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Cross-Validation of the Reactions to Faculty Incivility Measurement through a Multidimensional Scaling Approach

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Abstract Incivility in the academic arena elicits a wide range of reactions: it interferes with learning, increases stress, feelings of disrespect and helplessness. Although reactions to incivility were mainly tested in workplaces, an extensive, robust framework to explain and measure responses to faculty incivility (FI) is yet to be offered. This study used Facet theory (FT) approach with a multidimensional scaling method of smallest space analysis (SSA), and confirmatory factor analysis (CFA) to confirm the theoretical structure of reactions to FI. A mapping sentence was constructed expressing the composite of three individual facets based on the theoretical framework: Facet A including four types of reactions (1)Exit (2) Voice (3) Loyalty and (4) Neglect (EVLN); Facet B reflecting the *destructiveness – constructiveness* dimension, and Facet C illustrating a dimension ranging from *passive* to *active* responses. Data were gathered by a scale measuring students' reactions to FI. According to the findings, the CFA result presented four relatively interpretable factors (EVLN) while the SSA showed these factors as well as additional facets (B and C).

Keywords Faculty incivility · Facet theory, smallest space analysis, confirmatory factor analysis · EVLN model · Higher education

Introduction

Andersson and Pearson (1999) initially introduced incivility as a deviant organizational behaviour, which represents a lack of respect toward others at the workplace. Subsequently, researchers embraced a wider standpoint by exploring the antecedents, prevalence, and outcomes of uncivil

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reciprocity between academicians and students (Alt and Itzkovich 2015a, b; Caza and Cortina 2007; Chory-Assad and Paulsel 2004; Clark 2008; Clark et al. 2013; Marchiondo et al. 2010; Settles and O'Connor 2014; Wright and Hill 2015). Yet, although the extensive research conducted during the last decade, to date, only little is known about precursors and outcomes of incivility (Schilpzand et al. 2015). For example, based on past studies, targets of incivility have been engaged in retaliatory (Kim and Shapiro 2008), deviant (Lim and Teo 2009), and counterproductive (Penney and Spector 2005) behaviours. Alternatively, these targets might choose to stay in the organization/academic institute despite the victimization they experienced out of fear of losing past investments, or in order to try and challenge the status quo through speaking up against the uncivil behaviour (Clark 2008). Conceptually, these reactions collapse into a four-factor model of reactions namely Exit, Voice, Loyalty, and Neglect (EVLN) (Farrell 1983). These four categories are stretched upon two dimensions. The first dimension is destructiveness – constructiveness, wherein exit and neglect pertain to the destructive end, and voice and loyalty pertain to the constructive end (Hagedoorn et al. 1999; Farrell 1983; Farrell and Rusbult 1992; Liljegren et al. 2008; Si and Li 2012). The second dimension is activeness – passiveness. Voice and exit are considered active behaviours whereas loyalty and neglect are associated with the passiveness end (Clark 2008; Griffin 2010; Lim and Teo 2009; Porath and Pearson 2012, 2013; Schilpzand et al. 2015).

Academic incivility is viewed as a significant problem and reports of discord on college campuses underscore the need to delve deeper into this phenomenon and explore its correlates. Yet, despite increased interest in and writing about incivility, it is noteworthy that very little is empirically known about the implications associated with such behaviours in academic settings (Alt and Itzkovich 2015a). Empirically, so far, previous work has not developed a comprehensive model for measuring contemporary reactions of students to faculty incivility (FI). Nevertheless, in a recent study (Itzkovich and Alt 2015), a new scale was introduced to measure those reactions. However, a confirmatory factor analysis (CFA) has only corroborated one theoretical dimension – the EVLN structure, while disregarding other possible facets suggested by theory, namely destructiveness – constructiveness and activeness – passiveness. Indeed, factor analysis (FA) is the most widely used multivariate analysis method. Yet, several non-metric alternatives have also been developed to analyze relationships in psychology and social sciences. Some of these alternatives relate to multidimensional scaling (MDS, Kruskal 1964) and smallest space analysis (SSA, a variant of MDS developed by Guttman 1968), used within the context of the facet theory (FT). This research used the latter approaches to assess a more comprehensive model that better reflects the theoretical framework, using data that were gathered by the newly designed scale to measure reactions to FI. Methodologically, this study could demonstrate the utilities of FT and SSA relative to CFA.

