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Episodes of incivility between subordinates and supervisors: examining the role of self-control and time with an interaction-record diary study

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Summary Scholars have hypothesized that experiencing incivility not only negatively affects well-being, but may even trigger further antisocial behavior. Previous research, however, has focused mainly on the relation between incivility and well-being. Thus, little is known about the behavioral consequences of incivility. With this in mind, we conducted an interaction-record diary study to examine whether supervisor incivility causes retaliatory incivility against the supervisor. Using the self-control strength model as a framework, we further examined whether the target's trait (trait self-control) and state (exhaustion) self-regulatory capacities moderate this effect. In addition, we examined the role of time by testing the duration of the effect. When we analyzed the full data set, we found no support for our hypotheses. However, using a subset of the data in which the subsequent interaction happened on the same day as the prior interaction, our results showed that experiencing incivility predicted incivility in the subsequent interaction, but only when the time lag between the two interactions was short. Furthermore, in line with the assumption that self-regulatory capacities are required to restrain a target from retaliatory responses, the effect was stronger when individuals were exhausted. In contrast to our assumption, trait self-control had no effect on instigated incivility. Copyright © 2015 John Wiley & Sons, Ltd.

Keywords: incivility; self-control; exhaustion; interaction records; diary study

Workplace incivility harms employees and organizations (Porath & Pearson, 2013). Most previous studies have examined the effect of incivility on employees' well-being, yielding good evidence that incivility is related to impaired health (e.g., Cortina, Magley, Williams, & Langhout, 2001). Relatively little, however, is known about how it affects behavior relevant to the organization. For example, the assumption that experienced incivility will lead to retaliation and may trigger an incivility spiral (Andersson & Pearson, 1999) has barely been tested despite its theoretical and practical importance.

Episodes of incivility have been conceptualized from a social interaction perspective, depicting changes in uncivil behavior between two or more parties as an ongoing process (Andersson & Pearson, 1999). However, the large majority of research focused on the long-term experience of incivility across many interactions (e.g., during the past 5 years, see Cortina et al., 2001; for exceptions, see Taylor, Bedeian, Cole, & Zhang, 2014; Zhou, Yan, Che, & Meier, 2015) using cross-sectional designs. As a result, most studies did not directly address the theory that incivility is a process rather than an event, and little knowledge exists about the evolution of episodes of incivility.

With this in mind, we examined the effect of experienced incivility on subsequent instigated incivility with an interaction-record diary study. To scrutinize potential boundary conditions, we tested the moderating role of employees' self-regulatory capacities and the duration of the effect.

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Our research makes three key contributions to the literature. First, we advance the understanding of the detrimental effects of workplace incivility by testing the exchange process proposed by Andersson and Pearson (1999). As noted, previous research has focused on the chronic experience of incivility (or other forms of chronic mistreatment such as abusive supervision) and, hence, has been restricted to long-term effects. Thus, evidence is lacking to support the theory that specific events of experienced incivility may trigger retaliation in subsequent events (Andersson & Pearson, 1999). Demonstrating such incivility episodes within a dyad would be the first direct support for incivility spirals and, hence, would inform theory about the origin of workplace incivility.

Second, we extend our knowledge about the role of self-control in antisocial behavior at work. Previous research primarily examined stable inter-individual differences in self-regulatory capacities (Lian et al., 2014; Marcus & Schuler, 2004; Restubog, Zagenczyk, Bordia, Bordia, & Chapman, 2012). However, self-control strength is unfixed and may fluctuate from day to day. We therefore tested the role of both dispositional, stable (trait self-control) and situational, fluctuating (state exhaustion) indicators of self-regulatory capacities. As a result, the current study provides a more holistic picture of the role of self-control in retaliatory antisocial behavior at work.

Third, we respond to the call to study the temporal dynamics in organizational research (e.g., George & Jones, 2000; Sonnentag, 2012) by examining the role of time in the relationship between experienced and instigated incivility. In general, minimal time is needed for an effect to unfold, and an effect should diminish when the time lag becomes longer (Cole & Maxwell, 2003). Therefore, the effect of experienced incivility is likely to vary as a function of the time lag between interactions. An in-depth understanding of this temporal dynamic is essential for several reasons. In terms of theory, knowledge about the duration of the effect of experienced incivility on a target's behavior informs us about the boundary conditions of retaliation and helps us to understand the development of incivility spirals. In research terms, such understanding guides us in choosing the optimal time lag to study incivility episodes. And in practical terms, insights into how long experienced incivility has a detrimental impact on employee behavior may help us to design interventions to cope with workplace incivility.

In this study, we focused on incivility experienced from and targeted against a supervisor. Supervisors are frequently sources of incivility (e.g., Johnson & Indvik, 2001; Porath & Pearson, 2012). Subordinates generally hesitate to retaliate against supervisors because of the power differential, which may result in punishment and counter-retaliation (e.g., Aquino, Tripp, & Bies, 2001). Thus, retaliation using overt incivility against the supervisor ought to be unlikely. However, supervisor-targeted incivility and aggression are not uncommon (e.g., Baron, Neuman, & Geddes, 1999; Inness, Barling, & Turner, 2005). A possible reason for such risky behavior might be the subordinate's limited self-regulatory capacities (e.g., Muraven & Baumeister, 2000). Therefore, interaction cycles between a supervisor and a subordinate are an interesting setting in which to test the self-control strength model in the organizational context.

Workplace Incivility

Incivility refers to low-intensity antisocial behavior with ambiguous intent to harm the target (Andersson & Pearson, 1999). It reflects a breach of norms and signals disrespect and thus is perceived as rude and unfair. Incivility overlaps conceptually with other forms of interpersonal mistreatment, such as social undermining, bullying, and abusive supervision (e.g., Hershcovis, 2011). According to Spector and Fox (2005), incivility is the mildest of these behaviors; examples of incivility include ignoring someone's greeting and not crediting work performed by others (Pearson, Andersson, & Wegner, 2001). Compared with other forms, like sabotage and bullying, the intent to harm not need exist, and the behavior need not be repetitive (e.g., Andersson & Pearson, 1999; Cortina et al., 2001). The power differential between supervisors and subordinates suggests that subordinates are more likely to retaliate against supervisors with uncivil behavior than with more aggressive and persistent forms of mistreatment. As a result, the incivility construct seems well-suited for the present study.

