



Information and communication technology incivility aggression in the workplace: Implications for work and family

Suzanne L. Zivnuska^a, Dawn S. Carlson^b, John R. Carlson^c, Kenneth J. Harris^d,
Ranida B. Harris^d, Matthew Valle^{e,*}

^a Department of Management, California State University, Chico, 400 West First Street, Chico 95929, CA, United States

^b Department of Management, One Bear Place #98013, Waco 76798-8013, TX, United States

^c Department of Management Information Systems, One Bear Place #98005 76798, Waco, TX, United States

^d School of Business, Indiana University Southeast, 4201 Grant Line Rd., New Albany 47150, IN, United States

^e Department of Management and Entrepreneurship, Elon University, Elon 27244, NC, United States

ARTICLE INFO

Keywords:

Incivility aggression
Information and communication technologies (ICT)
Mood
Distress
Satisfaction

ABSTRACT

Affective events theory (AET) suggests that when an employee enacts negative workplace events, such as ICT incivility, the employee is likely to experience a negative mood state, which in turn may have a detrimental effect on attitudes regarding work and family. Using a sample of 260 working individuals, we found that engaging in ICT incivility aggression negatively impacts mood, as evidenced by a negative relationship with positive affect and a positive relationship to psychological distress. Furthermore, in the work domain, the relationship between ICT incivility aggression and job satisfaction was mediated by positive mood, but not by psychological distress. In the family domain, the relationship between incivility and family satisfaction was mediated by psychological distress, but not by mood. These mixed mediation findings may suggest that particular moods are somewhat contextual and made more salient at work versus with family. Practical implications for organizations seeking to discourage ICT incivility aggression, as well as and directions for future research, are discussed.

1. Introduction

Antisocial behaviors such as incivility and bullying in the workplace are garnering attention in both the popular and academic press (Boukis, Koritos, Daunt, & Papastathopoulos, 2020; Gabriel, Butts, Yuan, Rosen, & Sliter, 2018; Karatepe, Kim, & Lee, 2019; Lutgen-Sandvik, Tracy, & Alberts, 2007). In fact, as far back as in 1996, incivility was identified as a serious social problem by 89% of Americans in a poll by US News and World Report (Marks, 1996), and in more recent times it continues to pervade the workplace (Hutton, 2006), with deleterious effects. As with all antisocial communication behaviors, incivility may be conducted via information and communication technologies (ICT) (e.g., Heischman, Nagy, & Settler, 2019; Popan, Coursey, Acosta, & Kenworthy, 2019; Walther, Anderson, & Park, 1994; Weatherbee, 2010). Workplace incivility may strain work relationships, inhibit cooperation and collaboration, and reduce effective performance and satisfaction, and increase burnout and turnover intentions of those towards whom it is directed (Pearson, Andersson, & Porath, 2000, 2001; Smittick, Miner, & Cunningham, 2019). Ultimately, workplace incivility may even lead to turnover, productivity loss, and loss of customers (Kamp & Brooks, 1991).

* Corresponding author.

E-mail addresses: szivnuska@csuchico.edu (S.L. Zivnuska), Dawn_Carlson@baylor.edu (D.S. Carlson), John_Carlson@baylor.edu (J.R. Carlson), harriskj@ius.edu (K.J. Harris), rbharris@ius.edu (R.B. Harris), mvalle@elon.edu (M. Valle).

<https://doi.org/10.1016/j.ipm.2020.102222>

Received 18 October 2019; Received in revised form 21 January 2020; Accepted 5 February 2020

Available online 27 February 2020

0306-4573/ © 2020 Elsevier Ltd. All rights reserved.

Incivility can be defined as a type of psychological harassment and emotional aggression that violates workplace ideals of mutual respect (Felblinger, 2008). More specifically, workplace incivility has been defined as “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect” (Andersson & Pearson, 1999, p. 455). This behavior can include rudeness that shows a lack of regard for coworkers (Pearson et al., 2001) to more severe events. Excluding others from important work activities, taking credit for other people's work, withholding essential information, delivering verbal attacks, and making negative comments in public settings can have serious repercussions (Felblinger, 2008).

While such events may occur solely in person, they may also be initiated and conducted in part or in whole via electronic mail, social media, text messaging, and other ICT-enabled media (Popan et al., 2019; Sohn, Chung, & Park, 2019; Weatherbee, 2010). In fact, there are reasons to think that such behavior may be more common in ICT (Mossie & Wang, 2020; Privitera & Campbell, 2009), and may even be the norm in online interactions (Antoci, Bolnelli, Paglieri, Reggiani, & Sabatini, 2019). For example, negative information is disseminated more quickly on-line than in person (Stieglitz & Dang Xuan, 2013) and may exert a stronger, more impactful influence on recipients (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Lee & Koo, 2012; Yin, Zhang, & Liu, 2020). Worryingly, the effects of workplace incivility perpetuated through ICT may be felt more rapidly and even more broadly than when carried out in person only (Pearson et al., 2000). The enhanced scope of ICT-based incivility may allow perpetrators to engage in their abusive behavior while distancing themselves physically and emotionally from their targets (Walther et al., 1994). Therefore, perpetrators of workplace incivility may perceive ICT as an appropriate outlet for a variety of antisocial communication that violates norms of civility and mutual respect at work (Carlson & George, 2004; Weatherbee, 2010).

Scholars have long been interested in both the antecedents of workplace incivility (Chen et al., 2013) as well as the adverse outcomes for the target of this behavior (Miner, January, Dray, & Carter-Sowell, 2019; Pearson et al., 2000, 2001). However, we know very little about outcomes for the aggressor (i.e., the instigator of uncivil communication behavior). Although workplace incivility appears to be a growing problem, little attention has been paid to the instigator and the impact on their attitudes and associated workplace outcomes. There is an expectation, perhaps, on the part of the aggressor that such conduct will be beneficial or at least satisfying. If we understand aggressor outcomes more clearly, it may make it easier to mitigate such behavior in the future. As such, our interest is in studying the people committing these acts to better understand how they affect the aggressor and reshape the workplace.

