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Employee voice and innovative work behaviour: empirical evidence from South Africa

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Abstract: Numerous empirical studies reveal that innovative work behaviour (IWB) has several antecedents, including leadership style (LS) and climate for innovation (CfI). However, literature reporting on how different types of employee voice (EV) influence IWB is scant. This research aims to empirically determine how different dimensions of EV are linked to IWB, and also to determine the relative importance of EV, compared to other predictors of IWB, namely LS and CfI. In a cross-sectional survey, respondents were asked questions on EV and IWB, as well as on CfI and the leadership styles. Reliability and validity for all measures were calculated, as well as correlation and regression analyses were used to test the bivariate and relative prediction power of the EV as an antecedent of IWB. The demographics of the 620 respondents from 11 organisations resonated well with national workplace statistics. All measures showed acceptable psychometric properties. Supportive voice and, particularly, constructive voice, positively correlated with IWB, while defensive and destructive voice had no effect on IWB. The model in which EV was used to predict IWB was superior to models that included leadership style as well as CfI. This research provides empirical evidence that EV contributes positively to IWB, depending on the type of EV expressed, and that EV, more than other often-mentioned antecedents, predicts IWB, emphasising the relative importance of EV as

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PUBLIC INTEREST STATEMENT

This study explores various conditions within organisations when employees’ innovative work behaviour is encouraged. Three predictors were analysed: leadership style (transactional, transformational, directive, and empowering), employee voice (supportive, constructive, defensive, and destructive), and climate for innovation. In this research it was found that amongst these predictors, employee voice and particularly, constructive voice, more than other competing predictors, positively influences willingness of employees to contribute their creative ideas and suggestions toward organisational improvements.
a predictor of IWB. Managers should monitor the EV expressed in their environment, and promote the expression of supportive voice and, particularly, constructive voice, should they aspire to foster IWB in their workplaces.

**Subjects: Quantitative Methods; Work & Organizational Psychology; Business, Management and Accounting**

**Keywords: Employee voice; supportive voice; constructive voice; defensive voice; destructive voice; climate for innovation; leadership style**

**Introduction**

Innovative work behaviour (IWB) relates to employees’ “intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization” (Janssen, 2000, p. 288). While innovation is often associated with what research and development (R&D) departments typically do (Scott & Bruce, 1994), IWB refers to creative and innovative thinking on the part of ordinary employees outside the R&D domain (Janssen, 2000; Scott & Bruce, 1994). Nowadays, IWB is expected from general employees while delivering on their in-role commitments (Cohen & Erlich, 2015).

IWB is central to overall organisational success (Bos-Nehles et al., 2017), sustainability (Agarwal, 2014; Sanz-Valle & Jiménez-Jiménez, 2018) and organisational performance (Noruzy et al., 2013; Yen, 2013). This centrality of IWB makes it an important activity, necessitating managerial focus on enabling employees’ IWB.

The general literature on IWB is prolific with papers reporting on studies of various antecedents to IWB. Antecedents considered at the job-specific level include job demands and job security (Janssen, 2000; Niesen et al., 2018). At the organisational level, antecedents to IWB include organisational processes (Ramamoorthy et al., 2005), the organisational climate, specifically the climate for innovation (Sethibe & Steyn, 2018; Shanker et al., 2017) and psychological contracts (Bhatnagar, 2014; Ng et al., 2010). Some antecedents deal with leader behaviour, for example, leadership style (Sethibe & Steyn, 2018; Soomro et al., 2021), relative leader-member exchange (Li et al., 2014), and perceived supervisor support (Bhatnagar, 2014). Less-often mentioned as antecedent to IWB is employee voice (EV), a behaviour linked to innovation, and that has recently been gaining attention from researchers (Rasheed et al., 2021; Selvaraj & Joseph, 2020).

The paucity of the literature and empirical studies addressing the EV-IWB link, as well as theoretical rationalisation of this relationship, necessitated further investigation. This research aims firstly to ascertain the importance of EV as an antecedent of IWB, and secondly, to explore this relationship within an expanded conceptual model where other, better-known predictors of IWB, such as climate for innovation (CfI), are also considered.

**Literature review**

Employee voice and innovative work behaviour are the focus of this study. These concepts, as well as the relationship between them are discussed below, after which a model linking these variables is proposed. The proposed model is tested in the empirical part of the study.

**Employee voice**

Several authors have made significant contributions towards conceptualising and measuring the EV construct. Originated by Hirschman (1970, p. 30) in the early 1970s, voice was initially described as a choice on the part of the customer to express dissatisfaction in a company’s offering with the “intention to force a change in management”. Customer voice has since developed into a broad
field of interest (see, Griffin & Hauser, 1993; Shillito, 2000). Similarly, the voice expressed by employees in organisations and defined as “discretionary communication of ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning” (Morrison, 2011, p. 375), developed into a pervasive organisational behavioural concept (Van Dyne et al., 2003) essential to innovation (Veenendaal, 2015). Over the past 25 years, EV has evolved from a concept related to an employee promotive behaviour (Van Dyne & LePine, 1998), to employees’ means of communicating with management (Freeman & Medoff, 1984) and channelling their inputs into managerial decisions (Budd, 2004), to a concept associated with employee extra-role improvement-orientated behaviour (Morrison, 2011).