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Experienced Incivility as a Trigger of Instigated Incivility

Andersson and Pearson (1999) theorized that individuals are likely to reciprocate the experience of incivility with antisocial behavior. Different mechanisms have been proposed to explain why experienced incivility leads to instigated incivility.

First, incivility breaks the norm of mutual respect and, hence, evokes feelings of injustice in the target (Caza & Cortina, 2008). Furthermore, uncivil behavior signals that one is not valued and accepted by the other, which threatens one's social standing and self-esteem (Tyler & Lind, 1992). As people are motivated to restore justice and to defend against threats to their social and personal identities, incivility is likely to elicit a desire for revenge, which then leads to antisocial behavior in retaliation (Aquino & Douglas, 2003; Folger & Skarlicki, 1998).

Second, incivility triggers negative emotions such as anger and disgust (e.g., Bunk & Magley, 2013). According to the affective events theory (AET) (Weiss & Cropanzano, 1996) and the stressor-emotion model of counterproductive work behavior (CWB) (Spector & Fox, 2005), negative emotions are an important antecedent to antisocial behavior. AET and the stressor-emotion model of CWB propose that individuals react emotionally to work events and that these emotions motivate affectively driven behavior. Accordingly, Sakurai and Jex (2012) reported that negative affect in the target mediates the effect of experienced incivility on CWB.

Finally, coping with experienced incivility drains the self-regulatory capacities (Muraven & Baumeister, 2000) individuals employ to restrain themselves from engaging in impulsive and antisocial behavior (Baumeister & Exline, 1999). Once self-regulatory capacities are exhausted, individuals tend to behave uncivilly. Supporting this idea, laboratory (e.g., Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009) and field (e.g., Barnes, Schaubroeck, Huth, & Ghumman, 2011) studies have found that individuals with depleted self-regulatory capacities demonstrate more uncivil behavior.

In line with these theoretical models, two cross-sectional studies have reported that targets of incivility tend to engage in more CWB (Gallus, Bunk, Matthews, Barnes-Farrell, & Magley, 2014; Penney & Spector, 2005). Similarly, cross-sectional studies on related constructs covering more severe forms of mistreatment, such as abusive supervision (Martinko, Harvey, Brees, & Mackey, 2013), have found positive correlations with antisocial behavior (Tepper, Henle, Lambert, Giacalone, & Duffy, 2008; Tepper et al., 2009). Findings from longitudinal studies point in the same direction but are more ambiguous (Lian, Ferris, Morrison, & Brown, 2014; Meier & Spector, 2013; Sakurai & Jex, 2012). Based on the theoretical reasoning and existing empirical evidence, we propose the following hypothesis:

Hypothesis 1: Experienced supervisor incivility is positively related to instigated incivility against the supervisor.

The Role of Self-Regulatory Capacities: Trait Self-Control and State Exhaustion

Fortunately, not all experiences of incivility lead to reciprocated antisocial behavior. According to our reasoning outlined earlier, self-control plays an important role in this context. Self-control depends on a limited energy resource whose functioning has been depicted as a moral muscle (Baumeister & Exline, 1999; Muraven & Baumeister, 2000). Whereas some people have stronger muscles than others (individual differences), the strength of the muscle also varies across situations (situational differences). Based on the self-control strength model (e.g., Muraven & Baumeister, 2000), we therefore examined dispositional and situational characteristics related to self-control to better understand the boundary conditions in which experienced incivility triggers a vicious cycle.

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Trait self-control

Individuals differ in terms of their capacities to exert control over their emotions (e.g., tempering feelings of anger), thoughts (e.g., suppressing thoughts of revenge), and behavior (e.g., refraining from impulsive behavior) (Tangney, Baumeister, & Boone, 2004). These individual differences in trait self-control are conceptually and empirically related to dimensions of the five-factor model of personality, particularly neuroticism and conscientiousness (Costa & McCrae, 1992) but also agreeableness (Tangney et al., 2004) and extraversion (Whiteside & Lynam, 2001).

Trait self-control has been linked to a variety of indicators of well-being and behavior (Tangney et al., 2004). The link to antisocial behavior is particularly important for this study. In everyday life, people experience stressful events that require them to exert self-control to temper negative emotions and inhibit impulsive actions. In an average working day, many individuals are stressed because they have to get their children to school on time, face traffic jams during their commute, and deal with heavy workloads at their jobs. All of these experiences pressure the self-regulatory capacities required to control temper and to behave civilly (Baumeister & Exline, 1999; Muraven & Baumeister, 2000). People with high trait self-control have a greater capacity to cope with these demands and, hence, demonstrate less impulsive and antisocial behavior. In line with this finding, high trait self-control has been related to lower levels of antisocial behavior at work (Lian et al., 2014; Marcus & Schuler, 2004). As a result, we hypothesized a main effect for trait self-control:

Hypothesis 2: Trait self-control is negatively related to instigated incivility against supervisors.

In the aforementioned explanation, we focused on the main effect of trait self-control, which is independent of experienced supervisor incivility. We simply assumed that people with low levels of trait self-control generally have more problems with holding their temper and restraining themselves from uncivil behavior. However, besides a main effect, the self-control strength model also proposes a moderating effect for trait self-control. Specifically, it suggests that individuals with low levels of trait self-control are particularly likely to react strongly to experienced incivility, because they have difficulty restraining negative internal responses (e.g., anger and revenge cognitions) and external responses (e.g., uncivil behavior).