In our efforts to understand the effects of ICT-based workplace incivility, we draw upon affective events theory (AET) (Weiss & Cropanzano, 1996). AET is particularly useful in understanding these relationships, as it suggests that workplace events directly impact employee affect, which in turn influence attitudes. This theoretical framework points us to an exploration of the mechanisms by which workplace incivility events that are enacted through ICT (events) may detract from satisfaction in the work and family domains (attitudes), as mediated by positive affect and psychological distress (affect) (Fig. 1).

We seek to make several contributions with this study. Firstly, we contribute to theoretical development by building a conceptual model on core principles of AET (Weiss & Cropanzano, 1996) to explore potential mechanisms by which ICT incivility aggression events may impact the perpetrator's satisfaction with work and family. Furthermore, we replicate and extend theory and research on workplace incivility by grounding it within the ICT context, which is essential to understand in today's technology-driven workplaces. Thus, we are the first to link incivility in an ICT context to its impact on the perpetrator, which extends prior focus on the impact of abusive behaviors on the victim. We also modify an empirical measure of incivility aggression out of the in-person context to focus specifically on the ICT context. Next, we expand our investigation to include attitudes from two domains: job and family satisfaction. Doing so allows us to study not only the impacts of ICT incivility aggression on a critical work outcome but also the spillover effects that it might have on family satisfaction. In doing so, we demonstrate implications for not only the work domain but also the family domain. Finally, we incorporate two forms of psychological affect (a positive affective state – mood, and a negative affective state – psychological distress) as mediators to explore the mechanisms by which being an incivility aggressor at one point in time may be related to subsequent cognitive evaluations at work and at home. Therefore, we provide a framework for studying the impact of ICT incivility, which may be foundational for future understanding of the impact of technology in the workplace and support organizations seeking to discourage ICT incivility aggression.

2. Theoretical background and hypothesis development

AET seeks to explain the mediating roles that emotion and evaluative judgment play in the relationship between events and his or

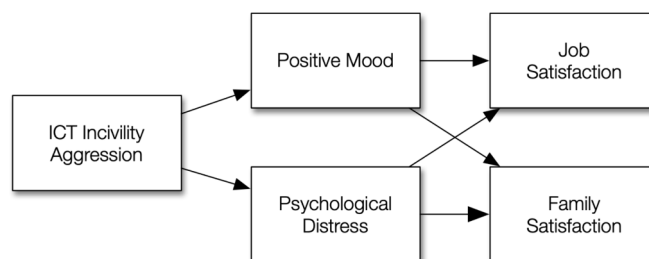


Fig. 1. Theoretical model of ICT incivility aggression on satisfaction.

her attitudes and behaviors (Weiss & Cropanzano, 1996). The premise of AET is that employees' affective responses to workplace events largely determine critical workplace attitudes that may predict behavior. AET emphasizes the role that affective response has in the workplace and explicitly positions affect as an antecedent of work attitudes (e.g., Carlson, Kacmar, Zivnuska, Ferguson, & Whitten, 2011; Cropanzano, James, & Konovsky, 1993; Levin & Stokes, 1989). Therefore, based on AET, we can define affect as an employees' moods and emotions, and differentiate affect from attitudes, which are evaluative, cognitive judgments based upon the aforementioned affect. In particular, AET specifically notes job satisfaction as an attitude that arises out of employees' affective state.

Based on AET, employees who behave in an uncivil manner at work through ICT are creating discrete events at work that may be related to affect and attitudes. Workplace incivility is an inherently interactive event that involves two or more parties (Brown & Levinson, 1987; Carter, 1998) and is best described using a social interactionist perspective (Andersson & Pearson, 1999). Instances of workplace incivility may be susceptible to escalation and spiraling perpetuation (Andersson & Pearson, 1999), particularly in when it occurs through ICT (Baumeister et al., 2001; Lee & Koo, 2012; Pearson et al., 2000; Stieglitz & Dang Xuan, 2013; Yin et al., 2020). In such a spiral, insofar as the aggressors are unable to alter their behavior, instances of negative, uncivil behaviors contribute to a corresponding negative, uncivil behavior of another, ultimately resulting in the perpetuation and magnification of counterproductive behavioral events across a team or organization (Baumeister et al., 2001; Masuch, 1985). As such, the original perpetrator of workplace incivility (ICT incivility aggressor) may create an event that has widespread impacts throughout the organization (Lee & Koo, 2012; Yin et al., 2020).

Specifically, AET suggests that one such impact is likely to be on affect (Weiss & Cropanzano, 1996), and we suspect that the ICT incivility aggressors are likely to experience affective impacts in response to their own behavioral events. Therefore, we test the central argument of AET that events impact moods which impact attitudes, with our model that suggests that negative workplace events, such as ICT incivility, are likely to impact employee moods, like the absence of positive mood and feelings of psychological distress, and that these moods will impact attitudes such as job satisfaction and family satisfaction.

2.1. ICT incivility aggressors and positive mood

Mood states refer to the stream of affective experience that individuals experience (Watson, 2000). Moods can be positive or negative and represent a pervasive and generalized affective state that have wide-ranging "tuning effects" on cognitive processes and behavior (e.g., Schwarz, 2002;). This research focuses on positive moods that "inform people that all is going well, and the environment is unproblematic" (George & Zhou, 2007, p. 606). AET suggests that affect is directly influenced by events (Weiss & Cropanzano, 1996). Therefore, we examine the impact of workplace incivility events enacted through ICT on the affective state of positive mood.