The literature provides extensive evidence that both unitary, as well as multidimensional operationalisation of voice are broadly adopted by researchers. As an alternative to the unitary approach to voice (Van Dyne & LePine, 1998), Liang et al. (2012) distinguish between two contrasting types of voice, namely promotive and prohibitive voice. Along similar lines, pro-social, defensive and acquiescent voice (Van Dyne et al., 2003), and active/constructive and passive/constructive voice (Gorden, 1988), were introduced. A recently published EV organising framework by Maynes and Podsakoff (2014) differentiates between four types of voice: supportive, constructive, defensive and destructive, where the first two represent the promotive nature of voice, and the other two, the prohibitive. This study adopts Maynes and Podsakoff’s (2014) four-way typology of voice, as well as the authors’ instruments for measuring these types of voice.

Empirical studies reveal that EV is associated with a wide range of work-related outcomes, which are largely dependent on whether voice is being expressed or heard or whether it is ignored or unheard (Bashshur & Oc, 2015). On an individual level, when EV is perceived as being heard, employees’ sense of value increases (Lind & Tyler, 1988), employees report increase of their felt control over decisions or outcomes (Folger, 1977) as well as motivation and satisfaction at work (Greenberger & Strasser, 1986). However, when voice is perceived as unheard, this can have negative effects on individuals. By way of example, Pinder and Harlos (2001) provide evidence that, if ignored, EV leads to frustration for the voice. In one specific study, it was revealed that employees who give voice could be perceived as troublemakers and can receive lower performance ratings from their direct managers (Seibert et al., 2001), which negatively affects their individual career progression. On the organisational level, EV can lead to positive outcomes, such as learning, decision making, adaptability and performance (Morrison & Miliken, 2000). While the evidence of the interest in studying the relationship between voice and innovation exists (see, Chen & Hou, 2016; Zhou & George, 2001), the empirical examinations of voice predicting IWB are sparse. The research can thus contribute to a nascent body of literature related to EV as an antecedent of IWB.

**Innovative work behaviour (IWB)**

Several seminal authors contributed conceptually and operationally towards the development of the IWB concept, including Scott and Bruce (1994), Janssen (2000), Kleyseen and Street (2001), and De Jong and Den Hartog (2010). Definitions proposed by these researchers build on each other and are in many ways related. Furthermore, they share a focus on the multidimensional characteristics of IWB and the beneficial results of innovation. Comprehensively, IWB can be defined as “an individual’s behaviour that aims to achieve the initiation and intentional introduction (within a work role, group or organization) of new and useful ideas, processes, products or procedures” (De Jong & Den Hartog, 2010, p. 24). Although in agreement as to the basic structure of IWB, the authors differ on the exact number of stages through which IWB evolves. For example, Janssen (2000) suggests that IWB consists of three distinct tasks, namely idea generation, idea promotion, and idea realisation. However, Kleyseen and Street (2001) present five essential elements, suggesting the inclusion of opportunity exploration, generativity, information investigation, championing, and application. Although multi-stage structure is the core
characteristic of IWB, the debate continues as to whether innovation should, for all intents and purposes, be regarded as a set of discontinued (Steyn & de Bruin, 2019) or integrated activities, given Scott and Bruce’s (1994) argument that innovation stages are often performed by individuals simultaneously and not in a specific sequence.

The managerial expectations of general employees engaging in innovation are rooted in IWB being implied as employees’ discretionary actions that “go beyond the prescribed” and that are not necessarily rewarded by the organisation’s formal system (Janssen, 2000, p. 288). However, discretionary behaviours, such as IWB, need to be specifically activated and encouraged by management practices (Bos-Nehles et al., 2017; Sanz-Valle & Jiménez-Jiménez, 2018; Veenendaal, 2015). The literature provides extensive evidence of studies exploring various predictors that influence employees to participate in innovation. Some antecedents to IWB relate to leader behaviours, including ethical (Zahra et al., 2017), transformational leadership (Abbas et al., 2012), and leader-member exchange (Schuh et al., 2018). Other antecedents pertain to culture and relational climate, incorporating constructs such as psychological safety (Binyamin et al., 2018), psychological contracts (Chang et al., 2013), and psychological contract breaches (Kiazad et al., 2014). With the exception of five studies (see, Chen & Hou, 2016; Chen et al., 2020; Guzman & Espejo, 2019; Rasheed et al., 2021; Selvaraj & Joseph, 2020), the research on direct links between EV and innovation is scant. Although these investigations focused on the link between EV and IWB, in four models, IWB was operationalised as the IWB proxies, namely, “creativity” (Chen et al., 2020), “environment for innovation” (Selvaraj & Joseph, 2020), “organisational innovation” (Rasheed et al., 2017), and “management innovation” (Guzman & Espejo, 2019).