Literature Review

Defining Academic Incivility

Andersson and Pearson (1999) defined incivility as a "low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect" (p. 457). Incivility range from passive exhibitions when employees are ignored (Hershcovis 2011; Schilpzand et al. 2015) to active manifestations when someone, for example, is making demeaning remarks. Although initially incivility was aimed at defining inappropriateness of interpersonal interactions at the workplace, it was later utilized to

conceptualize inappropriate interactions between various figures including, but not limited to, faculty and students (Alt and Itzkovich 2015a, b; Clark 2008; Marchiondo et al. 2010).

Caza and Cortina (2007) pointed to several similarities between academic institutes and financial organizations due to their organizational settings which are based on hierarchical power structures. Following this route of thought, incivility researchers have focused their attention on uncivil encounters perpetrated by students and/or faculty members in academic settings (Clark 2008; Marchiondo et al. 2010). Accordingly, researchers have redefined incivility to represent academic settings. For example, Berger (2000) defined academic incivility as a "speech or action that is disrespectful or rude" (p. 446). Feldmann (2001) defined it as "any action that interferes with a harmonious and cooperative learning atmosphere" (p. 137). Yet, the most prevalent definition was introduced by Morrissette (2001) who viewed academic incivility as an intentional behavior which disrupts or interferes the learning process of others (Altmiller 2012).

Previous attempts to assess FI have been made in nursing education. For example, Clark (2007) examined student and faculty perceptions of incivility in nursing education, possible causes of incivility, and potential remedies, indicating four categories of FI: In-class disruption by students, out-of-class disruption by students, uncivil faculty behaviors, and possible causes of incivility in nursing education. A consecutive study (Clark 2008) used the Incivility in Nursing Education survey. Findings showed that the most frequently cited FI referred to making condescending remarks, making rude gestures or comments, and exerting superiority over others. The above-mentioned scale that measures both groups' perceptions of uncivil student and faculty behaviors and their perceived frequency also provides suggestions for prevention and intervention (Clark et al. 2009).

Although the above-surveyed studies address academic incivility as a single-dimension variable, several theorists have categorized it into two major facets. The first includes serious incivilities, such as personal comments or verbal attacks against faculty or classmates; the second pertains to more subtle incivilities, such as sleeping in class (Knepp 2012). These two theoretical categories were previously identified by Berger (2000), who classified them as passive and active incivilities.

A recent study (Alt and Itzkovich 2015a) has confirmed the stability of the passive/active structure. In this study, features of actual faculty incivility (FI) as perceived by students majoring mainly in social science studies were mapped and a new scale for measuring those features was validated. FI instantiations, as described by college students, were analyzed by using a qualitative methodology. The results foregrounded four categories: (1) Passive FI (PFI) towards a group of students, (2) PFI towards an individual (3) active FI (AFI) towards a group of students, and (4) AFI towards an individual. A confirmatory factor analysis revealed only two dimensions of AFI and PFI. The first includes serious incivilities, such as personal comments or verbal attacks against students; the second pertains to more subtle incivilities, such as inadequate communications and avoidance.

Responses to Stressful Situations Model Development

Several theoretical models were constructed to conceptualize and map reactions to stressful and adverse situations in the workplace such as incivility (Farrell and Rusbult 1992; Liljegren et al. 2008; Naus et al. 2007). Hirschman (1970) was the first to present a conceptualization of employees', customers' and/or citizens' responses driven by decline in firms and other social systems (i.e., states) (Liljegren et al. 2008; Naus et al. 2007). Hirschman introduced three optional reactions to unfavourable organizational/state conditions and social systems

decline - exit, voice, and loyalty. These reactions differ from the straightforward and commonly acknowledged approach of detachment responses in such circumstances (Liljegren et al. 2008). In his model, exit is viewed as a reaction which describes a departure from the organization/state or its services. The voice reaction, on the other end, represents protest engagements aimed to amend the unfavourable situation. Lastly, the loyalty response expresses devotion (Si and Li 2012). Following Hirschman's (1970) model, Farrell (1983) expanded the theoretical framework by utilizing the model to explain reactions of employees' dissatisfaction. This conceptualization included, for the first time, the 'neglect' response and integrated it into the model (Farrell 1983; Farrell and Rusbult 1992; Rusbult et al. 1988). Neglect represents a wide variety of behaviours, such as lateness, absenteeism, and increased error rates (Farrell 1983).

