

Self-determination theory and customer revenge behavior: explaining how customers regulate their anger and revenge behavior

Nasser Shahrasbi

Department of Information Systems, Lam Family College of Business, San Francisco State University, San Francisco, California, USA

Mina Rohani

School of Economics and Business Administration, Saint Mary's College of California, Moraga, California, USA

Mostafa Purmehdi

Department of Management and Marketing Studies, School of Management, New York Institute of Technology, Old Westbury, New York, USA, and

Ali Rajabzadeh Ghatari

Department of Management, College of Arts, Social Sciences and Humanities, University of Lincoln, Lincoln, UK

Abstract

Purpose – This study aims to explore and empirically examine an integrative model of the customer revenge process by linking two well-established theories of self-determination theory (SDT) and appraisal theory.

Design/methodology/approach – A survey of 901 respondents, followed by a post-hoc survey of 712 individuals, was conducted to examine the autonomous versus controlled orientations for revenge motivation.

Findings – The results show that customers' orientation of motivation (OM) can regulate their revenge behavior (direct versus indirect) in case of service failures. Specifically, the interaction of OM components (i.e. autonomy, relatedness and competence) can play a significant role in the relationship between revenge predictors and revenge behavior. Implications for research and practice are discussed.

Originality/value – This paper offers a novel conceptual framework to explain the moderating effects of OM on the relationship between revenge predictors and revenge behavior. This study extends the application of SDT to the context of customer anger and revenge.

Keywords Self-determination theory, Orientation of motivation, Autonomy, Relatedness, Competence, Negative motive, Anger, Desire for revenge, Direct revenge behavior, Indirect revenge behavior, Autonomous motivation, Controlled motivation

Paper type Research paper

Introduction

Customer revenge, defined as any action a customer takes that aims to punish a firm to “get even” for the damage it has caused, is receiving increasing attention in the marketing world (Bechwati and Morrin, 2003; Grégoire *et al.*, 2009). According to recent reports, companies are risking nearly \$500bn in revenue due to a lack of proper customer care (Center for Services Leadership, 2020). As customers gain more power thanks to digital platforms, it is clear that they can do more than passively exit a relationship or complain after a poor service experience. Recent reports show that 35% of dissatisfied customers use online platforms (e.g. social media, review websites, customer online forums) to share their negative reviews or to turn against a firm and take action to get even (Fontanella, 2020). There are various forms of customer

reaction to a faulty firm (direct vs indirect revenge behaviors). For instance, the *Wall Street Journal* reported on an infamous 2008 incident where United Airlines employees recklessly damaged a guitar and refused to compensate the aggrieved customer (McCartney, 2009). The appalling customer service experience inspired the customer to write and record a song called “United Breaks Guitars” (Wellington, 2020). This musical PR nightmare of bad customer experience has received over 20 million views since it was posted to YouTube in 2009, which forced United to respond to the incident after considerable damage to its reputation on social media (Wellington, 2020). In a similar case, a passenger was forcibly removed from a flight after refusing to give up his seat on an overbooked flight and starting a fight with crew members; the customer later sued the airline (Ma, 2017). The question is what drives customers' choice to engage in an *indirect* (e.g. negative word-of-mouth, online public complaining for negative publicity) or a *direct* revenge behavior (e.g. insulting

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and getting in a fight with service employees, hitting an object or slamming a door or even suing the company)?

An overview of major studies on customer revenge highlights a serious limitation in understanding individuals' motivation for direct versus indirect revenge behavior. More specifically, previous research on customer revenge suggests key factors such as perceived power and self-efficacy that potentially impact the choice and demonstration of retaliatory intentions (e.g. Tsarenko and Strizhakova, 2013; Funches et al., 2009; Grégoire et al., 2010). As these factors are situational in nature, they beseech the following question:

Q1. To what extent customers' revenge process is impacted by or a result of environmental and situational factors instead of their personal traits?

Moreover, past studies have considered the desire for revenge as a unitary concept (e.g. Grégoire et al., 2010, 2009; McCullough et al., 2010; Zourrig et al., 2009) by measuring the "level" of revenge solely and quantifying the amount of individual motivation to punish and cause harm to a firm for the harm it has caused (Aquino et al., 2001; Grégoire and Fisher, 2008). There are reasons to question this unitary approach. While both direct and indirect acts of revenge are motivated by the desire to get even with the wrongdoing firm, it is unclear how the customer's desire for revenge motivates their pursuit of direct or indirect behavior.

Using the tenets of self-determination theory (SDT; Deci and Ryan, 2000) and appraisal theory (Lazarus, 1991), this study aims to examine the roles of "level" and "orientation" of revenge motivation to explain how aggrieved customers may engage in various forms revenge behavior (direct versus indirect) in response to a double deviation situation, i.e. a service failure followed by a poor recovery. In other words, our research question is whether and how individuals' orientation of motivation (OM) can impact their revenge formation process. Specifically, we examine the moderating effect of autonomous versus controlled OM, hereafter "autonomous motivation" and "controlled motivation," on the revenge formation process. We suggest that customers with autonomous motivations are inclined to engage in direct revenge behavior since their motivation forms internally. They gain enjoyment and internal pleasure by directly engaging in revenge behaviors while having less fear of counter-retaliation. In contrast, customers with controlled motivation are reluctant to engage in direct revenge. Such customers may have a higher fear of counter-retaliation, as their motivation is primed externally, so they feel more reserved that their overt and trackable direct revenge behavior will cause counter-retaliations from the firm.

Our conceptual model and studies contribute to the literature on customer revenge behavior and extend the applications of SDT beyond existing literature. First, our research expands the view that sees revenge behaviors as influenced mainly by situational factors and offers a different angle to view the revenge process – an alternative perspective rooted in customer's personal traits. This viewpoint elevates existing discussions by addressing that revenge behavior ultimately restores psychological well-being and thus may be influenced by personal traits. By adopting the SDT theory in the context of revenge behavior, we also extend the application of this theory to a context that has not previously been investigated.

This paper is organized as follows. First, we elaborate on the revenge process based on appraisal theory and delineate the distinction between direct and indirect revenge behavior. Second, drawing on SDT, we define autonomous and controlled motivations operationalized by the Basic Needs Satisfaction (BNS) scale. Third, we present our conceptual framework that demonstrates the interaction effect of OM on the customer revenge process. Fourth, we describe our methodology. Finally, we present our results and discuss the theoretical and managerial implications of our study.

Theoretical background

The revenge process from the appraisal theory perspective

The concept of revenge is defined as both an act and a desire motivated by a yearning to see a transgressor suffer (Schumann and Ross, 2010). Prior research on customer revenge takes two forms in general: the process models exploring the cognitive, emotional and motivational underpinnings of revenge and variance models examining distinct revengeful behaviors (Obeidat et al., 2018; Nepomuceno et al., 2017). A deeper dive into the literature reveals a more nuanced understanding of consumer vengeance through process models, largely undergirded by appraisal theories positing initial judgments about a transgression as pivotal (e.g. Barclay and Skarlicki, 2009; Crossley, 2009; Lazarus, 1991; Roseman and Smith, 2001; Scherer, 1999). These judgments create negative emotions that lead to the development of antisocial motivations, culminating in vengeful actions, as delineated by the trajectory: Inferred negative motive or intent → Anger → Desire for revenge → Revenge behavior (Lundahl et al., 2008). Below we describe each of these constructs.

Inferred negative motives

In the context of consumer behavior, customer revenge can be triggered by a negative event, often a double deviation situation (Bechwati and Morrin, 2003). The aggrieved customer blames [1] the firm responsible for the trigger and makes inferences about the firm's negative motive. An inferred negative motive (NM) is defined as the extent to which a consumer believes a firm intended the wrongdoing to maximize its profit and take advantage of the situation (Crossley, 2009; Reeder et al., 2002).

Anger

The negative judgment creates high levels of negative emotions such as anger. Anger is a strong emotion that contains an impulse to react (Bougie et al., 2003) that motivates the customer to seek revenge. Customers who suffer a service failure look for a way to express their frustrations and seek retribution if they perceive that the firm has ignored and wronged them (Tripp and Grégoire, 2011) or may seek revenge as a way to restore mental health by getting even with the firm to cause harm for the damages the firm caused them in the first place (Deci and Ryan, 2000).

Desire for revenge

A customer's desire for revenge refers to the individual's tendency to punish and harm a firm for the damage it has caused (Aquino et al., 2001; McCullough et al., 1998). This motivation, which is both cognitively and emotionally driven,

can lead customers to seek revenge against the firm (Bies and Tripp, 1996; Joireman et al., 2013).

Direct and indirect revenge behaviors

Customers may engage in different revenge behaviors to act upon the motivation/desire for revenge (Grégoire et al., 2010). Recent research makes a distinction between two categories of revenge behaviors: direct and indirect (Grégoire et al., 2010; Nepomuceno et al., 2017). This distinction is important because each behavior requires specific actions to control the resulting destructive behavior to the firm's reputation.

We defined *direct revenge behavior* as customers' vengeful or retaliatory actions that directly target and impact the service firm or its employees. These actions often occur under the firm's radar and with little or no involvement of a third party (Grégoire et al., 2018). Direct revenge behavior can take different forms. Customers' actions such as marketplace aggression (Gregoire et al., 2010), damaging the firm properties or vandalism (Funches et al., 2009), stealing (Huefner and Hunt, 2000), trashing (Huefner and Hunt, 2000), insulting and face-to-face confrontation with the firm's employee (Grégoire et al., 2010), hitting an object (Funches et al., 2009) or even putting a nasty review on the firms' website are all sort different behaviors that can be classified as direct revenge behavior (Obeidat et al., 2018).

Indirect revenge, on the other hand, is considered as customers' vengeful or retaliatory actions that take place behind the firm's back (often through the involvement of a third-party firm) with an impact or damage that is unforeseeable or difficult to maintain by the firm. Indirect revenge behaviors can also take various forms, including negative word-of-mouth (WOM) in which customers share the negative service experiences with friends and family members in a private setting (Grégoire and Fisher, 2006) or online public complaining for negative publicity (Grégoire et al., 2018). In the online public context, customers use online platforms to reach a broad public and inform them about the misbehavior of the wrongdoing firm (Grégoire et al., 2010; Ward and Ostrom, 2006).