This paper contributes towards a better understanding of the interplay between EV and IWB. It also adds complexity to the debate on these variables, as EV is studied as a multidimensional construct, comprised of four distinct types of voice, namely supportive, constructive, defensive, and destructive.

**Empirical evidence linking EV and IWB**

As stated above, research on the prevalence of antecedents to IWB is plentiful. Some studies provide evidence of a positive relationship between EV and desirable organisational outcomes, including creativity and innovation (Zhou & George, 2001). Although these specific outcomes are often operationalised as proxies to IWB, they only sparsely address the complexity of the multidimensional nature of IWB.

An extensive search of recent articles (published in the past five years), where EV (operationalised as a single construct or any form of multidimensional construct) was studied as a predictor of IWB, did not return successful results. However, the analysis of empirical literature where the dependent variable, being IWB, was substituted with its proxies, provided consistent findings, as anticipated. For example, Chen et al. (2020) found a positive and significant relationship between voice and creativity. In the same model, when voice behaviour was added as a moderator between ethical leadership and creativity, authors reported that employees were comfortable to voice their concerns in environments where ethical leadership was high, which led to enhanced creativity. In another study by Selvaraj and Joseph (2020), a positive and significant correlation was found between EV and environment for innovation. Interestingly, the authors used deliberative democracy theory (Fung, 2005) to explain that this correlation was stronger when mediated by employees’ positive relationships with their direct supervisors and, even more, when there was a high level of trust in senior management. In their study, Guzman and Espejo (2019) selected promotive voice as a predictor of management innovation. Consistent with previous findings, the authors report a positive and significant correlation between the two variables. Applying conservation of resources theory (CORT) to explain the outcomes of the hypotheses, the authors argue that the link between promotive voice and management
innovation is stronger when employees feel that the willingness to discuss ideas within the unit is high. It is clear that the mediation of the willingness to discuss ideas played a solent role in employees’ endeavours to invest their own resources (e.g., effort, time, energy) in order to secure more resources in the future. Lastly, the study of Chen et al. (2020), who examined the link between voice and innovative behaviours moderated by perceived organisational status, is notable. Using CORT as the explanatory theoretical lens, the authors reported a positive and significant relationship between variables. Interestingly, innovative behaviour was studied as the direct outcome for the voicer. The authors concluded that, based on CORT, the voicer will acquire personal-based resources such as support, status, and respect and that, to attain additional resources while retaining the existing resources, the voicer is further motivated to implement his/her innovative ideas and suggestions for organisational improvements.

Although the empirical literature linking EV and the proxies for IWB, namely creativity and innovation, is limited, evidence was also found of these proxies also being presented as part of an employee performance variable. For example, Van Dyne and LePine (1998) investigated the impact of employees’ helping and voice behaviours on innovation as a sub-construct of a performance dimension. The authors found that employees’ helping and voice behaviours were strong predictors of performance. A similar study by Ng and Feldman (2012), measuring the effects of employees' voice on job- and role-related performance (again, with creativity and innovation being aspects of job performance construct), also reported a positive relationship between the two variables.

Research framework and hypotheses
The research framework appears in Figure 1. It suggests a set of relationships between predictors, namely four types of EV, four leadership styles, CFI, and IWB as a dependent variable.

The research framework is centred in the conservation of resources theory (CORT; Hobfoll, 1989). CORT explains the rationale behind the desire of employees to strive for protection and accumulation of their resources. Hobfoll (1989, p. 516) describes resources as “objects, personal characteristics, conditions, or energies that are valued by the individual” and include time, money,
health and relationships. When individuals perceive the loss of, or possibility of losing, these resources, they may choose to withdraw in an effort to conserve or prevent further losses of valuable resources. Based on the CORT’s “resource conservation” assumption, in stressful environments, employees will be unlikely to engage in voice behaviour in order to preserve their time and energy for use in coping with existing work challenges, rather than coming forward with change-orientated innovative ideas, which could potentially generate even more stress (Burris et al., 2008). On the other hand, when employees identify opportunities and come forward with suggestions and constructive ideas for changes towards organisational improvements (characterised as IWB), they will likely invest their own resources, such as effort, energy, time and so on, to gain additional resources and support from their managers and organisation. Based on a [competing] assumption of CORT, the “resource acquisition” tenet, proactive behaviour, such as voice, can be seen as instrumental in acquiring additional resources, as these are channelled to management to alleviate problems and stress. Thus, employees are particularly motivated to engage in voice behaviours to identify and implement salient innovative ideas (Tangirala & Ramanujam, 2008). Following the resource conservation tenet, it could be assumed that in stressful environments, for example, in hostile organisational climates, employees will either withhold their voices and resort to silence, or will engage in prohibitive [defensive and destructive] types of voice to cope with stress. Similarly, following the resource acquisition tenet, in environments typified by psychological safety and positive relational climates, when employees recognise opportunities for improvement of systems, policies and procedures, they will feel particularly motivated to use promotive [supportive and constructive] types of voice to identify and remove organisational deficiencies, an activity referred to as IWB. The aforementioned theoretical rationale proposes the following hypotheses:

**H1:** Employee voice (EV) does not have a direct impact on innovative work behaviour (IWB)

- **H1a:** Supportive voice (SV) has a direct impact on IWB
- **H1b:** Constructive voice (CV) has a direct impact on IWB
- **H1c:** Defensive voice (DfV) has a direct impact on IWB
- **H1d:** Destructive voice (DsV) has a direct impact on IWB

**H2:** All antecedents to IWB (EV, leadership styles, and climate for innovation (CFI)) equally impact IWB

- **H2a:** Some antecedents to IWB (EV, leadership styles, and climate for innovation (CFI)) are better predictors of IWB than others.

The matter of leadership style and CFI was presented in H2, as these are, as stated in the Introduction, frequently mentioned and seemingly significant predictors of IWB. The rationale for their inclusion is to assess the relative strength or importance of EV as a predictor of IWB.

The method for testing the aforementioned hypotheses will be described below.

**Method**

This study was designed as a cross-sectional survey, which is appropriate for data collection and proposed hypotheses testing. Cross-sectional studies assume the gathering of quantifiable data, at one point in time, by means of questionnaires, where such data gathering is aimed at describing
a population and identifying relationships within the data (Cooper, Schnidler, & Sun 2006). As the purpose of this study was to describe the population and to investigate relationships between variables, the cross-sectional survey design was considered appropriate.

**Population and sampling**
The population was comprised of all employees across 11 medium-to-large (>60 employees), state-owned and private organisations from various sectors, all are operating in South Africa. Access to organisations was gained through students engaged in the Master of Business Leadership programme at the Graduate School of Business Leadership at the University of South Africa and enrolled for their research module there. Students were asked to assist with collection of data from 60 employees in each organisation. Only larger organisations were approached, on the assumption that employees of bigger enterprises would be exposed to formalised organisational dynamics. The students approached the human resources departments in each organisation and were assisted with the drawing of random samples of participating employees.

**Measures**
Self-report surveys were used to measure EV, CfI, leadership style, as well as IWB. Self-reported measures are widely utilised as employees, more than supervisors, are aware of operational nuances and whether these have instrumental value for their own functioning in the group or the organisation (Ng et al., 2014).

EV: EV was measured with Maynes and Podsakoff’s (2014) 20-item voice scale, with five items related to each sub-scale, namely, supportive voice (SV), constructive voice (CV), defensive voice (DFV), and destructive voice (DSV). Sample items are “I defend useful organisational policies when other employees unfairly criticise the policies” (SV), “I frequently make suggestions about how to do things in new or more effective ways at work” (CV), “I vocally argue against changing work practices, even when making the changes is necessary” (DFV), and “I frequently make overly critical comments regarding how things are done in the organisation” (DSV). The authors reported Cronbach’s alphas for SV of .89; for CV of .95; for DFV of .92, and for DSV of .93.

**Leadership styles**: Four different leadership styles were measured, namely transactional (TsL), transformational (TfL), directive (DL) and empowering leadership (EL).

The instrument developed by Pearce et al. (2003) was utilised to measure TsL and TfL. Five of the original 16 items were used for TsL and six of the original 20 items were used to measure TfL. A sample transactional item reads: “My leader closely monitors my performance for errors”, while a sample transformational item reads: “My leader questions the traditional way of doing things”. The reliability and validity of this instrument are confirmed by Pearce et al. (2003).

DL was measured using 10 items, of which six were developed by Pearce et al. (2003) and four by Hwang et al. (2015). Sample items reading “My leader gives me instructions about how to do my work” and “My leader identifies specific action steps and accountabilities for me” are examples of the statements intended to measure DL. The items developed by Pearce et al. (2003) are confirmed as reliable (Hinrichs, 2011), while Hwang et al. (2015) confirm the reliability of their developed items for DL.

EL was measured using the 10-item instrument of Ahearne et al. (2005). Sample items read: “My leader allows me to do my job my way” and “My leader allows me to make important decisions quickly to satisfy customer needs”. The reliability of this survey is confirmed by Yoon (2012).
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Cfi: Cfi was measured on a five-dimension scale with 20 items of the Brief Corporate Entrepreneurship Assessment Instrument (BCEAI) developed by Strydom (2013), based on the work of Hornsby et al. (2002). The five dimensions assessed were management support, discretion or autonomy, rewards and reinforcement, time availability and organisational boundaries. Sample items read: “Individual risk takers are often recognised for their willingness to champion new projects, whether eventually successful or not” and “It is basically my own responsibility to decide how my job gets done”. The overall Cronbach’s alpha for the five dimensions was .81 (Strydom, 2013).

