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An extension to the EVLN model: the role of employees' silence

UMA extensão AO modelo EVLN: O papel do silêncio dos colaboradores

UNA extensión del modelo EVLN: EL papel del silencio DE los empleados

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Abstract

Purpose – Individuals' intentional responses to declining job satisfaction have been associated with the EVLN model. Employees' silence, as an independent construct, can be understood as an individual, intentional and deliberate decision to retain important information for the organization. The purpose of this paper is to analyze employees' silence, which can be understood as a fifth individual response to job satisfaction declining, along with the remaining four responses proposed in the EVLN model. It is proposed as an extension to the original model through the introduction of employee silence; the model is referred to as the EVLNS model.

Design/methodology/approach – The present study is quantitative, hypothetical-deductive, correlational and transversal. The sample is composed of 756 professionals working in the higher education sector. The paper used structural equation modeling (SEM) analyses to test its hypotheses.

Findings – Results showed that employees' silence has a dual factorial structure, which is composed of an adhesion dimension and a rejection dimension. The study also finds that these two dimensions can be integrated as an extension of the original EVLN model. It is found that, although they are related, these dimensions also capture a certain degree of independence, with different levels of influence of job satisfaction.

Practical implications – An important implication is that silence is a complex phenomenon, suggesting that this is more than the simple absence of voice and may have different motives. Additionally, it is

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important to emphasize that job satisfaction can contribute to different individual responses and managers must act accordingly.

Originality/value – The study contributes to a better understanding of the individuals' potential responses to declining job satisfaction through the extension of the original EVLN model with the introduction of a fifth response – the employees' silence.

Keywords Loyalty, Job satisfaction, Voice, Exit, Employee silence, EVLN model

Paper type Research paper

Resumo

Objetivo – As respostas intencionais dos indivíduos ao declínio da satisfação com o trabalho têm sido associadas ao Modelo EVLN. O silêncio dos colaboradores, enquanto construto independente de outros, pode ser entendido como uma decisão intencional e deliberada do indivíduo em reter informação importante para a organização. Pretende-se analisar medida o silêncio dos colaboradores pode ser entendido como uma resposta dos indivíduos ao declínio da satisfação com o trabalho, a par das restantes quatro estratégias propostas no Modelo EVLN. Propõe-se uma extensão ao modelo original através da introdução do silêncio denominando-se assim de modelo EVLNS.

Design/metodologia – O presente estudo caracteriza-se pela sua componente quantitativa, hipotéticodedutiva, correlacional e transversal. A amostra é construída 756 profissionais que atuam no sector do ensino superior. Os dados foram analisados fazendo recurso à técnica da modelagem por equações estruturais.

Resultados – Os resultados demonstraram que o silêncio dos colaboradores apresenta uma estrutura fatorial dual, composta por uma dimensão de adesão e uma de rejeição e que estas duas dimensões correspondem à expansão do modelo original EVLN sobre as respostas deliberadas dos indivíduos ao declínio da satisfação. Verifica-se assim que estas respostas apresar de relacionadas apresentam um determinado grau de independência nomeadamente pelos diferentes graus de influência da satisfação com o trabalho.

Implicações – Uma importante implicação deste estudo é o facto do silêncio ser um fenómeno complexo, sugerindo-se que este é mais que a simples ausência da voz e que pode ter diferentes motivos. Adicionalmente, destaca-se também a importância reforçar que a satisfação com o trabalho poderá contribuir para diferentes respostas dos indivíduos, devendo os gestores atuar em conformidade.

Originalidade/valor – O estudo contribui com um melhor entendimento das potenciais respostas dos indivíduos ao declínio da satisfação, nomeadamente através da extensão do modelo original com a introdução de uma quinta estratégia – o silêncio dos colaboradores.

Palavras-chave – Silêncio dos colaboradores, Modelo EVLN, Voz, Saída, Lealdade, Satisfação com o Trabalho

Tipo de artigo - Trabalho de investigação

Resumen

Objetivo – Las respuestas intencionales de los individuos a la disminución de la satisfacción laboral se han asociado con el Modelo EVLN. El silencio de los empleados, como constructo independiente, puede entenderse como una decisión individual, intencional y deliberada de retener información importante para la organización. Nuestro objetivo es analizar el silencio de los empleados, que puede entenderse como una quinta respuesta individual a la disminución de la satisfacción laboral, junto con las cuatro respuestas restantes propuestas en el Modelo EVLN. Se propone como una extensión del modelo original a través de la introducción del silencio de los empleados; el modelo se conoce como el modelo EVLNS.

Diseño/metodología/enfoque – El presente estudio es cuantitativo, hipotético-deductivo, correlacional y transversal. La muestra está compuesta por 756 profesionales que trabajan en el sector de la educación superior. El artículo utilizó análisis de modelos de ecuaciones estructurales (SEM) para probar sus hipótesis.