Specifically, we argue that engaging in incivility through ICT (ICT incivility aggression) will detract from positive mood. Incivility is a deviant behavior that violates workplace norms of respect. It has been shown to result in a host of negative impacts, including relationship strain, reductions in cooperation and collaboration, productivity and performance loss, burnout, and intent to turnover (Kamp & Brooks, 1991; Pearson et al., 2000, 2001, 2000; Pearson et al., 2001; Smittick et al., 2019). AET suggests that a negative event will be associated with negative affective states. In other words, employees who actively engage in harmful, deviant events at work, are unlikely to experience positive feelings, like feeling alert, inspired, and attentive. For example, when an aggressor makes demeaning, rude, or derogatory remarks about a colleague through ICT, it may contribute to a negative mood. Thus, we hypothesize that the greater the engagement of incivility events through ICT the lower the positive mood.

H1: ICT incivility aggression will be negatively related to positive mood.

2.2. ICT incivility aggression and psychological distress

While positive mood is a pervasive and generalized stream of affective experiences, psychological distress captures the general well-being of the individual via a negative emotional state (Carlson, Hunter, Ferguson, & Whitten, 2014). While emotions and mood are adaptive emotional responses, psychological distress captures outcomes that deteriorate over time. Although these variables are both related to affect, they are distinct conceptually and in how they are measured. Psychological distress can be defined as an aversive, self-focused affective state such as anxiety, discomfort, or worry (Batson, 1991) that captures the lack of general affective well-being. It includes affective markers such as feeling fearful, stressed, blue, and lonely. It can be considered an emotional component of well-being (Panaccio & Vandenberghe, 2009). Prior research suggests that unhappiness at work is correlated to deviant workplace behavior (Bennett & Robinson, 2000).

Therefore, based on AET, and similar to the positive mood path of ICT incivility aggression that we hypothesize above, we argue that employees who enact uncivil events through ICT will experience a negative affective response in the form of psychological distress. As individuals engage in this kind of behavior, they may feel anger, anxiety, dislike, and an escalation of conflict. Further, engaging in these behaviors is likely to contribute to negative social interactions, which could result in feelings of loneliness and stress. For example, an aggressor might use ICT to exclude someone from a social conversation between colleagues. This purposive exclusion may highlight to the aggressor the dislike and conflict that they associate with the victim, an "us versus them" mentality, which may ultimately result in him or her feeling lonely or stressed. Therefore, we predict that ICT incivility aggression will contribute to experiences of psychological distress.

H2: ICT incivility aggression will be positively related to psychological distress.

2.3. Mediated paths to job and family satisfaction

A critical attitude for predicting success at work and at home is satisfaction. Comprised of affective, cognitive, and behavioral components (Eagly & Chaiken, 1993; Weiss & Cropanzano, 1996; Weiss, Nicholas, & Daus, 1999), attitudes are thought to be more stable than moods, as well as being directed towards specific circumstances, like job satisfaction or family satisfaction (Ilies & Judge, 2007). Substantial empirical evidence exists for the effects of mood on satisfaction (e.g., Carlson et al., 2011; Fisher, 2000; Heller & Watson, 2005; Ilies & Judge, 2007; Niklas & Dormann, 2005; Weiss et al., 1999). Similarly, previous empirical research has established a relationship between psychological distress and satisfaction (Carlson et al., 2014; Joslin, Waters, & Dudgeon, 2010).

Building on AET theory, we sought to understand how ICT incivility aggression events worked through these two mediating mechanisms of positive mood and psychological distress to impact attitudes. Prior empirical research has provided evidence of negative relationships existing between various deviant events and job satisfaction, including chronic lateness and unexcused absence (Blau, 1985, 1994). AET and previous empirical findings concerning the impact of affect on attitude leads us to believe that this relationship between engaging in uncivil events and subsequent attitude is more complicated than might be captured in a direct relationship. Rather, we suspect that both positive and negative affect, as captured by positive mood and psychological distress respectively, provide simultaneous mediating roles on attitudes.

We extend AET theory beyond the attitude in the work domain to include the family domain by examining two forms of satisfaction: job satisfaction and family satisfaction. AET theorists define job satisfaction as a job attitude that represents a “positive or negative evaluative judgment of one's job or job situation” (Weiss & Cropanzano, 1996, pp. 2). Family satisfaction is similar, being a positive or negative evaluative judgment of one's family life.

We believe that a lack of positive mood and the experience of psychological distress will impact satisfaction at both work and home, even when mood originates from workplace events. Negative spillover predicts that the negative affect that originates from events in the work domain may not only impact how he or she feels about work but may even spill over into the family domain (Bolger, DeLongis, Kessler, and Wethington, (1989); Carlson et al., (2014); Ferguson, Carlson, Zivnuska, and Whitten, (2010). For example, a job incumbent who sends a colleague an angry, ranting email, will be unlikely to report a good mood and more likely to experience psychological distress. In other words, this employee is likely to be grumpy and stressed. These negative mood states then become the lens through which the employee evaluates life; when he or she reflects on his or her satisfaction levels at work and also at home, those evaluations are likely to be clouded with negativity. Thus, we hypothesize that affect will mediate the relationship between ICT incivility aggression and work and family satisfaction.

H3a: ICT incivility aggression will be negatively related to job satisfaction through the mediating role of positive mood.

H3b: ICT incivility aggression will be negatively related to family satisfaction through the mediating role of positive mood.

H4a: ICT incivility aggression will be negatively related to job satisfaction through the mediating role of psychological distress.

H4b: ICT incivility aggression will be negatively related to family satisfaction through the mediating role of psychological distress.

3. Method

3.1. Sample and procedure

We solicited participation from working individuals that were at least 18 years old, worked full time (30 h or more), and use ICT (information and communication technology) in their workplace. Students in an undergraduate business course at a Western university in the United States were given extra credit for soliciting individuals that met our requirements to participate in the study. The students were given a link to an online survey to share with potential participants. They were asked to qualify based on the three criteria given above (age, working, ICT use). If they qualified, they provided their email so they could be contacted for round 2 and then provided the student information so the student could get extra credit. We had 416 individuals complete the survey at time 1. Each of these individuals received an email with a link for the time 2 survey approximately six weeks later. We chose to examine the broad population of respondents in order to determine the degree of incivility that was occurring across contexts. We separated the independent and dependent variables across time in order to reduce possible common method variance and sources of endogeneity (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). We used a six-week time lag based on prior research suggesting that this timeframe facilitates more effective investigation of the causality between a study's variables, allowing for variance among those variables (Demerouti, Bakker, & Bulters, 2004; Podsakoff, MacKenzie, & Podsakoff, 2012). We had 288 respondents complete the time 2 survey. The data was then cleaned for speed bumps (“answer strongly disagree here”) and straight-lining (more than 75% of the data the same response), which resulted in 28 individuals being removed for a final sample size of 260.