Previous research highlights various factors that influence the customer revenge process and dynamics, including customer perceived power, perceived betrayal, relationship quality, idiocentrism/allocentrism and service failure severity (see Table A1; Appendix 1). For instance, Grégoire and his colleague explored the determinants of customer revenge (Grégoire et al., 2009, 2010). In one article, Gregoire et al. (2009) observed a significantly higher propensity for direct revenge behavior among customers with a higher level of perceived power. They also found that customers' perceived betrayal and firm relationship quality strongly correlate with their level of anger and desire for revenge (Grégoire et al., 2009). However, limited studies, if any, have explored the impact of customer OM on the customer revenge process.

The self-determination theory and the moderation effect of orientation of motivation on the revenge process

SDT is a meta-theory studying human motivation and personality (Deci and Ryan, 1985, 2000). The applications of SDT, which is also known as the theory of motivation, have been studied in various contexts such as psychology (Ryan and Deci, 2000), organizational behavior (Gagné and Deci, 2005),

education (Reeve, 2002), health care (Ryan et al., 2008) and sport and exercise (Biddle et al., 2001) (see more studies at the Center for Self-Determination Theory). Using insights from cognitive evaluation theory, in this research, we develop and test a comprehensive model to examine how the impacts of customers' OM on their revenge process lead to direct or indirect revenge behaviors.

SDT consists of two sub-theories: cognitive evaluation theory and organismic integration theory (Ryan and Deci, 2000). Cognitive evaluation theory specifies three primary psychological needs for explaining variability in motivation:

- 1 a sense of *autonomy* (i.e. people need to feel in control of their own behaviors and goals);
- 2 a feeling of *competence* (i.e. people take action when they feel that they have the skills needed to help them achieve their goals); and
- 3 a feeling of *relatedness* (i.e. people need to experience a sense of belonging and attachment to other people) (Ryan, 1982; Ryan and Deci, 2000).

The combination of these psychological needs forms an individual's OM on a spectrum ranging from *autonomous* to *controlled* motivations (Deci and Ryan, 2000).

Autonomous motivations lead individuals to experience a complete set of volition, willingness and choice about their action. In other words, individuals are able to endorse their behavior at the same time that they are doing it (Ryan and Deci, 2000). Autonomous motivations come from two sources: interest and enjoyment and the individual's values and beliefs (Ryan and Deci, 2000). If an individual is genuinely interested in a specific behavior, he or she enjoys doing it. So, the motivation is internally charged, ready to come out and be reflected as an action (Ryan and Deci, 2000). The second source of autonomous motivation relates to individuals' values and beliefs. People truly value things that are important to them, and as such, they engage in behaviors consistent with their values (Lin et al., 2009; Ryan and Deci, 2000; White, 2015).

Moreover, autonomous motivations can enhance an individual's confidence in a challenging situation such that they can overcome their self-efficacy barriers (McAuley and Mihalko, 1998). Individuals engaging in behaviors stemming from autonomous motivations are more consistent than those with controlled motivations (Ryan and Deci, 2000; Verstuyf et al., 2012) and, therefore, invest more efforts (Sheldon and Kasser, 1998). Thus, behaviors motivated by autonomous motivations would be better attained than controlled ones (Sheldon and Kasser, 1998).

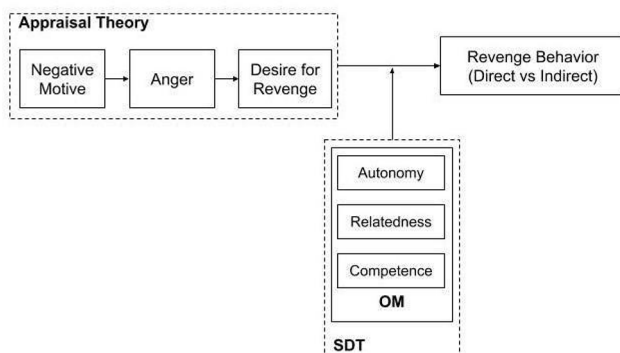
Controlled motivations, in contrast, act as "carrot and stick." An individual with controlled motivations must be either persuaded to engage in a specific behavior by offering a reward or coerced into the behavior by threat of punishment. In either case, the individual feels intense pressure with high tension and anxiety that will ultimately negatively affect their performance (Ryan and Deci, 2000). Moreover, because of the high pressure and anxiety inherent in controlled motivations, individuals with controlled motivation are more inclined to take the shortest path. They may not make significant efforts or express less perseverance to achieve their desired outcomes (Ryan and Deci, 2000).

As revenge behavior is not only about being able to retaliate (and get even) but also about psychological well-being (post-revenge; Grégoire *et al.*, 2018), we find the SDT perspective offering an alternative perspective to view the revenge process particularly, and OM offers unique lenses to look into the motivation of revenge. Researchers have so far found several key situational factors that potentially impact the choice and demonstration of retaliatory intentions, such as perceived power and self-efficacy. While we do not overlook the effects of these situational factors, we consider the implications of personal traits on behavioral choices and ask whether revenge behavior choice is merely a result of situational factors and or customer's traits, something that the literature seems to be missing an explanation for.

In a challenging double deviation situation, our model proposes that a customer's motivational orientation moderates the revenge process (see Figure 1). Hence, we expect that customers with autonomous vengeful motivations should feel more competent to act on their desire for revenge in the form of direct revenge behaviors and be able to put more consistent effort into the vengeful behavior. These customers will see more intrinsic value in taking revenge because it provides them emotional satisfaction and enjoyment: "Revenge is sweet." They consequently should feel more powerful and have fewer self-efficacy barriers in engaging in direct revenge behavior despite its costs or their objective losses (Grégoire *et al.*, 2018).

We also propose that customers with controlled motivation will see themselves as less powerful and feel more self-efficacy barriers. They need more confidence to overcome the barriers of the challenging double deviation situation. Perceived power – the perception of the customer's ability to influence a firm gainfully – is a key component of revenge behaviors (Grégoire *et al.*, 2010). When customers perceive that they cannot alter the unbalanced relationship with the firm to their advantage, they are less inclined to engage in direct revenge behaviors (Grégoire *et al.*, 2010). In other words, they prefer indirect revenge behaviors (i.e. negative WOM and complaining to a third), given their inconsistent effort in fulfilling their desire for revenge. They may engage in indirect revenge behaviors because of the potential value or external reward, such as offsetting their financial damage, avoiding a future feeling of regret or protecting other customers (including their friends and family) from possible future damages.

Figure 1 Conceptual framework



Source: Developed by the authors

Methodology

Procedure, sample and measurement

We conducted an online survey of American adults using Amazon MTurk (Buhrmester *et al.*, 2011; Paolacci and Chandler, 2014). The initial sample comprised 1,108 responses. [2] After checking for all attention-check questions, 901 completed surveys remained in our sample. The sample was 51.4% female, and the average age was 44.5 ($SD = 13.48$).

Respondents were asked to watch a short video of a real double deviation situation [3] and answered questions about how they would think, feel and behave if they were in the described situation using a closed-ended seven-point Likert scale questionnaire (1 = "strongly disagree" and 7 = "strongly agree") unless otherwise noted [4]. Before watching the video, the participants were asked about their OM by answering questions about three psychological needs on the Basic Need Assessment Scale (adapted from Deci and Ryan, 2000; Gagné and Deci, 2005). The BNS measures autonomy (i.e. the need to feel in control of one's behaviors and goals), competence (i.e. the ability to take action when one feels one has the skills needed to achieve a goal) and relatedness (i.e. the need to experience a sense of belonging and attachment to other people).

A higher composite score of OM (i.e. aggregated across the three psychological needs assessed using the BNS) may positively correlate with autonomous motivation, whereas a lower level of OM is associated with more controlled motivation (Baard *et al.*, 2004; Gagné and Deci, 2005; Van den Broeck *et al.*, 2008). Moreover, a discrete examination of the three basic needs shows a positive correlation with autonomous motivation. Satisfaction of each psychological need may relate differently to controlled motivation. A person may take a socially acceptable action or seek social support from others to satisfy their needs for competence and relatedness if their need for autonomy is unmet (i.e. when they feel controlled) (e.g. Niemiec *et al.*, 2006).

After watching the video, the respondents answered three items about the severity of the incident (Maxham and Netemeyer, 2002) and four items about the realisticness of the scenario (Grégoire *et al.*, 2018). They were also asked to express how they would feel, think and behave in the described scenario. More specifically, inferred negative motives were measured with four items (Crossley, 2009; Reeder *et al.*, 2002). Anger was measured with four items adapted from Richins (1997). The desire for revenge was measured with five items (Aquino *et al.*, 2001; Grégoire and Fisher, 2006) and revenge behavior/action was measured with the following items:

- whether they would take a direct action such as raising their voice, slamming the door, damaging the firm properties or breaking something on the scene, getting in a physical confrontation with the manager or staff, etc.;
- an indirect action such as posting a picture or video of the situation on social media and trashing the firm's reputation, calling the news or media to spread negative word-of-mouth, denigrating the firm among their friends and everyone they know to avoid this firm or do business with them, etc.; or
- do nothing, leave or avoid further interaction/confrontation with the company.

We also measured revenge behavior by asking the participants to answer nine questions about the likelihood of their engagement in various revenge behaviors (four direct revenge items and five indirect revenge items) adapted from Grégoire *et al.* (2010).