Several studies grouped these four categories along two dimensions: the first dimension is destructiveness - constructiveness. While exit and neglect pertain to the destructive end, voice and loyalty pertain to the constructive end (Hagedoorn et al. 1999; Farrell 1983; Farrell and Rusbult 1992; Liljegren et al. 2008; Si and Li 2012). The second dimension range from passive reactions manifested through various withdrawal behaviours (Clark 2008; Cortina et al. 2001; Griffin 2010; Lim and Cortina 2005; Porath and Pearson 2012, 2013; Schilpzand et al. 2015; Sliter et al. 2012; Wilson and Holmvall 2013) or acts aimed to retain the status quo (Clark 2008) to active responses directed at challenging the status quo (Kim and Shapiro 2008; Lim and Teo 2009; Penney and Spector 2005). Accordingly, exit and voice are viewed as active responses, whereas loyalty and neglect are considered passive (Hagedoorn et al. 1999; Farrell 1983; Si and Li 2012).

Throughout the development of the EVLN model, the definition of its four reactions has evolved and different interpretations of the model were introduced. Rousseau (1995) was the first to present a wider variety of destructive interpretations to the four reactions embedded in the model. Specifically a wider, destructive in part, interpretation has been given by Rousseau (1995) to loyalty, referred to as silence. In her view silence refers to inaction due to pessimism. Rousseau (1995) was not the only one to attribute destructive characteristics to the loyalty response. Hagedoorn et al. (1999) redefined loyalty to include not only constructive responses but also such that are driven out of helplessness. He strengthened his notion by relying on Withey and Cooper (1989) who found a negative correlation between satisfaction and loyalty. Withey and Cooper (1989) suggested that their findings could be explained by feelings of entrapment of employees who are staying in the organization due to inability to leave (Hagedoorn et al. 1999). It should be noted that this definition better suits Clark's (2008) findings regarding the preference to stay in the academic institute despite FI due to the willingness to reduce costs.

Additionally, Rousseau (1995) suggested considering the neglect reaction as a more active reaction which can include acts of vandalism and theft, defined as destructive reactions, and maintained that voice can be threatening at times thus may be viewed as destructive. In a similar route, Hagedoorn et al. (1999) noted that voice reactions should be divided into two forms: considerate voice and aggressive voice - characterized by a lack of consideration and aspirations to win the situation rather than fixing it. By separating the voice reaction into considerate voice and aggressive voice Hagedoorn et al. (1999) expanded the model and its theoretical structure to include five dimensions. These dimensions were found to be empirically separable by the authors yet further validation of the scale did confirm the four classic facets -EVLN while indicating that the fifth (i.e., aggressive voice) should be used with caution (Liljegren et al. 2008).

The EVLN model evolvement may be summarized by the following two central points: First, the above-mentioned changes point to an evolution of the initial model toward a model

that is more inclined toward destructive reactions, mainly due to extensive interpretations of Rousseau (1995) and the aggressive voice reaction of Hagedoorn et al. (1999). Second, reactions, such as neglect, that were considered to be passive, might move toward the active pool of the active - passive continuum and include more active reactions such as vandalism. These changes reproduce an asymmetric version of an EVLN model which is more active and destructive in nature. Despite the asymmetric conceptualization, Rousseau's (1995) published a version of the model merely interchanging between neglect and exit. In her model neglect pertained to the active pole of reactions while exit pertained to the passive pole. However, this EVLN model structure, although intuitively more accurate, has not been validated empirically or tested in environments other than workplaces, such as academic settings.

Responses to Incivility in the Academic Arena in the Framework of EVLN

Incivility in the academic arena elicits a wide range of reactions: it interferes with learning and safe clinical performance in nursing education; it decreases program satisfaction and decreases retention (Lasiter et al. 2012). According to Altmiller (2012), students who were exposed to uncivil behaviours of lecturers, have experienced stress, felt disrespected, unprotected and helpless. His study showed that those students avoided interaction with the perpetrator, reduced their help-seeking behaviours and, in general, disconnected themselves from the learning process.