The sample was 61% women, 56% were Caucasian, 55% were married or in a committed relationship, and their average age was 34. They had an average of 14.61 years of work experience and had worked for their organization for 6.46 years. They spent an average of 22.16 h on a computer at work each week.

3.2. Measures – time 1

Unless otherwise noted, all items were assessed on a five-point scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*.

3.2.1. ICT incivility aggression

ICT incivility aggression was measured using the 7-item measure of incivility developed by Blau and Andersson (2005). We

adapted the items to focus on the respondent engaging in the behavior through the use of ICT. An example item is “I have used ICT to put down others or was condescending to them in some way.” Chronbach alpha for this scale was 0.94.

3.2.2. Positive mood

Positive mood was captured with a 5-item scale developed by Watson, Clark, and Tellegen (1988) and shortened by Thompson (2007), asking respondents to indicate how they had been feeling lately. Responses were on a 5-point scale from 1 (never) to 5 (very often). Sample items include “inspired” and “determined.” The alpha reliability for this scale was 0.91.

3.2.3. Psychological distress

We used a 10-item measure designed to capture psychological distress (Ilfield, 1976; Lambert et al., 1998). The stem asked the responding to think about how they had been feeling and answer on a response scale from (1) never to (5) very often. Sample items are “I feel blue” and “I feel lonely.” The Cronbach's alpha for this scale was 0.89.

3.3. Measures- Time 2

3.3.1. Job satisfaction

We used a three-item scale to capture job satisfaction developed by Cammann, Fichman, Jenkins, and Klesh (1979). An example item is “All in all, I am satisfied with my job.” The alpha scale reliability for this scale was 0.96.

3.3.2. Family satisfaction

We adapted the three-item job satisfaction measure designed by Camman et al., (1979) to focus on family. This adaption has been successfully used in previous research (e.g., Carlson et al., 2014). An example item is “Generally speaking, I am very satisfied with my family life.” The Cronbach alpha for this scale was 0.97.

3.3.3. Control variables

We controlled for both gender and marital status on the dependent variables in the model consistent with previous research (Carlson et al., 2014).

4. Results

The means, standard deviations, correlations, for the study are shown in Table 1. We tested our hypotheses using hierarchical regression analysis in SPSS using the process macro of Hayes (2018) using bootstrapping to test the indirect effects. As hypothesized, ICT incivility aggression was negatively related to positive affect ($B = -0.16, p < .00$), thus supporting H1. Further, ICT incivility aggression was positively related to psychological distress ($B = 0.18, p < .00$) as predicted, supporting H2. Next, the paths were tested in a model on job satisfaction, and these results are summarized in Table 2. The model was significant $R = 0.25 (p < .00)$ and the indirect effect of workplace incivility on job satisfaction through positive mood was found to be significant ($-0.04, -0.0826, -0.0091$) providing support for H3a but the indirect path through psychological distress ($-0.03, -0.0668, 0.0017$) was not significant thus failing to support H4a. The model was then tested on family satisfaction, and again these results are summarized in Table 2. The model for family satisfaction was significant $R = 0.40 (p < .00)$. H3b hypothesized the indirect effect of ICT incivility aggression on family satisfaction through positive mood and was not supported ($0.02, -0.0179, 0.0407$). On the other hand, the indirect effect through psychological distress was supported ($-0.09, -0.1573, -0.0308$) in line with hypothesis 4b.

5. Discussion

The purpose of this paper was to investigate the mediating effects of affect on the relationship between ICT incivility aggression, defined as engaging in workplace incivility as enacted through ICT, and satisfaction. Based on AET (Weiss & Cropanzano, 1996), we tested the mediating effects of both a positive affective state (positive mood) and a negative affective state (psychological distress) on job satisfaction and family satisfaction. We found that ICT incivility aggression was negatively related to positive mood and positively

Table 1
Descriptive statistics and study variable intercorrelations.

	Variables	Mean	SD	1	2	3	4	5
Time 1 variables								
1.	ICT incivility aggression	1.78	0.88	–				
2.	Positive mood	4.05	0.75	–0.20**	–			
3.	Psychological distress	1.99	0.68	.25**	–0.55**	–		
Time 2 variables								
4.	Job satisfaction	3.98	0.73	–0.20**	.36**	–0.31**	–	
5.	Family satisfaction	4.38	0.75	–0.10	.19**	–0.41**	.26**	–

Note: $N = 260$.
** $p < .01$ (two-tailed).

Table. 2
Regression results on satisfaction.

	Job satisfaction		Family satisfaction	
Constant	3.2826*	(0.43)	5.5825*	(0.45)
ICT incivility aggression	−0.0836	(0.05)	.0041	(0.05)
Positive mood	.2542*	(0.07)	−0.0488	(0.07)
Psychological distress	−0.1436	(0.08)	−0.4805*	(0.07)
Marital status	.0232	(0.04)	−0.0127	(0.04)
Gender	.0387	(0.09)	.0183	(0.09)

Note: $N = 260$, * $p < .00$, standard error in parentheses.

related to psychological distress, as expected. These findings support the argument that when employees engage in deviant behavior, such as ICT incivility, it does not make them feel good. Instead, it creates negative affective feelings and reduces positive affective feelings. These results contribute to our understanding of the nature of ICT incivility, which has implications for individuals and organizations.