Exploratory factor analysis

To check the convergent validity of our constructs, we applied both exploratory and confirmatory factor analysis. Because of the novelty of using OM measures in the service marketing context, we examined the psychometric properties of the scales for autonomy, competence and relatedness. We did not apply EFA for revenge process constructs (i.e. inferred negative motive, anger, desire for revenge) because its measurements are well established. We selected 8 of 21 items that are strongly loaded on three factors: three items for the relatedness construct (Items 1, 2 and 4) between 0.78 and 0.86, three items for the competence construct (Items 1, 5 and 6) between 0.79 and 0.92 and two items for the autonomy construct (Items 4 and 7) between 0.55 and 0.97 factor loading. Cross-loading was minimal in the final model at less than 0.29 for all factors. Cronbach's alphas of each construct were in the acceptable range of reliability of greater than 0.6 (Ursachi *et al.*, 2015). The reliability of all constructs ranged between 0.63 and 0.92 (see Table A2 in Appendix 2).

Confirmatory factor analysis.

The 8-item model in our CFA produced a satisfactory fit to the data: Comparative fit indexes (CFI) 0.99, Tucker-Lewis Indexes (TLI) 0.98 and Incremental Fit Indexes (IFI) 0.99. The chi-square value of the model was 2.48 (df: 11). The loadings were substantial and significant ($p \leq 0.001$) and the average variances extracted (AVEs) were greater than 0.70 for all constructs.

Test of robustness

We conducted a multivariate analysis of variance (MANOVA) test to assess the robustness of our results between the dummy variable of REV_AC_B (direct = 0 and indirect = 1) and multi-item direct revenge behavior (REVEB_D: 4 items) and multi-item indirect revenge behavior (REVB_I: 5 items). As the focus of our research is on those engaged in either direct or indirect revenge behavior, we included only those who selected direct and indirect revenge actions in our analysis ($N = 714$). The results show a statistically significant difference in multi-item direct versus indirect revenge behavior based on the prior dichotomous variable treatment [$F(2, 711) = 18.939$, $p \leq 0.0005$; Wilk's $\Lambda = 0.949$, partial $\eta^2 = 0.051$, Box's $M = 6.470$, $p_{\text{Box's } M} = 0.09$]. That is, those who chose a direct revenge action in the dichotomous question (direct = 0) consistently exhibited a significantly higher level of probability to engage in various direct revenge behaviors when answering the multi-item questions ($M_{\text{REVB}_D} = 5.49$, $SD_{\text{REVB}_D} = 0.96$; $N = 74$ vs $M_{\text{REVB}_I} = 5.08$, $SD_{\text{REVB}_I} = 1.13$; $N = 640$). In contrast, those who chose an indirect revenge action in the dichotomous question (indirect = 1) exhibited a significantly higher level of probability to engage in various indirect revenge behaviors rather than direct revenge behaviors ($M_{\text{REVB}_D} = 5.42$, $SD_{\text{REVB}_D} = 1.03$; $N = 74$ vs $M_{\text{REVB}_I} = 5.81$, $SD_{\text{REVB}_I} = 0.98$; $N = 640$).

Results

First, we analyzed our revenge process model of “negative motive → anger → DFR → revenge behavior” using our dummy revenge action variable named REV_AC_B (direct = 0 and indirect = 1). We tested this mediated path with the procedure Hayes (2022) PROCESS (v3.5, Model 6). The mediation analysis is based on 5,000 resamples generated by a bootstrap procedure. Our results suggest that all paths (i.e. negative motive → anger, anger → DFR, DFR → revenge behavior, negative motive → DFR, anger → revenge behavior) are significant, except for the direct path from inferred negative motive to revenge behavior ($B = 0.01$, $p = 0.91$). We also tested for all the indirect paths and found all indirect paths are statistically significant (see Figure 2). The sequence of indirect paths going through anger and DFR is statistically significant ($B = -0.07$), with a 95% confidence interval between -0.12 and -0.04 . The indirect effect from negative motive to revenge behavior through DFR is significant ($B = -0.21$), with a 95% confidence interval between -0.34 and -0.12 . The indirect effect from negative motive to revenge behavior through anger ($B = 0.31$) is also significant, with a 0.95% confidence interval between 0.22 and 0.43. Overall, these results are consistent with the revenge process relying on appraisal theories.

Since our dependent variable is binary, we used coding of the binary dependent variable for our logistic regression analysis. Our results show that both anger and DFR are significant predictors (anger: $p \leq 0.0001$; DFR: $p \leq 0.001$) of the likelihood of a person engaging in revenge behavior. The logistic model containing our predictors (i.e. anger and DFR) represents a significant improvement in fit over a null model with no predictors, $\chi^2(3) = 54.29$, $p \leq 0.0001$, with McFadden's pseudo- R -squared of 0.114 [5]. In other words, both anger and DFR are significant predictors of the revenge behavior construct.

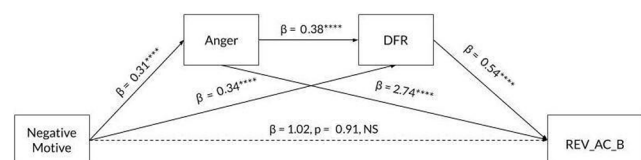
Moderation effects of orientation of motivation on the revenge process.

To test the interactions, we ran a two-phased analysis. In Phase I, we tested the moderating effect of OM on all possible links of the revenge process. In Phase II, we examined the moderating effects of each basic psychological need (i.e. autonomy, relatedness, competence) and their two-by-two interactions on the revenge process.

Phase I: moderation effects of orientation of motivation on the revenge process.

We ran Hayes' procedure PROCESS model 59 on all possible links of our revenge model. The moderation analysis is based

Figure 2 Revenge process measurement model



Note: $B = -0.07$, bootstrap CI $[-0.12, -0.04]$

Source: Developed by the authors

on 5,000 resamples generated by a bootstrap procedure. In other words, all paths in Model 59 are moderated by OM, yielding a moderated indirect effect and a moderated direct effect.

As shown in Figure 3, the interaction effect of OM is significant on the relationship between negative motive and anger and marginally significant on the relationship between anger and DFR. More specifically, the results show that the interaction effect of OM and negative motive on anger is statistically significant ($b = -0.18$, $s.e. = 0.027$, $p \leq 0.0001$), suggesting that OM moderates the effect of negative motive on anger.

Using Hayes (2018) conventional “pick-a-point” approach, we picked three simple slopes of the relationship between negative motive and anger at three points along the scale of the OM. At $-1SD$ on OM, the effect is positive and significant ($b = 0.4578$, $s.e. = 0.0359$, $p \leq 0.0001$). At the mean of OM, the effect is also positive and significant ($b = 0.2986$, $s.e. = 0.0245$, $p \leq 0.0001$). At $+1SD$, the negative motive is a significant positive predictor of anger ($b = 0.1395$, $s.e. = 0.0337$, $p \leq 0.0001$). Nevertheless, we observe the slopes turn less positive as we move from low to high OM (see Figure 4).

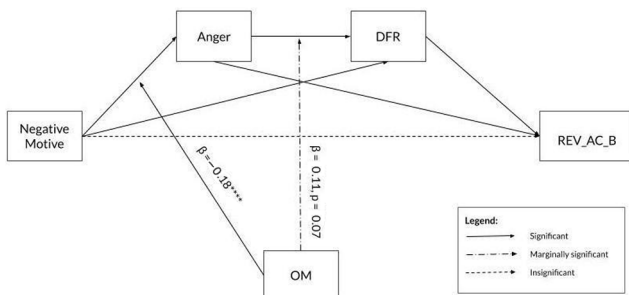
Although the results do not show a moderating effect of OM on the relationship between negative motive and DFR ($b = -0.02$, $s.e. = 0.0469$, $p = 0.63$), we observe a marginally significant interaction between anger and OM on DFR ($b = 0.11$, $s.e. = 0.062$, $p = 0.07$), suggesting that OM marginally moderates the effect of anger on DFR. At $-1SD$ on OM, the effect is positive and significant ($b = 0.5350$, $s.e. = 0.0644$, $p \leq 0.0001$). At the mean of OM, the effect of anger is also positive and significant ($b = 0.6343$, $s.e. = 0.0652$, $p \leq 0.0001$). At $+1SD$, anger is still a significant positive predictor of DFR ($b = 0.7336$, $s.e. = 0.1033$, $p \leq 0.0001$). However, the slopes become slightly more positive as we move from low to high OM (see Figure 5).

Finally, the results do not show a significant moderating effect of OM on the relationship between negative motive and revenge behavior ($b = 0.88$, $s.e. = 0.1477$, $p = 0.39$), anger and revenge behavior ($b = 0.97$, $s.e. = 0.2055$, $p = 0.89$) or DFR on revenge behavior ($b = 0.87$, $s.e. = 0.1665$, $p = 0.40$).

Phase II. Moderation effects of psychological needs on the revenge process

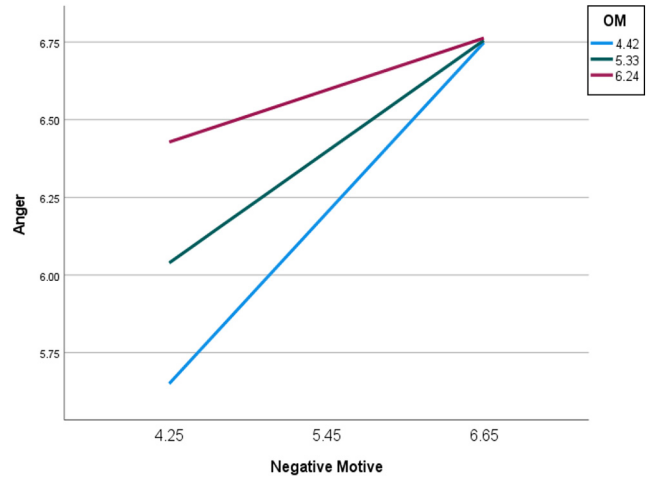
In Phase II, we further explored the moderation effects of each of the three basic psychological needs (i.e. autonomy,

Figure 3 Moderation effects of OM on the revenge process model



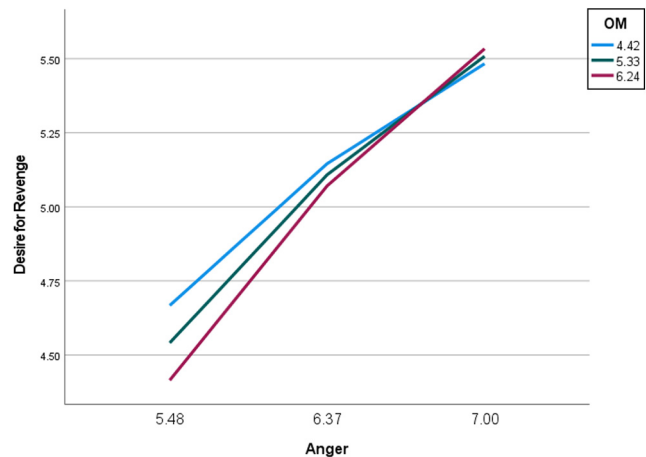
Source: Developed by the authors

Figure 4 Moderation effect of OM on the relationship between negative motive and anger



Source: Developed by the authors

Figure 5 Moderation effect of OM on the relationship between anger and DFR



Source: Developed by the authors

relatedness and competence) on the revenge process. We also looked into two-by-two interactions by running Hayes’ procedure PROCESS model 73 three times (autonomy × relatedness, autonomy × competence, relatedness × competence) on all possible paths. The moderation analysis is based on 5,000 resamples generated by a bootstrap procedure. Model 73 tests all direct effects of X on Y and the conditional indirect effects.