Although these reactions were tested mainly in workplaces, an extensive, robust framework to explain and measure responses to incivility, and specifically FI, is yet to be offered. Nevertheless, a recent attempt to validate a new scale to measure reactions to FI (Itzkovich and Alt 2015) used a qualitative method to analyze responses to FI as described by college students. The results confirmed the EVLN structure. A quantitative method was used to validate the developed EVLN scale and to assess the relationships between experiences of FI (active FI and passive FI), and the four EVLN responses. Data were gathered from 744 undergraduate college students. According to the structural equation modeling results, FI was positively linked solely to the exit response. In addition, the findings indicated that merely the active FI sub-factor was linked to the exit factor. It should be noted that in this study the analysis confirmed the four categories of the EVLN structure while overlooking other possible facets based on the aforementioned theoretical framework. Therefore, in the current study, an effort will be made to empirically validate additional dimensions based on theoretical considerations and previous findings by using FT and SSA.

Facet Theory

FT has been described as a philosophy and a practical scientific research tool (Shye et al. 1994). The goal of FT is to utilize a "conceptual-definitional framework of research in order to discover lawfulness and to contribute to theory construction in social and psychological domains of research" (Shye 1997, p. 114). This goal is achieved by combining the theoretical framework with data-analytic procedures (Greenbaum 2009). The facet approach has been described as a research strategy consisting of four aspects (Maslovaty et al. 2001; Maslovaty and Levy 2001): (1) the design of the individual facets, (2) the construction of a mapping sentence expressing the composite of all facets and elements within the facets, (3) the construction of appropriate research instruments, and, accordingly, (4) the application of an appropriate multidimensional statistical technique (e.g., SSA) (Shirom 1991).

FT was designed to integrate theory formulation and data analysis into a coherent whole; thus, studies based on FT are analyzed according to data analysis techniques such as SSA (Greenbaum 2009). SSA is a methodology represents variables as points in Euclidian space with interpoint distances corresponding to proximities measured among the variables. The underlying assumption of this approach is that the isomorphism between the proximity measures among the variables and their interpoint distances in the Euclidian space enables direct observation of intercorrelation matrix. The location of each item is determined by a coefficient of similarity or dissimilarity to all the other items. The SSA is an intrinsic data analysis technique with an emphasis on looking at regions in the space of variables rather than on coordinate systems (Levy 2005). Regional hypotheses are associated with the geometry of SSA and related to roles that the content facets play in partitioning the SSA space into regions, for example, radex structure, cylindrical structure, and so forth (Lingoes 1973). The loss function for solutions based on this approach is Stress (Kruskal 1964) or coefficient of alienation (Borg and Shye 1995 p. 129; Guttman 1968). These measures range from 0 to 1 (0 represents a perfect match).

Although SSA and FA share a common purpose: (1) both are applied in order to study structure of objects; (2) both use proximity measures over pairs of objects; and (3) both represent structure through spatial coordinates (Davison 1985), several major differences between the methods can be outlined (Cohen 2003; Guttman 1982; Maslovaty et al. 2001; Steenbergen 2000; Tucker-Drob and Salthouse 2009). Cohen (2008) asserts that the parameters of factor analytic models are rather strict, demanding a metric requirement for the measurements, multivariate normality of the items, and a linear relationship between the items and the factors. The author suggests using less demanding and more parsimonious non-metric alternatives such as the MDS approach. The core concept of this approach is that there is a strong isomorphism between proximity measures among variables and a set of points in Euclidian space. The MDS approach enables to achieve a geometric representation of order relations rather than a mathematical expression of the item's loading on a factor. Instead of factor loadings, MDS emphasizes direct observation of the correlation matrix, and may thus highlight those data structures that are hidden in factor analysis solutions.

The Present Study

Empirically, thus far, previous work (Itzkovich and Alt 2015) used CFA to establish construct validity of a newly designed scale aimed at measuring reactions to FI. However, the CFA result has merely corroborated the EVLN theoretical structure. Other proposed theoretical facets such as destructiveness – constructiveness, and activeness – passiveness, were not corroborated so far in the context of reactions to FI. To address this deficit, FT approach with SSA were used in the current study, to test the structural validity of scores on the scale based on a comprehensive theoretical model regarding reactions to uncivil behaviors.

Method

Participants

Data for the analysis were gathered from 549 undergraduate students (16.9% males and 83.1% females) from two major colleges located in the Northern Galilee: 45.9% from college A, and 54.1% from college B, of whom 52.5% were Jewish and 47.5% Muslim students, with a mean

age of 24.6 (SD = 4.87) years. The participants' distribution regarding the year of study was: 21% first-year students, 54% second-year students, and 25% third-year students.