IWB: IWB was assessed using a 14-item instrument developed by Kleysen and Street (2001). It measures individual innovation through five sub-constructs, particularly, opportunity exploration, generativity, information investigation, championing and application. All the questions start with the same prefix, namely, “In your current job, how often do you …”, which is then followed by statements such as “… look for opportunities to improve existing process, technology, product, service or work relationship?” and “… experiment with new ideas and solutions?”. This study reports the total score for IWB as per Scott and Bruce (1994) who argue that innovation comprises discontinued activities often performed by employees simultaneously, thereby, IWB should be measured as a single construct (also see, in Janssen (2000)). Hebenstreit (2003) reported the IWB total score with an alpha of .95.

Statistical analyses
Firstly, the descriptive statistics of the respondents were calculated and subjectively interpreted in order to draw a conclusion as to how well they mirror the South African working population. The analyses revealed that respondents represented the South African working population well (see, Statistics South Africa, 2020).

Then, the collected data was tested for normality in terms of skewness and kurtosis, as the analyses that followed should ideally be performed when the distributions are normal. The SPSS (IBM-2021) skewness and kurtosis scores were interpreted following the guidelines of Field (2009). If the observed SPSS value divided by the standard error of that value is larger than 1.96, or smaller than −1.96, the data was interpreted as showing a serious deviation from normality.

The reliability was assessed next, focusing on the Cronbach’s alpha coefficient. In line with recommendations by Tavakol and Dennick (2011) as well as Pallant (2013), alpha coefficients were accepted when values exceeded .70.

Pearson product-moment correlations (r) were first calculated to measure direct relationships between EV and IWB, as well as the other “competing” antecedents to IWB. Following Cohen’s (1988) guidelines, statistically significant correlations with a value of less than .10 were deemed insignificantly small, up to .29 as small, from .30 to .49 as medium, and higher than .50 as large.

Regression analyses were performed next. Four models were tested. In Model 1, demographic [control] variables were used as predictors of IWB to set a baseline for further analyses. Next, the four types of EV were introduced in Model 2. This was followed by Models 3 and 4, where four different leadership styles (in Model 3) and then Cfi (in Model 4) were added to gain information on the relative importance of the variable under scrutiny, namely EV, in predicting IWB. The change in the squared regression coefficient (ΔR²) was interpreted as the percentage variance explained when “improving” the model. Furthermore, as both EV and leadership style were measured as multidimensional variables, the regression coefficient was of interest, particularly the significance of the beta values of different predictors. Significant predictors (p < .01) were deemed as unique and substantial contributors to the variance in the dependent variable.
Results

Demographic variables
Data was collected from 620 respondents. The respondents were diverse, with 50.5% men and 48.5% women, and 6 missing cases. The dominant race was Blacks (71%), followed by Whites (16.6%), Coloureds (6.8%), and people of Asian descent (4.5%).

Most respondents indicated that they had obtained a higher degree or diploma (41%), a smaller group stated they had obtained a first degree or diploma (32.7%), while an even smaller percentage indicated that they had completed 12 years of schooling (22.3%). Only a small proportion (3.1%) had completed less than 12 years of education.

The average age was 37.8 years (standard deviation of 8.841), with ages varying between 21 and 64 years. The average tenure was 6.59 years (standard deviation of 5.848), which ranged between 1 and 42 years.

The sample represented employees from both, private and public entities. 48.2% indicated that they were involved in the core operations of their respective organisations, while 50.2% stated that they fulfilled supportive roles. As far as post level, the group was also diverse. The self-declared post levels were as follows: unskilled (3.5%), semi-skilled (21.6%), junior management (33.9%), middle management (31.8) and senior management (7.3%).

It was concluded that the respondents represented the South African working population well (see, Statistics South Africa, 2020), were adequately literate to respond to the survey questions and had a reasonable range of experience that would allow them to respond adequately to questionnaires and to comment on organisational dimensions and practices.

Descriptive statistics for variables
The descriptive statistics for all variables used in this study will be presented and discussed.

| Construct | Mean | Std. Dev. | Skewness* | Kurtosis* |
|-----------|------|-----------|-----------|-----------|
| IWB       | 2.608| 0.942     | 0.289     | 2.944     |
| SV        | 2.203| 1.134     | 1.178     | 12.007    |
| CV        | 2.043| 1.140     | 1.506     | 15.342    |
| DfV       | 5.880| 1.368     | −1.336    | −13.610   |
| DsV       | 6.149| 1.250     | −1.868    | −19.031   |
| TsL       | 2.592| 1.689     | 1.229     | 12.525    |
| TfL       | 2.640| 1.608     | 1.056     | 10.764    |
| DL        | 2.470| 0.860     | 0.480     | 4.895     |
| EL        | 2.693| 1.401     | 1.081     | 11.011    |
| CfI       | 2.577| 0.496     | −0.219    | −2.228    |

*Standard Error for skewness = .098. Standard Error for kurtosis = .196.