Phase IIa. Interaction of autonomy and relatedness on the revenge process.

First, the test of highest-order unconditional interactions of negative motive and autonomy and relatedness (XWZ) on anger is insignificant ($F(1, 706) = 0.89$, $p = 0.34$). However, the interaction between negative motive and relatedness on anger (XW) is statistically significant ($b = -0.19$, $s.e. = 0.089$,

$p \leq 0.05$), suggesting that relatedness moderates the effect of negative motive on anger.

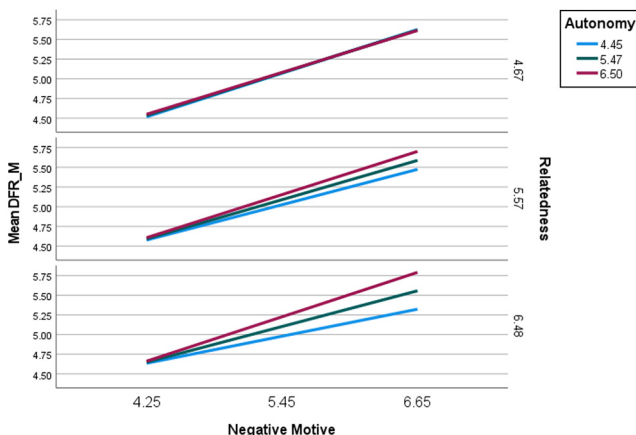
Second, the test of highest-order unconditional interactions of negative motive and autonomy and relatedness (XWZ) on DFR is statistically significant [$F(1, 706) = 3.58, p \leq 0.05$], suggesting that the interaction of autonomy and relatedness (WZ) moderates the effect of negative motive on DFR ($b = 0.05, s.e. = 0.029, p \leq 0.05$) (see Figure 6). In addition, the interaction between anger and relatedness (M₁Z) on DFR is statistically significant ($b = -0.41, s.e. = 0.17, p \leq 0.01$), suggesting that relatedness negatively moderates the effect of anger on DFR.

Finally, our logistic model containing our predictors (i.e. anger and DFR) and moderators (i.e. autonomy and relatedness) represents a significant improvement in fit over a null model with no predictors, $\chi^2(15) = 79.28, p \leq 0.0001$, with McFadden's pseudo-R-squared of 0.166. The interaction between anger and autonomy and relatedness (M₁WZ) on revenge behavior was marginally significant ($b = 0.75, s.e. = 0.15, p = 0.06$), suggesting that the interaction of autonomy and relatedness marginally moderates the relationship between anger and revenge behavior (see Figure 7). In other words, for every one unit increase in anger \times autonomy \times relatedness, there is a predicted increase in likelihood of -0.2867 in log-odds or $[\exp(-0.2867) = 0.75]$ for direct revenge behavior (see Figure 8).

Phase IIb. Interaction of autonomy and competence on the revenge process

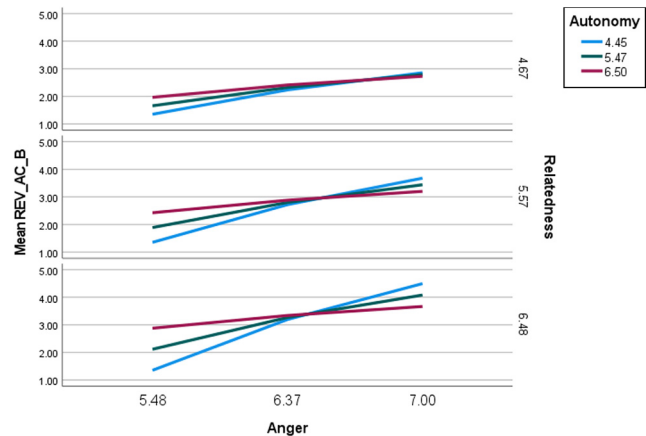
First, although the test of highest-order unconditional interactions of negative motive and autonomy and competence (XWZ) on anger is insignificant [$F(1, 706) = 2.35, p = 0.12$], the interaction between negative motive and autonomy (XW) on anger ($b = -0.22, s.e. = 0.072, p \leq 0.005$) and the interaction between negative motive and competence (XZ) on anger is statistically significant ($b = -0.116, s.e. = 0.083, p \leq 0.05$). In other words, autonomy (W) and competence (Z) independently moderate the relationship between negative

Figure 6 The interaction effect of autonomy and relatedness on the relationship between negative motive and DFR



Source: Developed by the authors

Figure 7 The interaction effect of autonomy and relatedness on the relationship between anger and revenge behavior



Source: Developed by the authors

motive and anger, while the interaction is insignificant when the two are present (WZ).

Second, the test of highest-order unconditional interactions of negative motive and autonomy and competence (XWZ) on DFR is statistically significant [$F(1, 706) = 4.07, p \leq 0.05$], suggesting that the interaction of autonomy and competence (WZ) positively moderates the effect of negative motive on DFR ($b = 0.05, s.e. = 0.024, p \leq 0.05$) (see Figure 9).

Moreover, the interaction of anger and autonomy and competence (M₁WZ) on DFR is statistically significant ($b = 0.09, s.e. = 0.039, p \leq 0.05$) (see Figure 10).

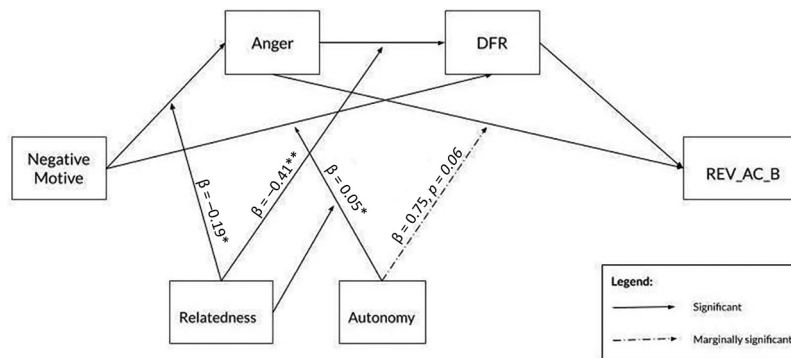
Finally, our logistic model containing our predictors (i.e. anger and DFR) and moderators (i.e. autonomy and competence) represents a significant improvement in fit over a null model with no predictors, $\chi^2(15) = 95.86, p \leq 0.0001$, with McFadden's pseudo-R-squared of 0.201. However, the results of the logistic regression analyses showed no significant interaction between any of the predictors (i.e. negative motive, anger, DFR) and any of the moderators (i.e. autonomy, competence) on revenge behavior (see Figure 11).

Phase IIc. Interaction of relatedness and competence on the revenge process

First, the test of highest-order unconditional interactions of negative motive and relatedness and competence (XWZ) on anger is not significant [$F(1, 706) = 0.22, p = 0.63; b = 0.0077, s.e. = 0.016$]. However, the interaction between negative motive and relatedness (XW) on anger is negatively significant ($b = -0.17, s.e. = 0.078, p \leq 0.005$), suggesting that relatedness moderates the effect of negative motive on anger.

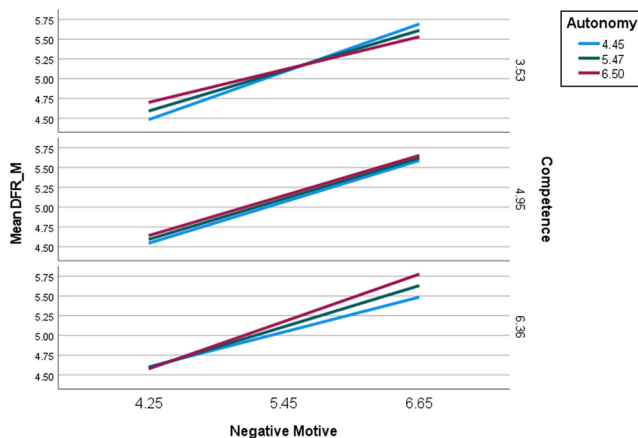
Second, the test of highest-order unconditional interactions of negative motive and relatedness and competence (XWZ) on DFR is also not significant [$F(1, 706) = 2.42, p = 0.11$]. However, the interaction between negative motive and relatedness (XW) on DFR is statistically significant ($b = -0.26, s.e. = 0.13, p \leq 0.005$), suggesting that relatedness moderates the effect of negative motive on DFR.