Instruments

Data were gathered by a 16-item scale (Itzkovich and Alt 2015) designed to measure college students' reactions to FI. The scale includes four factors:

1. Exit - voluntary termination of the affiliation/relationships with the lecture/college
2. Voice - any action which is intended to remedy the situation
3. Loyalty – nonresponse represented mostly by the willingness to endure unfavourable conditions.
4. Neglect – passive negligence or active destruction which can be manifested in destructive interpersonal relations.

The participants were asked: "How would you act if the conditions described in the previous questionnaire part – including FI statements- occurred frequently?" (The previous questionnaire part included the Perceived Faculty Incivility Scale (PFIS) (Alt and Itzkovich 2015a). This scale was designed to measure the frequency of FI occurrences. The scale includes two FI constructs: Factor I contained 13 items representing active FI (AFI), for example, "The teacher yells at you as a response to misunderstanding". Factor II contained 8 items pertaining to passive FI (PFI), for example, "The teacher ignores students' questions during lectures").

The students were asked to report their level of agreement regarding the response statements on a Likert-type score ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Table 1 presents the scale factors, item descriptions, and reliability analysis results (Cronbach's alpha). Structural equation modelling (SEM) was employed to assess the construct validity of the new scale, using a CFA. Data used for the SEM were analyzed with the maximum likelihood method. Three fit indices were computed to evaluate the fit of the presumed dimensional structure: the Comparative Fit Index (*CFI* should be > .90), the Root- Mean-Square Error of Approximation (*RMSEA* should be < .08), and $\chi^2_{[df]}$, ($p > .05$) (Bentler 2006). The analysis yielded four factors, following Itzkovich and Alt (2015): loyalty, voice, neglect, and exit. Two items were excluded from the scale (13 and 16) due to low item loadings ($\chi^2 = 286.638$, $df = 68$, $p < .000$; $CFI = .922$; $RMSEA = .07$).

Findings

In line with this research aim, SSA was used to corroborate additional dimensions of reactions to FI to those found thus far (Itzkovich and Alt 2015) based on theoretical considerations and previous findings. The intercorrelation matrix of the scale was analyzed through Weighted SSA1 (WSSA1, Amar and Toledano 2001), a technique appropriate for use with a symmetrical matrix of observed relationships. In this technique, the matrix of Pearson's r is analyzed to minimize the Euclidean distance between the points in a multidimensional space, then a loss function is calculated (the coefficient of alienation) to determine the dimension that yields the closest fit to the data.

Figure 1 is a proposed mapping sentence, corresponding to the theoretical framework. Figure 2 is the plot (A two-dimensional projection out of three axial 1 X axial 3) yielded by the

Table 1 The EVLN: Sub-factors, item descriptions and internal consistencies (Cronbach's alpha) (n = 549)

Sub-factors and item descriptions	Cronbach's alpha
Loyalty	
1. I will wait until the course is over	
2. I will try not to stick out during the course	Four items
3. I will keep a low profile untill the course ends	.89
4. I will stay quiet during the lessons until the course is over	
Voice	
5. I will personally talk to the lecturer	
6. I will talk to other students about this lecturer	Four items
7. I will send the lecturer an email	.70
8. I will send the lecturer a text message	
neglect	
9. I will write a complaint letter to the management	
10. I will initiate a shared complaint letter to management (i.e., petition)	
11. I will write my opinion of this lecturer through the course feedback questionnaire at the end of the course	Four items .74
12. I will convince other students not to take courses with such a lecturer	
exit	
13. I will take a different course instead	
14. I will change the study track	Two items
15. I will leave college	.78
16. I will not take future courses with this lecturer	

application of SSA for the total sample. The coefficient of alienation was equal to 0.043. Figure 2 demonstrates a duplex projection which includes four regions corresponding to Facet A including the EVLN items. The constructive/destructive domains of Facet B are located at the top and bottom areas of the map, respectively. The constructive region includes the voice and loyalty items; the destructive area includes the neglect and exit items. Facet C is apparent in the two vast vertical sectors, the left region includes active responses of voice and neglect, the right area includes passive responses of loyalty and exit. It is notable that although located in the constructive region, the voice item (8) and the loyalty items slightly deviate toward the destructive area. Moreover, the exit items are seen in close proximity to the active region, whereas the neglect item (12) slightly deviates toward the passive region.

