

**ORIGINAL ARTICLE**

# Daily interpersonal conflicts and daily exposure to bullying behaviors at work: The moderating roles of trait anger and trait anxiety

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**Abstract**

Building on the three-way model of workplace bullying and its underlying theories, this study investigates the role of trait anger and trait anxiety in the link between daily interpersonal conflicts and daily exposure to bullying behaviors. Using a quantitative diary study design, we approached 57 military naval cadets participating in a tall-ship voyage across the Atlantic, from Europe to North America, in 2017. They responded to a questionnaire on a daily basis over a period of 30 days—yielding 1428 measurement points. Prior to the voyage, participants also responded to a general questionnaire including measures of trait anger and trait anxiety. As hypothesized, multilevel analyses showed positive main effects of daily interpersonal conflicts on interpersonal conflicts the next day and exposure to bullying behaviors the same day. However, daily involvement in interpersonal conflicts did not predict exposure to bullying behaviors the next day. Moreover, and in support of the hypothesized moderating effects, trait anger (but not trait anxiety) interacted positively with daily interpersonal conflicts in the prediction of interpersonal conflicts the next day as well as

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exposure to bullying behaviors the same day. The study suggests that interpersonal conflicts persist and have an immediate effect on exposure to bullying behaviors and that this is particularly the case for individuals high (vs. low) on trait anger. We discuss how these findings contribute to the three-way model of workplace bullying, as well as possible practical implications.

#### KEYWORDS

interpersonal conflicts, trait anger, trait anxiety, workplace bullying

## INTRODUCTION

After nearly three decades of research on workplace bullying, it has become clear that there is no single factor explaining its occurrence. Rather, bullying seems to be caused by the interplay of antecedents on multiple levels and their intervening mechanisms (Nielsen & Einarsen, 2018). A comprehensive model for understanding the development of bullying is the three-way model of workplace bullying (Baillien et al., 2009), which is a process-oriented model describing the three main processes through which work-related factors may lead to workplace bullying. These processes originate from (a) dysfunctional team/organization characteristics; (b) frustrations, strains, and ineffective coping; or (c) interpersonal conflicts. These are three independent processes, with the latter being the focus of the present study. While the other two processes may involve a range of different antecedents and risk factor, the present study focus on the process where the focus is on one specific antecedent: Interpersonal conflict. Further, the model also integrates and highlights the potential intervening role that personal characteristics, like personality traits, may have in these three processes. The three-way model builds on several well-established theories in the bullying literature and is one of few theoretical approaches that explicitly integrates work environment factors with individual dispositions when explaining the development of workplace bullying.

Theoretically, it is well established that bullying by nature is a process, which develops and escalates over time (Einarsen, 2000; Einarsen et al., 2020). However, in the study of developmental pathways of workplace bullying, studies typically focus on either environmental or individual antecedents (Zapf & Einarsen, 2020). According to the three-way model and the work environment hypothesis (Leymann, 1996), claiming that bullying is a consequence of problems in the psychosocial work environment, workplace bullying may be triggered by what may otherwise seem as harmless interpersonal conflicts (Einarsen et al., 1994; Zapf & Gross, 2001). An interpersonal conflict can be defined as “a negative interpersonal encounter characterized by a contentious exchange, hostility or aggression” (Ilies et al., 2011, p. 46). Several recent studies have found support for such a relationship (e.g., Ågotnes et al., 2018; Baillien et al., 2016; Leon-Perez et al., 2015), and conflict escalation has been claimed to be a developmental pathway to workplace bullying (Baillien et al., 2009). Yet, few studies have looked at how this escalation actually occurs and the factors affecting the process on a day-to-day basis (see Ågotnes et al., 2021; Hoprekstad et al., 2019, as two of few exceptions). While previous

diary studies have found that prior victimization from workplace bullying moderates the relationship between daily exposure to bullying behaviors and subsequent depressed mood (Hoprekstad et al., 2019) and that laissez-faire leadership moderates the daily relationship between work pressure and bullying behaviors (Ågotnes et al., 2021), the aim of the present study is to investigate the potential role of personality dispositions in the day-to-day relationship between interpersonal conflicts and exposure to bullying behaviors. Due to the limited use of data intense repeated-measures designs, intraindividual variability in the development of workplace bullying remains an important, but relatively unexplored theoretical issue (Neill & Tuckey, 2014).

Hence, in order to fill this void, the first main contribution of the present study is to investigate the relationship between episodes of interpersonal conflicts and exposure to bullying behaviors on a day-to-day basis, by using data from a quantitative diary study among naval cadets on a sail ship voyage across 30 consecutive days. As interpersonal conflicts are assumed to potentially turn into bullying through a gradual escalation process (Baillien et al., 2009), this design offers an unique opportunity to test the initial phase of this potential escalation as it plays out day by day, in a context where it is reasonable to assume that conflicts and acts of bullying may occur. With the timeframe of 30 days, the present study does not measure hardcore bullying cases, but rather a potential increase in exposure to bullying behaviors from 1 day to the next. Experiencing interpersonal conflicts will normally vary on a daily basis, have a tendency to escalate and potentially trigger negative and bullying-related acts, situations which then over time may escalate into more full-blown cases of workplace bullying (Baillien et al., 2017). Although the three-way model describes the development toward both becoming a victim and a perpetrator of bullying, we chose to measure exposure to bullying behaviors in the present study. This is based on the studies timeframe, as bullying behaviors in the initial phase of a potential escalation are likely to be low frequent and potentially come from several sources.