Resultados – los resultados mostraron que el silencio de los empleados tiene una estructura factorial dual, que se compone de una dimensión de adhesión y una dimensión de rechazo. El estudio también encuentra que estas dos dimensiones se pueden integrar como una extensión del modelo EVLN original. Se observa que, aunque están relacionadas, estas dimensiones poseen un cierto grado de independencia, con diferentes niveles de influencia de la satisfacción laboral.

Implicaciones – una implicación importante es que el silencio es un fenómeno complejo, lo que sugiere que esto es más que la simple ausencia de voz y puede tener diferentes motivos. Además, es importante enfatizar que la satisfacción laboral puede contribuir a diferentes respuestas individuales y que los gerentes deben actuar en consecuencia.

Originalidad/valor – el estudio contribuye a una mejor comprensión de las posibles respuestas de los individuos a la disminución de la satisfacción en el trabajo mediante la extensión del modelo EVLN original con la introducción de una quinta respuesta: el silencio de los empleados.

Palabras clave – Silencio de los empleados, Modelo EVLN, Voz, Salida, Lealtad, Satisfacción laboral Tipo de artículo – Trabajo de investigacion

1. Introduction

Individuals' behavior in the workplace has been a topic of analysis on different levels. This fact becomes even more relevant when it manifests in a context marked by declining job satisfaction (Hirschman, 1970; Rusbult *et al.*, 1982; Naus, van Iterson and Roe, 2007; Brinsfield, 2013). In this context, individuals deliberately and intentionally decide to act in a specific way and with a concrete goal in mind – to nullify the causes of declining job satisfaction (Hirschman, 1970; Farrell, 1983).

The study of these phenomena has been based on the work of Rusbult *et al.* (1982) and Farrell (1983) who proposed the EVLN model (Dowding and John, 2012; Dowding *et al.*, 2000). In this model, an employee can respond to declining job satisfaction by adopting one of four possible responses. They can leave (E), use the prosocial voice (V), be loyal to the organization (L) or be negligent (N). When proposing the original model, Rusbult *et al.* (1988) note possible extensions to the model as future studies. Naus *et al.* (2007) argue that if some behaviors are not included in the alternatives proposed by the EVLN model, then it is possible to add other responses through the extension of the initial EVLN model. Tucker and Turner (2011) even mention that the development of the EVLN model can be understood as the first extension to the model initially proposed by Hirschman (1970). More recently, Aravopoulou *et al.* (2017) reinforce the need to add alternative employee responses to satisfaction through empirical studies that validate different extensions to the original EVLN model.

Empirically, different authors proposed extensions to the EVLN model. Hagedoorn *et al.* (1999) and Liljegren *et al.* (2008) distinguished different types of voice (aggressive voice and considerate voice) and replaced loyalty with patience. Naus *et al.* (2007) presented a model with five alternative responses where they introduced cynicism as the fifth possible alternative. Tucker and Turner (2011) developed a study adapting the EVLN model to young workers' safety behaviors, considering patience as another alternative response should consider the frequency of behaviors that reflect a different behavioral alternative to which the EVLN model cannot respond.

In this context arises the need to analyze employee silence. Overall, when defined as the opposite of voice, employee silence is considered to be what the individual does when he/she does not exercise his/her right to voice (Morrison, 2011). However, a more recent approach has been studying this construct independent of voice (Knoll and Dick, 2013; Van Dyne *et al.*, 2003; Milliken and Morrison, 2003a, 2003b; Prouska and Psychogios, 2016; Knoll *et al.*, 2016; He *et al.*, 2017). The authors consider employee silence to be a more complex and multidimensional construct. In this perspective, silence is not limited to being the opposite of voice but rather is a phenomenon that manifests itself when "[...] employees retain their opinions and fears about potential organizational problems" (van Dyne *et al.*, 2003, p. 1364). The authors also highlight the phenomenon intentionality and with orientation towards an objective. Thus, employee silence can be included in the responses represented in the EVLN model. It should also be noted that employee silence has been regularly mentioned in studies on the EVLN model, and so the possibility of assessing the extent to which employee silence

and the EVLN model are related has emerged. Following the suggestions made by Naus *et al.* (2007) regarding the frequency of phenomena as a requirement for the EVLN model extension, the presence of employee silence is clear. For instance, in a B-On search on employee silence during the 2009-2013 period, we identified 21,281 results, while in the period from 2014 to 2018, this result increased to 22,815. In addition, we found increasing interest on this topic in journals such as the *Harvard Business Review*.

Employee silence can, by definition, be included in the spectrum of EVLN responses because it is referenced in numerous EVLN model studies. Because of its importance in organizational settings, the present study intends to propose an extension to the EVLN model, including employee silence as a fifth alternative response to declining job satisfaction.