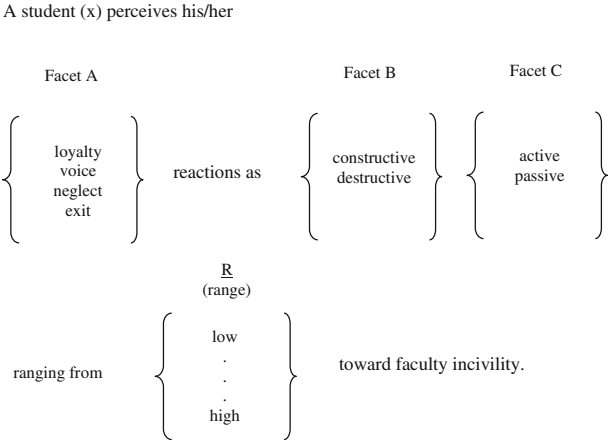

Fig. 1 A mapping sentence for the EVLN scale

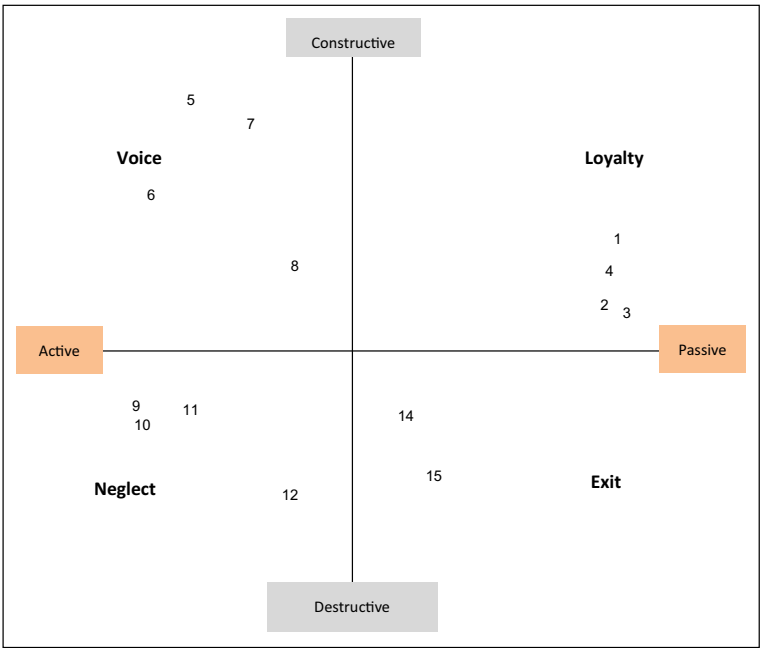

Fig. 2 The SSA map for the EVLN scale

In addition, an attempt has been made to corroborate the SSA findings by using CFA technique. For this purpose, two additional models (Figs. 3 and 4) were constructed. The first model (Model 1 Fig. 3) includes the EVLN and the constructive/destructive latent factors. This model yielded insufficient fit indices (χ^2 = 344.583, *df* = 72, $p < .000$; *CFI* = .902; *RMSEA* = .083). The second model (Model 2 Fig. 4) includes the EVLN and the passive/active latent factors. This model also yielded insufficient fit indices (χ^2 = 320.385, *df* = 71, $p < .000$; *CFI* = .910; *RMSEA* = .08).

Discussion

This research explored the three-facet model structure proposed by the theoretical framework and illustrated the utility of FT for theory validation, as well as construction of scales. In accordance with the FT strategy used in this study, a mapping sentence was constructed expressing the composite of three individual facets (A, B, and C) based on the theoretical framework. The mapping sentence helped to highlight conceptual differentiations considered essential for the tested theory. A new instrument was used to gather data, and finally, a multidimensional statistical technique of SSA was applied (Shirom 1991). According to the SSA result, the structural hypothesis based on the size of the correlations contributed to the explanation of the results by partitioning the space according to the facets defined in the mapping sentences.