This notion has been supported to some degree in both experimental and field studies. For example, in a laboratory study, participants with low trait self-control were more likely to express intent to behave aggressively in response to provocation than were participants with high trait self-control (DeWall, Baumeister, Stillman, & Gailliot, 2007). In field studies, abusive supervision was more strongly related to supervisor-directed aggression among employees with low than with high self-control (Lian et al., 2014). Similarly, trait self-control moderated the effect of psychological contract violation on workplace deviance, at least when the work culture was aggressive (Restubog et al., 2012). Therefore, we hypothesized a moderating effect for trait self-control:

Hypothesis 3: The relationship between experienced supervisor incivility and instigated incivility against supervisors is stronger for those employees with low than with high trait self-control.

State exhaustion

Self-regulatory capacities depend on previous acts of self-control, and a state of depleted self-regulatory capacities is characterized by fatigue and exhaustion (e.g., Muraven, Tice, & Baumeister, 1998). In line with the assumption that self-control strength not only differs between individuals (i.e., trait self-control, see preceding discussion) but may also vary within individuals, empirical research using diary designs has shown substantial daily variations in exhaustion as a marker of depleted resources (e.g., Gross et al., 2011).

Following the basic notion of the self-control strength model, individuals are assumed to show more antisocial behavior, such as incivility, on days when they feel exhausted than on days when they feel rested. Supporting this

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assumption, daily fluctuations of exhaustion were related to unethical behavior in a recent diary study (Barnes et al., 2011). Based on this, we hypothesized a main effect for state exhaustion:

Hypothesis 4: State exhaustion is positively related to instigated incivility against supervisors.

An additional implication of the self-control strength model is that employees who have been treated rudely are less able to inhibit the urge to retaliate against a perpetrator when they are exhausted (i.e., when they have depleted their self-regulatory capacities). In other words, exhaustion should moderate the effect of experienced incivility on instigated incivility. Laboratory experiments have shown that when participants were insulted or provoked by uncivil feedback and their self-regulatory capacity was depleted, they were more likely to react aggressively (e.g., DeWall et al., 2007). To the best of our knowledge, however, field studies on this moderating effect in the organizational context are lacking. Based on the reasoning that exhaustion reflects a state of depletion of those self-regulatory capacities required to restrain individuals from retaliation, we hypothesized a moderating effect for state exhaustion:

Hypothesis 5: The relationship between experienced supervisor incivility and instigated incivility against supervisors is stronger on days when the subordinate has high rather than low levels of exhaustion.

The role of time: duration of effects

Most research on workplace incivility (and interpersonal mistreatment at work, in general) has used cross-sectional designs and focused on chronic exposure to incivility (mistreatment), showing that a chronic level of incivility (mistreatment) is linked to a general level of strain (e.g., Cortina et al., 2001) and CWB (e.g., Penney & Spector, 2005). As such, causality in the relationship and the duration of effects remain unclear. Moreover, because previous research has focused on a general and chronic level of incivility, little is known about the effect of specific events of incivility within a dyad.

The duration of effects of experienced incivility is likely to depend on the persistence of the proposed mediating mechanisms, namely the persistence of negative affect, negative cognitions (such as a desire for revenge), and impaired self-regulatory capacities. Previous research on negative affect has indicated that emotions diminish with regard to physiological arousal and salience (Frijda, 1993). For example, anger, which plays a prominent role in antisocial behavior, generally dissipates within a few minutes to a few hours (Potegal, 2010; Verduyn, Delvaux, Van Coillie, Tuerlinckx, & Van Mechelen, 2009). In some cases, episodes of anger may last longer. In a study by Fridhandler and Averill (1982), about 20% of the participants reported that they felt angry for more than 1 day. Similarly, Bies and Tripp (2005) suggested that emotions of revenge can last for days, weeks, or even months. Ruminating about the negative event and remembering the anger-eliciting situation are important causes of prolonged episodes of negative mood and cognitions (Rusting & Nolen-Hoeksema, 1998).

However, other processes might work against the aforementioned mechanisms. People actively, as well as automatically, regulate the intensity of the affect (Koole, 2009). Moreover, with elapsed time, they anticipate and experience other positive and negative events that change their emotions and cognition (e.g., Koval & Kuppens, 2012). Furthermore, targets of incivility are also likely to reappraise the event (e.g., Lazarus, 1991), which may change their cognitions and motivations over time. In line with this, research on forgiveness shows that with increasing time, the motivation for revenge decreases (e.g., McCullough, Fincham, & Tsang, 2003).

The tendency for the effect of experienced incivility to lessen over time may also result from a change in the perceived legitimacy of retaliation as time elapses. Aggressive behavior is judged to be more blameworthy when the act seems premeditated than when there is evidence for a lack of intent or impaired impulse control (e.g., Miller, 2001; Pepitone, 1975). According to Harvey and Enzle (1978), observers infer information about premeditation from the quickness of retaliatory acts. Following this, reciprocation of uncivil behavior is likely to be perceived as less

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legitimate when it occurs a long time after the experience of incivility. As a result, subordinates may expect less understanding for their behavior from others as time elapses, which may reduce the likelihood of retaliation with time.

Based on the theoretical reasoning about time-dependent changes in negative affect, revenge motivation, and legitimacy of retaliation, we hypothesized:

Hypothesis 6: The effect of experienced incivility on instigated incivility diminishes with increasing time between interactions.

Present Study

This research investigated whether experienced supervisor incivility will be reciprocated by subordinates. Based on the self-control strength model (Muraven & Baumeister, 2000), we tested whether this relationship depends on the target's level of self-control capacities both with regard to trait level (trait self-control) and state level (exhaustion). Furthermore, we examined whether time has an impact on the reciprocation of uncivil behavior.