Figure 8 Moderation effects of autonomy and relatedness on revenge process



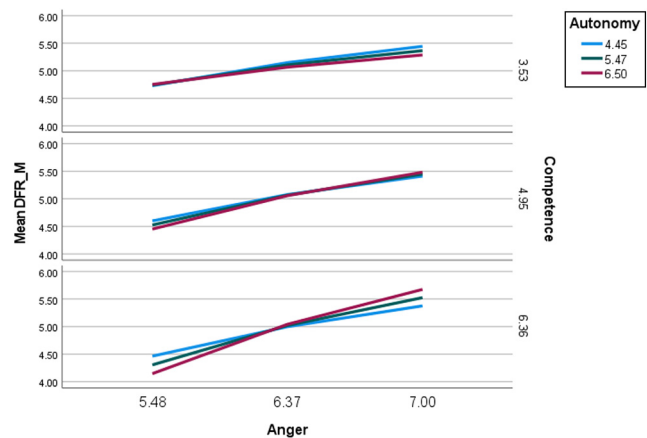
Source: Developed by the authors

Figure 9 The interaction effect of autonomy and competence on the relationship between negative motive and DFR



Source: Developed by the authors

Figure 10 The interaction effect of autonomy and competence on the relationship between anger and DFR



Source: Developed by the authors

In addition, the test of highest-order unconditional interactions of anger and relatedness and competence (M_1WZ) on DFR is also statistically significant [$F(1, 706) = 6.41, p \leq 0.01; b = 0.10, s.e. = 0.03, p \leq 0.01$], suggesting that the interaction of relatedness and competence moderates the effect of anger on DFR (see Figure 12).

Finally, our logistic model containing our predictors (i.e. anger and DFR) and moderators (i.e. relatedness and competence) represents a significant improvement in fit over a null model with no predictors, $\chi^2(15) = 104.04, p \leq 0.0001$, with McFadden’s pseudo- R -squared of 0.218. However, the results of the logistic regression analysis show no significant interaction between any of the predictors (i.e. negative motive, anger, DFR) and any of the moderators (i.e. relatedness, competence) on revenge behavior (see Figure 13).

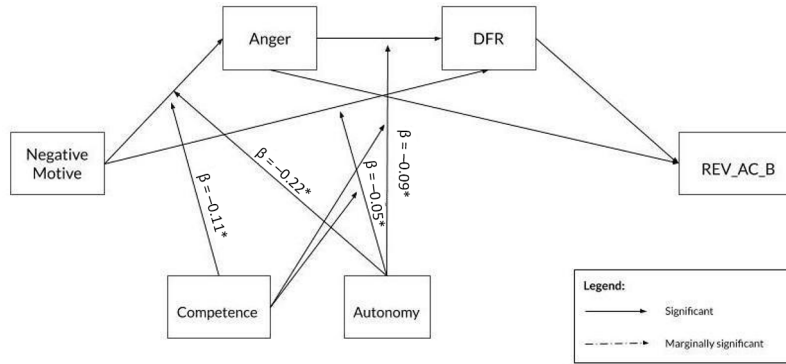
Post-hoc study

Procedure, sample and measurement

We conducted a second study using an online survey of American adults using Amazon MTurk. In our initial study, most respondents chose direct revenge over indirect revenge

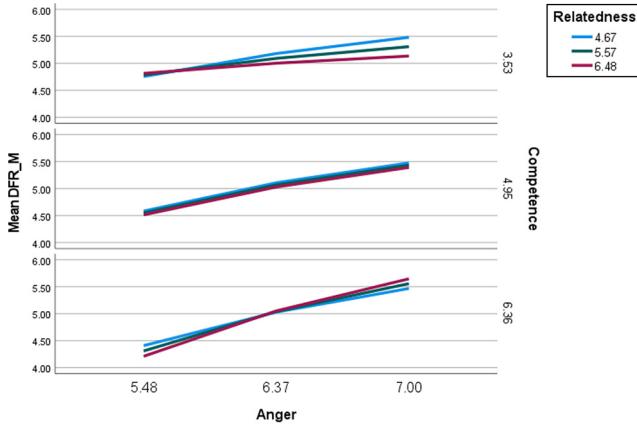
behavior. So, we replicated the survey to see if we could have a more balanced sample. Moreover, we were interested in including the impact of two major constructs of power and self-efficacy on our revenge process model. Power refers to customers’ perceived ability to influence a firm in an advantageous manner (e.g. Frazier, 1999; Menon and Bansal, 2007), on the different revenge behaviors. Previous research by Grégoire et al. (2010) shows that customer’s perceived power has both direct and moderation effects on customers’ direct revenge behavior. Customer’s self-efficacy refers to the extent to which an individual perceives that they can successfully perform a course of action required to deal with prospective situations based on their perceived competency (Bandura, 1977). To enhance the validity of the research, we designed this study similarly to the original survey. In addition to the previous survey questions, we measured “perceived power” (4 items; Grégoire et al., 2010) and self-efficacy (6 items; Schwarzer and Jerusalem, 1995). The sample was 50% female and the average age was 45 ($SD = 1.25$). After checking all attention-check questions, we collected 712 completed surveys, in which 319 participants chose direct revenge behavior (online and offline), 274 chose indirect revenge behavior (online and offline), 119

Figure 11 Moderation effects of autonomy and competence on revenge process



Source: Developed by the authors

Figure 12 The interaction effect of relatedness and competence on the relationship between anger and DFR



Source: Developed by the authors

chose doing nothing and just leaving or avoiding any further interaction or confrontation with the firm.

Exploratory factor analysis

We ran an exploratory factor analysis for the OM measures. Our results confirm that the selected 8 BNS items are still

strongly loaded on autonomy, competence and relatedness, the same as the original study. Cronbach’s alphas of all constructs were in the acceptable range of greater than 0.6 (Ursachi et al., 2015). Specifically, the reliability of the self-efficacy and power was measured at 0.92 and 0.91, respectively (Please see Table A3 in Appendix 3).

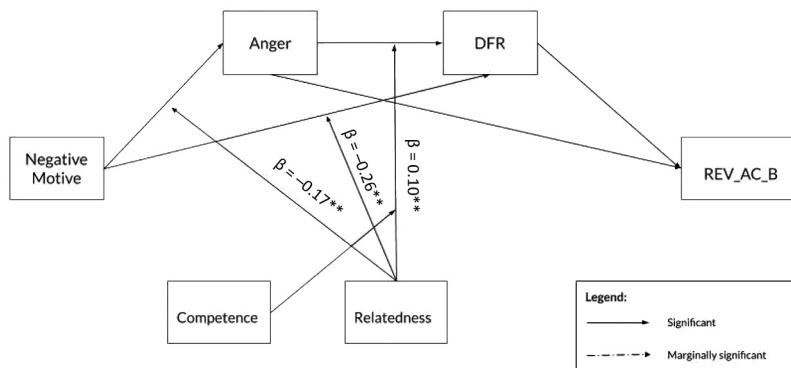
Confirmatory factor analysis

The 8-item model in our CFA produced a satisfactory fit to the data: Comparative fit indexes (CFI) 0.98, Tucker–Lewis Indexes (TLI) 0.99 and Incremental Fit Indexes (IFI) 0.97. The chi-square value of the model was 2.52 (df: 11). The loadings were substantial and significant (p ≤ 0.001), and the average variances extracted (AVEs) were greater than 0.70 for all constructs.

Multivariate analysis of variance test

We conducted a MANOVA test to assess whether there is a significant difference in perceived power and self-efficacy between the respondents with autonomous OM vs controlled OM. As the focus of our research is on those engaged in direct or indirect revenge behavior, we included only those who selected direct and indirect revenge actions in our analysis (N = 593). To divide our respondents into two OM groups (i.e. autonomous vs controlled), we used a grand mean-centered

Figure 13 Moderation effects of relatedness and competence on revenge process



Source: Developed by the authors

method that divided our sample in which the autonomous OM group includes 319 respondents and the controlled OM group includes 274 respondents.

The results of the MANOVA test show a statistically significant difference in perceived power and self-efficacy based on the binary OM groups [$F(3, 590) = 36.453, p \leq 0.0001$; Wilk's $\Lambda = 0.890$, partial $\eta^2 = 0.110$, Box's $M = 5.875$, $p_{\text{Box's } M} = 0.153$]. That is, those with autonomous OM consistently perceived a significantly higher level of power ($M_{\text{Autonomous-OM}} = 5.12, SD_{\text{Autonomous-OM}} = 1.27; N = 319$ vs $M_{\text{Controlled-OM}} = 4.63, SD_{\text{Controlled-OM}} = 1.15; N = 274$) and self-efficacy ($M_{\text{Autonomous-OM}} = 5.26, SD_{\text{Autonomous-OM}} = 1.07; N = 319$ vs $M_{\text{Controlled-OM}} = 4.64, SD_{\text{Controlled-OM}} = 1.03; N = 274$). In contrast, those with controlled OM consistently perceived a significantly lower level of power (please see Figures 14 and 15).

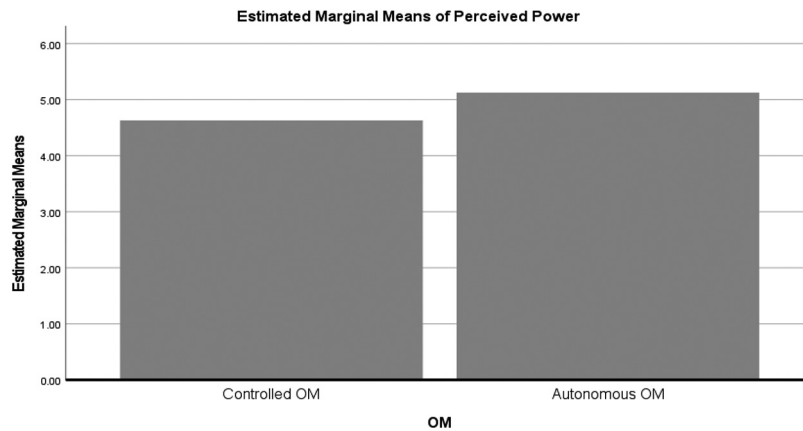
Results

First, we repeated the mediated path of “negative motive \rightarrow anger \rightarrow DFR \rightarrow revenge behavior” using the procedure

Hayes (2022) PROCESS (v3.5, Model 6). Our results were consistent with our previous findings in the original study and confirmed the revenge process relying on appraisal theories. Figure 16 exhibits the results.