According to the SSA result, voice and loyalty were located in the constructive region whereas neglect and exit resided in the destructive area. Moreover, the active region included voice and neglect responses, while responses of loyalty and exit were located in the passive area. This structure better reflects Rousseau's (1995) premise -according to which, the neglect

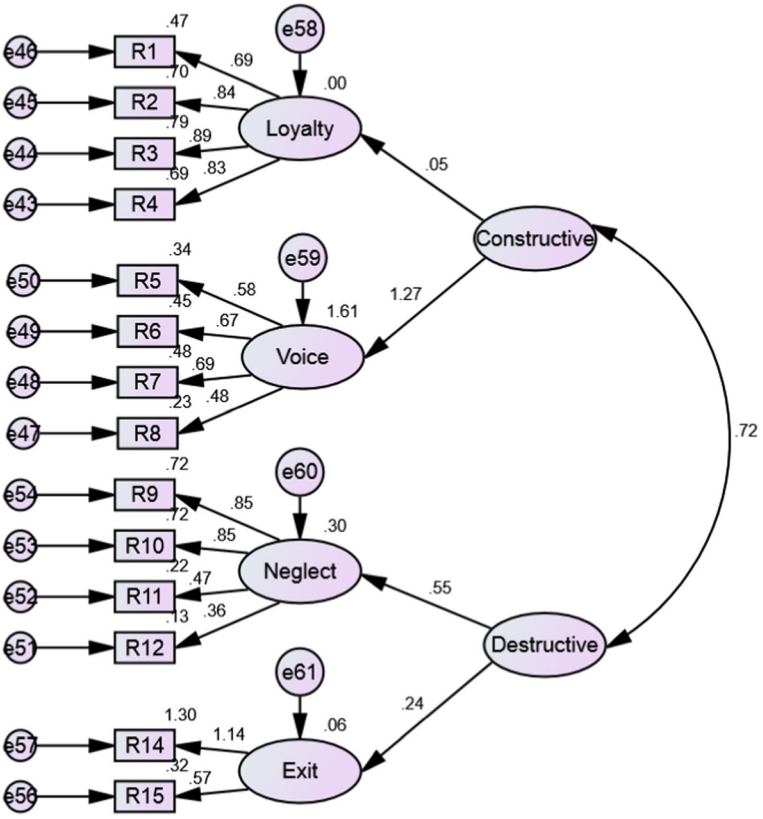

Fig. 3 Model 1. The EVLN measurement model (with the constructive – destructive latent factors), with standardized parameter estimates (n = 549)

reaction is seen as a more active reaction. It can be infer that neglect reactions to FI were perceived by the participants of the current study as active behaviours including writing a complaint letter to the management, initiating a shared complaint letter to management (i.e., petition), and writing a personal opinion on the lecturer through the course feedback questionnaire at the end of the course (items 9, 10, and 11). Another result pertaining to the neglect area showed a slight proximity of item 12 to the passive area. A plausible explanation for this result may be that while the neglect items (9, 10, and 11) deal with direct actions against the offender, item 12 content deals with convincing other students not to take courses with the lecturer, thus might be perceived as an indirect and a more passive act.

Additional results that warrant attention are, first, the voice item's (8) slight deviation toward the destructive dimension. This item deals with sending the lecturer a text message. This kind of reaction may be seen as a privacy invasion enabled by using the lecturer's private cellphone, therefore, can be perceived as a more destructive reaction. Second, the loyalty items deviation toward the destructive dimension. These activities can be seen destructive when the student is required to actively cooperate during class for example by contributing to class discussions and active group work. New learning environments, based on the constructivist pedagogy (Alt 2015), emphasize these cooperative features of the learning process aimed at fostering a dialogic thinking. These features include the promotion of communities of inquiry and dialogue skills through the use of forums of alternative voices, and the induction of students