We conducted an interaction-record diary study in which participants reported all daily interactions with their supervisor. Although interaction records allow for the examination of micro-level processes in daily life (Bolger, Davis, & Rafaeli, 2003), only a few studies have used this sampling procedure in an organizational context (for one exception, see Totterdell, Hershcovis, Niven, Reich, & Stride, 2012). On-time records of interaction episodes are well-suited to examining the dynamics of interactions, because they eliminate retrospection bias and minimize selectivity in reporting events (Schwarz, 2012). Furthermore, as noted by Gallus et al. (2014), tracking interactions of specific relationships (e.g., subordinate–supervisor) over time is particularly well-suited to testing the process proposed by Andersson and Pearson (1999).

Method

Participants and procedure

The data reported in this manuscript were collected as part of a larger project on work stress (Meier, Gross, Spector, & Semmer, 2013). We asked 37 students at a Swiss university to recruit employees for the study. The students approached employees from several organizations, working in a variety of jobs (e.g., office clerk, salesperson, nurse, secretary, consultant, controller, lawyer, physician, social worker, engineer, and software developer), and asked them to participate in a diary study. Participants had to work at least 50% of a full-time job (about 21 h per week), and they had to have a direct supervisor.

The sample consisted of 131 employees. Their ages ranged from 16 to 62 ($M = 33.4$, $SD = 12.6$). The majority of the participants were women (64%). Thirteen percent had completed regular school (9 years) or an apprenticeship, 61% had completed college, and 26% had a university degree. On average, they worked 36.1 h per week ($SD = 7.1$), and organizational tenure ranged from 0.1 to 30 years ($M = 3.2$; $SD = 5.9$).

Participants first completed a one-time questionnaire to assess demographic and personality variables. At the start of the following week, participants began a 2-week period during which they completed paper-and-pencil surveys using a combination of event-based and fixed time-based sampling strategies. For event-based sampling, participants were requested to fill in a very short survey (taking approximately 15 s) after each interaction with their direct supervisor. We instructed them to report all interactions with their supervisor, independent of the length (e.g., they had to report brief chats in the corridor and longer meetings) and to fill in the survey immediately following the interaction.

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For fixed time-based sampling, participants filled in a morning survey (before they started working), an end-of-workday survey, and a bedtime survey. For the current study, we used only data from the event-based sampling (i.e., interaction surveys) and the morning surveys.

Of the 131 participants, 15 reported fewer than two interactions and, hence, were excluded from subsequent analyses. The remaining 116 participants reported 1660 interactions; of the 1660 interaction reports, 95 were excluded due to missing data, resulting in 1565 interaction reports. The participants also completed 1613 morning surveys, of which 1507 were filled out on time. (If participants reported filling out a morning survey with a delay of more than 15 min after the prescribed time point, that survey was discarded.) Of the 1565 interactions, 1449 happened on a day for which we also had valid data from the morning survey. The final data set consisted of 114 participants who reported 1449 interactions, corresponding to an average of 12.7 ($SD = 10.5$) interactions per person. The number of reported interactions was unrelated to demographic variables, trait self-control, exhaustion, and experienced and instigated incivility.

Measures

Experienced and instigated incivility

For each interaction with their supervisor, participants reported on their supervisor's behavior (experienced incivility) and their own behavior (instigated incivility) with a single item each, with answers ranging from *very civil* (1) to *very uncivil* (7). Furthermore, they reported the date, the time when the interaction started, and the duration of the interaction.

State exhaustion

In the morning survey, exhaustion was assessed with a shortened version of the Profile of Mood States (McNair, Lorr, & Droppleman, 1992). Following Cranford et al. (2006), we used three items (exhausted, fatigued, and worn out). Participants had to indicate how they felt at the moment. The possible responses ranged from *not at all* (1) to *very much* (5). Internal consistency, calculated as the reliability of day-to-day change (R_c, Shrout & Lane, 2012), was 0.82.

Trait self-control

In the one-time survey, trait self-control was assessed using a scale developed by Tangney et al. (2004). Participants indicated their level of agreement with 13 statements such as "I often act without thinking through all the alternatives" (reverse-scored), with possible responses ranging from *not at all* (1) to *very much* (5). Cronbach's alpha was .83.

Additional variables

To examine the temporal dynamic of the effect of experienced incivility on uncivil behavior, we calculated the *time lag* between two subsequent interactions. Additionally, we controlled for *depressive mood* in the morning. Previous studies have shown that exhaustion is strongly related to depressive symptoms (e.g., Michielsen, De Vries, & Van Heck, 2003), and, hence, the proposed effect of state exhaustion may simply reflect negative mood. Although some

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research indicates that negative affect cannot explain the effects of depleted self-regulatory capacities (e.g., Stucke & Baumeister, 2006), we wanted to rule out this alternative explanation. Depressive mood was assessed in the morning survey with a three-item version of the Profile of Mood States (Cranford et al., 2006), using a 5-point answer format (1 = *not at all*, 5 = *very much*). Internal consistency (R_c) was 0.78.

Results

We analyzed the data with a multilevel random coefficient model using the program HLM 6.08 (Raudenbush, Bryk, Cheong, & Congdon, 2004). The analyses focused on the lagged within-person relationships of experienced incivility on instigated incivility in the subsequent interaction. The predictor was group mean-centered, implying that the coefficients reflected the effect of a person being high or low on experienced incivility relative to his or her own mean across interactions. Thus, between-person variance in these variables was removed, and an interpretation of the results in terms of stable differences between persons could be ruled out (Ilies, Schwind, & Heller, 2007).

To take into account serial dependency and to model change in the outcome, we controlled for the preceding level of the outcome (i.e., autocorrelation). Given that the time interval between two interactions varied ($M = 16.5$ h, $SD = 28.4$, Range: 0–239.5), we weighted the effect of the prior measurement point by the actual length of the time lag. Specifically, we included the length of the time lag and its interaction with the prior observation as predictors. Similarly, to address our hypothesis regarding the duration of the effect of experienced incivility, we included the interaction of experienced incivility and the time lag. To test for curvilinear effects of the time lag, we also included nonlinear terms. The nonlinear terms were not significant and therefore have been omitted from the final analyses. To test the moderating effect of state exhaustion and trait self-control, we included the (main) effects of state exhaustion and trait self-control, and the product terms of experienced incivility and state exhaustion, as well as experienced incivility and trait self-control in the model. We used the restricted maximum-likelihood procedure in HLM to estimate the fixed and random parameters and used robust standard errors for the significance tests due to the non-normal distribution of the outcome variable (Hox, 2010).