2. Literature review

Job satisfaction has been extensively studied in organizational contexts (Lima, Vala and Monteiro, 1994). Although different approaches to the nature of this construct are identified, we adopted Hackman and Oldham's (1975) perspective that considered job satisfaction as having a unidimensional nature, resulting from the individuals' assessment of intrinsic and extrinsic factors in their relationship with the organization. Thus, it is important to understand to what extent this individual evaluation influenced a set of attitudes and behaviors such as organizational citizenship behaviors (Weikamp and Göritz, 2016) or turnover intention (Lu *et al.*, 2016). The results have shown a tendency for job satisfaction positively precedes more constructive behaviors and negatively precedes more destructive behaviors (Rusbult *et al.*, 1988; Naus *et al.*, 2007).

In a more universal context, in 1970, Hirschman analyzed individuals' responses in a situation characterized by declining satisfaction. Either individuals chose to break the relationship – exit – or they chose to try to solve it through voice. The author also studied another possible solution of a more subjective nature, which is, therefore, more difficult to define: loyalty, which still raises a discussion about its nature (Graham and Keeley, 1992; Leck and Saunders, 1992; Nunes *et al.*, 2014). According to Hirschman (1970), loyalty is a force, a special bond between the individual and the foci of dissatisfaction in which, according to the author, loyal individuals suffer in silence (Hirschman, 1970, p. 38). Later, Farrell (1983) and Rusbult *et al.* (1988) adapted this model of three responses to organizational relations – Hirschman's (1970) EVL model. They created the EVLN model, composed of the three responses presented above and adding a fourth, which they called neglect.

The orthogonal model has two dimensions: constructive vs destructive, and active vs passive. Under this assumption, when faced with declining job satisfaction, the employee tends to act deliberately and intentionally, using one of four possible behavioral responses: if he/she chooses the destructive and active alternative, he/she will exit the organization (E); if the response is characterized by a constructive and active approach, then he/she will seek to solve the focus of dissatisfaction, through a prosocial voice (V); if the solution is constructive but passive, the employee will remain loyal (L) to the organization. The introduction of the fourth response refers to the destructive and passive approach, where the employee will respond with negligent behaviors (N).

Since its proposal, the EVLN model has been used as the reference model to study the deliberate employee behaviors in a context of declining job satisfaction, specifically as a possible consequence of poor job satisfaction (Rusbult *et al.*, 1988; Naus *et al.*, 2007; Tucker and Turner, 2011). However, it has also been the subject of criticism (Dowding *et al.*, 2000; Aravopoulou *et al.*, 2017). Responses may be sequential, and at the same time there may be

other behaviors that are beyond the ones identified by the authors (Rusbult et al., 1988, Naus et al., 2007; Arayopoulou et al., 2017). Note, for example, that the EVLN model presented considers voice as a unidimensional and prosocial construct. However, Hirschman (1970) and others (Farrell and Peterson, 1982; Hagedoorn et al., 1999; Van Dyne et al., 2003; Liljegren et al., 2008; Vantilborgh, 2015) note that this construct may adopt other facets (e.g. aggressive voice, direct voice, indirect voice or considerate voice). There are studies that consider the original EVLN model as a foundation to propose extensions that include other facets of the voice (Hagedoorn et al., 1999; Liljegren et al., 2008). In addition, Aravopoulou et al. (2017) identified other possible extensions to the four original responses model, such as cynicism. This possibility was already empirically tested by Naus et al. (2007). Thus, we reinforce the importance to contribute to the EVLN model development through its extension (Rusbult et al., 1988, Naus et al., 2007), and we suggest the introduction of employee silence as a possible alternative response to the four responses (Hirschman, 1970; Farrell, 1983; Rusbult et al., 1988; Dowding et al., 2000). To do this, we adopted Naus et al.'s (2007) approach, which considers the presence of indicators that are not explained by other EVLN responses but are still present in organizational settings. Additionally, the growing importance of employee silence should be emphasized, both theoretically and at a managerial level (Hirschman, 1970; Kolarska and Aldrich, 1980; Withey and Cooper, 1989; Dowding et al., 2000; Milliken and Morrison, 2003a, 2003b; Pinder and Harlos, 2001; van Dyne et al., 2003; Knoll and Dick, 2013; Brinsfield, 2014; Knoll et al., 2016). The authors argued that this phenomenon is strongly present in organizations and is independent of others (such as voice or loyalty), fulfilling Naus et al.'s (2003) requirements. Until the 2000s, employee silence was associated with redundant constructs such as

voice, loyalty or neglect. Since the work of Milliken and Morrison (2003a, 2003b) and Pinder and Harlos (2001), the theme of employee silence as an autonomous construct has been relaunched, highlighting the importance of studying intentional employee behaviors in retaining information and remaining silent because:

Individuals in organizations face a choice about whether to speak up or remain silent about concerns that they have at work. Individuals make this choice within the context of an organizational hierarchy in which bosses who do not wish to hear about problems can punish people for speaking up and within the context of a social system that has implicit norms about the desirability of speaking up [...] Not surprisingly, it appears that the decision to remain silent about developing issues or problems is a fairly common one, (Milliken and Morrison, 2003a, 2003b, p. 1563).

