**Beyond stress: Adverse interpersonal relations and outcomes in the framework of conservation of resources theory—a mediated-moderated model of revenge**

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**Abstract**

BACKGROUND: The Conservation of Resources (COR) theory seeks to explain the underlying mechanism that drives individuals’ perceptions and behaviours, which are ultimately centred around a continuous quest to gain and maintain resources by using the resources already available. It accounts for the boundary conditions of these interrelations by incorporating the impact of social and personal resources, namely vertical solidarity, self-emotional awareness, and regulation of emotions. It is hypothesized that while irritation mediates the relationships between incivility and revenge, some of these relations are moderated by vertical solidarity, self-emotional awareness, and regulation of emotions.

OBJECTIVE: Drawing on the COR theory, this study assesses the relationship between incivility, irritation, and revenge.

METHODS: Data gathered from 210 preschool teachers was analysed using SmartPLS 3.

RESULTS: Drawing on basic assumptions of COR and postulating the interaction between social and personal resources and context, the findings support the mediation and moderation effects, indicating the existence of both affective and calculated revenge. There is also evidence of a trade-off between vertical solidarity driven by instrumental aspirations and revenge as two opposed strategies for resource acquisition. These findings allow a better understanding of organizational revenge and its underlying mechanisms.

**Keywords:**

Incivility, vertical solidarity, irritation

# 1. Introduction

In recent decades, economic challenges and market dynamics driven by digital transformations have generated a continuous organizational pursuit of flexibility [1]. An emerging fast-paced rhythm is restructuring the working world. Precarious work arrangements have replaced the traditional configurations of secure employment [2, 3]. The new work structure is also characterized by increased interdependencies between employees and organizations [4, 5]. On the one hand, these interdependencies embedded in the new work structure have increased employees’ responsibilities and autonomy in enabling organizations to cope with challenges. On the other hand, the dynamic nature of the working world has embedded stress in the delicate fabric of work and work relations [6, 7].

This stressful work environment fosters intraorganizational conflicts in the form, for example, of incivility [8–10]—disrespectful, rude behaviour that trickles down the organizational hierarchy—affecting both employees who experience this mistreatment and managers who perpetrate it [5]. Incivility arises from internal conflicts that elicit negative emotions [11, 12], such as anger, guilt [13], and irritation [14].

Irritation, a subjective mixture of emotional and cognitive strain in an occupational context, can lead to more intense adverse emotions characterized by depletion in an individual’s ability to deal with a given reality, and inducing higher stress levels [7]. Organizational stress also drives counterproductive work behaviours (CWB) motivated by a tit-for-tat mechanism of revenge aimed at mitigating the adverse emotional state or restoring personal resources of status and self-esteem [15–19]. While some scholars have posited stress as an antecedent of CWB, others have noted that CWB can also be an outcome of a more calculated response in a social context, driven by personal attributes such as emotional intelligence [20], and by social attributes such as relationships with co-workers or managers [17] (i.e., solidarity). The latter approach was taken by Fox and Spector [21], who posited that although affect can explain reactive CWB, there are also more instrumental, cognitive-driven forms of CWB.

Similarly, revenge, which is the primary outcome in the current research model and an antecedent of CWB, has also been considered as a two-dimensional construct that consists of calculated vengeful acts distinct from engagement in affect-driven immediate retaliation conduct [22]. A similar dichotomy was brought to the fore by Jones and Carroll [23], who noted that revenge is a dish best served cold, emphasizing the differences between employees who use rational planning to get even and those whose vindictive behaviours are emotionally driven.

To date, however, the difference between instrumental and affective revenge has received little attention. The few studies that have addressed this matter have lacked a comprehensive framework to account for the interrelations between context and social and personal attributes that would enable a deeper understanding of the different antecedents of revenge, and of the boundary conditions that differentiate instrumental and affective revenge.

To account for these interrelations and their boundary conditions, the broad theoretical framing of this paper is the Conservation of Resources (COR) theory [24]. COR was introduced in the late 1980s by Hobfoll and his colleagues and has been the focus of much attention [25, 24, 26–29]. Broadly, COR seeks to explain the underlying mechanism that drives individuals’ perceptions and behaviours, which are ultimately centred around a continuous quest to gain and maintain resources by using the resources already available [24]. Applying the COR theory yields a better understanding of the interrelations between incivility as a resource-depleting context, vertical solidarity as a social resource [26], emotional intelligence (i.e., self-emotional awareness and regulation of emotions) as a personal resource, and the complex ways they interact as part of a multi-layered process aimed at restoring, maintaining, and increasing resources.