In addition, the three-way model and trait activation theory (Tett & Burnett, 2003; Tett & Guterman, 2000) further propose that the way people react in conflict situations may influence the potential escalation or de-escalation (Baillien et al., 2009; Zapf & Einarsen, 2020). Personality dispositions, in our case trait anger and trait anxiety, are theoretically likely to influence how individuals react when facing interpersonal conflicts at work, and consequently influence the possible link between interpersonal conflicts and exposure to daily bullying behaviors. Personal dispositions related to negative affect, including neuroticism and its two main components of anger and anxiety, have been found to be the strongest and most consistent individual correlates of exposure to bullying in a meta-analysis conducted by Nielsen et al. (2017). Hence, based on the interpersonal conflict to bullying pathway, described in the three-way model and these theoretical and empirical notions, the second main contribution of the present study is to investigate the potential role of trait anger and trait anxiety, in the day-to-day momentary relationship between interpersonal conflicts and bullying behaviors. Whereas the personality of targets of workplace bullying has mainly been studied in order to explain why bullying may occur (Coyne et al., 2000; Glasø et al., 2007), there is still a lack of research regarding the potential moderating role of personality in the development from interpersonal conflict to workplace bullying. These aims follow recent developments in the field, in which scholars shift toward a greater focus on within-person designs (Neill & Tuckey, 2014; Spector & Pindek, 2016), as well as a call for a greater integration of work-related and situational factors on one hand and dispositional factors on the other, in the study of antecedents of workplace bullying (Nielsen & Einarsen, 2018).

## THEORETICAL BACKGROUND

The three-way model of Baillien and De Witte (2009) was developed based on analyses of 87 real-life bullying cases and provides a comprehensive model of how workplace bullying develops. Accordingly, three main processes may contribute to the development of workplace bullying. These “tracks” or “pathways” were found to start with either (a) dysfunctional team/organization characteristics; (b) frustrations, strains, and ineffective coping; or (c) interpersonal conflicts. According to the model, any of these pathways may result in workplace bullying alone or in combination with each other. In the present study we choose to focus on the pathway claiming that conflicts may be the trigger of a pathway leading to workplace bullying. In the three-way model of bullying, interpersonal conflicts are of especial interest because they are the only time isolated (episodic) factor at work that may alone lead to workplace bullying. Further, the model postulates that individual characteristics may affect these processes, either by being the origin of the three processes or by affecting employees’ reactions when facing stressors, such as interpersonal conflicts. However, Baillien et al. (2009) clearly state that the specific pathways within this model still need to be tested in quantitative studies, including tests of potential moderating effects of individual factors, like personality (Baillien et al., 2009). In the present study, we chose to focus on the initial phase of the pathway of interpersonal conflict, which is expected to lead to workplace bullying over time through conflict escalation. We propose that this effect will be facilitated by individual dispositions, in the form of trait anger and trait anxiety.

### The bullying process

Theoretically, workplace bullying is not seen as an ‘either-or’ phenomenon, but rather a gradually evolving process where victims in early phases are subjected to indirect or discrete behaviors which may be difficult to pinpoint. However, in later phases more direct aggression may appear (Einarsen & Skogstad, 2000). Accordingly, Einarsen et al. (2020) state that “bullying is an escalating process in the course of which the person confronted ends up in an inferior position and becomes the target of systematic negative social acts” (p. 26). These “systematic negative social acts” include both work-related and person-related acts and are a core element in this definition. Accordingly, one may study bullying as (1) an end state of severe long-term exposure, (2) as a gradually escalating process, and (3) as a situation that plays out through perceptions of specific negative acts taking place on a daily basis (see also Ågotnes et al., 2021). To study bullying as an end state of severe long-term exposure, cross sectional surveys that include health status are often applied (e.g., Løvvik et al., 2021), while to capture bullying as an escalating process, where bullying episodes over time consolidates and becomes full-blown cases, are typically studied by using longitudinal surveys (e.g., Reknes et al., 2021). However, in the present study, the focus is on the latter aspect of bullying, as it investigates the immediate episodes when exposure to bullying-related negative acts are reported on a day-to-day basis. In this regard, the measurement used in the present study does neither take into consideration the prolonged nature of the exposure, nor the imbalance of power across days. Hence, the present study measures perceived daily exposure to typical bullying-related negative acts and how these acts are related to perceived interpersonal conflicts on a daily basis, as proposed by the three-way model.

The Prevention-escalation model of Van de Vliert (1984) describes in more detail both how conflicts arise and how their development are affected by conflict management. This model distinguishes between the background of the conflict, the theme of the conflict and the ways in which individuals handle the conflict. Van de Vliert (1984) further distinguishes between spontaneous and strategic conflict management, with spontaneous conflict management being automatic and unconscious reactions to conflict. Conflict management will cause the conflict to either de-escalate or escalate, which means that conflicts can quickly change expression and intensity (Van de Vliert, 1984). Conflict is thus to be regarded as a dynamic process in which perceptions, immediate reactions, and behaviors of one or more parties influence each other. Such a conceptualization strengthens our understanding of conflicts as events that can occur quickly and be fleeting, but at the same time have the potential to escalate and even turn into acts of bullying. The theoretical issue raised in the present study is to what degree this may happen in a shorter term and hence played out on a day-to-day basis.

Involvement in interpersonal conflicts with colleagues or superiors has been found to be one of the strongest predictors of subsequent reports of exposure to workplace bullying (Ågotnes et al., 2018; Baillien et al., 2016; Hauge et al., 2007). However, previous studies have often relied on cross-sectional or longitudinal between-person designs over a longer time period, which do not take into account the dynamic nature consistent with these constructs (Cole et al., 2016). As interpersonal conflicts and workplace bullying are dynamic constructs, the relationships between these variables may differ on a person-level, but also on the day-level (Kozlowski & Klein, 2000). In the present study, we will use a quantitative diary approach, so that we can capture the short-term dynamics of experiences within and between individuals in the work context (Ohly et al., 2010). In this way, we can test to what extent these relationships even play out on a day-to-day basis, as opposed to only being related over longer time periods and with a process where conflicts slowly escalate into bullying. Hence, we put forward the following hypotheses:

**Hypothesis 1a.** Daily involvement in interpersonal conflicts is positively related to interpersonal conflicts the next day.