Van Dyne *et al.* (2003) proposed a conceptual and multidimensional alternative model where they assumed that voice and silence are independent, complex and multidimensional constructs. While the voice may be understood as "[...] intentionally expressing ideas, information and opinions relevant to improving work and organization," silence is defined as "[...] intentionally retaining relevant ideas, information and opinions that enhance work and organization." Additionally, the authors characterize voice and silence as belonging to the "active, conscious, intentional and with a concrete goal" (Van Dyne *et al.*, 2003, p. 136). Thus, in the van Dyne *et al.* (2003) model, silence can be considered a response within the framework of the EVLN model insofar as it emerges in declining job satisfaction and is characterized by conscious, intentional and deliberate behaviors made with a concrete goal – solving the focus of dissatisfaction.

Considering that voice is not necessarily an active and constructive construct, van Dyne *et al.* (2003) proposed the existence of three distinct voices and three silences. Because the goal of the present paper is to understand the nature of silence to assess if it can be added as a fifth response to declining job satisfaction, we will only consider the van Dyne *et al.* (2003)

MRJIAM approach to this construct. The authors conceptually proposed a structure composed of three dimensions: the acquiescent silence with a destructive nature is characterized by the retention of ideas based on resignation; the defensive silence with a destructive nature is based on fear; and the prosocial silence with a constructive nature is based on cooperation where the retention of ideas aims to protect knowledge for the benefit of the organization.

Considering the work of Rusbult *et al.* (1988), Naus *et al.* (2007), Tucker and Turner (2011) and Aravopoulou (2015), we suggest that the extension of the EVLN model introducing employee silence as a fifth response should occur in two phases. First, the correlation between silence and the remaining responses should be introduced (Naus *et al.*, 2007). The authors note that the fifth response should complement the original EVLN model but also be distinguished from the other responses. Tucker and Turner (2011) used a similar path to determine their EVLN extension. The authors opted for the model that considered the associations between all the responses, verifying that the introduction of a fifth response, in this case employee silence, can be given through the analysis of the associations among all responses. In addition, in accordance with Rusbult *et al.*'s (1988) results, positive associations are expected for responses of similar natures and negative associations for responses. The following hypotheses are proposed:

- *H1.* Prosocial silence is positively associated with behavioral responses with a constructive nature (voice and loyalty) and negatively associated with behavioral responses with a destructive nature (exit and neglect).
- *H2.* Defensive and acquiescent silences are negatively associated with behavioral responses with a constructive nature (voice and loyalty) and positively associated with behavioral responses with a destructive nature (exit and neglect).

The second phase required to justify silence as a fifth response requires the introduction of job satisfaction. This construct has been studied as antecedent of EVLN responses (Hirschman, 1970; Rusbult *et al.*, 1988; Knoll *et al.*, 2016; Aravopoulou, 2015), and the results have been showing that job satisfaction tends to positively predict constructive responses and negatively predict destructive responses. These results are supported by more recent research carried out in different contexts, such as Portugal (Hagedoorn *et al.*, 1999; Leck and Saunders, 1992; Nascimento, 2010; Sabino, 2015; Aravopoulou, 2015). Thus, the following hypotheses of study are presented:

- *H3.* Job satisfaction positively influences constructive behavioral responses, such as voice, loyalty and prosocial silence.
- *H4.* Job satisfaction negatively influences destructive behavioral responses, such as exit, neglect, defensive and acquiescent silence.

3. Method

The present work is characterized by its quantitative, cross-sectional, correlational and hypothetical-deductive approach.

3.1. Measurements

As originally proposed by Hackman and Oldham (1975), van Dyne *et al.* (2003) and Nascimento (2010), participants responded to all items using a seven-point Likert scale, ranging from 1 (totally disagree) to 7 (totally agree).

Employee Silence: We used the 15-item scale developed by Dyne *et al.* (2003) to assess the three forms of employee silence (defensive silence, acquiescent silence and prosocial silence). Although the instrument is not yet validated for Portugal, it was initially translated into Portuguese by Rego (2013). The original scale was translated for Portuguese using the translation/retroversion method. The results obtained were compared with the scale proposed by Rego (2013), allowing a more reliable translation process.

In the next step, a group of experts were asked to analyze the validity of the scale, that is, whether the items truly measure what they are supposed to measure. A pretest was also carried out followed by a focus group to discuss the validity of the proposed scale.