**INSERT FIGURE 1 HERE**

Figure 1, based on the model proposed by Hobfoll et al. [26], pinpoints the interrelations between context and social and personal resources. The current overarching goals of research are twofold. The first goal is to investigate how incivility (a social context, but also a source of stress) and personal and social resources interact to impact revenge and irritation (as a mediator between incivility and revenge). The second goal is to account for the interactions between the antecedents of revenge to set their boundary conditions in a mediated-moderated model that accounts for different types of revenge, namely affective revenge and calculated revenge, drawing on the interaction of resources implied by the Hobfoll et al. [26] model. Thus, the current study accounts for the interactive impact of the dark and bright facets of work on employees’ tendency to seek revenge, presenting revenge as a calculated strategy and vertical solidarity as an instrumental behaviour.

# 2. Literature review

## 2.1 Incivility as a resource-depleting context

Incivility was first defined by Andersson and Pearson [15] as “low-intensity deviant behaviour with ambiguous intent to harm the target, in violation of workplace norms for mutual respect” (p. 457). At different ends of the spectrum of interpersonal interactions, civility represents adequate interpersonal relations, whereas incivility represents a form of adverse interpersonal relations [15, 4, 11, 30, 12, 31, 32] that shapes a social context in which individual resources are consumed [33]. As such, incivility inflicts harm on its targets. Research has found a negative relationship between incivility and well-being [34], and studies have demonstrated that incivility damages employees both physically and emotionally [35]. In terms of emotional damage, it has been shown that incivility leads to negative emotional states; targets of incivility report, among other adverse feelings, anger, fear, sadness [36, 12], stress, and irritation [32].

## 2.2 Irritation

Irritation is defined as an experience of uncertainty triggered by the discrepancy between a given situation and an important personal goal [7, 12]. It includes two complementary mechanisms. The first is rumination, a cognitive pattern of uncontrolled thoughts triggered by the discrepancy, which leads to ineffective use of cognitive resources and then to intensified negative emotions. The second is irritability, which is for the most part a more amplified type of mental strain [37]. In terms of COR, it is expected that experiences of incivility will reflect a context in which stress increases and socioemotional resources are depleted [11, 33]. Where it is not possible to regulate stress, irritation consumes more resources. Thus, in the context of the current study, it is expected that incivility will be positively correlated with irritation:

*(H1) Incivility is positively correlated with irritation.*

## 2.3 Revenge

Recently, it has been noted that experiences of workplace incivility can also lead to affect-driven negative behaviours, including deviant retaliatory behaviours, namely revenge [38]. Aquino et al. [39] defined revenge as “an effort by the victim … to inflict damage, injury, discomfort, or punishment on the party judged responsible for causing the harm” (p. 654). Thus, revenge is captured as one of four main reactions to incivility according to the model of exit, voice, loyalty, and neglect (EVLN) [11]. Although some scholars have sought to account for differences between levels of intensity of revenge [19], the distinction between affective revenge motivated by adverse emotions and its counterpart, calculated revenge triggered by cognitive reasoning, has received little attention [23, 22]. The present study addresses this gap by using the comprehensive COR framework to capture the nuances, types, and underlying rationales of revenge.

From a COR perspective, some vindictive behaviours are indeed motivated by a tit-for-tat mechanism [15, 16] with a twofold aim: reducing a harmful and ineffective emotional state that reflects a loss of emotional resources [17, 18], and restoring other personal resources that are demolished by uncivil acts, such as status and self-esteem [19]. This argument is supported by the first principle of COR, according to which individuals are motivated by loss of resources, which leads them to invest some of their remaining resources in acts of revenge [26]. These considerations lead to the second hypothesis:

*(H2) Incivility is positively correlated with revenge.*

As a behaviour that is to some extent affect-driven [15, 11, 19, 38], affective revenge is motivated by stress, which can be expedited by the stress intensifiers of rumination and irritability [7]. Thus, it can be argued that irritation, which is an accelerator of stress, will lead to more acts of revenge:

*(H3a) Irritation is positively correlated with revenge.*

Incivility is thought to be positively related to irritation, and irritation is positively correlated with revenge. Therefore, it can be postulated that irritation mediates the relationship between incivility and revenge [40]. This argument has recently received support from the work of Wang et al. [19]. They posited that rumination (a component of irritation) serves as a standard stage in intermediate information processing and thus buffers the stressful event and its correlation with revenge. These considerations lead to the following hypothesis:

*(H3b) Irritation mediates the relationship between incivility and revenge.*

In line with Hobfoll [26], the current study tests two resources in terms of their impact on irritation and revenge: vertical solidarity, which is a social resource, and emotional intelligence, which is a personal resource. The aim is to identify the interactive impact of social and personal resources and to clarify the ability of individuals to gain, restore, and protect their resources.

## 2.4 Emotional intelligence

Emotional intelligence (EI) is the ability to identify and express emotions, understand emotions and emotional knowledge in self and others, and regulate positive and negative emotions in self and others. Using a more comprehensive framework, Bar-On [41] defined EI as “a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others relate to them, and cope with daily demands” (p. 3).

These demands arise following experiences of incivility, which have been recognized as an emotional experience and a primary source of stress [42, 38]. From a different perspective, EI competencies have been regarded as buffers against stress [43]. In this respect, among other stress-coping abilities that have been linked to specific EI skills, self-emotional awareness (SEA) and regulation of emotions (ROE) have been identified as effective in coping with stress [42, 44]. Accordingly, both SEA and ROE are measured in the current study as personal resources. Given that some vindictive acts are affect-driven [38], SEA and ROE can function as a buffer against revenge [43]. The following hypotheses are therefore proposed:

*(H4a) SEA is negatively correlated with irritation.*

*(H4b) SEA is negatively correlated with revenge.*

*(H4c) ROE is negatively correlated with irritation.*

*(H4d) ROE is negatively correlated with revenge.*

## 2.5 Solidarity

Solidarity derives from a sense of mutual interdependence and responsibility to others, and refers to a situation in which the well-being of one person or group is positively related to the well-being of others [45]. In the organizational context, solidarity is positioned within pro-social types of behaviours, such as organizational citizenship behaviour [46]. Unlike organizational citizenship behaviour (OCB), which is indifferent to the identity of its beneficiaries, solidarity accounts for the direction and hierarchical level of the participants in the act of support [47]. In this sense, whereas horizontal solidarity can be directed at or sourced from peers at the same level of the hierarchy, vertical solidarity is directed at supervisors in relation to the cooperative behaviours of co-workers toward their supervisors [48].

Preschool teachers, for example, are exposed to various sources of irritation (e.g., perpetrators of incivility) and challenges to their status, including from parents, colleagues, and assistants [33]. Vertical solidarity, which in the COR framework is considered a social resource, is also an instrument for enhancing resources [26], such as status and positive emotionality that is demolished by irritation [49]. This instrumental facet of solidarity tends to be overlooked. The mechanism can be activated when non-managerial figures are the source of the irritation. Where it is the supervisor who triggers the irritation, vertical solidarity can be used to restore the emotional and cognitive resources consumed by irritation [49].

In terms of the fourth principle of COR, such reactions to irritation caused by a managerial figure are explained by the exhaustion of resources. When resources are exhausted, individuals enter a defensive mode. They may react in irrational ways, which reflects a desperate, exploratory search for “adaptation strategies that on their face or from experience do not seem adaptive” [24] (p. 106). Helping the perpetrator, although he or she is the source of the irritation, is a strategy that may be chosen, even if it may not be effective. On the basis of these considerations, the following hypothesis is proposed:

*(H5) Vertical solidarity is negatively correlated with irritation.*

The negative interrelations between vertical solidarity and revenge rely on resources being limited [24]. Whether rational or not, investing resources in helping the supervisor as a potential source of status upgrade leaves fewer resources available to invest in vindictive behaviours [49]. This leads to the next hypothesis:

*(H6) Vertical solidarity is negatively correlated with revenge.*

The third principle of COR postulates that resource gain is more prominent than resource loss [24]. This principle emphasizes the interactive relations between resource gain and resource loss, and implies that accounting for the possible interaction between resources can lead to a better explanation of the interrelations between variables and their boundary conditions. Figure 1 supports this notion, illustrating the interaction between context and personal and social resources, and showing that stressful contexts can consume both individual and social resources.