The results for our mediated tests were mixed and highlighted that two different paths leading to satisfaction. These different paths depend on the focal domain (work or family) of the satisfaction measure. In the work domain, the relationship between ICT incivility aggression and job satisfaction was mediated by positive mood, but not by psychological distress. On the other hand, the opposite path was found for the family domain, with the relationship between incivility and family satisfaction being mediated by psychological distress, but not by mood. These results confirm prior findings that affect is an important precursor of satisfaction (Judge & Ilies, 2004), but extend them to show that different types of affect are differentially related to satisfaction in the work versus family domains (Carlson et al., 2014). Additionally, these results are situated within the context of ICT interactions and are not specific to in-person communication strategies. Thus, these results contribute to the ICT literature to help expand our understanding of the various behaviors that individuals may enact in an ICT mediated work environment. This framework may provide the foundation for future research in technology at work.

Our research uniquely demonstrates that positive mood appears to be critical to understanding how ICT incivility aggression impacts job satisfaction, but not family satisfaction. Conversely, our findings reveal that psychological distress appears to be a critical variable in understanding how ICT incivility aggression spills over to dissatisfaction with family but not work. We conjecture that these different paths reflect differences in the affective states we studied (Kuppens, Realo & Diener, 2008). Although there is a lack of other empirical findings in this area to explain our results, we believe that positive mood may capture action-oriented, productive types of feelings. Feeling alert, inspired, determined, and attentive are all qualities that are inherent in being action-oriented and productive at work. They are also feelings that can be made more salient by attentional and productivity demands in the workplace, so that their absence might be more easily noticed. On the other hand, we surmise that psychological distress may be a more negative and diffuse measure of well-being that gets expressed in the domain of private life (Cortina, Magley, Williams & Langhout, 2001). Feeling fearful, stressed, blue, and lonely may be feelings that get exacerbated in the face of the intimacies of family life where the priority is often on connection and intimacy. Thus, our research helps enlighten the impact of these aggressive ICT behaviors on not only the work domain but extends to the family domain as well.

5.1. Practical implications

Our results indicate that the impact of workplace incivility, specifically as it is enacted through ICT, may be profound and detrimental. Based on our findings, organizations may do well to enact policies and procedures that discourage the use of ICT incivility aggression. We hope that our findings support these efforts.

Our research uniquely reveals that deviant behavior in the form of ICT-based incivility is seemingly counterproductive. It does not lead to positive affective outcomes that the aggressor may desire. Firstly, although it may be “easier” to communicate inappropriately over email and other computer-mediated channels than it is in person, that does not mean that it makes sense to do so. Moreover, ICT-based deviance may create an electronic trail that makes policy-breaking behavior easier to uncover and punish. Employees and managers who routinely communicate in deviant ways – regardless of the channel they may use to do so – will reap what they sow in terms of their emotional well-being and satisfaction. Therefore, it is incumbent on managers and employees alike to hold themselves to a high standard of professional, respectful communication regardless of circumstance.

Secondly, as ICT becomes more prevalent in today's workplace, our findings suggest that it may be worthwhile for organizations to invest time and money into formal training for how to use these technologies in a manner most appropriate to the organization's advantage. Employees who are dissatisfied at work and/or at home are not maximally productive, may be more likely to turnover, and may exhibit other, more detrimental symptoms of organizational deviance, such as counter-productive social media engagement (Carlson, Zivnuska, Harris, Harris, & Carlson, 2016), retaliation (Rudolph, Roesch, Greitemeyer, & Weiner, 2004), damaged ethical climate (Applebaum, Deguire, & Lay, 2005), and employee theft (Kidwell & Kochanowski, 2005).

Finally, managers and employees should consider the important role that affect may play in a host of organizational outcomes. Employees come to the workplace as whole people, and while we may focus on the knowledge and capabilities that people bring to work, social and emotional skill is impactful as well and should not be ignored (Lopes et al., 2011).

5.2. Strengths, limitations and future research

There are several strengths to this work. First, we offer a direct test of the tenets of AET. We incorporate two different measures of affect, one positive and one negative, to understand the mechanisms through which incivility impacts satisfaction building on prior research that has used these mechanisms to understand this process (Carlson et al., 2014). Future research may want to include other affect-mediators and outcomes (Celli, Ghosh, Alam, & Riccardi, 2016), particularly from the targets to better test the interpersonal dynamic inherent in incivility interactions. Second, we extend prior theory and research by providing particular insight into the dynamics of engaging in workplace incivility through ICT from the standpoint of the aggressor. Our findings, however, point to an apparent contradiction in that, while ICT-based incivility is being instigated in the workplace, it appears to have only negative consequences for the aggressor. While it may be that this behavior is entirely self-destructive and not goal-directed, there are several other possible explanations. It may be that this antisocial behavior is employed as a coping mechanism to deal with workplace anxiety, excessive ICT demands (Rosen et al., 2019) or is part of an ongoing cycle of incivility that the employee cannot break out of. Alternatively, the aggressor may at least believe that certain positive outcomes (e.g., making a poor employee quit) are possible. As such, outcomes beyond job and family satisfaction need to be investigated.

Future research might build on these findings by including both in-person and ICT incivility aggression in the same study. This would enable a direct comparison of the impacts of the different mediums of incivility aggression. Third, we investigate the spillover effects of incivility by considering the impacts it has on both work and family domains. This was critical as the paths were different depending on the domain of satisfaction, suggesting that future research should consider various forms of affect when examining the spillover of work demands. Finally, our results are based on surveys done across two time periods, which helps eliminate common method bias in the findings and helps shed light on the true relationship between workplace incivility and satisfaction.

Of course, no research is without limitations. Our research relies on single-subject, self-report data. While this is an appropriate methodology for the constructs of interest as our focus was on studying the aggressor's affective state, having an outside party evaluate the impacts of incivility may provide a more complete picture but was beyond the scope of the current research. Our research examined the impact of these affective events on attitudes in the work and family domains, but future research could go the next step to study behaviors. Building on AET theory (Weiss & Cropanzano, 1996), the attitudes found should impact behaviors such as performance or citizenship behaviors at work and family functioning or relationship tension in the family.