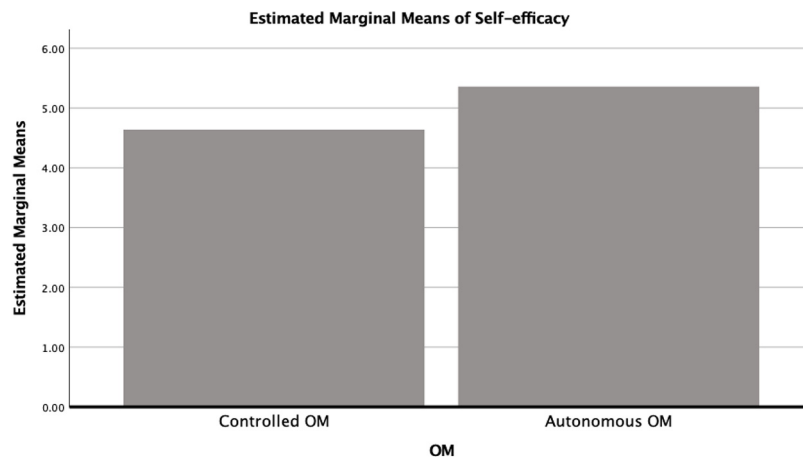
Second, we conducted two univariate analysis of variance (ANOVA) tests to understand whether there is a significant difference between the perceived power and self-efficacy of those respondents who chose direct revenge behavior versus indirect revenge behavior ($N = 593$). The results reveal a statistically significant difference in the level of perceived power and self-efficacy between the two groups [$F_{\text{Power}}(1, 592) = 35.95, p \leq 0.0001$] and [$F_{\text{Self-efficacy}}(1, 592) = 36.39, p \leq 0.0001$]. The results confirm that those who chose a direct revenge action in the dichotomous question REV_AC_B (direct = 0) consistently exhibited a significantly higher level of perceived power and self-efficacy. Also, those who chose an indirect revenge action in the dichotomous question (indirect = 1) exhibited a significantly lower level of perceived power and self-efficacy ($M_{\text{Power-Direct-RB}} = 5.17, SD_{\text{Power-Direct-RB}} = 1.13; N = 319$ vs $M_{\text{Power-Indirect-RB}} = 4.57, SD_{\text{Power-Indirect-RB}} = 1.29; N = 274$); ($M_{\text{Self-efficacy-Direct-RB}} = 5.27, SD_{\text{Self-efficacy-Direct-RB}} = 1.02$;

Figure 14 Estimated marginal means of perceived power between autonomous vs controlled OM group



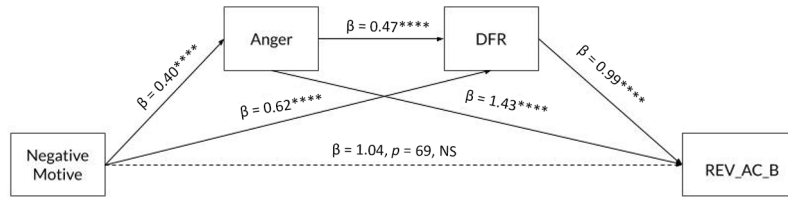
Source: Developed by the authors

Figure 15 Estimated marginal means of perceived self-efficacy between autonomous vs controlled OM group



Source: Developed by the authors

Figure 16 Revenge process measurement model (post-hoc study)



Note: $B = -0.52$, bootstrap CI $[-0.70, -0.35]$
 Source: Developed by the authors

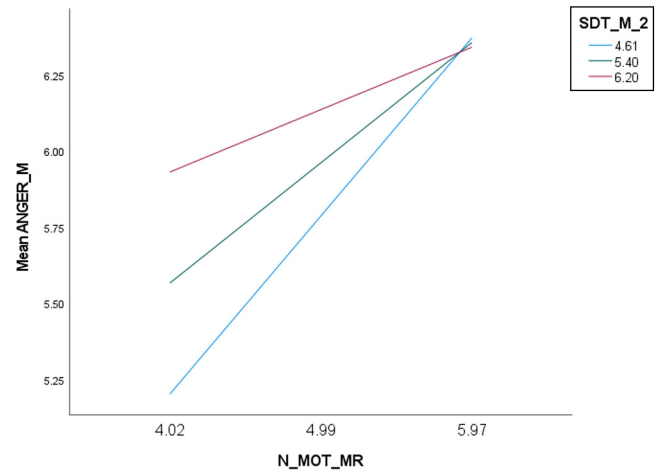
$N = 319$ vs $M_{\text{Self-efficacy-Indirect-RB}} = 4.73$, $SD_{\text{Self-efficacy-Indirect-RB}} = 1.14$; $N = 274$). The results confirm our theoretical explanations.

Third, we ran Hayes procedure PROCESS model 92 on all possible links of our revenge model with controlling perceived power and self-efficacy as covariates (see Figure 17). The moderation analysis is based on 5,000 resamples generated by a bootstrap procedure. In other words, all paths in Model 92 are moderated by OM, yielding a moderated indirect effect and a moderated direct effect.

Consistent with previous results, the interaction effect of OM is significant in the relationship between negative motive and anger ($b = -0.25$, $s.e. = 0.045$, $p \leq 0.05$), suggesting that OM moderates the effect of negative motives on anger. The results also show that neither perceived power nor self-efficacy have a significant effect as covariates on anger (Power: $b = 0.04$, $s.e. = 0.049$, $p = 0.41$); (Self-efficacy: $b = 0.02$, $s.e. = 0.058$, $p = 0.73$).

Using Hayes (2018) conventional “pick-a-point” approach, we picked three simple slopes of the relationship between negative motive and anger at three points along the scale of the OM. The slopes become less positive as we move from low to high OM (see Figure 18). At $-1SD$ on OM, the effect is positive and significant ($b = 0.5971$, $s.e. = 0.0560$, $p \leq 0.0001$). At the mean of OM, the effect is also positive and significant ($b = 0.4031$, $s.e. = 0.0401$, $p \leq 0.0001$). At $+1SD$, negative motive is a significant positive predictor of anger ($b = 0.2092$, $s.e. = 0.0515$, $p \leq 0.0001$).

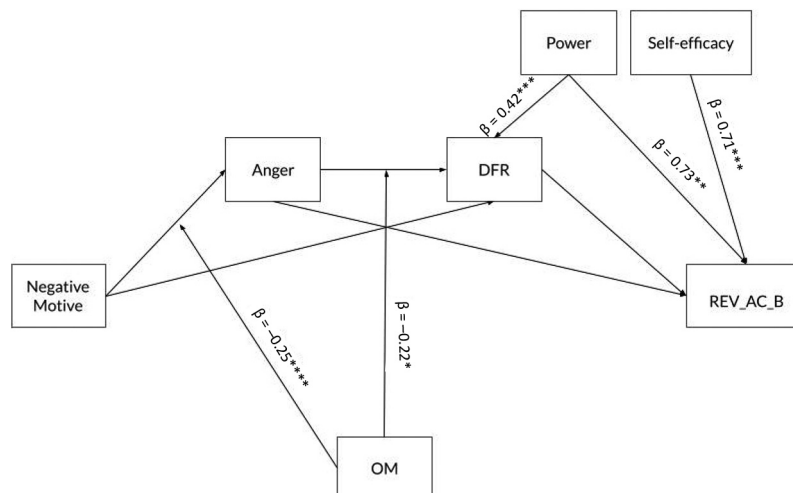
Figure 18 Moderation effect of OM on the relationship between negative motive and anger



Source: Developed by the authors

Moreover, the interaction effect of OM is significant on the relationship between anger and DFR ($b = -0.22$, $s.e. = 0.1128$, $p \leq 0.05$), suggesting that OM moderates the effect of anger on DFR. At $-1SD$ on OM, the effect is positive and

Figure 17 Moderation effects of OM on the revenge process model with covariates



Source: Developed by the authors

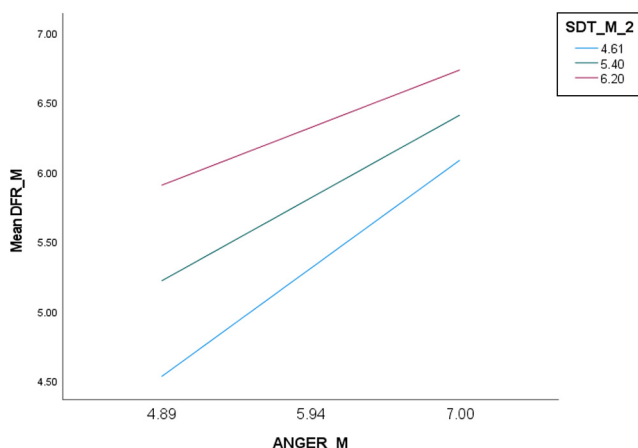
significant ($b = 0.7348$, $s.e. = 0.1335$, $p \leq 0.0001$). At the mean of OM, the effect of anger is also positive and significant ($b = 0.5631$, $s.e. = 0.1159$, $p \leq 0.0001$). At +1SD, anger is still a significant positive predictor of DFR ($b = 0.3914$, $s.e. = 0.1581$, $p \leq 0.01$). However, the slopes become slightly less positive as we move from low to high OM (see Figure 19).

The results do not show a moderating effect of OM on the relationship between negative motive and DFR ($b = 0.05$, $s.e. = 0.2543$, $p = 0.73$). Also, the moderating effect of OM on the relationship between anger and DFR is not significant ($b = -0.13$, $s.e. = 0.1249$, $p = 0.27$). However, perceived power has a significant covariate effect on DFR ($b = 0.42$, $s.e. = 0.1471$, $p \leq 0.005$), suggesting that as customers perceive power increases, customers have a higher desire for revenge. The results do not show a significant covariate effect of self-efficacy on DFR ($b = -0.02$, $s.e. = 0.1738$, $p = 0.90$).