Drawing on these notions in the framework of the current study, three interaction effects were measured. The first accounts for the interaction between personal resources (ROE) and the context of irritation in terms of their mutual impact on revenge. Following Thompson [50], who noted that high levels of stress consume EI resources, recent findings have confirmed that high levels of negative emotionality also consume resources [33]. Intense stress is recognized as triggering the regulation of emotions of those who have ROE as an available resource [51], and ROE is recognized as necessary to buffer stress [42, 44]. These considerations lead to the following hypothesis:

*(H7) The correlation between irritation and revenge is moderated by ROE.*

Awareness of emotions and emotional regulation are mutually dependent [51, 52]. Barrett et al. [51] reported that high differentiation of emotions (i.e., emotional awareness) triggers the selection and use of emotional regulation strategies, especially under high negative emotional arousal. Boden and Thompson [52] also argued that effective regulation of emotion depends on the nuanced information that is derived from emotional awareness. Thus, it is argued that the activation of ROE to prevent revenge requires high emotional awareness, and therefore that:

  *(H8) SEA moderates the relations between ROE and revenge.*

This last interaction concerns the interaction between resource-consuming contexts, namely incivility and vertical solidarity, in relation to their mutual impact on revenge. Incivility can elicit revenge as a retaliatory act [15]. While experiencing incivility, negative emotions are evoked. These negative emotions trigger vindictive behaviours aimed at restoring lost resources in a tit-for-tat spiral [4, 12, 53, 15]. In a parallel but positive route that draws on norms of reciprocity [54], vertical solidarity is a way to gain resources in an organizational context. As resources are limited [24], under neutral conditions (i.e., low incivility), both those who help their manager and those who do not have less inclination to revenge, as they will not lose resources.

In contrast, when incivility is experienced, in order to restore resources, individuals can through a positive exchange take the bright path of helping their manager and gaining social and personal resources to replace those taken by third parties. The choice between the alternatives depends on the source of the incivility. The bright path is more feasible when the manager is not the perpetrator. When the manager is the perpetrator, according to the principle of reciprocity for harm done [55], individuals will choose retaliation as a means to restore resources. These considerations lead to the final hypothesis:

*(H9) Vertical solidarity moderates the relationship between incivility and revenge.*

# 3. Materials and methods

## 3.1 Methods

The study used a quantitative approach. Results were analysed using SmartPLS 3 and based on PLS-SEM methodology, which is different from CB-SEM methodology. The assessment of PLS-SEM models uses bootstrapping, a nonparametric procedure that enables testing of the statistical significance of various PLS-SEM results, including path coefficients, Cronbach’s alpha, HTMT, and R² values. The CB-SEM model assessment, in contrast, is based on model fit [40]. For these reasons, the authors concluded that PLS-SEM was superior to CB-SEM models for the purposes of this study.

## 3.2 Participants

Participants included 210 female preschool teachers between the ages of 24 and 64 (average age 39.4). This gender bias was unavoidable, as the vast majority of preschool teachers in Israel are women. All the participants were employed in early education centres located in the centre of Israel, the most populated area in the country; 87% held full-time positions, and 81.3% held permanent positions. The Israeli Ministry of Education employed 97.4% of them, and the rest were contract workers. The average tenure was 14.45 years.

## 3.3 Measurement instruments

### 3.3.1 Perceived incivility

Workplace incivility was measured using 12 items and a five-point Likert scale [56]. Participants were asked to indicate the extent to which they had experienced uncivil behaviours during the previous year, such as being interrupted, being targeted by angry outbursts, or being subjected to hostile stares from colleagues and supervisors or the parents of students. A sample item is “During the past year, were you ever in a situation where any of your supervisors or co-workers yelled, shouted, or swore at you?” (1 = never, 5 = many times).

### 3.3.2 Irritation

Workplace irritation was measured using eight items on a seven-point Likert scale taken from Mohr et al. [7]. Sample items are “Even at home I often think of my problems at work” for cognitive irritation, and “I get grumpy when others approach me” for emotional irritation (1 = strongly disagree, 7 = strongly agree).

### 3.3.3 Revenge

Revenge was measured using the scale developed by Aquino et al. [57], a five-item, five-point scale designed to measure revenge behaviours. A sample item is “I tried to make something bad happen to them” (1 = not at all accurate, 5 = very accurate). The Cronbach’s alpha for this scale was .91.