**Hypothesis 1b.** Daily involvement in interpersonal conflicts is positively related to daily exposure to bullying behaviors, after controlling for bullying behaviors the previous day.

**Hypothesis 1c.** Daily involvement in interpersonal conflicts is positively related to exposure to bullying behaviors the next day, after controlling for exposure to bullying behaviors the same day.

## **The moderating role of trait anger and trait anxiety**

According to the three-way model (Baillien et al., 2009), individual characteristics may influence how employees cope with existing frustration when being in interpersonal conflict, with the risk of escalating conflicts and eliciting bullying in ones' opponent. This is in line with conflict theory stressing that how disputes are managed by the focal parties plays a pivotal role in the escalation or de-escalation of conflicts (Van de Vliert, 1984). Thus, combining focus on

conflict and conflict management behavior is important when predicting subsequent acts of workplace bullying (Baillien et al., 2016). However, the three-way model does not specify the specific individual characteristics that may affect how one reacts to and manages interpersonal conflicts. In the present study, we chose to investigate two main components of neuroticism, trait anger and trait anxiety, as several studies indicate that target neuroticism is the most important personality trait when explaining exposure to bullying (Fernández-del-Río et al., 2021; Nielsen & Einarsen, 2018; Persson et al., 2009).

Neuroticism consists of six subfacets, which all have been related to workplace bullying (Persson et al., 2009). However, in a recent longitudinal study, the subfacets trait anger and trait anxiety were found to be related to the initial phase of workplace bullying escalation, yet in somewhat different ways (Reknes et al., 2021). More specifically, trait anger seemed to maintain the negative situation, by hindering a de-escalation of the process, but did not turn into a higher risk of escalation for those who were already exposed, while for trait anxiety it was the opposite. Hence, several scholars argue that these two traits should be studied separately and not collapsed into a broader neuroticism trait, as these subconcepts may act differently in relation to the bullying process (e.g., Kant et al., 2013; Reknes et al., 2021).

According to trait activation theory (Tett & Burnett, 2003), personality traits are evoked and triggered by relevant situational and social cues. More specifically, it considers traits as latent potentials to behave in specific ways, in response to trait-relevant situational cues. A situation is relevant to a trait to the degree it offers opportunity for that trait to be expressed (Tett et al., 2021). Because neuroticism is an affective trait (Costa & McCrae, 1980), employees with a high score on this trait are more susceptible to others' emotions (Doherty, 1997) and more likely to appraise stressful situations as threats (Gallagher, 1990), which may increase the likelihood that they will respond inappropriately in difficult social situations. In line with this, both trait anger and trait anxiety should be personality traits that potentially may strengthen the relationship between interpersonal conflicts and bullying behaviors, as they are likely to be activated in conflict situations and further influence the perceptions, behaviors, and social interactions of the parties involved in such situation, in our case focusing on the target.

Following trait activation theory (Tett & Burnett, 2003), anxiety will only appear in situations that the individual finds threatening (Judge & Zapata, 2015; Kenrick & Funder, 1988; Tett & Guterman, 2000). From an evolutionary perspective, being involved in conflicts may raise a basic fear of being socially excluded. This again may evoke feelings of uneasiness and anxiousness as a kind of early-on warning reaction, which may be particularly triggered in employees scoring high on trait anxiety. In parallel, employees high on trait anger should be particularly activated when perceiving to be unfairly and disrespectfully treated, which may make them react with spontaneous escalating conflict behavior (Van de Vliert, 1984). Consequently, this conflict behavior may frustrate and irritate the other part, potentially triggering aggressive and angry responses in return. When it comes to the other subfacets of neuroticism, such as shame, depression, and guilt, these may probably be more related to and activated later in the final stages of an ongoing victimization process, triggered by feelings of loss and sorrow (Reknes et al., 2021).

Further, trait anger and trait anxiety are closely related to the description of the role of targets in the Victim precipitation theory (Elias, 1986). Individuals with a high score on trait anger might respond to conflicts with fury or use forcing on the other part, which may provoke the other part and cause escalation. In contrast, individuals with a high score on trait anxiety

may rather use a yielding style or withdraw in such situations, which makes them come across as easy targets or as someone moaning and overacting to minor annoyances. Using conflict management styles like forcing or yielding, are both found to be associated with conflict escalation, as they may lead to a deterioration in the relationship between the parties (Behfar et al., 2008; Janssen & Van de Vliert, 1996). Although these management styles may satisfy one part in the short run, they still leave conflicts unresolved (Behfar et al., 2008; Janssen & Van de Vliert, 1996). Hence, for cadets high on trait anger and/or trait anxiety, the conflicts may stay unresolved and continue the next day. For individuals with high scores on these traits, there may also be perceptual mechanisms as they may overreact to obnoxious stimuli or merely perceive nonpolite behaviors as over the line aggression (Judge & Zapata, 2015; Kant et al., 2013; Kenrick & Funder, 1988). As a result, interpersonal conflicts may be related to exposure to bullying behaviors on a daily level due to one of these traits.