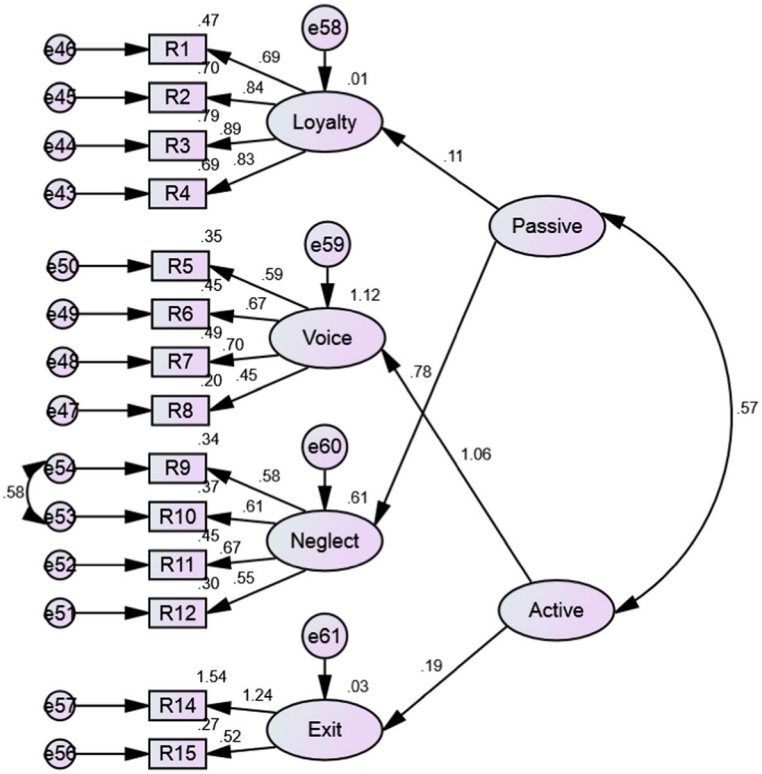

Fig. 4 Model 2. The EVLN measurement model (with the passive – active latent factors), with standardized parameter estimates (n = 549)

into real dialogues across cultural differences. In such learning environments, which build upon the active participation of students, an uncooperative behaviour may be perceived as destructive. Third, the exit items were seen in close proximity to the active area. Although these items can be interpreted as indirect or passive behaviours, taking a different course and changing the study track may be perceived as somewhat active measures taken by the student. This explanation fits Farrell's (1983) model.

Taken together this study's findings reflect an evolution of the EVLN initial model and offer a model that is more inclined toward destructive reactions (Hagedoorn et al. 1999; Rousseau 1995). This may imply that reactions that were considered as constructive in the initial formation conceptually shift toward the destructive pool of the constructive - destructive continuum. This model also corroborates past work (Rousseau 1995) by showing how reactions, such as neglect, that were previously considered to be passive, might move toward the active pool of the active - passive continuum. Moreover, these deviations may imply that the initial separation into four facets is not stable enough, thus there is a need for additional research centring on antecedents of reactions to FI in order to be able to determine under which circumstances specific reactions will be stimulated. Nevertheless, despite these specific deviations, the current findings clearly indicate that the latest variation of the EVLN model which was presented by Rousseau (1995) is more valid as a framework for explaining and measuring reactions to FI. The SSA findings thus corroborate, to some extent, Rousseau's (1995) version of the EVLN model - by showing that the neglect reaction, that was previously considered to

be passive (Farrell 1983), collapses into the active pole of the active - passive continuum and also by showing that the *exit* response, that was considered to be active in Farrell's (1983) version of the model, is more associated with the passive pole of the model.

From a methodological point of view, a comparison between the SSA and the CFA indicates that the SSA gave additional information showing the existence of the constructive/destructive and the active/passive facets which were not supported by the CFA. The SSA validated the EVLN four- factor structure as well as additional facets (B and C). This could allow future research to address these additional facets and their interpretation in the academic arena.

This study could point to the FA method limitations. FA approaches do not allow for multidimensional method effects. A method effect would be multidimensional if there exist two or more systematic sources of variability that affect some or all of the indicators in the model. Multidimensional scaling methods can provide alternative representations of interrelations that "are direct, intuitively meaningful and remain close to the data" (Berven and Scofield 1982, p. 307). Moreover, although both presented in a graphical manner, the visual representation furnished by the SSA allowed presenting the facets illustrated in the mapping sentence simultaneously, as a result of a single analysis, whereas the CFA result has confirmed the set of correlations between the EVLN factors only. In order to assess how the four factors relate to each other with regard to additional dimensions, further analyses were required, however yielded poor fit results. Thus, the CFA failed to present the 'whole picture'; and merely corroborated one facet. Thus, the correspondence between the content facets of the mapping sentence was not achieved by using this approach.

Future studies may find the current validated EVLN scale useful for discovering connections between its dimensions and FI constructs. A previous study that measured the connection between FI and the EVLN four responses (Itzkovich and Alt 2015), merely confirmed a positive connection between active FI (e.g., 'the teacher yells at you as a response to misunderstanding') and the exit factor, however, it has failed to corroborate the additional two dimensions found in the current work. Therefore, further research is needed to clarify the connections between FI and the EVLN multidimensional structure.

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