### 3.3.4 Vertical solidarity

The items measuring vertical solidarity (i.e., solidarity toward the manager) are based on Lindenberg [58] and refer to consistent cooperative behaviour across five types of situations in which a social dilemma arises [46, 59]: a common good situation, a sharing situation, a need situation, a breach temptation, and a mishap situation [58]. Following Koster [60], we used the following five items to measure vertical solidarity: (1) “I help my supervisor to finish tasks”; (2) “I am willing to help my supervisor when things go wrong unexpectedly”; (3) “I apologize to my supervisor when I made a mistake”; (4) “I try to divide the pleasant and unpleasant tasks equally between myself and my supervisor”; and (5) “I live up to agreements with my supervisor” [60] (p. 127).

### 3.3.5 Emotional intelligence

EI was measured using the means of eight items from the 16-item Wong and Law Emotional Intelligence Scale [61], a self-report measure that covers two of the four dimensions of EI (SEA and ROE) with four sub-items each. Sample items are: “I really understand what I feel” and “I am able to control my temper and handle difficulties rationally” (1 = strongly agree, 5 = strongly agree).

## 4. Procedure

In summer 2016, a link to an online questionnaire was provided to all the preschool teachers on the list of the Association of Preschool Teachers. Informed consent was obtained from all the participants, and their anonymity was assured. The response rate was 10 per cent. Of the 230 questionnaires that were filled out and submitted, 210 contained usable data. Among the participants, 44.7% reported experiences of incivility.

In accordance with PLS-SEM methodology, before assessing the inner model (also known as the structural model, which accounts for the relationships among the latent variables that make up the research model), it was necessary to test the outer model (also called the measurement model, which accounts for the quality of the relationships among the latent variables and their indicators) to ensure that the latent variables were reliable and valid [40].

The results reported in Table 1 indicate that convergent validity, internal consistency, and discriminant validity were achieved for the outer model for each of the scales used. The third question of the intention-to-leave scale was removed because of its low reliability.

**INSERT TABLE 1 HERE**

Whereas reflective measurement scale indicators represent the effects of an underlying construct, the formative measurement scale indicators form the construct. The distinction between formative and reflective is based on a set of guidelines proposed by Hair et al. [40] (pp. 45–55), and the decisions taken in the present study were supported by an empirical statistical test, namely confirmatory tetrad analysis (CTA) [40] (pp. 285–290). In line with these guidelines and the CTA results, the incivility scale was evaluated as a formative measurement scale.

Following the assessment of the reflective measures of the outer model, its formative construct (i.e., incivility) was assessed according to the protocol for the assessment of formative measures. Variance inflation factor (VIF) values were calculated to test for collinearity between the incivility indicators. All VIF values were below 5, the level proposed by Hair et al. [40] as the threshold for collinearity. All items’ loadings were significant and could therefore be retained as part of the measurement model.

Given the cross-sectional measurement method used in this study, the possibility of common method bias (CMB) must be considered. In the context of PLS-SEM, the VIF values of the inner model should be measured to verify that the data can be regarded as free of CMB. VIF values greater than 3.3 imply collinearity between the constructs (an indication of CMB), while VIF values below the threshold of 3.3 indicate that the data can be considered free of CMB. Our results had VIF values lower than 3.3, and it is therefore safe to assume that they are not affected by CMB[62].

# 5. Results

To assess the research hypotheses, the model was constructed in SmartPLS 3. As Figure 2 shows, on the basis of the theoretical model, connections were specified between incivility, irritation, and revenge; between ROE and SEA and irritation and revenge; between vertical solidarity, irritation, and revenge; and between irritation and revenge. The hypothesized moderating effects were also included in the model.

**INSERT FIGURE 2 HERE**

The R2 results were moderate for irritation (0.23) and high for revenge (0.42). The change in the R2 value when a specified exogenous construct was omitted from the model was tested to evaluate its impact on the endogenous constructs. This measure is referred to as the F2 effect size, and values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively [40]. The results showed a moderate effect size of incivility on irritation (0.234). All other effects of solidarity and ROE on irritation were weak. The effects of incivility, solidarity, and three moderations on revenge were found to be weak but above the threshold. Both ROE and SEA were below the threshold as independent explanators of revenge.