Job Satisfaction: To measure job satisfaction, we used the unidimensional Hackman and Oldham (1975) proposal that was adapted and validated for Portugal by Nascimento (2010) and comprises five items.

EVLN model: Considering the EVLN model and assuming that exit, voice, loyalty and neglect are unidimensional constructs that correspond to possible responses of individuals in a context of declining job satisfaction, we used the proposed and validated scale for Portugal created by Nascimento (2010). Thus, exit and voice are composed of ten items each, while loyalty and neglect are composed of nine items each.

3.2 Sample and procedures

The sample is composed of 756 teachers and nonprofessors from Portuguese higher education institutions. Of the total sample, 125 (16.5 per cent) belong to public university education, while 631 (83.5 per cent) belong to public polytechnic teaching. A multigroup analysis was carried out to verify if there were differences between the two education systems (university vs polytechnic) and it was verified that there are no differences. Overall, the sample is composed mostly of female participants (66.1 per cent). The mean age is 43.7 years (SD = 9.5 years), with 19.9 per cent being less than or equal to 35 years old, 21.8 per cent being between 36 and 40 years old and 58.5 per cent being 41 years or older. The mean tenure is 13.9 years (SD = 8.5); 24.3 per cent have between 11 to 15 years tenure. In terms of participants' qualifications, 15.9 per cent finished high school, 18.8 per cent have a bachelor's degree, 11.8 per cent have postgraduate education, 28.3 per cent have completed a Master's degree and 23.2 per cent have a PhD. It should be noted that the sample consists of teaching staff (51.1 per cent) and nonteaching staff (47 per cent), which may justify this distribution of qualifications.

Data collection was carried out during 2014 using an online survey. Spector (2006) argues that the risk of common method biases when using surveys can be considered an "urban legend" and that the proposed "remedies" (Podsakoff *et al.*, 2003) all have potential problems and limitations. However, we followed the recommendations of Podsakoff *et al.* (2003) to minimize the risk of common method biases, such as:

- · informing participants of the required procedures to ensure data confidentiality;
- stressing that there were no right or wrong answers;
- presenting the survey by instrument and its dimension; and
- organizing the items in a random manner.

Statistically, this question was examined with two tests proposed by Podsakoff *et al.* (2003). First, the Harman's single-factor test involves performing a confirmatory factor analysis (CFA) where all the items were aggregated to a single factor. This single-factor model presented a mediocre adjustment (χ^2 /df = 8.2, CFI \geq 0.75, GFI \geq 40, RMSEA \geq 145, AIC = 8048.42), indicating that a single factor solution did not explained most of the variance (33)

per cent variance explained). Then, we tested a model where we added an eighth factor composed of all the items. We then compared it with the seven-factor measurement model, using the CFI differences (Bagozzi and Yi, 1990). Following Bagozzi and Yi's (1990) recommendations that the CFI differences between the two models should not be less than 0.05, we obtained a CFI difference of .01.

4. Results

Initially, an exploratory factor analysis (EFA) for employee silence, the EVLN model and job satisfaction was performed. The results of the EVLN model EFA suggested a factorial structure comprised four factors, which correspond to the four EVLN responses. Additionally, the EFA confirmed the unidimensional structure of job satisfaction. Regarding employee silence, the results suggested a two-dimensional structure, where the defensive and acquiescent dimensions are aggregated into the first factor and the prosocial dimension is the second factor.

We then proceeded to conduct the CFA, which aims to verify the theoretical model suitability with the data, following the recommendations of Hair, Black, Babin, Anderson, and Tatham (2006), Salgueiro (2012) and Maroco (2010). Regarding the statistical criteria, the analysis of the models considered the following goodness of fit indicators: RMSEA ≤ 0.7 ; GFI ≥ 0.9 ; CFI ≥ 0.9 ; $\varkappa^2/df \leq 3$; <AIC model. The analysis considered the elimination of items that had factor loadings lower than 0.5 with high modification rates. The models' specifications took into account the need to obtain a minimum number of three items per dimension (Hair *et al.*, 2006). At first, and to confirm their factorial structures, a CFA was conducted for employee silence, the EVLN model and job satisfaction constructs. Then, the final measurement model was tested where all the constructs under analysis were included (Table I).