The sub-dimensions of employee voice (EV) are presented in this table as follows: SV: supportive voice; CV: constructive voice; DfV: defensive voice; DsV: destructive voice. Four leadership styles are: TsL: transactional; TfL: transformational; DL: directive, and EL: empowering. CfI is the abbreviation for climate for Innovation.
From Table 1, it can be observed that a number of variables were negatively skewed, with high kurtosis, which suggests that a large number of respondents opted for the socially acceptable responses. However, no adjustments towards normality were performed, as it was assumed that these distributions represented the respondents’ perceptions.

5.3. Reliability and validity
Reliability was addressed through the calculation of Cronbach’s alpha coefficients and validity through the factor analysis. These results are presented in Table 2, below. Aligned with the guidelines of Pallant (2013), the reliability scores ranged from satisfactory (.754 for CFI) to desirable (all others are above .80), therefore, all measures are reported reliable.

The structural validity of the instruments used in this study was tested and the outcomes were satisfactory. The results are not presented here due to their comprehensiveness but are available from the first author on request.

Relationships between the variables
In this section, the correlations between IWB and its antecedents are presented, followed by hierarchical linear regression analyses, which indicate the relative importance of the various groups of variables. These results will address both hypotheses.

Correlation analyses
The Pearson correlation coefficient was used to measure the relationship between seven variables. Table 2 presents the coefficients, together with statistical, as well as practical significance levels.

CV had a large correlation with IWB. SV had the second-largest correlation, which was of medium size. Both of these are from the EV cluster and represent the promotive dimension of EV. DfV and DsV had insignificantly small correlations with IWB. These two types of voice represent prohibitive dimensions of EV. From the leadership style cluster, only EL had a practically significant correlation with IWB, which hovered around the .300, the cut-off value for medium effect. The CFI-IWB correlation coefficient had a medium size, and CFI was the third strongest predictor of IWB.

Table 2. Correlations between IWB, and antecedents to IWB, namely EV, leadership styles, and CFI, as well as reliability coefficients (N = 620)

| Correlation with IWB | p-value | Practical significance | Cronbach alpha |
|----------------------|---------|------------------------|----------------|
| SV                   | .331    | <.001                  | Medium         | .878           |
| CV                   | .577    | <.001                  | Large          | .931           |
| DfV                  | -.079   | .050                   | Insignificantly small | .904          |
| DsV                  | -.072   | .073                   | Insignificantly small | .897          |
| TsL                  | .211    | <.001                  | Small          | .957           |
| TfL                  | .184    | <.001                  | Small          | .924           |
| DL                   | .122    | .002                   | Small          | .889           |
| EL                   | .296    | <.001                  | Small/Medium   | .992           |
| CFI                  | .305    | <.001                  | Medium         | .754           |

Note: The sub-dimensions of employee voice (EV) are presented in this table as follows: SV: supportive voice; CV: constructive voice; DfV: defensive voice; DsV: destructive voice. Four leadership styles are: TsL: transactional; TfL: transformational; DL: directive, and EL: empowering. CFI is the abbreviation for climate for Innovation.
Regression analyses: The effect and relative effects of EV on IWB
Regression analyses were used to assess the relative importance of EV in predicting IWB. Three models were tested: Model 1, which included control variables only; Model 2, which introduced EV; Model 3, where leadership styles were added; and Model 4, which included CFI. Models 3 and 4 were tested in order to assess the relative importance of EV, given the inclusion of other antecedents of IWB, namely, leadership styles and CFI.

Model 1: Predictors: (Constant), Sex, Role in organisation, Race, Schooling, Post level

Model 2: Predictors: (Constant), Sex, Role in organisation, Race, Schooling, Post level, and the sub-dimensions of EV (SV, CV, DfV, DsV)

Model 3: Predictors: (Constant), Sex, Role in organisation, Race, Schooling, Post level, the sub-dimensions of EV (SV, CV, DfV, DsV), and leadership styles (TsL, TfL, DL, EL)

Model 4: Predictors: (Constant), Sex, Role in organisation, Race, Schooling, Post level, the sub-dimensions of EV (SV, CV, DfV, DsV), leadership styles (TsL, TfL, DL, EL), and CFI

From Table 3, it can be noted that the 5.0% of the variance in IWB is explained by the control variables. When adding EV, the variance changed from 5.0% to 35.1%, an increase of 30.1%. The addition of leadership style improved the declared variance by 2.4% and, when adding CFI, the declared variance increased by an additional 1.2%. The inclusive model declared 38.7% of the variance in IWB.

Next, the analysis of variance (ANOVA test) on the model fit was performed. All four models showed good fit. For Model 1: F(5, 591) = 6.196, Model 2: F(9, 587) = 35.245, for Model 3: F(13, 583) = 26.835, and for Model 4: F(14, 582) = 26.195, all with significant levels of p < .001. The best-fitting model, considering Occam’s razor, was Model 2 (F(9, 587) = 35.245), where EV, apart from the control variables, was the only predictor of IWB.