The blindfolding procedure was used to assess the predictive relevance (Q2) of the path model. Values greater than 0 suggest that a model has predictive relevance for a specific endogenous construct. In this case, the Q2 values indicated the predictive relevance of all the endogenous constructs (0.122 for irritation and 0.266 for revenge). Significance analyses of the direct effects (reported in Table 2) show that all three moderation effects were significant.

**INSERT TABLE 2 HERE**

To understand the meaning of the interaction, simple slope analysis was used. When irritation is high (Figure 3), those with low ROE are more prone to vindictive behaviour than those who can regulate their emotions. In the absence of irritation, those with low ability to regulate their emotions are less likely to take revenge than their counterparts who have higher ability to regulate their emotions.

**INSERT FIGURE 3 HERE**

The interaction shown in Figure 4 indicates mutual interrelations between AOE and ROE. Vindictive behaviour is most likely when there is no ability to regulate emotions and no awareness of emotions. The interaction also shows that high awareness without regulation leads to the lowest levels of revenge.

**INSERT FIGURE 4 HERE**

 The interaction shown in Figure 5 indicates that, even if they experience high levels of incivility, those who also express vertical solidarity are less likely to take revenge; those who do not help their supervisor are the most likely to do so. When there is no experience of incivility, the differences are small, but those who help their managers are more likely to choose revenge.

**INSERT FIGURE 5 HERE**

# 6. Discussion

Drawing on Hobfoll et al.’s [26] model, which clarified the relationships between context and social and personal resources, the current study addressed two main goals. The first goal was to investigate how incivility (a social context that is also a source of stress), and personal and social attributes interact to impact revenge and irritation (as a mediator between incivility and revenge). The second aim was to account for the interactions between the antecedents of revenge to set their boundary conditions in a mediated-moderated model. In summary, the current study accounts for the interactive impact of some dark and bright facets of work on employees and organizations alike.

Hypotheses H1 to H3 postulated that incivility and irritation trigger vindictive behaviours and that irritation mediates the relationship between incivility and revenge. All three of these hypotheses were confirmed. These interrelations are based on the assumption that revenge is a result of an affective arousal. As an affect-driven behaviour [15, 11, 19, 38], affective revenge is expedited by stress, which is intensified by rumination and irritability [7], the components of irritation. As stress consumes personal resources, for example by reducing the capacity of constructive energy [63], in an emotional state such as anger, vindictive behaviours toward the source of the behaviour reduce the adverse emotional state [53]. In terms of COR, vindictive behaviours restore the resources that have been lost.

Hypotheses H4 to H6 concerned the extent to which vertical solidarity and EI (in the form of SEA and ROE) can explain a reduction in irritation and revenge. Only ROE explained a reduction in irritation; as predicted, vertical solidarity explained a reduction in revenge only. The inability to establish a relationship between ROE and revenge, vertical solidarity and irritation, and the interrelations between SEA and both irritation and revenge may be explained by Hobfoll et al.’s [26] argument that personal and social resources interact with the context to eliminate stress, which is an antecedent of revenge (see Figure 1). Thirty years later, Hobfoll et al. [24] supported this argument by presenting the crossover effect of resources. In an illuminating retrospective on COR, they suggested that resources not only impact each other through a crossover effect but should also be considered in groups (i.e., caravans). Such integrative perception grounds the logic of the current model; accordingly, three interactions were tested and confirmed in the remaining hypotheses.

The first of these hypotheses (H7) addressed the interaction between personal resources (ROE) and the context of irritation in terms of their mutual impact on revenge. The interaction effect was significant, in line with previous evidence that intense stress triggers ROE in those who have that capacity [51]. At the same time, the effect is in line with other findings that high levels of stress, if not regulated, consume socioemotional resources [50], which are negatively correlated with revenge [33]. Specifically, the interaction effect indicates that low regulation of resources triggers more revenge under conditions of high irritation. This supports claims of the existence of affective revenge, a kind of revenge triggered by emotional arousal [11, 19, 38]. An interesting finding emerged from the opposite pole of the interaction: in the absence of irritation, those who are high in ROE are more likely to seek revenge than those who are low in ROE. This suggests that some vindictive behaviours are not driven by stress that is induced by irritation, but are instead based on cold calculation [23, 22] and high emotional regulation. Previous research on incivility has overlooked this distinction.