Still, only few studies have examined personality traits as moderators in the antecedents—bullying relationship (Rai & Agarwal, 2018) and, to the best of our knowledge, no study has investigated this in the interpersonal conflict—bullying relationship. However, in a study by Fox et al. (2001), some support was found for the enhancing effect of trait anger and trait anxiety in the conflict—counterproductive work behavior relationship. In addition, a recent study by Reknes et al. (2019) found that trait anger and trait anxiety strengthened the positive relationship between role conflict and reports of bullying behaviors, pointing out that workplace bullying seem to result from an interaction between situational and individual factors (Reknes et al., 2019). However, Reknes et al. (2019) also showed that trait anger and trait anxiety was only related to bullying when role stressors were present. Hence, personality may mainly trigger bullying episodes when other risk factors are present. The issue in the present study is whether this is also the case on a day-to-day basis, episode for episode, in the initial phase of a potential conflict—bullying escalation process. Thus, we propose:

**Hypothesis 2a.** The positive relationship between daily interpersonal conflicts and interpersonal conflicts the next day is stronger for cadets high (vs. low) on trait anger.

**Hypothesis 2b.** The positive relationship between daily interpersonal conflicts and interpersonal conflicts the next day is stronger for cadets high (vs. low) on trait anxiety.

**Hypothesis 3a.** The positive relationship between daily interpersonal conflicts and daily exposure to bullying behaviors is stronger for cadets high (vs. low) on trait anger.

**Hypothesis 3b.** The positive relationship between daily interpersonal conflicts and daily exposure to bullying behaviors is stronger for cadets high (vs. low) on trait anxiety.

**Hypothesis 3c.** The positive relationship between daily interpersonal conflicts and exposure to bullying behaviors the next day is stronger for cadets high (vs. low) on trait anger.

**Hypothesis 3d.** The positive relationship between daily interpersonal conflicts and exposure to bullying behaviors the next day is stronger for cadets high (vs. low) on trait anxiety.

## METHOD

### Procedure and participants

The sample consisted of 57 naval cadets from the Royal Norwegian Naval Academy, who took part in a 10-week training mission on board a tall ship, sailing from Northern Europe to North America. The cadets are officers undergoing further leader development training. Hence, they are in a training setting, yet fully employed by the Norwegian Armed Forces. The voyage is a part of the cadets' mandatory officer training and took place within the cadets first semester at the Royal Norwegian Naval Academy, in the autumn of 2017. During the first 30 days of the voyage, the cadets were requested to fill out a standardized questionnaire, with various questions about the work situation that day, including interpersonal conflicts and bullying behaviors. The cadets answered the daily questionnaires every day at the same time (5 pm). Two days before the voyage, the cadets also filled out a general questionnaire, containing questions regarding personality and other trait-like variables, including trait anger and trait anxiety. The sample comprised 50 male cadets (87.7%) and six female cadets (10.5%). One participant did not report gender (1.8%). The mean age of the cadets was 23 years ( $SD = 2.6$ ). Among the 66 cadets who were invited to take part in the study, 57 cadets (86.4%) accepted the invitation and completed both the general questionnaire and daily questionnaires. These 57 cadets answered 83.5% of the daily questionnaires, yielding 1428 day-level observations (out of 1710 possible day-level observations; 57 cadets  $\times$  30 days). Prior to the mission, all the cadets chose to sign informed consent forms.

### Measures

#### Trait anger and trait anxiety

Trait anger and trait anxiety were measured with the well-established State-Trait-Anger Expression Inventory (STAXI) and State-Trait-Anxiety Inventory (STAI) (Spielberger, 1983, 1988). Trait anger was measured with 12 items (e.g., "I get angry when I'm slowed down by others' mistakes," "I have a fiery temper"), whereas trait anxiety was measured using 20 items (e.g., "I feel nervous and restless," "I am inclined to take things hard"). These scales are translated and adapted versions previously applied by Kant et al. (2013). On both scales, responses were given on a 4-point scale from with response categories ranging from 1 (*almost never*) to 4 (*almost always*). The reliability for the two scales was  $\omega = .75$  (trait anger) and  $\omega = .86$  (trait anxiety), respectively.

#### Day-level exposure to bullying behavior

Bullying behavior was measured with five items adapted from the Negative Acts Questionnaire – Revised (NAQ-R; Einarsen et al., 2009). To fit the daily diary design, we changed the



timeframe reference provided in the questionnaire from the original “the last six months” to “today.” Following Hoprekstad et al. (2019), the items we selected were the ones deemed likely to occur on a daily basis among the sample of cadets in this setting. Still, the five items cover the three different types of bullying behaviors that have been described for the NAQ-R (i.e., work-related, person-related, and social exclusion). The items were “Been ignored or excluded,” “Unpleasant reminders of errors or mistakes,” “Practical jokes carried out by people you do not get along with,” “Been shouted at or been the target of spontaneous anger” and “Had your opinions ignored.” The participants rated their experiences on a scale ranging from 1 (*not at all*) to 5 (*to a very large extent*). Reliability of the daily measures was calculated using the approach described by Geldhof et al. (2014), by estimating omega ( $\omega$ ) at the within-person level using a two-level CFA. The scale had acceptable reliability ( $\omega = .70$ ).

## Day-level interpersonal conflict

Interpersonal conflict was measured using a 5-item checklist developed by Ilies et al. (2011). The measurement was especially developed to capture daily reports of interpersonal conflicts at work. An example item is “Over the past 24 hours I have been in an argument with another cadet, civilian crew or military staff about the execution of tasks,” with response categories ranging from 1 (*has not happened*) to 4 (*three or more times*). The scale had acceptable reliability ( $\omega = .70$ ).