Finally, the results do not show a significant moderating effect of OM on the relationship between negative motive and revenge behavior ($b = 0.17$, $s.e. = 0.1308$, $p = 0.18$), anger and revenge behavior ($b = -0.13$, $s.e. = 0.1056$, $p = 0.21$), or DFR on revenge behavior ($b = 0.04$, $s.e. = 0.0344$, $p = 0.19$). However, the results reveal that both power and self-efficacy have significant covariate effects on revenge behavior (Power: $b = 0.73$, $s.e. = 0.1167$, $p \leq 0.005$; Self-efficacy: $b = 0.71$, $s.e. = 0.1381$, $p \leq 0.01$).

As our dependent variable is binary, we used coding of the binary dependent variable for our logistic regression analysis. Our results show that perceived power and self-efficacy are significant covariates (power: $p \leq 0.005$; self-efficacy: $p \leq 0.005$) of the likelihood of a person engaging in revenge behavior. The logistic model containing our covariates as predictors (i.e. power and self-efficacy) represents a significant improvement in fit over a null model with no predictors, $\chi^2(9) = 76.23$, $p \leq 0.0001$, with McFadden's pseudo- R -squared of 0.0931 [6]. In other words, for every one unit increase in power, there is a predicted increase in the likelihood of -0.7332 in log-odds or $[\exp(-0.7332) = 0.73]$ for direct revenge behavior. Also, for every one unit increase in self-efficacy, there is a predicted

Figure 19 Moderation effect of OM on the relationship between anger and DFR



Source: Developed by the authors

increase in the likelihood of -0.3396 in log-odds or $[\exp(-0.3396) = 0.71]$ for direct revenge behavior.

Discussion

First, our results are consistent with the previous research based on appraisal theory (e.g. Grégoire et al., 2009, 2018; Joireman et al., 2013). More specifically, we found that all the links between revenge process components and revenge behavior are positive and significant (i.e. negative motive \rightarrow anger \rightarrow DFR \rightarrow revenge behavior). [7] In other words, the more negative motives inferred by the customers, the angrier they become, which consequently lead them to experience higher desire for revenge and more probability to engage in revenge behavior. Also, as expected, anger predicts revenge behaviors both directly and indirectly through the desire for revenge.

Second, we further explore and distinguish the role of OM in regulating revenge behavior. More specifically, our results reveal significant moderation effects of OM components (i.e. relatedness, autonomy, competence) and their interactions on the revenge process as explained below:

I. Orientation of motivation seems to have a more salient role in the early stages of the revenge process model.

With regard to the relationship between revenge behavior and its predictors (DFR and anger), our results do not show any significant interaction effect between the OM components and DFR on its relationship with revenge behavior (DFR \rightarrow revenge behavior). However, we observe a significant positive moderating effect of OM on the relationship between anger and revenge behavior (anger \rightarrow revenge behavior), which comes from the interaction between autonomy and relatedness (autonomy \times relatedness \times anger).

These results have two important implications. First, OM has a more salient role in the early stage of the revenge process model. In other words, the later in the revenge process, the harder it is for the customers to regulate their behavior (direct vs indirect revenge) based on their OM. Once DFR is formed, customers are less likely to regulate or change their desire for revenge and form of action based on their personal traits. This is consistent with the previous research, which suggests DFR is a prominent predictor of revenge behavior (Bechwati and Morrin, 2003; Grégoire et al., 2010, 2009; 2018). Second, we observed a significant moderation effect for the relationship between anger and revenge behavior when both autonomy and relatedness were present (Autonomy \times Relatedness \times Anger). This log-odds effect is negative, which means that the interaction between autonomy, relatedness and anger (Autonomy \times Relatedness \times Anger) leads individuals toward direct revenge behaviors. In other words, customers with autonomous motivation are more inclined to engage in direct revenge behavior with the same level of anger. In contrast, customers with controlled motivation are more likely to engage in indirect revenge behavior.

We found similar results when controlling perceived power and self-efficacy as covariates. Our results confirm that with perceived power and self-efficacy as covariates, OM still plays a moderation role in the customer revenge process in earlier

stages of cognitive toward emotional formation (negative motive \rightarrow anger) as well as emotional toward motivational formation (Anger \rightarrow DFR). In the meantime, perceived power and self-efficacy have a more salient role in the later stage of the revenge process model. Our results reveal that perceived power and self-efficacy have significant covariate effects on revenge behavior. In other words, customers who perceive higher power and self-efficacy are more inclined to engage in direct revenge behavior.

II. The effect of relatedness on the relationship between NM and anger with DFR.

Our results show that relatedness has been the only OM component that independently moderates the relationship between DFR and its predictors (negative motive and anger). More specifically, we observe that relatedness negatively moderates the relationship between negative motive and anger with DFR. In other words, individuals with the same level of negative motive and anger can show lower levels of DFR due to the interaction between their need for relatedness and negative motive (relatedness \times negative motive) and between relatedness and anger (relatedness \times anger). This is consistent with previous research that a high need for connection and attachment forestalls such negative motivations (see Vansteenkiste and Ryan, 2013).

These results interestingly change when relatedness interacts with the other two psychological needs (i.e. autonomy and competence). In other words, while the interaction between relatedness and negative motive (relatedness \times negative motive) and anger (relatedness \times anger) is negative, the nature of the effect changes when relatedness interacts with the other two OM components (relatedness \times autonomy) and (relatedness \times competence). This means that the effect of these factors may have a composite nature and change when they interact with one another rather than alone. These results are reinforced by the positive significant moderation that is observed in the relationship between anger and DFR when both relatedness and competence are present (anger \rightarrow DFR).

Theoretical implications

Contribution to revenge literature

This study extends the revenge literature by offering a novel conceptual framework that explains the moderating effects of OM on the revenge process. Previous research on revenge behavior has predominantly invested in predicting revenge behavior by focusing on factors such as customers' anger and inferred negative motive, which predicts the level of motivation and desire for revenge while missing the role of individuals' OM (autonomous vs controlled). This study extends the discourse in the literature by delineating the role of the OM in customers' revenge process. In other words, our findings show that customers' OM significantly moderates the relationship between widely known revenge predictors (e.g. negative motives and anger) and their revenge actions (direct vs indirect).

A further contribution to the literature has been made by our definition of direct versus indirect revenge behavior. The concept of direct revenge behavior has often been reduced to "physical altercation" or "face-to-face encounters" with the

employees in the literature, whereas these instances may only present a fraction of direct revenge behaviors (Obeidat *et al.*, 2018). Especially in the online shopping and e-commerce context, where customers have little or no physical point of contact with the seller, customers' direct revenge may manifest differently. For instance, a nasty review put by a customer on an online Amazon seller's page may be best classified as direct revenge behavior, whereas had the same customer contacted Amazon behind the seller's back to bad-mouth the seller or leave negative feedback, it may have been the case of indirect action. These examples, however, could hardly be classified as above using prior definitions (e.g. Gregoire *et al.*, 2010, Nepomuceno *et al.*, 2017). We believe that our definitions would clarify the above issue and would make a significant contribution to the literature conceptually.

Contribution to self-determination theory

This study extends the application of SDT to the context of customer anger and revenge. SDT has been traditionally used in the context of positive individual behaviors such as well-being, satisfaction and engagement (see Gagné and Deci, 2005; Van den Broeck *et al.*, 2008; Baard *et al.*, 2004; Deci and Ryan, 2004; for more information visit the Center for Self-Determination Theory). This study extends the use of SDT to explain an individual's destructive behavior such as customer revenge. This addition could be valuable to those who would like to see the application of individuals' OM in light of the presence of motivation for doing an action in the context of negative behaviors.

Managerial implications

Failure to understand the role of orientation of motivation

From a managerial perspective, failure to understand the differences between customers' OM could lead to ineffective responses to outraged customers. Knowledge of customer differences in terms of their OM enhances marketers' ability to intervene when customers' anger and desire for revenge are destructive to the firm's reputation.

Where does orientation of motivation play a role?

This research shows that when recovery fails, a customer's motivational orientation regulates their manifestation of revenge. Specifically, the interaction of autonomy and relatedness plays a prominent role in the relationship between anger and revenge behavior. According to our results, OM components are more effective in regulating the revenge process before the desire for revenge is formed. This strategy may help specifically the front-line workers to prioritize, control and address customer anger before resolving the problem.

Prioritizing customer anger

As customers with autonomous motivation are more likely to exhibit their anger in direct revenge behavior (e.g. insulting and physically abusing frontline employees), frontline employees should try to absorb their anger and dilute the confrontational nature of the harmful encounter. In this case, they should prioritize acknowledging the emotional impact of a harmful encounter on the aggrieved customer.

Be proactive

Moreover, we believe that learning about customers' various orientations of motivation can help marketers better understand why and when customers may act in destructive behaviors such as direct or indirect revenge behaviors. Marketers can benefit from knowing whether customers' motivation for seeking revenge is autonomous versus controlled. They can incorporate methods such as simulations and scenario-based role-playing about confrontational situations in their frontline employees' training programs. This may help make proactive contingency plans and earlier identification of revenge behavior patterns.

Prevent social media trashing

Conversely, as customers with controlled motivation are more reluctant to display their anger directly toward frontline employees, neglecting earlier signs of anger and frustration in a customer's voice and attitude, such as body postures, will be a great mistake. This may create a feeling of self-efficacy barriers and powerlessness in confronting the firm and drive customers to engage in indirect revenge behaviors (e.g. negative WOM, online complaining for negative publicity). In addition, managers should increase customers' perception of their power and induce a sense of power balance for such customers. Firms should assure customers they are not disadvantaged in their power relationship with firms. Having easy access to customer rights policies and avoiding vague and dubious warranties or customer support are possible ways to prevent the perception of powerlessness in customers.

Measuring or predicting orientation of motivation

The usefulness of OM measure in anticipating customer's behavior and strategizing firms' actions in a double deviation situation warrants a suggestion to add OM measure to firms' database marketing and CRM systems. Can OM be measured for a customer? By answering a few questions, firms can estimate customers' OM. However, artificial intelligence and machine learning offer more accessible solutions. Customers leave a considerable digital footprint when shopping or interacting with different websites, and firms can use these cues to train machine learning models to predict a customer's OM and probably recommend the best action to take. Companies such as Amazon, Walmart and Overstock.com can build OM prediction models by using a sample of customer data and recommending how to respond to each customer to service staff. The advantage of these models is that firms can gain predictability powers without sending questionnaires to every customer.