Means, standard deviations, intra-class correlations, and zero-order correlations for the measures appear in Table 1. Results from multilevel analyses appear on the left side of Table 2. The effect of experienced incivility on instigated incivility was not significant. Moreover, neither trait self-control nor state exhaustion had either significant main or moderating effects. Thus, we found no support for our hypotheses 1 to 5. But for hypothesis 6, about

Table 1. Sample sizes, means, standard deviations, and correlations of the measures.

Variables	*N*	*M*	$SD_{b\text{-}p}$	$SD_{w\text{-}p}$	ICC	1	2	3	4	5	6
1. Experienced incivility	1449	2.18	0.66	0.90	.35	—	.72*	−.04	.01	−.04	—
2. Instigated incivility	1449	2.06	0.53	0.77	.32	.80*	—	.01	.02	−.01	—
3. State exhaustion	1444	1.86	0.64	0.57	.53	.21*	.14	(.82)	.25*	.01	—
4. State depressive mood	1444	1.11	0.26	0.25	.52	.17	.17	.45*	(.78)	−.01	—
5. Time lag[a]	1346	16.52	12.90	26.44	.81	.05	−.19*	−.01	.01	—	—
6. Trait self-control	114	3.43	0.56	—	—	−.22*	−.10	−.31*	−.27*	−.15	(.83)

Notes. *SD* and ICC are based on variance estimates of unconditional (null) models. Correlations above the diagonal reflect the within-person associations of the constructs. Correlations below the diagonal reflect the between-person associations of the aggregated measures. Reliability estimates are shown in parentheses in the diagonal of the table. The reliability estimates for exhaustion and depressive mood refer to the reliabilities of day-to-day change (R_c), which refer to the true score variability divided by the sum of the person-by-time variability and the error variability (Shrout & Lane, 2012). $SD_{b\text{-}p}$, between-person standard deviation; $SD_{w\text{-}p}$, within-person standard deviation; ICC, intra-class correlation (proportion of the between-person variance compared with the total variance).

[a]Time lag was coded in hours.

*$p < .05$.

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Table 2. Multilevel analyses predicting instigated incivility in the subsequent interaction.

	All interactions (average time lag between interactions: 16.5 h)		Subsequent interaction on the same day (average time lag between interactions: 2.5 h)	
	B	T-ratio	*B*	T-ratio
Intercept	2.06	33.19*	2.09	30.01*
Experienced incivility in prior interaction	<0.01[a]	0.05	0.27[a]	2.88*
Moderating effect of time lag between interactions	−0.01	−1.66♀	−0.06	−2.30*
Moderating effect of state exhaustion	0.05	0.82	0.14	2.16*
Moderating effect of state depressive mood	−0.04	−0.50	−0.09	−0.86
Moderating effect of trait self-control	0.03	0.52	0.03	0.40
Instigated incivility in the prior interaction	0.04	0.74	−0.13	−1.25
Moderating effect of time lag between interactions	<0.01	0.14	0.05	1.56
State exhaustion	−0.07[a]	−1.14	−0.02	−0.34
State depressive mood	−0.07	−0.58	0.01	0.09
Time lag between interactions	−0.01	−1.69†	0.01	0.60
Trait self-control	−0.11	−1.07	−0.09	−0.70

Note: [a]Significant random effect. Following the advice of Aguinis and Vandenberg (2014), as well as Spector and Brannick (2011), we conducted separate analyses without the control variable (state depressive mood). The results were virtually the same as the one reported in the table, and removing the control variable from the analyses did not alter the interpretation of the findings.
†$p < .10$; *$p < .05$.

the role of time in the relationship between experienced and instigated incivility, the interaction between experienced incivility and time lag was marginally significant ($B = -0.01$, $p < .10$), suggesting that the effect tends to be stronger when the time lag is short. We therefore conducted additional analyses.

Effects on subsequent interaction on the same day

As outlined, the negative consequences of experienced incivility are likely to vanish over time, but research on this topic is lacking. Research on conflicts at work might shed light on the role of time in incivility. Ilies, Johnson, Judge, and Keeney (2011) found that the negative effect of conflict on mood lasted only a few hours. Moreover, Bolger, DeLongis, Kessler, and Schilling (1989) found that conflict had a detrimental effect on mood only on the same day; surprisingly, mood was higher on the days following a day of conflict than on the days following a conflict-free day. This is in line with research on recovery that suggests that after-work leisure time and the night are important periods for unwinding from stressors like incivility (e.g., Geurts & Sonnentag, 2006). Together, these findings suggest that the effects of experienced incivility are rather short-lived and may not spill over to the next day.

To account for the short-lived nature of the effects of experienced incivility, we tested our hypotheses with a subset of the data in which the subsequent interaction happened on the same day as the prior interaction. This reduced our data to 100 participants and 910 interaction reports. The average interval between the two interactions was 2.5 h ($SD = 1.9$, Range: 0–9.5). The 14 participants who were dropped did not differ from the remaining 100 participants in terms of their demographic variables, trait self-control, exhaustion, and experienced incivility; however, they indicated lower levels of instigated incivility (1.60 vs. 2.07, $p < .05$) and reported fewer interactions (3.07 vs. 14.06, $p < .01$). Note, however, that the number of reported interactions was unrelated to all study variables. Furthermore, the level of experienced and instigated incivility of the 910 interactions did not differ from the full set of interactions ($N = 1406$) of the 100 participants. Results of the multilevel analyses appear on the right side of Table 2.