## Analyses

The repeated measurements made by the cadets, where the days are nested within persons, made it necessary to perform multilevel analyses on the data. We conducted the analysis using the software MLwiN 3.01. We have a two-level model with days at the first level (Level 1;  $N = 1428$ ) and persons at the second level (Level 2;  $N = 57$ ). To test our hypotheses, we ran two sets including three models predicting both our outcomes of interpersonal conflicts the next day and daily bullying behaviors. In the first set, we predicted interpersonal conflicts the next day. First, we tested a model where the intercept was included as the only predictor (Null Model). In the next model (Main effect Model), we included the explanatory variable (daily interpersonal conflict) and the moderator variables (trait anger and trait anxiety). In the third model (Interaction Model), the two-way interaction between the moderators and daily interpersonal conflict were included. In the second set, we predicted exposure to daily bullying behaviors the same day. Again, we first tested a model where the intercept was included as the only predictor (Null Model). In the next model (Main effect Model), we included the explanatory variable (daily interpersonal conflict), the moderator variables (trait anger and trait anxiety), and control variable (previous-day exposure to bullying behaviors). In the third model (Interaction Model), the two-way interaction between the moderators and interpersonal conflict were included. We compared the nested models using likelihood ratio tests, and computed pseudo  $R^2$  at the day-level as the proportion of the residual day-level variance from the null model explained in the given model. In order to examine whether the slopes in the cross-level interactions were significantly different from zero, simple slope tests for hierarchical linear models were used (Preacher et al., 2006). The slopes for the predictors and moderators were tested at  $\pm 1$  SD, and calculations were based on the asymptotic covariance matrix from the respective multilevel

models using R version 3.4.3. In all multilevel models, we grand-mean centered our between-person predictors (trait anxiety and trait anger) and person-mean centered our day-level predictors (interpersonal conflicts and exposure to bullying behaviors) around each cadet's individual mean, so that the day-level coefficients would represent strictly within-person relationships (Wang & Maxwell, 2015).

## RESULTS

### Preanalysis and descriptive statistics

To establish whether the 2-day-level measures of interpersonal conflicts and bullying could be distinguished empirically, we used multilevel confirmatory factor analyses (MLCFA) in Mplus version 7.4. Two different measurement models were tested and evaluated against commonly used fit criteria (Hu & Bentler, 1999). In the first model, we tested daily interpersonal conflict and daily exposure to bullying as two separate factors using their respective observed indicators. The model revealed a marginally acceptable fit to the data ( $\chi^2(df) = 421.80 (68)$ , CFI = .89, RMSEA = .061), as the CFI is just below the recommended cut-off of .90 while the RMSEA is clearly below the recommended cut-off of .08. The fit specific to the within-level (SRMR<sup>within</sup> = .058) and between-level (SRMR<sup>between</sup> = .093) were acceptable and poor, respectively. Although the between-level SRMR is not acceptable, the within-level SRMR, which is the main level of analyses in this study, is acceptable. Second, we ran a one-factor model where all the observed indicators loaded on one factor. This model yielded poor to acceptable fit to the data ( $\chi^2(df) = 730.31 (70)$ , CFI = .79, RMSEA = .082). Hence, the model resulted in a deterioration of fit to the data when compared with the two-factor model ( $\Delta\chi^2(df) = 308.51 (2)$ ,  $p < .001$ ) and poorer fit at the within-level (SRMR<sup>within</sup> = .073) and the between level (SRMR<sup>between</sup> = .103). In sum, multilevel confirmatory factor analyses indicate that daily interpersonal conflicts and daily exposure to bullying behaviors can be empirically distinguished, a finding in line with other recent empirical studies of the theoretical and empirical differences and similarities between conflicts and bullying at work (Baillien et al., 2017; Notelaers et al., 2018).

Means, standard deviations, and within- and between-level correlations for all study variables are presented in Table 1. Correlational analysis showed that at the within-level there was a significant positive relationship between daily levels of interpersonal conflict and daily levels of exposure to bullying behaviors ( $r = .46$ ,  $p < .001$ ). On the between-level, a strong positive

**TABLE 1** Means, standard deviation, and intercorrelations for study variables ( $N = 1710$  occasions,  $N = 57$  respondents)

	$\bar{X}$	SD	1.	2.	3.	4.
1. Bullying behaviors	1.104	0.275	-	.46***		
2. Interpersonal conflict	1.083	0.219	.77***	-		
3. Trait anger	1.533	0.313	.32*	.34*	-	
4. Trait anxiety	1.680	0.319	.36**	.09	.24	-

Note: Person-level correlations are below the diagonal and day-level correlations above the diagonal.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

correlation exists between interpersonal conflict and exposure to bullying behaviors ( $r = .77$ ,  $p < .001$ ). Further, trait anger was positively related to interpersonal conflict ( $r = .34$ ,  $p < .05$ ) and exposure to bullying behaviors ( $r = .32$ ,  $p < .05$ ). Trait anxiety was positively related to exposure to bullying behaviors ( $r = .36$ ,  $p < .01$ ), but not significantly related to trait anger or interpersonal conflict.

## Multilevel analysis

Table 2 presents the results from the first set of multilevel analysis predicting interpersonal conflicts the next day. As shown in Table 2, the unpredicted null model showed that 83% of the total variance in daily interpersonal conflicts existed on the day-level (within-level), whereas 17% of the variance appeared at the person-level (between-level) of analysis. In Hypothesis 1a, we expected a positive relationship between interpersonal conflicts and interpersonal conflicts the next day. In support of Hypothesis 1a, there was a significant positive relationship between interpersonal conflict and interpersonal conflicts the next day ( $B = .146$ ,  $p < .001$ ) in the main effect model. Thus, cadets were more likely to experience interpersonal conflicts when they had experienced interpersonal conflicts the previous day. Compared with the null model, the main effect model fit the data better and reduced the unexplained day-level variance in interpersonal conflict the next day, pseudo  $R^2 = .081$ ,  $\chi^2(3) = 75.3$ ,  $p < .001$ . In Hypotheses 2a and 2b, we hypothesized that trait anger and trait anxiety would moderate the positive relationship between daily interpersonal conflicts and interpersonal conflicts the next day. In support of Hypothesis 2a, we found a significant interaction between trait anger and interpersonal conflict ( $B = .155$ ,  $p < .05$ ) in the interaction model. However, the interaction effect between trait anxiety and interpersonal conflict was not significant ( $B = -.092$ , n.s.). Hence, Hypothesis 2b was not supported. Adding the interaction terms between interpersonal conflict and trait anger and between interpersonal conflict and trait anxiety, respectively, reduced the unexplained day-level variance in interpersonal conflict the next day, pseudo  $R^2 = .085$ ,  $\Delta R^2 = .004$ , although the interaction terms did not significantly improve model fit compared with the main effects model  $\chi^2(2) = 5.47$ ,  $p = .065$ .