Model 1: Predictors: Demographic variables (control variables)

Model 2: Predictors: Demographic variables, and sub-dimensions of EV

Model 3: Predictors: Demographic variables, sub-dimensions of EV and leadership styles

Model 4: Predictors: Demographic variables, sub-dimensions of EV, leadership styles and CFI

From Table 4, it can be observed which variables, within the specific models, contributed uniquely and significantly to the variance in IWB. The results from Model 1 show that the Post
level control variable contributed the most, followed by Sex, Race and Schooling. The Role in the organisation (core versus support) did not uniquely and significantly add to the variance in IWB.

Model 2 focused on the matter primarily investigated in this study. Out of four types of voice, only promotive voices, CV and SV, contributed to the variance in IWB, of which CV showed the highest effect. The other two—prohibitive—voices, DFV and DsV, had no effect on IWB, as the beta-values for DFV- and DsV-IWB links were found to be statistically insignificant.

When leadership styles were added in Model 3, the only variable significantly contributing to the variance in IWB was empowering leadership. Other leadership styles had no effect on IWB.

Finally, with the inclusion of CFI in Model 4, the CFI’s contribution to variance in IWB was statistically significant and positive.

Based on Table 4, and specifically the results of Model 4, it is evident that the strongest predictor of IWB was CV, followed by EL, and then by CFI. This suggests that, in the environments where climate for innovation is high, and where managers apply empowering leadership style, employees will likely engage in constructive voice to offer creative ideas and suggestions for organisational improvements.

**Hypotheses outcomes**

Given the correlation matrix (Table 2), the first hypothesis can be addressed. The general null hypothesis, reading H1: Employee voice (EV) does not have a direct impact on innovative work behaviour (IWB), was partially rejected. SV correlated significantly and positively with IWB \( r = .331, p < .001, 11.0\% \) of the variance, \( CV \left( r = .577, p < .001, 33.3\% \right) \), the other two dimensions of voice, namely, DFV and DsV, had no direct impact on IWB. **Summary:** Considering practical significance, it could be concluded that only SV and CV positively impact IWB, with CV being the strongest predictor between the two with a large-sized direct effect on IWB.
Figure 2. The results of the interplay between EV, leadership style, and CfI as predictors of IWB.

The second hypothesis could also be addressed by considering the correlation coefficients presented in Table 2. The general null hypothesis reads as follows: H22: All antecedents to IWB (EV, leadership styles, and climate for innovation (CfI)) equally impact IWB. The second hypothesis could not be rejected in full. Tsl (r = .211, p < .001, 4.5% of the variance), Tfl (r = .184, p < .001, 3.4% of the variance), EL (r = .296, p < .011, 8.8% of the variance), and CfI (r = .305, p < .001, 9.3% of the variance) positively and significantly correlated with IWB, though this was not the case with DfV (r = −.079, p = .050), DsV (r = −.072, p = .073) and DL (r = .122, p = .002). Summary: Considering correlations, it can be stated that all predictors, with the exception of DfV, DsV, and DL, positively and significantly relate to IWB. In terms of practical significance, the size of effect of CV on IWB was large, the size of effect of SV, EL, and CfI on IWB was medium, and the effect of other variables (TsL and TfL) was small, though positive. This suggests that these variables, with exception of DfV, DsV, and DL, and IWB are positively related.

Finally, the H2s1,3 reading: Some antecedents to IWB (EV, leadership styles, and climate for innovation (CfI)) are better predictors of IWB than others, can be accepted. The findings presented in Table 4, specifically in column “Model 4,” suggest that CV was found to be the strongest predictor of IWB (β = .474, p < .001), followed by EL (β = .136, p < .01), and then by CfI (β = .128, p < .05).

Figure 2. Below illustrates the outcomes of hypotheses graphically. *** < .001; ** < .01; * < .05

Discussion
The goal of the study was two-fold, firstly, to empirically test how different types of EV are linked to IWB, and secondly, to determine the relative importance of EV as the predictor of IWB compared to other predictors, namely, transactional, transformational, directive, and empowering leadership style, and CfI.

From the literature review and, particularly, previous empirical research on the EV-IWB relationship, it was evident that the link between the EV and IWB is positive. A number of studies consistently reported on the significant and positive relationship between the two variables (Chen & Hou, 2016; Chen et al., 2020; Guzman & Espejo, 2019; Selvaraj & Joseph, 2020).
However, in these studies, IWB was operationalised by means of its proxies rather than by the IWB construct itself, making this research a necessity.

With regard to antecedents of IWB other than voice, the research findings consulted and reported on in the literature review indicate strong evidence of the positive effects of ethical (Zahra et al., 2017) and transformational leadership styles (Abbas et al., 2012), as well as culture and relational climate, such as psychological safety (Binyamin et al., 2018), and psychological contracts (Chang et al., 2013). The findings in these studies are consistent in reporting the positive relationships between the abovementioned variables and innovation. Given the second objective of this study and its goal to ascertain the relative importance of EV as antecedent to IWB, compared to other predictors, namely, leadership style and climate for innovation, this study is unique as such a comparison has not been performed previously.