Regarding employee silence, the first model tested (the theoretical model) considered the three dimensions of silence proposed by van Dyne et al. (2003) through all the manifested variables. The model had a good goodness of fit (RMSEA = 0.072; GFI = 0.93; CFI = 0.99; χ^2 /df = 2.2) and the all the factor loadings were higher than .60. We also noted a 0.98 correlation between defensive and acquiescent silences and a negative and moderate correlation between both acquiescent and prosocial silences (r = -32) and between the defensive and prosocial silences (r = -0.29). These results reinforce the results obtained in the EFA, which indicated the presence of two factors (acquiescent silence/defensive silence and prosocial silence). We then tested the two-dimension solution (two-factor model) that was composed of two new, latent variables that we called rejection silence (RS = acquiescentsilence and defensive silence) composed of seven items and adhesion silence (AS) composed of all prosocial silence items (RMSEA = 0.06; GFI = 0.95; CFI = 0.99; $\chi^2/df = 1.8$). Further, we tested a single factor solution resulting in a lower fit to the data (RMSEA = 0.16; GFI = 0.74; CFI = 0.92; $\chi^2/df = 10.1$), which reinforced the existence of two (and not three) dimensions. To finalize the CFA, a second order analysis was performed. Because the model did not converge, we again reinforce the previous results.

Regarding the EVLN model, the theoretical solution of four factors (theoretical model four factors) was tested and presented a good fit to the data. This solution comprised eight items referring to exit, three items referring to voice, four referring to loyalty and three referring to neglect (RMSEA = 0.08; GFI = 0.89; CFI = 0.99; $\chi^2/df = 2.4$). The single factor solution (one factor model) was also tested, which resulted in the worst fit (RMSEA = 0.16; GFI = 0.64; CFI = 0.86; $\chi^2/df = 9.9$).

The unidimensional job satisfaction model presented a good fit to the data and is composed of four items (RMSEA = 0.05, GFI = 0.99, CFI = 1, χ^2/df = 3.2).

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IVIOUEIS	х	$\chi_{ abla}$	NIVIDEA	GLI	ULI	тр/ ж
$M1: E + V + L + N + RS + AS + JS$ $M2: E + L + N + JS + V_RS_AS$	$\begin{aligned} &\varkappa^2 (474) = 1032.05 \\ &\varkappa^2 (485) = 1563.56 \end{aligned}$	M1 compared with M2 $\mathbf{A} \sim 20151 - 52151 \mathbf{A} \sim 0.05$	0.075 0.094	$0.831 \\ 0.737$	$0.962 \\ 0.927$	2.1 3.2
M3: $E + L + N + RS + V_AS + JS$	$\varkappa^{2}(480) = 1512.46$	$\Delta \chi$ (11) = 551.51, $p < 0.05$ M1 compared with M3 $\Lambda \sqrt{2}(6) = A80, h < 0.05$	0.092	0.741	0.930	3.1
M4: EVLN_RS_AS_JS	x^2 (495) = 4060.77	$\Delta \chi$ (b) $-200, p < 0.00$ M1 compared with M4 $\Delta \chi^2(21) = 3028, 72, p < 0.05$	0.145	0.409	0.757	8.2

Extension to the EVLN model

Table I.Silence, EVLN modeland job satisfaction'measure models

At last, we tested different measurement models composed of the three final structures. In this sense, we started with the seven-factor model (M1: E + V + L + N + RS + AS + JS). We then tested a five-factor model (M2: $E + L + N + JS + V_RS_AS$) to understand if there were any differences between silence and voice. A six-factor model (M3: $E + L + N + Sr + V_AS + JS$) was tested to analyze the relationship between voice and adhesion silence. Finally, we tested a single factor model (M4: $EVLN_RS_AS_JS$) (Table I). We used chi-square tests to find if there were any significant differences between the models.

The results showed that the proposed theoretical model (M1) presents the best fit to the data, reinforcing that voice and silence are independent. Thus, we opted for the theoretical model (M1) as the final measurement model. Based on the work of Hair *et al.* (2006), testing the convergent validity requires that the items referring to a specific construct must share a high proportion of common variance. Therefore, the authors propose that convergent validity must be tested through two possible methods:

- (1) extracted variance (EV \geq 5) and average variance extracted (AVE \geq 5); and
- (2) composite reliability (CR \geq 0.7). Other authors consider that values of internal consistency (e.g. Cronbach's $\alpha \geq$ 7) are also good indicators of convergent validity.

Regarding discriminant validity, Hair *et al.* (2006) report that it measures the extent to which the constructs under analysis are distinctive among them, thus proposing that the correlation between the dimensions should not be high (≥ 0.9). Considering the final measurement model, the results suggested a good convergent validity ($0.65 \geq \alpha \geq 0.9$; $0.45 \geq EV \geq 0.68$; AVE = 0.56) and discriminant validity, where the highest correlation in the final measurement model is between exit and job satisfaction (r = -0.70, p > 0.001).

A structural equation model, using LISREL, was used to test the hypotheses. We tested the job satisfaction influence on the six behavioral responses, specifically exit, voice, loyalty, neglect and the two employee silence dimensions, validating the EVLNS. Regarding Naus *et al.*'s (2007) proposed requirements, we used the final structural model to analyze associations between the six responses and their relation to job satisfaction.