TABLE 2 Multilevel estimates for the prediction of interpersonal conflicts

	Null model		Main effect model		Interaction model	
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Intercept	1.081***	.013	1.078***	.012	1.078***	.012
Interpersonal conflicts prescore			0.146***	.028	0.124***	.030
Trait anger			0.089*	.040	0.088*	.040
Trait anxiety			0.020	.039	0.020	.039
Trait anger × ICP					0.155*	.066
Trait anxiety × ICP					−0.092	.095
Variance level 1 (day-level)	0.040 (%) (83%)	.002	0.036	.001	0.036	.001
Variance level 2 (person-level)	0.008 (%) (17%)	.002	0.006	.002	0.006	.002
−2 Log likelihood	−453.11		−528.44		−533.91	

Note: ICP = interpersonal conflict previous day.  $N = 57$  respondents,  $N = 1296$  measurement occasions.

\* $p < .05$ . \*\*\* $p < .001$ .

Additional analyses, however, showed that adding only the interpersonal conflict  $\times$  trait anger interaction term reduced the unexplained day-level variance of interpersonal conflict the next day and significantly improved model fit compared with the main effects model, pseudo  $R^2 = .084$ ,  $\Delta R^2 = .003$ ,  $\chi^2(1) = 4.54$ ,  $p = .033$ . The significant interaction between trait anger and daily interpersonal conflict is visualized in Figure 1. As seen in the figure, there is a stronger positive association between interpersonal conflict and interpersonal conflicts the next day among cadets with a higher level of trait anger, compared with cadets with a lower level of trait anger. Further, a formal test of the slopes at  $\pm 1$  SD of the moderator revealed a significant slope for those with a high level of trait anger (Slope = .17,  $z = 5.56$ ,  $p < .001$ ) but not for those with a low level of trait anger (Slope = .076,  $z = 1.86$ , n.s.).

Table 3 presents the results from the second set of multilevel analysis predicting exposure to bullying behaviors. As can be seen in Table 3, the unpredicted null model showed that 75% of the total variance in exposure to bullying behaviors existed on the day-level (within-level), while 25% of the variance appeared at the person-level (between-level) of analysis. This shows that most of the variance in bullying behaviors is accounted for by intraindividual variances across the 30 days, rather than by between person variances. In Hypothesis 1b, we hypothesized a positive association between daily interpersonal conflict and exposure to bullying behaviors the same day, after controlling for bullying behaviors the previous day. In support of Hypothesis 1b, there was a significant positive relationship between interpersonal conflict and daily exposure to bullying behaviors ( $B = .548$ ,  $p < .001$ ). Thus, on days the cadets experienced interpersonal conflict, they were more likely to report an increase in exposure to bullying behaviors compared with their previous day exposure. The main effect model showed a significantly better fit to the data and reduced the unexplained day-level variance in exposure to bullying behaviors compared with the null model, pseudo  $R^2 = .294$ ,  $\chi^2(4) = 441.98$ ,  $p < .001$ . In Hypotheses 3a and 3b, we hypothesized that trait anger (3a) and trait anxiety (3b) would moderate the positive relationship between daily interpersonal conflicts and exposure to bullying behaviors the same day. In support of Hypothesis 3a, we found a significant interaction between trait anger and interpersonal conflict ( $B = .469$ ,  $p < .001$ ) in the interaction model. However,

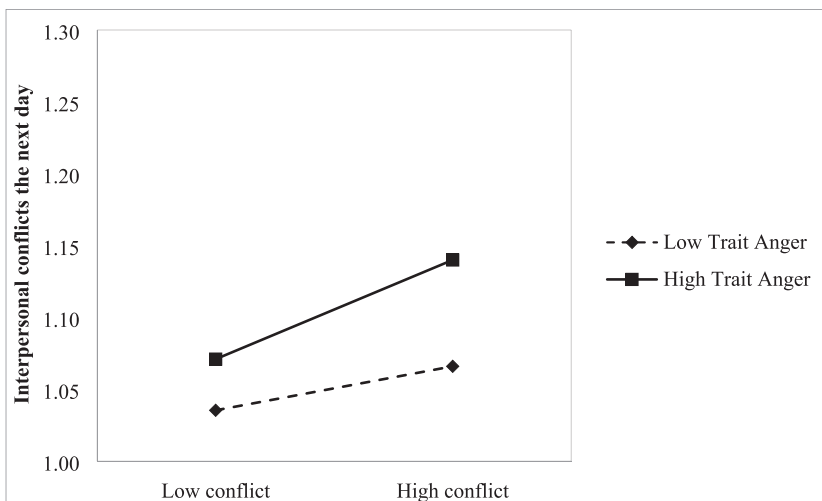


FIGURE 1 Plot of the interactive relationship of daily interpersonal conflicts and interpersonal conflicts the next day for cadets low vs. high on trait anger

TABLE 3 Multilevel estimates for the prediction of bullying behaviors

	Null model		Main effect model		Interaction model	
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Intercept	1.107***	.020	1.103***	.018	1.103***	.018
Interpersonal conflict (IC)			0.548***	.030	0.464***	.032
Bullying behaviors prescore			0.188***	.024	0.181***	.024
Trait anger			0.117	.060	0.118*	.060
Trait anxiety			0.110	.059	0.109	.059
Trait anger × IC					0.469***	.070
Trait anxiety × IC					−0.074	.102
Variance level 1 (day-level)	0.057 (75%)	.002	0.040	.002	0.038	.002
Variance level 2 (person-level)	0.019 (25%)	.004	0.017	.004	0.017	.003
−2 Log likelihood	83.41		−358.57		−411.13	

Note: IC = interpersonal conflict.  $N = 57$  respondents,  $N = 1288$  measurement occasions.