The present study followed a cross-sectional design methodology, which is well-suited to reaching objectives of this nature. The instruments selected to measure constructs are well established in the research field. The psychometric properties of all instruments tested in this study were found satisfactory. Though the descriptive statistics of the research variables revealed some deviations from normality, thus potentially violating the requirements for performing certain analyses, the universal usage of the instruments, as well as the good psychometric performance of these measures in this study, justified proceeding with the data analyses.

In terms of the sample characteristics, the participants of the study represented the sample population adequately in terms of their sex and race, aligned with the numbers currently reported by StatsSA (Statistics South Africa, 2020). It is, therefore, reasonable to generalise these results to the broader South African context.

From the correlation analyses, it was concluded that two promotive types of voice; SV and CV, significantly and positively related to IWB. Of the two, CV was the strongest predictor of IWB with the large effect size ($r = .577$, $p < .001$). These findings are aligned with previous research (see, Chen & Hou, 2016; Chen et al., 2020; Guzman & Espejo, 2019; Selvaraj & Joseph, 2020), which suggests that, in environments where EV is encouraged and heard, the higher levels of voice lead to higher levels of innovation. In terms of the other two [prohibitive] types of voice; DFV and DsV, their correlations with IWB, although evidently negative, were found statistically insignificant. The findings of DFV and DsV having had no measurable effect on IWB were surprising. This could suggest that, in environments, characterised by negative cultural and relational climates, employees will be unlikely to speak up and will rather choose silence over voice as their coping mechanism.

The results of the study also revealed that, amongst three sets of predictors, being EV, leadership style and CFI, when these were compared, the strongest predictor of IWB was EV ($\beta = .474$, $p < .001$). The next strongest predictor after EV was the leadership style ($\beta = .136$, $p < .01$) and then CFI ($\beta = .128$, $p < .01$). Although, the findings provide evidence of the relative importance of voice in predicting innovation, specifically, IWB, the need to ascertain under what conditions this relationship will exist warrants further investigations.

The present study utilised CORT theory (Hobfoll, 1989) to construct the hypotheses. CORT provided good support in explaining the findings that, in stressful environments typified by low levels of EV, the level of IWB will also be low. Furthermore, exercising discretionary behaviours (such as EV) would decrease (Hobfoll, 1989) and employees would likely choose to withhold their extra-role behaviours and rather choose silence (Morrison, 2014). Similarly, in environments with positive culture and climates, and where IWB is considered important, it is likely that employees
will choose to speak up to offer their innovative ideas in pursuit of securing more valuable resources as well as affecting organisational improvements.

Conclusion
This study makes a significant contribution towards understanding the relationship between employee voice (EV) and innovative work behaviour (IWB), particularly adding complexity to the debate around these variables. While most studies focus on voice as a unidimensional construct, this research used a multidimensional voice construct, operationalised with the use of Maynes and Podsakoff's (2014) four-way EV typology. This research is novel and enables a further inquiry into EV-IWB relationship.

This research also provides new insights into the relative importance of EV in predicting IWB, compared with alternative predictors, such as leadership style and climate for innovation (CfI). It was evident that EV is the strongest predictor of IWB in comparison to the other two. Given the complexity of the model, which included multidimensional EV comprised of supportive voice (SV), constructive voice (CV), defensive voice (DfV) and destructive voice (DsV), as well as four leadership styles, namely, transactional, transformational, directive and empowering, specific subconstructs were stronger in predicting IWB than others. In order of importance, CV was found to be the strongest predictor, then, empowering leadership style, and, finally, Climate for innovation (CfI).

The current study is well aligned with previous research as well as with established theories in the field. The conservation of resources theory (CORT) seemed most appropriate and was used to explain most of the results.

The conceptual model developed in this research has a number of important implications for organisations. Since employee voice behaviour is an essential step in linking suggestions and ideas for improvements with practical implementation of innovation within organisations, managers and practitioners must find ways to create and then sustain organisational cultures and climates, which encourage promotive voice. The findings of this study suggest that one of the primary goals of organisations that strive to foster competitiveness through their employees’ innovative work behaviour, is to create a work environment that is conducive to innovation. Managers who encourage employees’ IWB are now aware that employees’ voices—specifically when they are supportive, and even more so, constructive—need to be heard, and one of the ways in which this can be addressed is through application of empowering leadership style. Empowering leaders positively influence followers, specifically in terms of creating psychologically safe work environments and deriving innovative ideas and suggestions (Jada & Mukhopadhyay, 2018).

Although this study sheds light on the EV-IWB relationship, many questions remain unanswered. As the scope of this research was mainly to understand the relationship between EV and IWB, and to determine the relative importance of EV in predicting IWB compared to other antecedents to innovation, future research could focus on other organisational variables affecting innovation. Researchers are also encouraged to explore possible antecedents to EV, as well as mechanisms that could positively influence promotive and, specifically, constructive EV because, as was empirically tested in this study, constructive voice was the strongest predictor of IWB.

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