 main lessons that you learned from the leadership training:**

*Does not need to be more than a couple of sentences (or bullet points)*

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### Appendix K: Chapter 4 Complete Survey Scales

Construct	Items
<p>Voice Climate (Frazier &amp; Bowler, 2015)</p>	<p>The below statements refer to your perceptions of your immediate TEAM at work. Members of my team are encouraged to...</p> <ol style="list-style-type: none"> <li>1. Develop and make recommendations concerning issues that affect the team.</li> <li>2. Speak up and encourage others on the team to get involved in issues that affect the team.</li> <li>3. Communicate their opinions about work issues even if their opinions are different and others on the team disagree.</li> <li>4. Keep well informed about issues where their opinions might be useful to the team.</li> <li>5. Get involved in issues that affect the quality of work life on the team.</li> <li>6. Speak up with ideas for new projects or changes in procedures.</li> </ol>
<p>Team Voice Risk (Wei et al., 2015)</p>	<p>The below statements refer to your general experiences participating on your team... If I express an idea to my manager, what would happen?</p> <ol style="list-style-type: none"> <li>1. He/she would think that I don't respect him/her.</li> <li>2. I will offend him/her.</li> <li>3. He/she would regard me as a trouble-maker.</li> <li>4. He/she would evaluate my performance negatively.</li> </ol>
<p>Team Fear (Watson et al., 1988)</p>	<p>The below statements refer to your general experiences participating on your team... While working with my team I feel:</p> <ol style="list-style-type: none"> <li>1. Afraid.</li> <li>2. Nervous.</li> <li>3. Jittery.</li> <li>4. Frightened.</li> <li>5. Scared.</li> <li>6. Shaky.</li> </ol>
<p>Team Efficacy (Tangirala et al., 2013; cf., Spreitzer, 1995):</p>	<p>The below statements refer to your general experiences participating on your team... To what extent do you agree with these statements:</p> <ol style="list-style-type: none"> <li>1. I am self-assured about my capabilities to speak up about my team.</li> <li>2. I have mastered the skills necessary to speak up in my team.</li> <li>3. I am confident about my ability to speak up in my team.</li> </ol>
<p>Team Vitality (Porath et al., 2011)</p>	<p>The below statements refer to your general experiences participating on your team... While working with my team I feel:</p> <ol style="list-style-type: none"> <li>1. I feel alive and vital.</li> <li>2. I have energy and spirit.</li> <li>3. I do not feel very energetic.</li> <li>4. I feel alert and awake.</li> <li>5. I look forward to each new task.</li> </ol>

<p>Team Voice Quantity (Burris, 2012)</p>	<p>The below statements refer to your beliefs about how often your team engages in certain behaviours at work. To what extent do you agree with these statements:</p> <ol style="list-style-type: none"> <li>1. Members of my team give me suggestions about how to make our organization better, even if others disagree.</li> <li>2. Members of my team challenge me to deal with problems around here.</li> <li>3. Members of my team speak up to me with ideas to address employees' needs and concerns.</li> </ol>
<p>Team Voice Quality (Brykman &amp; Raver, 2016)</p>	<p>The below statements refer to your beliefs about the extent to which your team engages in certain behaviours at work. When members of my team speak up, they...</p> <ol style="list-style-type: none"> <li>1. Provide evidence to support the suggestion.</li> <li>2. Consider whether we have the resources to implement the idea.</li> <li>3. Offer an idea that is important for our success.</li> <li>4. Propose an innovative solution to address the problem.</li> </ol>
<p>Team Performance (Alper et al., 2000)</p>	<p>The below statements refer to your perceptions of your team's effectiveness. Members of my team...</p> <ol style="list-style-type: none"> <li>1. Work effectively.</li> <li>2. Meet or exceed their productivity requirements.</li> <li>3. This team meets or exceeds its customers' expectations</li> <li>4. This team does superb work</li> <li>5. Critical quality errors occur frequently in this team's work (R)</li> <li>6. This team keeps getting better and better</li> </ol>
<p>Team Learning (Edmondson, 1999)</p>	<p>The below statements refer to your perceptions of your team's processes and behaviours. My team...</p> <ol style="list-style-type: none"> <li>1. Asks its internal customers (those who receive or use its work) for feedback on its performance</li> <li>2. Relies on out-dated information or ideas (R)</li> <li>3. Actively reviews its own progress and performance</li> <li>4. Does its work without stopping to consider all the information team members have (R)</li> <li>5. Regularly takes time to figure out ways to improve its work performance</li> <li>6. Ignores feedback form others in the company (R)</li> <li>7. Asks for help from others in the company when something comes up that team members don't know how to handle</li> </ol>