In line with hypothesis 1, experienced incivility was positively related to instigated incivility in the subsequent interaction. The length of the time lag between the two interactions moderated this effect. We conducted the region

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of significance analysis (Preacher, Curran, & Bauer, 2006) to examine the boundaries of this effect. In line with hypothesis 6, experienced incivility was likely to have an effect only when the time lag between the two interactions was shorter than 2.4 h. To illustrate this finding, in Figure 1, we plotted the effect of experienced incivility on subsequent instigated incivility for an interaction that followed the first one immediately (time lag = 0 h; $B = 0.27$, $\beta = .32$, $p < .01$) and for one that happened 4 h later ($B = 0.03$, $\beta = .04$, $p = .69$). When we considered the role of stable self-regulatory capacities, trait self-control neither was related to instigated incivility nor buffered the effect of experienced incivility; thus, the results failed to support hypotheses 2 and 3. With regard to the role of situational self-regulatory capacities, exhaustion was unrelated to instigated incivility, disproving hypothesis 4. However, exhaustion moderated the effect of experienced incivility. In line with hypothesis 5, the effect was stronger on days with higher levels of exhaustion ($B = 0.34$, $\beta = .40$, $p < .01$) than on days with lower levels of exhaustion ($B = 0.19$, $\beta = .22$, $p = .06$; Figure 2).

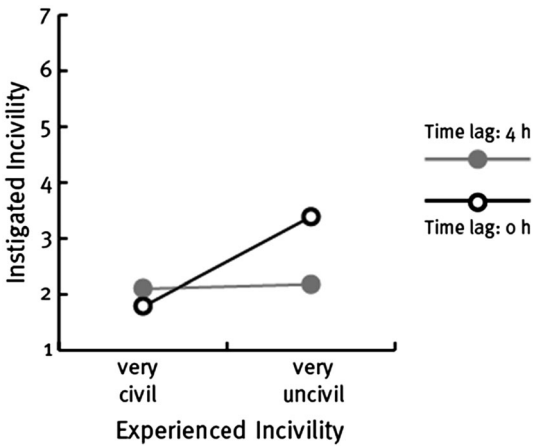

Figure 1. Effect of experienced incivility on instigated incivility, depending on the time lag between the interactions

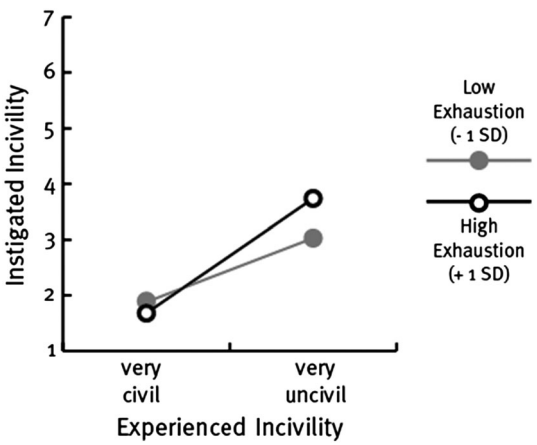

Figure 2. Effect of experienced incivility on instigated incivility, depending on employee's state level of exhaustion

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Discussion

The current study aimed to examine the effect of experienced incivility from one's supervisor on instigated incivility against the supervisor in an interaction-record diary study. We further examined the duration of this effect and tested whether this effect depends on the target's self-control capacities, on both a trait and state level. Supporting the assumption that experienced incivility will be reciprocated and may start a vicious cycle, we found a prospective effect of experienced incivility on the target's subsequent behavior. However, this effect was confined to situations in which the subsequent interaction occurred shortly after the experienced incivility. Furthermore, as hypothesized, the effect was stronger when the target's state self-regulatory capacities were low (i.e., during states of high exhaustion). However, trait self-regulatory capacities (i.e., trait self-control) did not influence the effect of experienced incivility.

Our findings are in line with studies that have linked chronic workplace incivility with CWB (Gallus et al., 2014; Penney & Spector, 2005; Sakurai & Jex, 2012). However, by focusing on specific episodes of incivility, we have extended previous research by examining the role of time and self-regulatory capacities.

The role of time

This is the first study to show that the effect of supervisor incivility on a target's retaliatory behavior is time-dependent. Our findings suggest that the detrimental effects of experienced incivility from one's supervisor on a target's behavior against the supervisor are short-lived, vanishing after about 2 h. Therefore, a buildup of increased interpersonal animosity between subordinates and supervisors seems most likely when they have frequent contact.

A plausible explanation for this rather short duration is that negative affect – which plays a crucial role in triggering rude behavior – often vanishes quickly (e.g., Verduyn et al., 2009). Therefore, an episode of incivility likely alters the target's mood for only a few hours (e.g., Ilies et al., 2011); hence, incivility will be reciprocated only within a short period. The results also speak to the existence of reappraisal processes that alter individuals' cognitions and motivations with respect to experienced incivility. The low intensity and ambiguous nature of uncivil behavior may help the target to reappraise the event because it makes attributions of "no intent to harm" likely. Finally, the result is also in line with research on forgiveness showing that with increasing time, the motivation for revenge decreases (e.g., McCullough et al., 2003). Thus, different plausible and complementary mechanisms exist to explain how time affects the reciprocation of uncivil behavior. We did not test these mechanisms, but future research may examine the timing and its underlying processes in more detail.

The current study points to a further interesting avenue for future research. Contrary to previous longitudinal studies that demonstrated the long-term effects of chronic exposure to interpersonal mistreatment (Lian, Ferris, Morrison, & Brown, 2014, Study 2; Sakurai & Jex, 2012), our findings suggest that episodes of reciprocal incivility might be short-lived. Future research is warranted to reconcile these two patterns of results. A promising way to simultaneously examine the short-term effects between episodes of incivility and the long-term shift of relationships between supervisors and subordinates is to use a measurement-burst design, consisting of repeated bursts of interaction-record assessments over a few months (Sliwinski, 2008).