\* $p < .05$ . \*\*\* $p < .001$ .

the interaction effect between trait anxiety and interpersonal conflict was not significant ( $B = -.074$ , n.s.). Hence, Hypothesis 3b was not supported. The interaction model showed significantly better fit and reduced the unexplained day-level variance in exposure to bullying behaviors compared with the main effect model, pseudo  $R^2 = .324$ ,  $\Delta R^2 = .029$ ,  $\chi^2(2) = 52.56$ ,  $p < .001$ . The significant interaction between trait anger and daily interpersonal conflict is visualized in Figure 2. As seen in the figure, there is a stronger positive association between interpersonal conflict and exposure to bullying behaviors on a day-to-day basis among cadets with a higher level of trait anger, compared with cadets with a lower level of trait anger. Despite these differences, a formal test of the slopes at  $\pm 1$  SD of the moderator revealed significant slopes both for those with a high level of trait anger (Slope = .61,  $z = 18.58$ ,  $p < .001$ ) and for those with a low level of trait anger (Slope = .32,  $z = 7.40$ ,  $p < .001$ ).

Table 4 presents the results from the final multilevel analysis predicting exposure to bullying behaviors the next day. In Hypothesis 1c, we hypothesized a positive association between daily interpersonal conflicts and exposure to bullying behaviors the next day, after controlling for exposure to bullying behaviors the same day. As seen in the main effect model, the relationship between daily interpersonal conflicts and next day exposure to bullying behaviors was not significant ( $B = -.028$ , n.s.). Hence, Hypothesis 1c was not supported. In Hypotheses 3c and 3d, we hypothesized that trait anger and trait anxiety would moderate the positive relationship between daily interpersonal conflicts and exposure to bullying behaviors the next day. However, neither the interaction between trait anger and conflicts ( $B = -.059$ , n.s.) nor the interaction between trait anxiety ( $B = .186$ , n.s.), were significant. Hence, the results did not yield support to Hypotheses 3c and 3d.

## DISCUSSION

The present study explored dynamics in conflict escalation and especially the relationship between daily interpersonal conflict and daily exposure to bullying behaviors, employing a

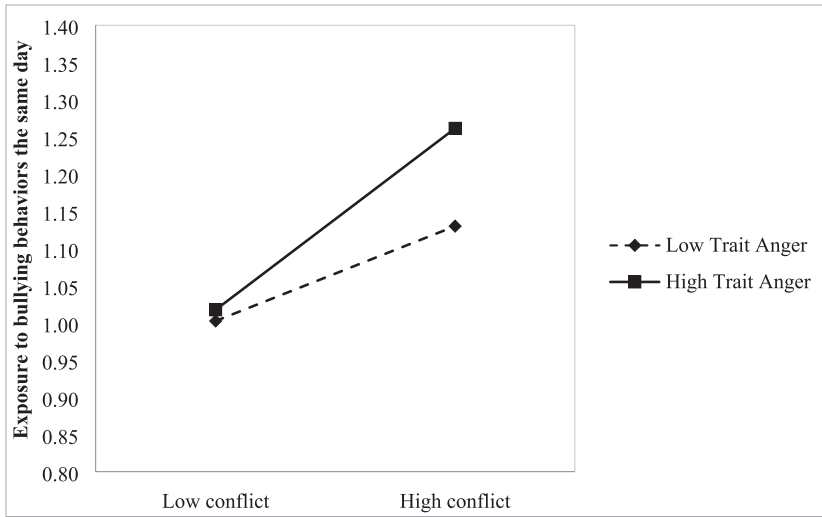


FIGURE 2 Plot of the interactive relationship of daily interpersonal conflicts and exposure to bullying behaviors the same day for cadets low vs. high on trait anger

TABLE 4 Multilevel estimates for the prediction of bullying behaviors the next day

	Null model		Main effect model		Interaction model	
	<i>B</i>	SE	<i>B</i>	SE	<i>B</i>	SE
Intercept	1.099***	.019	1.103***	.018	1.103***	.018
Interpersonal conflict (IC)			−0.028	.037	−0.034	.039
Bullying behaviors the same day			0.259***	.030	0.260***	.031
Trait anger			0.118	.061	0.118	.061
Trait anxiety			0.109	.060	0.109	.059
Trait anger × IC					−0.059	.080
Trait anxiety × IC					0.186	.114
Variance level 1 (day-level)	0.053 (75%)	.002	0.051	.002	0.051	.002
Variance level 2 (person-level)	0.018 (25%)	.004	0.016	.004	0.016	.004
−2 Log likelihood	−1.34		−60.10		−62.788	

Note: IC = interpersonal conflict.  $N = 57$  respondents,  $N = 1288$  measurement occasions.