## Appendix L: Chapter 1 Queen's Research Ethics Board (GREB) Approval



January 09, 2017

Mr. Kyle Brykman  
Ph.D. Candidate  
Smith School of Business  
Queen's University  
Goodes Hall  
143 Union Street  
Kingston, ON, K7L 3N6

**GREB Ref #: GBUS-519-16; TRAQ # 6019989**  
**Title: "GBUS-519-16 Team Ideation"**

Dear Mr. Brykman:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "GBUS-519-16 Team Ideation" for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies". Once submitted, these changes will automatically be sent to the Ethics Coordinator, Ms. Gail Irving, at the Office of Research Services for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

A handwritten signature in cursive script that reads "John D. Freeman".

John Freeman, Ph.D.  
Chair  
General Research Ethics Board

c: Dr. Jana Raver, Supervisor  
Dr. Pamela Murphy, Chair, Unit REB  
Mrs. Nancy Chase, Dept. Admin.

## Appendix M: Chapter 2 Queen's Research Ethics Board (GREB) Approval



October 26, 2017

Mr. Kyle Brykman  
Ph.D. Candidate  
Smith School of Business  
Queen's University  
Goodes Hall  
143 Union Street  
Kingston, ON, K7L 3N6

**GREB Ref #: GBUS-553-17; TRAQ # 6022239**  
**Title: "GBUS-553-17 Team Decision-Making"**

Dear Mr. Brykman:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "GBUS-553-17 Team Decision-Making" for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

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On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

A handwritten signature in black ink that reads "Joan Stevenson".

Joan Stevenson, Ph.D.  
Interim Chair  
General Research Ethics Board

c: Dr. Jana Raver and Dr. Matthias Spitzmuller, Supervisors  
Dr. Pamela Murphy, Chair, Unit REB  
Mrs. Nancy Chase, Dept. Admin.

## Appendix N: Chapter 3 Queen's Research Ethics Board (GREB) Approval



April 13, 2017

Mr. Kyle Brykman  
Ph.D. Candidate  
Smith School of Business  
Queen's University  
143 Union Street  
Kingston, ON, K7L 3N6

**GREB Ref #: GBUS-529-17; TRAQ # 6020763**  
**Title: "GBUS-529 17 Team Functioning"**

Dear Mr. Brykman:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled "**GBUS-529 17 Team Functioning**" for ethical compliance with the Tri-Council Guidelines (TCPS 2 (2014)) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405.001), your project has been cleared for one year. You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one year period (access this form at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at <http://www.queensu.ca/traq/signon.html>; click on "Events"; under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies". Once submitted, these changes will automatically be sent to the Ethics Coordinator, Ms. Gail Irving, at the Office of Research Services for further review and clearance by the GREB or GREB Chair.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

A handwritten signature in cursive script that reads "John D. Freeman".

John Freeman, Ph.D.  
Chair  
General Research Ethics Board

c: Dr. Jana Raver, Supervisor  
Dr. Pamela Murphy, Chair, Unit REB  
Mrs. Nancy Chase and Ms. Amy Marshall, Dept. Admin.