We tested the complete initial structural model (IM1), which considers all the possible associations between job satisfaction as an antecedent of $E_V_L_N_AS_RS$ responses and all correlations between the six responses. We intended to perform a preliminary analysis of the predictive validity of job satisfaction in relation to the $E_V_L_N_AS_RS$ model. Following the recommendations of Hair *et al.* (2006), successive re-specifications were made to the final structural model until we reached a final model (FM4) that presented only statistically significant relationships (*t*-value ≥ 1.96). Although the initial and theoretical models presented a good fit to the data, we found statistical differences between the two. Thus, we decided to consider the final model (FM4), as it is the one that best reflects not only the antecedent relationship between job satisfaction and the behavioral responses (*H3* and *H4*) but also the association between all responses to job satisfaction (*H1* and *H2*) (Table II).

The final structural model (Figure 1) is presented above. *H1* is partially rejected because adhesion silence (van Dyne *et al.*, 2003) has no association with exit and voice. The fact that employees choose to retain information to protect the organization is not associated with their exit/intention of exit nor with their decision to express a constructive opinion. The CFA and SEM show that voice and silence are independent from one another, reinforcing the fact that silence is more than the nonmanifestation of voice. It is an intentional and deliberate decision to retain certain information based on motives of adhesion or rejection (Knoll and Dick, 2013; Bisel and Arterburn, 2012; Brinsfield, 2013; Fatima *et al.*, 2017). In addition, the authors verified the positive correlation between adhesion silence (prosocial of van Dyne *et al.*, 2003) and constructive responses, such as loyalty, and negative associations with

destructive responses such as rejection silence or neglect. Regarding *H2*, we found that rejection silence is negatively associated with the more constructive behavioral strategies such as voice and adhesion silence, and positively associated with neglect – a response with a more destructive nature.

Is important to note that not all responses are associated; therefore, the EVLN model, with or without extensions, still requires deep analysis (Aravopoulou *et al.*, 2017).

H3 and *H4* are confirmed; job satisfaction positively influences constructive behavioral responses and negatively responses with destructive nature (Nascimento, 2010; Knoll *et al.*, 2016). In addition, we found a higher incidence of job satisfaction as a predictor of exit ($R^2 = 0.70$) and of loyalty ($R^2 = 0.59$). The remaining responses presented lower determination coefficients (≥ 0.5) [R^2 (V) = 0.18; R^2 (N) = 0.20; R^2 (RS) = 0.23; R^2 (AS) = 0.08]. Aravopoulou *et al.* (2017) note that each behavioral response may have different antecedents and/or consequences with different intensities. Further, the results showed a predictive validity of job satisfaction in relation to the E_V_L_NAS_RS model.

5. Discussion

The main goal was to study the extent to which employee silence can be integrated into the EVLN model, a behavioral model for declining job satisfaction responses. To that end, we studied how the employees' responses were related to each other and to what extent job satisfaction predicted them.

The results suggest that silence is a multidimensional construct and should be studied autonomously and independently from others (Pinder and Harlos, 2001; van Dyne *et al.*, 2003; Knoll and van Dick, 2013; Knoll *et al.*, 2016; Fatima *et al.*, 2017). The structure proposed by van Dyne *et al.* (2003) was not confirmed and a two-dimensional structure was obtained. Thus, the van Dyne *et al.* (2003) proposal that the general nature of behavior could be

Models	\varkappa^2	$\Delta\chi^2$	RMSEA	GFI	CFI	\varkappa^2/df	
ME1: initial theoretical model M4: final respecified model	\varkappa^2 (474) = 1032.05 \varkappa^2 (483) = 1138.45	ME1 compared with ME4 $\Delta \chi^2(9) = 106.4, p < 0.05$	0.075 0.078		0.96 0.95		Table II.Structural equationmode l

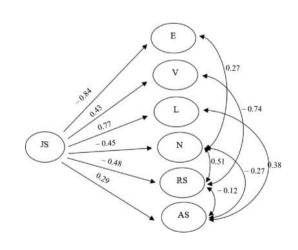


Figure 1. Final structural model (total standardize solution)

intrinsic or extrinsic and originates from a specific behavior could be replaced by an individual analysis that concerns different extrinsic motives. On one hand, rejection silence refers to the individual's repression towards the organization, for instance, through resignation, fear, or submission. On the other hand, adhesion silence refers to the individual's need to protect, to help, to be loyal and to cooperate with the organization.