Limitations and future research

Although this study presents eye-opening findings about the effects of OM on customers' revenge process, these results should be interpreted within the context of the limitation of this study.

First, this study uses cross-sectional survey data to capture the interaction between OM and the revenge predictors. Revenge, however, is a process that develops over time (Barclay and Skarlicki, 2009; Grégoire et al., 2009; Bono et al., 2008). Future research may replicate these findings in a longitudinal context with a panel of real aggrieved customers in a controlled field study.

Second, future studies can empirically validate these findings with real aggrieved customers who experienced severe double deviation situations in various industries. Although we used a highly severe and realistic scenario in our experiment [8], future studies can use panel data from real customers from sources such as Qualtrics, consumeraffairs.com, or ripoffreport.com. For doing so, we recommend the studies to control for factors such as the occurrence of a double deviation, severity of the situation and industry effect.

Third, future studies can replicate our findings using a more balanced sample. As mentioned above, our sample consists of 74 individuals who chose direct action versus 640 who chose indirect revenge. Although we could not control for this factor according to the nature of our experiment, this result is not unexpected as the number of people who seek direct revenge is proportionally smaller in real life. As previous research shows (i.e. Bies and Tripp, 1996; McCullough et al., 2007), direct revenge requires a high level of cognitive and emotional energy that would be too costly to maintain over time. In addition, the proliferation of social media and consumer protection websites provide less costly platforms for individuals to engage in various forms of indirect revenge behaviors, such as online complaining for negative publicity. In fact, reports show that the average number of times a social media user posts a product or service experience on social media increases by 16x annually, and 14% of customers post a complaint at least once on social media in 2020 (Center for Services Leadership, 2020). This easy access to various online platforms for conducting indirect revenge behavior pushes aggrieved customers toward indirect revenge behavior, which future studies should note.

This argument also aligns with previous findings of SDT research that focused on the effects of the interpersonal environment on autonomous and controlled motivation (e.g. Deci et al., 1994; Grolnick and Ryan, 1989). This research suggests that controlling-supportive contexts enhance controlled motivational behaviors, whereas autonomy-supportive contexts enhance autonomous motivational behaviors (e.g. Vansteenkiste et al., 2013; Deci et al., 1994; Grolnick and Ryan, 1989). Specifically, social media platforms can be characterized as a controlling-supportive environment that diminishes autonomous motivational behaviors (i.e. direct revenge responses) and promotes controlled motivational behaviors (i.e. indirect revenge responses) in a double-deviation situation.

Notes

- 1 Blame refers to customers' perception that the firm failed to prevent the occurrence of a negative event despite its ability to control the situation (Weiner, 2000).
- 2 We pretested our questionnaire with 150 respondents recruited among Amazon MTurk users. The pretest allowed us to check the validity of our psychometric properties and ensure the severity and realisticness of our video (scenario) (Grégoire et al., 2018).
- 3 The video was 1:53 minutes long, and participants could only move forward once the video ended.
- 4 The median completion time of the survey was 8.17 min.

- 5 McFadden's pseudo-*R*-square indicates that our model containing the predictors represented an 11.4% improvement in fit relative to the null model.
- 6 McFadden's pseudo-*R*-square indicates that our model containing the predictors represented a 9.31% improvement in fit relative to the null model.
- 7 We did not find a direct link between negative motives and revenge behavior (see also Joireman et al., 2013).
- 8 As explained earlier, we measured the severity and realism of our case in our pretest. The level of severity has been high ($M = 6.47$, $SD = 0.93$). For realism, we used Grégoire et al. (2018), which showed that our respondents found the scenario believable, possible, and real ($M = 5.64$, $SD = 1.11$). Over 93% of the respondents say they believe the case and can picture themselves in it.

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Appendix 1

Table A1 Key constructs within the revenge process model

Constructs	Definitions	References
Perceived power	Refers to customers' perceptions of their own ability to influence the firm's activities	Grégoire <i>et al.</i> (2010) Obeidat <i>et al.</i> (2018) Funches <i>et al.</i> (2009) Aquino <i>et al.</i> (2006)
Relationship quality	Relationship quality is a second-order construct consisting of commitment (i.e. a willingness to maintain a relationship with a firm), trust (i.e. confidence that a firm is dependable and can be relied on) and social benefits (i.e. a perception of a "one-to-one" connection through the personalization and customization of services)	Grégoire and Fisher (2008) Grégoire <i>et al.</i> (2009)
Firm's negative motive	The extent to which a consumer believes a firm intended the wrongdoing in order to maximize its own profit and take advantage of the situation	Grégoire <i>et al.</i> (2010) Joireman <i>et al.</i> (2016)
Idiocentrism/Allocentrism	Allocentrism refers to person-level collectivism and tends to emphasize the interdependent-self more often, leading to a greater concern for norms, obligations and duties than do idiocentrics. Idiocentrism refers to person-level individualism and tends to sample the independent self often, leading to a greater consideration of attitudes, personal needs and rights and differentiating themselves from their in-groups and giving priority to personal goals over in-group goals	Zourrig <i>et al.</i> (2009) Joireman <i>et al.</i> (2013)
Anger	Strong negative emotion that contains an impulse to react	Grégoire <i>et al.</i> (2010) Grégoire and Fisher (2008) Grégoire <i>et al.</i> (2009) Joireman <i>et al.</i> (2016) Joireman <i>et al.</i> (2013) Huefner and Hunt (2000)
Betrayal	Customer's belief that a firm has intentionally violated what is normative in the context of their relationship	Obeidat <i>et al.</i> (2017) Grégoire <i>et al.</i> (2010) Grégoire and Fisher (2008) Grégoire <i>et al.</i> (2009) Tripp and Grégoire (2011) Ward and Ostrom (2006)
Sense of self-efficacy	The judgments of how well one can execute a course of action are required to deal with prospective situations	Tsarenko and Strizhakova (2013) Funches <i>et al.</i> (2009) Barak <i>et al.</i> (2008) McKee <i>et al.</i> (2006) Van Beuningen <i>et al.</i> (2009)
Rage	A form of anger comprising a spectrum of negative emotions including ferocity, fury, wrath, disgust, contempt, scorn and resentment	McColl-Kennedy <i>et al.</i> (2009) Huefner and Hunt (2000)
Justice model (procedural, interactional and distributive fairness)	Customers' judgments on distributive fairness (i.e. the outcomes or the compensation received by customers), procedural fairness (i.e. the firms' procedures, policies and methods to address customers' complaints) and interactional fairness (i.e. the manner in which frontline employees treat customers)	Aquino <i>et al.</i> (2006) Grégoire <i>et al.</i> (2010) Grégoire and Fisher (2008) Tripp and Grégoire (2011) Grégoire <i>et al.</i> (2018) Joireman <i>et al.</i> (2016) Joireman <i>et al.</i> (2013)
Failure severity	Refers to a customer's perceived intensity of a service problem	Bechwati and Morrin (2003) Grégoire <i>et al.</i> (2010) Obeidat <i>et al.</i> (2017) Grégoire and Fisher (2008) Tripp and Grégoire (2011) Joireman <i>et al.</i> (2013)
Blame	Refers to the degree to which customers perceive a firm to be accountable for the causation of a failed recovery	Grégoire <i>et al.</i> (2010) Grégoire and Fisher (2008) Joireman <i>et al.</i> (2013)

Source: Developed by the authors

Appendix 2

Table A2 Reliability analyses, descriptive statistics and Pearson correlations (Study 1)

	α	<i>M</i>	<i>SD</i>	Negative motive	Anger	DFR	Direct revenge behaviors	Indirect revenge behaviors
Severity	0.92	6.47	0.93					
Realisticness	0.73	5.64	1.11					
Autonomy	0.66	5.47	1.02					
Relatedness	0.79	5.57	0.90					
Competence	0.82	4.95	1.41					
Negative motive	0.82	5.45	1.20	1				
Anger	0.93	6.37	0.89	0.415**	1			
DFR	0.92	5.13	1.45	0.385**	0.356**	1		
Direct revenge behaviors	0.76	5.12	1.12	0.187**	0.297**	0.354**	1	
Indirect revenge Behaviors	0.63	5.78	0.99	0.355**	0.487**	0.443**	0.461**	1

Notes: $N = 714$; **correlation is significant at the 0.01 level (two-tailed); *correlation is significant at the 0.05 level (two-tailed); reliability estimates are Cronbach's alphas; * $p < 0.05$; ** $p < 0.01$

Source: Developed by the authors

Appendix 3

Table A3 Reliability analyses, descriptive statistics and Pearson correlations (post-hoc study)

	α	<i>M</i>	<i>SD</i>	Negative motive	Anger	DFR	Direct revenge behaviors	Indirect revenge behaviors
Severity	0.91	6.00	1.13					
Realisticness	0.66	4.88	0.83					
Autonomy	0.69	5.54	1.03					
Relatedness	0.80	5.61	0.86					
Competence	0.82	5.01	0.99					
Power	0.91	4.90	1.24					
Self-efficacy	0.92	5.03	1.11					
Negative motive	0.64	4.87	1.07	1				
Anger	0.87	5.94	1.06	0.111**	1			
DFR	0.89	5.78	2.00	0.181**	0.242**	1		
Direct revenge behaviors	0.70	5.49	0.88	0.204**	0.260**	0.315**	1	
Indirect revenge behaviors	0.84	5.68	0.89	0.222**	0.389**	0.419**	0.601**	1

Notes: $N = 593$; **correlation is significant at the 0.01 level (two-tailed); reliability estimates are Cronbach's alphas; * $p < 0.05$, ** $p < 0.01$

Source: Developed by the authors

Corresponding author

Nasser Shahrabi can be contacted at: nassersh@sfsu.edu

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