Furthermore, future research should look closer at each single interaction. In the present study, we examined how incivility against the supervisor changes from interaction to interaction. However, we ignored the progress *within* each interaction. Having additional information about the trajectory of both interaction partners' incivility levels within each interaction would allow for a more detailed analysis of the retaliatory process. For example, researchers could examine the conditions under which experienced incivility will be reciprocated in the same or subsequent interaction. Within this context, it is worth mentioning that the present paper focused only on the change in the subordinate's instigated incivility from one interaction to the next. Additional analyses showed that a change in

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the supervisor's incivility was not predicted by the subordinate's incivility in the previous interaction ($B = -0.05$, $\beta = -.04$, $p = .57$). This intriguing finding can be interpreted in at least two ways: one may conclude that supervisors do not retaliate for experienced incivility. Given that they have more power, this seems unlikely (Aquino et al., 2001). Alternatively, supervisors might retaliate primarily for uncivil behavior in the same interaction. Unfortunately, as mentioned in the preceding discussion, we could not address this topic within the scope of the present study. However, future research using a finer-grained assessment of each interaction could further advance our understanding of retaliatory behavior at work.

In general, our findings point to the important role of time when studying incivility episodes. As noted by various scholars (e.g., Cohen, 1991; Ployhart & Vandenberg, 2010), considering the time lag is crucial to capture a causal process. Ignoring the time lag between interactions may lead to wrong conclusions, such as that experienced incivility has no impact on a target's behavior. Using the full data set with all interactions, null findings emerged, although we tried to consider the moderating role of time. Our analysis was not efficient enough to discover the short-term effect, because the average time lag was rather long ($M = 16.5$ h) and the range was large (0–239.5 h). However, using a subset of the data in which the subsequent interaction happened on the same day as the prior interaction, the experienced incivility predicted instigated incivility. Arguably, using a subset of the data with rather short time lags is more appropriate to test quickly vanishing effects; however, prior to the findings of our study, knowledge about the optimal time lag was lacking. Thus, by addressing the timing issue, our study offers a guide to design a study about incivility episodes.

The role of self-regulatory capacities

Our findings further suggest that a target's self-regulatory capacities have an impact on the effect of experienced incivility. Extending previous research that primarily focused on trait-like inter-individual differences in self-control (Lian et al., 2014; Marcus & Schuler, 2004; Restubog et al., 2012), the present study also examined the role of situational, fluctuating indicators of self-regulatory capacities. In line with the self-control strength model (e.g., Muraven & Baumeister, 2000), experienced incivility had a stronger effect on instigated incivility when self-regulatory capacities were depleted, namely when the person was more exhausted than usual. Thus, being exhausted makes individuals more vulnerable to retaliating against rude behavior. Importantly, a higher level of exhaustion may also result from experienced incivility. In our study, a chronic level of experienced incivility (aggregated over the study period) was positively correlated with exhaustion. Thus, incivility may cause exhaustion, which makes individuals more vulnerable to retaliating against uncivil behavior, indicating a potential vicious cycle.

In contrast to our expectation, trait self-control was unrelated to instigated incivility and did not moderate the relationship between experienced and instigated incivility. This result is surprising, given that previous research has shown a negative correlation between trait self-control and antisocial behavior at work (e.g., Lian et al., 2014; Marcus & Schuler, 2004; Restubog et al., 2012). Because previous studies included different measures of trait self-control, focused mainly on more severe forms of antisocial behavior (e.g., aggression; Lian et al., 2014), and used a different data collection strategy (retrospective reports), it is not clear whether methodological differences can explain our null findings. Regarding the moderating effect of trait self-control, it should be noted that the power to detect significant cross-level interactions is rather low in multilevel models such as ours (Mathieu, Aguinis, Culpepper, & Chen, 2012), which might explain the null finding.

Another explanation, however, is offered by recent research suggesting that the moderating role of trait self-control depends on workplace characteristics. Lian et al. (2014), for example, showed that the effect of experienced abuse on supervisor-directed aggression further depended on the coercive power of the supervisor. In the studies of Restubog et al. (2012), trait self-control only affected the relationship between psychological contract breach and deviance when the work culture was perceived as aggressive. Thus, both the characteristics of the supervisor and the work culture tend to have an impact on the buffering role of trait self-control in the relationship between

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experienced and instigated incivility. In sum, the assumption that employees with low trait self-control generally react more strongly to interpersonal mistreatment than employees with high trait self-control seems to be an oversimplification, and future research needs to consider additional factors. For example, as suggested by Muraven and Slessareva (2003), people's motivations to exert self-control should also be taken into account. It is likely that employees who are highly dependent on their supervisor (because, for example, they fear job loss or hope for a promotion) are more motivated to mobilize their limited resources to restrain themselves from retaliation (see also Lian et al., 2014).

Limitations and outlook

A first limitation of the present study is that we assessed incivility using a single-item measure. Because scholars want to keep the burden on participants low, single items are common in interaction-record studies (e.g., Asendorpf & Wilpers, 1998). However, single items may suffer from psychometric problems. To examine the content validity of our single item, we used unpublished data from two studies. First, in a multiple-source study (Meier, 2009), 149 participants reported instigated incivility against their supervisor using the multiple-item Workplace Incivility Scale (WIS; Blau & Andersson, 2005) and a single-item measure ("How often did you act uncivilly toward your supervisor during the last 12 months?"). In addition, participants' supervisors reported experienced incivility by the subordinate using the WIS and the single-item measure. Within sources, the multiple-item scale and the single-item scale were highly correlated (subordinates: $r = .82$, supervisors: $r = .71$). Across sources, the correlations were of equal size for all multiple-item–single-item combinations (rs between 0.35 to 0.37). Second, in a 2-week diary study (Meier, 2010), 127 participants reported daily instigated incivility against their supervisor using an adapted 4-item scale based on existing measures and a single-item measure ("Today, I acted uncivilly toward my supervisor"). The two measures correlated highly with each other, both at the within-person level ($r = .64$) and at the between-person level ($r = .85$). In sum, the additional analyses showed preliminary evidence of convergent validity between the single-item measure and established measures of workplace incivility.