After defining silence as a dual construct, and after considering that individuals' decisions to retain information is deliberate and comes from a certain degree of job satisfaction (van Dyne et al., 2003), the results point to an extension of the original EVLN model proposed by Rusbult et al. (1982) by adding the two facets of silence. In this sense, the results point to a wider range of possible responses to declining job satisfaction, and these responses, although correlated with each other, assume a certain degree of independence insofar as they have different effects on their antecedents, correlated and consequential (Knoll et al. 2016: Arayopoulou et al. 2017). In addition, it should be noted that, as Aravopoulou et al. (2017) determined that adaptations and additions to the model are necessary and should be developed. The results are in line with Hirschman (1970), Rusbult et al. (1988) and other authors who emphasized that job satisfaction is crucial when determining behavioral responses. Thus, when job satisfaction is declining, individuals may tend to adopt more destructive responses such as exit, neglect or rejection silence and, when satisfied they may adopt constructive voice, loyalty and adhesion silence. These conclusions reinforce the importance of studying job satisfaction to perceive that this construct is determinant for the type of behaviors that occur in organizations.

Implications

The current study presents a set of theoretical and managerial implications. First, it has contributed to a better understanding that employees' silence is an autonomous and multidimensional phenomenon. The fact that the proposed three-dimensional structure of van Dyne *et al.* (2003) was not confirmed demonstrates its complexity. Therefore, a set of questions emerged on:

- the cultural component could explain the differences in response to job satisfaction; and
- the feasibility of the bidimensional structure obtained in this study.

In other cultural contexts, we did not identify studies that obtained the same twodimensional structure, but we found it in Portugal (Silva, 2018; Sabino and Cesário, 2018).

This study also has implications for management. The first is the ability to predict employees' responses to problematic events and dissatisfaction. By extending the EVLN model to EVLNS, it is expected to increase the spectrum of knowledge about how individuals react (constructively or destructively) to these events. More particularly, it highlights the importance of silence as an individual response, which may mean protection/cooperation/adherence but also rejection/resignation/fear with the organization. Thus, to make the organization more effective and efficient, the results suggest a necessary reflection on managerial improvements to promote job satisfaction (Hsieh, 2016; Ilies *et al.*, 2018). This includes, for instance, acting in their antecedents, such as the relationship between the leaders and the followers, motivation, person–organization fit or perceived organizational and colleagues support (Hsieh, 2016; Ilies *et al.*, 2018). Considering our results when working on job satisfaction antecedents, managers will be able to increase constructive responses and reduce destructive ones.

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Limitations

The current study presents a set of limitations that must be highlighted. The first relates to the fact that data collection was cross sectional and in a specific context – higher education institutions in Portugal. Although other studies concerning the EVLN model and employee silence used similar samples (Knoll and van Dick, 2013; İnandi *et al.*, 2017), in future studies we propose replicating this study using a more diversified sample. Regarding the fact that this study was performed at one singular point in time and considering that we aimed to analyze individuals' responses to a particular situation, studies with a longitudinal design are also suggested. Following the recommendations of Aravopoulou *et al.* (2017), studies with this design allowed us to verify whether the individuals' responses show a sequential relationship (Grima and Glaymann, 2012).

It should be highlighted that we decided not to add any potential explanatory factors of job satisfaction, such as the role of organizational commitment (Nascimento, 2010) or engagement (Moura *et al.*, 2014). Additionally, for a further stabilization of the extended model, we suggested the inclusion of other possible antecedents and consequents of the model (Acaray and Akturan, 2015), reinforcing its predictive and criterion validity.

Because it was not our main goal, we propose future studies pay further attention to the nature and role of loyalty. Hirschman (1970) identified it as a complex force, and Rusbult *et al.* (1988) defined loyalty as another behavioral response to problematic events. On the other hand, authors such as Leck and Saunders (1992) or Withey and Cooper (1992) emphasized the attitudinal aspect becoming a possible mediator. In Portugal, Sabino (2015) concluded that loyalty is a mediator between organizational commitment and the behavioral responses proposed in the EVLN model. Nunes *et al.* (2014) emphasized the duality of this construct as attitude vs behavior. A study that focuses on this response (or attitude) could enrich this model.

Finally, the present paper examines only the employees' silence as a potential expansion to the EVLN model. However, there are several other phenomena that may also be included as possible responses to declining job satisfaction (Aravopoulou *et al.*, 2017) but were not studied in the present study. For instance, Naus *et al.* (2007) studied cynicism, proposing the expansion of the original model to become EVLNC. Tucker and Turner (2011) approached the theme of loyalty, replacing it with patience and adding a fifth strategy that they call compliance, thus proposing the EVPNC model. In line with Hagedoorn *et al.* (1999) and Liljegren *et al.* (2008), we propose a study that aims to verify the different types of voices, deepening the premise initiated by Hirschman (1970), that refers to the complexity and potential multidimensionality of this construct. This is an idea that, although acknowledged, was not adopted by Farrell (1983) and Rusbult *et al.* (1988) when the authors proposed the original EVLN model.

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