The second interaction (H8) accounted for the interactive relations between two personal resources, SEA and ROE. Previous findings have established the interdependence of awareness of emotions and emotional regulation [51, 52], which lays the foundations for the current findings. Specifically, Barrett et al. [51] reported that high differentiation of emotions (i.e., emotional awareness) triggers the selection and use of emotional regulation strategies, especially under high negative emotional arousal. Our findings show that in the absence of ROE and SEA, no emotional regulation is activated, and that unregulated (i.e., affective) revenge is triggered and reaches its highest levels. Interestingly, the interaction also shows that high awareness without regulation leads to the lowest levels of revenge. Delving deeper into the possible variations in SEA can account for this finding. As Boden et al. [64] argued, SEA is not flat, and the nuances of SEA trigger a range of responses. In situations where the information provided by awareness is unclear and the acquisition of the information is involuntary (as expected when incivility is being forced on its targets), depression is elicited. This is a more salient response than active behaviour such as revenge, and represents a lack of emotional resources and energy [65]. Indeed it was noted that depression is also characterized by low-arousal emotions such as sadness [66], which are less closely related to revenge [67].

When ROE and SEA are high, revenge is at higher levels than when SEA is low. This finding can also be explained by drawing on the work of Boden and Thompson [52], who posited that effective emotion regulation depends upon nuanced information. With no emotional awareness, an individual’s ability to choose an effective regulation strategy is limited; in contrast, when both ROE and SEA are in place, the right regulation strategy can be chosen. The fact that vindictive behaviour is higher under conditions of high ROE and SEA provides additional evidence for the existence of cold (i.e., calculated and rational) revenge.

The last hypothesis (H9) addressed the interaction between resource-consuming contexts (i.e., incivility) and vertical solidarity in terms of their mutual impact on revenge. Although incivility depletes resources, it is expected that these will be restored by revenge [4]. An alternative route of improving status through helping behaviour was recently noted by Potipiroon and Ford [49]. This route, which is also known as instrumental OCB and helping others for gain [68] (, was documented by Hobfoll et al. [24] (p. 110):

the social exchange relationship between supervisors and subordinates describes how supervisors exchange important resources (e.g., social support, control, self-efficacy) with subordinates who assist them in completing their work. According to the LMX model, leaders develop different forms of exchange relationships with their subordinates, such that employees who maintain good exchange relationships receive more resources.

The findings of the current study show that this is a rational choice between two strategies for resource gain. When incivility is high and there is no vertical solidarity, levels of revenge are at their highest. When the alternative route is chosen, levels of revenge are much lower. Under the assumption that resources are competing [24], especially in the stressful and resource-demanding condition of intense incivility, individuals are likely to consider how best to invest their resources. The rationale for choosing one of the two investment paths can be based on the source of the uncivil act. If it is the manager who has perpetrated the incivility, the revenge strategy is more logical; in such cases, the strategy of helping the manager to restore lost resources would not be fruitful. If someone other than the manager is the perpetrator, given the crossover effect described by Hobfoll et al. [24], it is reasonable and less risky to invest in instrumental help, such as vertical solidarity. This might alert managers that unusual expressions of vertical solidarity are in fact a call for help from employees seeking resources depleted by external sources.

Thus, the findings of the current study support the theoretical notions of COR. They also clarify the nuances of vindictive behaviours in organizations, offering a comprehensive viewpoint that accounts for different resources and their interactive nature. These questions have received little attention in previous research.

## 6.1 Limitations

This study makes a wide contribution, but two main limitations should be noted. First, the use of a cross-sectional design does not allow causality to be determined. Cross-sectional designs are also prone to CMB, although here a range of steps (reported above) was taken to ensure the validity of the data. Second, all the constructs were measured at a single point in time. A future study from a longitudinal perspective would help to validate the results further and to account for the dynamicity embedded in COR.

Despite these limitations, the findings of this study add to our understanding of the interactive impact of social resources and resource-depleting contexts, as well as the underlying mechanism of these impacts in relation to revenge. It does this in a way that takes account of the crossover and caravan effects of COR. By establishing the importance of creating supportive environments that are free of incivility and its adverse implications, such as revenge, insight into the dark side of organizations can teach us how to build brighter, more protective organizational cultures.

**Declaration of Interest:** The authors report no conflict of interest.

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