A second limitation is that our survey cast a wide blanket on uncivil workplace ICT use generally. Future studies should focus on particular media to see whether uncivil communication is initiated or concentrated on specific channels. Also, we are not able to comment on the nature of the messaging itself, the most likely topics, or the targeting of such messages to individuals or groups. These are all fruitful directions for future work. Finally, we are not able to comment on the relative intensity of uncivil messages themselves. Future work may investigate the feasibility and effectiveness of ICT-based interventions such as automated message scanning to flag uncivil content (e.g., Thelwall, Buckley, Paltoglous, Cai, & Kappas, 2010).

In conclusion, we hope that this paper sheds light on the impacts that ICT incivility aggression has on those employees engaging in these antisocial behaviors. ICT is prevalent, and it may allow job incumbents to engage more freely in these behaviors. This research demonstrated that ICT incivility aggression not only has a deleterious effect on the instigator's affect, but also made them less satisfied with their job. Further, it enhanced their psychological distress, contributing to reduced satisfaction with the family. These findings suggest that ICT incivility aggression is not only unacceptable in the workplace, it also has negative consequences for all involved. We hope that this research serves to support organizational efforts to discourage, if not eliminate, acts of ICT incivility aggression.

Declaration of Competing Interest

None.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.ipm.2020.102222](https://doi.org/10.1016/j.ipm.2020.102222).

References

- Andersson, L. M., & Pearson, C. M. (1999). Tit for tat? The spiraling effect of incivility in the workplace. *Academy of Management Review*, 24(3), 452–471. <https://doi.org/10.5465/AMR.1999.2202131>.
- Antoci, A., Bolnelli, L., Paglieri, F., Reggiani, T., & Sabatini, F. (2019). Civility and trust in social media. *Journal of Economic Behavior and Organization*, 160, 83–99. <https://doi.org/10.1016/j.jebo.2019.02.026>.
- Applebaum, S., Deguire, K., & Lay, M. (2005). The relationship of ethical climate to deviant workplace behavior. *Corporate Governance: The international journal of business in society*, 4(5), 43–55. <https://doi.org/10.1108/14720700510616587>.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5, 323–370. <https://doi.org/10.1037/1089-2680.5.4.323>.
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology*, 85(3), 349–360. <https://doi.org/10.1037/0021-9010.85.3.349>.
- Blau, G. (1985). Extrinsic, intrinsic, and demographic predictors of various types of withdrawal behaviors. *Journal of Applied Psychology*, 70, 442–450. <https://doi.org/10.1037/0021-9010.70.3.442>.
- Blau, G. (1994). Developing and testing a taxonomy of lateness behavior. *Journal of Applied Psychology*, 79, 959–970. <https://doi.org/10.1037/0021-9010.79.6.959>.
- Blau, G., & Andersson, L. (2005). Testing a measure of instigated workplace incivility. *Journal of Occupational and Organizational Psychology*, 78(4), 595–614. <https://doi.org/10.1037/0021-9010.78.4.595>.