Second, both experienced and instigated incivility were assessed via self-report, which might have distorted observed relationships among our measures due to shared biases. However, common method variance cannot easily explain the lagged and the interaction effects (Siemsen, Roth, & Oliveira, 2010). Furthermore, we controlled for negative affect. Thus, it is unlikely that the relationships found in the present study were due primarily to shared biases among self-report measures. The sole reliance on self-report, however, could also result in the underreporting of respondents' own uncivil behavior. Although it is plausible that people tend to underreport their own engagement in antisocial behavior, a recent meta-analysis by Berry, Carpenter, and Barratt (2012) showed that the mean level of self-reported interpersonal CWB was not lower than the mean level from reports by coworkers or supervisors (in fact, self-report tended to be slightly higher.) We further examined the issue of underreporting with unpublished data from the multiple-source study mentioned earlier (Meier, 2009). In our study, the mean of the single-item measure of self-reported incivility against the supervisor did not differ from the mean of the supervisor report. In line with the meta-analysis, however, there was a trend toward a higher mean for self-reports ($d = 0.17$, $p < .06$). In sum, results from the meta-analysis and findings from our unpublished data suggest that measuring instigated incivility by self-report is unlikely to cause underreporting. Nevertheless, we encourage the use of both self-reports and other-reports of incivility episodes. Having reports from both interaction partners not only reduces common method biases, but also allows the researcher to examine discrepancies in the perception of incivility between affected parties, which could influence the level of retaliation.

Third, our participants reported relatively low levels of uncivil behavior, which, however, might not be unusually low. Porath and Pearson (2013) noted that about 50% of their participants reported being targets of workplace incivility at least once per week. In our study, 45% of the participants reported that one or more interactions were considered to be at least somewhat uncivil (rating between 4 and 7) during the 2-week study period. Given that

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we measured only supervisor incivility and not coworker and subordinate incivility, it is likely that the prevalence rate of incivility in our study was not uncommonly low. Although almost half of our participants experienced some supervisor incivility within the 2-week period, supervisors were civil in most interactions. Importantly though, even fluctuations around such low levels of incivility affected subsequent behavior. These effects, however, are likely to be even stronger when higher levels of incivility are involved. Therefore, it would be fruitful to study specific populations that experience a high prevalence of incivility (e.g., in public administration, community and social services, or protective services; see Alterman, Luckhaupt, Dahlhamer, Ward, & Calvert, 2013; Fevre, Lewis, Robinson, & Jones, 2011).

Fourth, in the present study, we focused on uncivil behavior against the supervisor as an outcome. However, subordinates might refrain from overt retaliation against their supervisor because they fear further punishment (e.g., Aquino et al., 2001). Instead, they might enact covert forms of incivility, such as spreading rumors or withholding information. These behaviors, however, have not been captured in the present study. Furthermore, targets of incivility are likely to show displaced antisocial behavior toward third parties (Miller, Pedersen, Earleywine, & Pollock, 2003). Previous research has indicated that employees who experience high levels of supervisor aggression are ruder toward coworkers (e.g., Mitchell & Ambrose, 2007) and family members (e.g., Hoobler & Brass, 2006). In sum, by focusing on uncivil behavior against supervisors, the present study provides a conservative test of the effect of experienced incivility and likely underestimates the size and duration of the negative consequences on a target's behavior. It is unknown whether the present findings can be generalized to different contexts (e.g., coworker incivility), and, hence, future studies should try to consider behavior toward other parties. Investigating several interaction partners simultaneously would further allow the study of cascading patterns of incivility (Pearson, Andersson, & Porath, 2000). Finally, incivility may not only have interpersonal consequences but also affect performance (e.g., Porath & Erez, 2007). Therefore, future research should examine a broader range of the behavioral outcomes of experienced incivility.

Conclusions and Practical Implications

Previous research has established that the experience of workplace incivility is linked to strain, which has detrimental effects on the target of incivility. Extending this premise, the present study showed that experienced supervisor incivility is likely to be reciprocated and, therefore, has negative effects on both subordinates and supervisors. Using data from an interaction-record diary study, we found that these effects depend on the target's level of exhaustion. Exhausted targets are more likely to retaliate, which is in line with the theoretical proposition that self-control is required to restrain oneself from antisocial behavior. To the best of our knowledge, this is the first field study to show on an interaction-to-interaction basis that workplace incivility has negative consequences.

Organizations are urged to reduce incivility by, for example, implementing civility interventions. A promising organizational intervention is the Civility, Respect, and Engagement in the Workplace (CREW) initiative (Osatuke, Moore, Ward, Dyrenforth, & Belton, 2009). The goal of CREW is to improve the work climate through the development of more respectful interactions. The intervention was found to effectively reduce the frequency of workplace incivility and increase employees' well-being (Leiter, Day, Oore, & Laschinger, 2012; Leiter, Laschinger, Day, & Oore, 2011). Another more indirect way to reduce workplace incivility is to reduce other job stressors. Reducing job stressors, such as organizational constraints, decreases not only the probability of uncivil behavior (e.g., Hershcovis et al., 2007), but also exhaustion (e.g., Sonnentag & Zijlstra, 2006). As the present study has shown, this leaves individuals with more self-control capacities with which to refrain from retaliating against experienced incivility.

Importantly, our findings indicate that the effect of experienced incivility spills over to the next interaction only when there is little time between interactions. This implies that elapsing time may help to counteract a vicious cycle of reciprocated incivility. Thus, after experiencing incivility, subordinates are well advised to count to 10 – or, given that the lagged effect lasted about 2.5 h, preferably to 9000 – before talking to their supervisor again.

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