- doi.org/10.1348/096317905X26822.
- Bolger, N., DeLongis, A., Kessler, R., & Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family*, 51, 175–183. <https://doi.org/10.2307/352378>.
- Boukis, A., Koritos, C., Daunt, K. L., & Papastathopoulos, A. (2020). Effects of customer incivility on frontline employees and the moderating role of supervisor leadership style. *Tourism Management*, 77103997. <https://doi.org/10.1016/j.tourman.2019.103997>.
- Brown, P., & Levinson, S. C. (1987). *Studies in interactional sociolinguistics*, 4. *Politeness: Some universals in language usage*. New York, NY: US: Cambridge University Press.
- Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1979). *The Michigan organizational assessment questionnaire*. Ann Arbor, MI: University of Michigan.
- Carlson, D. S., Hunter, E., Ferguson, M., & Whitten, D. W. (2014). Work-family enrichment and satisfaction: Mediating processes and relative impact or originating and receiving domains. *Journal of Management*, 40(3), 845–865. <https://doi.org/10.1177/0149206311414429>.
- Carlson, D. S., Kacmar, K. M., Zivnuska, S., Ferguson, M., & Whitten, D. (2011). Work-family enrichment and job performance: A constructive replication of affective events theory. *Journal of Occupational Health Psychology*, 16(3), 297–312. <https://doi.org/10.1037/a0022880>.
- Carlson, J. R., & George, J. F. (2004). Media appropriateness in the conduct and discovery of deceptive communication: The relative influence of richness and synchronicity. *Group Decision and Negotiation*, 13(2), 191–210. <https://doi.org/10.1023/B:GRUP.0000021841.01346.35>.
- Carlson, J. R., Zivnuska, S., Harris, R., Harris, K., & Carlson, D. S. (2016). Social media use in the workplace: A study of dual effects. *Journal of Organizational and End User Computing*, 28(1), 15–28. <https://doi.org/10.4018/JOEUC.2016010102>.
- Carter, S. L. (1998). *Civility: Manners, morals and the etiquette of democracy*. New York: Basic Books.
- Celli, F., Ghosh, A., Alam, F., & Riccardi, G. (2016). In the mood for sharing contents: Emotions, personality, and interaction styles in the diffusion of news. *Information Processing & Management*, 52, 93–98. <https://doi.org/10.1016/j.ipm.2015.08.002>.
- Chen, Y., Ferris, D. L., Kwan, H. K., Yan, M., Zhou, M., & Hong, Y. (2013). Self-love's lost labor: A self-enhancement model of workplace incivility. *Academy of Management Journal*, 56(4), 1199–1219. <https://doi.org/10.5465/amj.2010.0906>.
- Cortina, L. M., Magley, V. J., Williams, J. H., & Langhout, R. D. (2001). Incivility in the workplace: Incidence and impact. *Journal of Occupational Health Psychology*, 6(1), 64–80. <https://doi.org/10.1037/1076-8998.6.1.64>.
- Cropanzano, R., James, K., & Konovsky, M. A. (1993). Dispositional affectivity as a predictor of work attitudes and job performance. *Journal of Organizational Behavior*, 14, 595–606. <https://doi.org/10.1002/job.4030140609>.
- Demerouti, E., Bakker, A. B., & Bulters, A. J. (2004). The loss spiral of work pressure, work-home interference and exhaustion: Reciprocal relations in a three-wave study. *Journal of Vocational Behavior*, 64(1), 131–149.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. San Diego: CA: Harcourt Brace Jovanovich.
- Felblinger, D. M. (2008). Incivility and bullying in the workplace and nurses' shame responses. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 37, 234–242. <https://doi.org/10.1111/j.1552-6909.2008.00227.x>.
- Ferguson, M., Carlson, D., Zivnuska, S., & Whitten, D. (2010). Is it better to receive than to give? Empathy in the conflict-distress relationship. *Journal of Occupational Health Psychology*, 15(3), 304–315. <https://doi.org/10.1037/a0019620>.
- Fisher, C. D. (2000). Mood and emotions while working: Missing pieces of job satisfaction. *Journal of Organizational Behavior*, 21, 185–202. <https://doi.org/10.1002>.
- Gabriel, A. S., Butts, M. M., Yuan, Z., Rosen, R. L., & Sliter, M. T. (2018). Further understanding incivility in the workplace: The effects of gender, agency, and communion. *Journal of Applied Psychology*, 103(4), 362–382. <https://doi.org/10.1037/apl0000289>.
- George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal*, 50(3), 605–622. <https://doi.org/10.5465/AMJ.2007.25525934>.
- Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85, 4–40. <https://doi.org/10.1080/03637751.2017.1352100>.
- Heischman, R. M., Nagy, M. S., & Settler, K. J. (2019). Before you send that: Comparing the outcomes of face-to-face and cyber incivility. *The Psychologist Manager Journal*, 22(1), 1. <https://doi.org/10.1037/mgr0000081>.
- Heller, D., & Watson, D. (2005). The dynamic spillover of satisfaction between work and marriage: The role of time and mood. *Journal of Applied Psychology*, 90, 1273–1279. <https://doi.org/10.1037/0021-9010.90.6.1273>.
- Hutton, S. A. (2006). Workplace incivility: State of the science. *Journal of Nursing Administration*, 36, 22–27.
- Ilfield, F. W. (1976). Further validation of a psychiatric symptom index in a normal population. *Psychological Reports*, 39, 1215–1228. <https://doi.org/10.2466/pr0.1976.39.3.f1215>.
- Ilies, R., & Judge, T. A. (2007). An experience-sampling measure of job satisfaction and its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work and Organizational Psychology*, 13, 367–389. <https://doi.org/10.1080/13594320440000137>.
- Joslin, F., Waters, L., & Dudgeon, P. (2010). Perceived acceptance and work standards as predictors of work attitudes and behavior and employee psychological distress following an internal business merger. *Journal of Managerial Psychology*, 59, 779–814. <https://doi.org/10.1108/02683941011013858>.
- Judge, T. A., & Ilies, R. (2004). Affect and job satisfaction: A study of their relationship at work and at home. *Journal of Applied Psychology*, 89(4), 661–673. <https://doi.org/10.1037/0021-9010.89.4.661>.
- Kamp, J., & Brooks, P. (1991). Perceived organizational climate and employee counterproductivity. *Journal of Business and Psychology*, 5, 447–458. <https://doi.org/10.1007/BF01014494>.
- Karatepe, O. M., Kim, T. T., & Lee, G. (2019). Is political skill really an antidote in the workplace incivility-emotional exhaustion and outcome relationship in the hotel industry. *Journal of Hospitality and Tourism Management*, 40, 40–49. <https://doi.org/10.1016/j.jhtm.2019.06.001>.
- Kidwell, R. E., & Kochanowski, S. M. (2005). The morality of employee theft: Teaching about ethics and deviant behavior in the workplace. *Journal of Management Education*, 29(1), 135–152. <https://doi.org/10.1177/1052562903261180>.
- Kuppens, P., Realo, A., & Diener, E. (2008). The role of positive and negative emotions in life satisfaction judgment across nations. *Journal of Personality and Social Psychology*, 95(1), 66–75. <https://doi.org/10.1037/0022-3514.95.1.66>.
- Lambert, M. J., Finch, A. M., Okiishi, J. C., Burlingame, G. M., McKelvey, C., & Reisinger, C. W. (1998). *Administration and scoring manual for the OQ-10.2: An adult outcome questionnaire for screening individuals and population outcome monitoring*. American Professional Credentialing Services, LLC.
- Lee, K. T., & Koo, D. M. (2012). Effects of attribute and valence of e-WOM on message adoption: Moderating roles of subjective knowledge and regulatory focus. *Computers in Human Behavior*, 28, 1974–1984. <https://doi.org/10.1016/j.chb.2012.05.018>.
- Levin, I., & Stokes, J. P. (1989). Dispositional approach to job satisfaction: Role of negative affectivity. *Journal of Applied Psychology*, 74, 752–761. <https://doi.org/10.1037/0021-9010.74.5.752>.
- Lopes, P. N., Nezlek, J. B., Extremera, N., Hertel, J., Fernández-Berrocá, P., Schütz, A., et al. (2011). Emotion regulation and the quality of social interaction: Does the ability to evaluate emotional situations and identify effective responses matter. *Journal of Personality*, 79(2), 429–467. <https://doi.org/10.1111/j.1467-6494.2010.00689.x>.
- Lutgen-Sandvik, P., Tracy, S., & Alberts, J. (2007). Burned by bullying in the American workplace: Prevalence, perception, degree and impact. *Journal of Management Studies*, 44(6), 837–862. <https://doi.org/10.1111/j.1467-6486.2007.00715.x>.
- Marks, J. (1996). *In your face: Whatever happened to good manners*. U.S. News and World Report 66–72.
- Masuch, M. (1985). Vicious circles in organizations. *Administrative Science Quarterly*, 30(1), 14–33. <https://doi.org/10.2307/2392809>.
- Miner, K. N., January, S. C., Dray, K. K., & Carter-Sowell, A. (2019). Is it always this cold? Chilly interpersonal climates as a barrier to the well-being of early-career women faculty in stem. *Equality, Diversity and Inclusion: An International Journal*, 38(2), 226–245. <https://doi.org/10.1108/EDI-07-2018-0127>.
- Mossie, Z., & Wang, J. H. (2020). Vulnerable community identification using hate speech detection on social media. *Information Processing and Management*. <https://doi.org/10.1016/j.ipm.2019.102087>.
- Niklas, C. D., & Dormann, C. (2005). The impact of state affect on job satisfaction. *European Journal of Work and Organizational Psychology*, 14, 367–388. <https://doi.org/10.1080/13594320500348880>.

- Panaccio, A., & Vandenberghe, C. (2009). Perceived organizational support, organizational commitment and psychological well-being: A longitudinal study. *Journal of Vocational Behavior*, 75(2), 224–236. <https://doi.org/10.1016/j.jvb.2009.06.002>.
- Pearson, C. M., Andersson, L. M., & Porath, C. L. (2000). Assessing and attacking workplace incivility. *Organizational Dynamics*, 29(2), 123–137. [https://doi.org/10.1016/S0090-2616\(00\)00019-X](https://doi.org/10.1016/S0090-2616(00)00019-X).
- Pearson, C. M., Andersson, L. M., & Wegner, J. W. (2001). When workers flout convention: A study of workplace incivility. *Human Relations*, 54(11), 1387–1419. <https://doi.org/10.1177/0018726701541101>.
- Podsakoff, P. M., MacKenzie, S. B., Lee, Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903.
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539–569.
- Popan, J. R., Coursey, L., Acosta, J., & Kenworthy, J. (2019). Testing the effects of incivility during internet political discussion on perceptions of rational argument and evaluations of a political outgroup. *Computers in Human Behavior*, 96, 123–132. <https://doi.org/10.1016/j.chb.2019.02.017>.
- Privitera, C., & Campbell, M. (2009). Cyberbullying: The new face of workplace bullying. *CyberPsychology & Behavior*, 12(4), <https://doi.org/10.1089/cpb.2009.0025>.
- Rosen, C. C., Simon, L. S., Gajendran, R. S., Johnson, R. E., Lee, H. W., & Lin, S.-H.(J.) (2019). Boxed in by your inbox: Implications of daily e-mail demands for managers' leadership behaviors. *Journal of Applied Psychology*, 104(1), 19–33. <https://doi.org/10.1037/apl0000343>.
- Rudolph, U., Roesch, S., Greitemeyer, T., & Weiner, B. (2004). A meta-analytic review of help giving and aggression from an attributional perspective: Contributions to a general theory of motivation. *Cognition & Emotion*, 18, 815–848. <https://doi.org/10.1080/02699930341000248>.
- Schwarz, N. (2002). Emotion, cognition, and decision making. *Cognition and Emotion*, 14,, 433–440. <https://doi.org/10.1080/026999300402745>.
- Smittick, A. L., Miner, K. N., & Cunningham, G. B. (2019). The “I” in team: Coach incivility, coach gender, and team performance in women's basketball teams. *Sport Management Review*, 22, 419–433. <https://doi.org/10.1016/j.smr.2018.06.002>.
- Sohn, S., Chung, H. C., & Park, N. (2019). Private self-awareness and aggression in computer-mediated communication: Abusive user comments on online news articles. *International Journal of Human-Computer Interaction*, 5(13), 1160–1169. <https://doi.org/10.1080/10447318.2018.1514822>.
- Stieglitz, S., & Dang Xuan, L. (2013). Emotions and information diffusion in social media—Sentiment of microblogs and sharing behavior. *Journal of Management Information Systems*, 29, 217–248. <https://doi.org/10.2753/MIS0742-1222290408>.
- Thelwall, M., Buckley, K., Paltoglou, G., Cai, D., & Kappas, A. (2010). Sentiment strength detection in short informal text. *Journal of the American society for information science and technology*, 61(12), 2544–2558. <https://doi.org/10.1002/asi.21416>.
- Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of cross-cultural psychology*, 38(2), 227–242. <https://doi.org/10.1177/0022022106297301>.
- Walther, J. B., Anderson, J. F., & Park, D. W. (1994). Interpersonal effects in computer-mediated interaction: A meta-analysis of social and antisocial communication. *Communication Research*, 21(4), 460–487. <https://doi.org/10.1177/009365094021004002>.
- Watson, D. (2000). *Mood and temperament*. New York: Guilford Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of personality and social psychology*, 54(6), 1063. <https://doi.org/10.1037/0022-3514.54.6.1063>.
- Weatherbee, T. G. (2010). Counterproductive use of technology at work: Information & communications technologies and cyberdeviancy. *Human Resource Management Review*, 20(1), 35–44. <https://doi.org/10.1016/j.hrmr.2009.03.012>.
- Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. In B. M. Staw, & L. L. Cummings (Vol. Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews*: 18, (pp. 1–74). US: Elsevier Science/JAI Press.
- Weiss, H. M., Nicholas, J. P., & Daus, C. S. (1999). An examination of the joint effects of affective experiences and job beliefs on job satisfaction and variations in affective experiences over time. *Organizational Behavior and Human Decision Processes*, 78, 1–24. <https://doi.org/10.1006/obhd.1999.2824>.
- Yin, C., Zhang, X., & Liu, L. (2020). Reposting negative information on microblogs: Do personality traits matter? *Information Processing and Management*, 57(1), 102106. <https://doi.org/10.1016/j.ipm.2019.102106>.