\*\*\* $p < .001$ .

sample of cadets during a sail ship voyage. The results of multilevel analyses showed a positive main effect of daily interpersonal conflicts on interpersonal conflicts the next day, indicating an escalation or at least a continuation of conflict episodes from day to day. Further, daily interpersonal conflicts were related to exposure to bullying behaviors the same day. Hence, cadets who experienced interpersonal conflict at their shift tended to report an increase of exposure to bullying behaviors compared with the previous day. This finding is in support of the three-way model, as it states that workplace bullying can develop from interpersonal conflicts, by taking the “pathway” through conflict escalation (Baillien et al., 2009). In addition, it is in line with

the more general work environment hypothesis, stating that bullying is the result of stressors in the psychosocial working environment, such as interpersonal conflicts (Einarsen et al., 1994; Leymann, 1990; Skogstad et al., 2011). The present finding is also consistent with previous studies investigating this pathway by testing the relationship between interpersonal conflict and accumulated exposure to bullying behaviors over longer time periods (e.g., Ågotnes et al., 2018; Baillien et al., 2016; Leon-Perez et al., 2015). By employing a repeated-measures design and studying the relationship at the within-person level on a daily basis, we provide new insight into the daily dynamics between interpersonal conflict and exposure to bullying behaviors. Although we found that interpersonal conflicts persisted the next day, no lagged effects were found for exposure to bullying behaviors. This indicates that bullying episodes may sometimes happen much as immediate reactions “in the heat of the moment,” in contrast to being a result of accumulated frustration from lasting interpersonal conflicts. However, the bullying research has mainly studied escalation, although bullying episodes also may de-escalate—and perhaps even in most cases do. This should at least be investigated further.

Furthermore, the present study is one of the first to empirically test the enhancing effect of trait anger and trait anxiety in the conflict—bullying relationship. The findings showed that daily interpersonal conflicts were a stronger predictor of interpersonal conflicts the next day and exposure to bullying behaviors the same day for cadets with a high (vs. low) score on trait anger. Hence, cadets who are high on trait anger tend to report that conflicts persist from day to day and experience more instances of exposure to bullying on days with conflicts, as compared with their comrades who score lower in this trait. This brings additional support to the three-way model, claiming that individual characteristics may influence how individuals react when facing interpersonal conflicts at work (Baillien et al., 2009). Having a high score on trait anger is likely to affect both appraisal and coping strategies, as this trait is associated with being more reactive to challenging situations (Pervin, 1993). Interestingly, this finding is consistent with what the Swedish researcher Thylefors claimed already in the 1980s based on interviews with targets, namely that it is those who react more strongly and active when in conflict situations that are at risk of becoming victims of bullying (Thylefors, 1987). Along similar lines, the victim precipitation theory (Elias, 1986) claims that some victims may experience bullying because some perpetrators may be provoked by them (Aquino & Lamertz, 2004; Olweus, 1978; Samnani & Singh, 2016). In contrast to those low in trait anger, individuals high in trait anger are likely to respond with fury to conflicts, which may aggravate the impact of daily interpersonal conflicts on new arguments and unpleasant interactions. Another possible explanation is that the negative response to interpersonal conflict is stronger among these employees due to their heightened reactivity, leading them to perceive the behaviors and responses of others as being more hostile (Spector et al., 2000).

In accordance with the present study, previous studies have demonstrated the enhancing effect of trait anger in similar yet cross-sectional studies (Fox et al., 2001; Ilie et al., 2012; Reknes et al., 2019). Still, although trait anger is claimed to be a provocation-sensitive trait (Bettencourt et al., 2006), both Reknes et al. (2019) and our findings indicate that trait anger mainly trigger bullying episodes when other risk factors are present. The present study showed that on days with low levels of conflict there is low occurrence of bullying behaviors, regardless of cadets' trait anger. Notably, on days with higher levels of interpersonal conflict, there is a significant increase in exposure to bullying behaviors among all cadets, although it is even stronger for those with high trait anger scores.

Contrary to our predictions, however, trait anxiety neither moderated the stability in interpersonal conflict levels from day to day nor the relationship between interpersonal conflict

and exposure to bullying behaviors the same day. This outcome is contrary to that of Fox et al. (2001) and Reknes et al. (2019), who found enhancing effects of trait anxiety in similar moderation analyses, yet employing cross-sectional survey data. This inconsistency may be due to the different temporality in these studies—there may be different mechanisms at work in the short versus long term. One possible explanation can be that trait anxiety plays a different role in the early phase of the conflict—bullying escalation process than in more escalated bullying scenarios—and that it is more over a longer time period that this trait may pose a risk factor either for being picked on as an “easy” target or as a risk factor for gloomy perceptions, which is the tendency to perceive the world in more negative terms. This further aligns with the prevention-escalation model, predicting that individuals with a high focus on avoidance will exhibit spontaneous de-escalating strategies in the form of avoiding or withdrawing from situations where loss and risk are prominent (Van de Vliert, 1984). Recent studies have found support for a positive association between trait anxiety and coping-related strategies such as avoidance- and escape behaviors (Fung et al., 2019; Sege et al., 2018). The same tendencies have been found among trait anxious children, which tend to display their distress externally by avoidant behaviors in situations they perceive as threatening (Barlow, 2004). Individuals high in trait anxiety might pull away from conflicts, which may act as de-escalating, at least for some time. However, although using a yielding conflict management style may be satisfactory in the short run, it is found to be related to conflict escalation as they still leave conflicts unresolved (Behfar et al., 2008; Janssen & Van de Vliert, 1996), hence supporting our speculation that trait anxiety will be a stronger risk factor over a longer time perspective. These different findings for trait anger and trait anxiety again call for some caution when looking at the broader bandwidth trait of neuroticism. As such, future studies should differentiate between these two traits, and maybe other similar narrow traits, at least in bullying research. This theoretical contribution aligns with the trait activation theory (Tett & Burnett, 2003), as well as several recent empirical studies (e.g., Kant et al., 2013; Reknes et al., 2021).

Taken together, our findings seem to support the three-way model (Baillien et al., 2009) and increase our knowledge of the daily dynamics between interpersonal conflicts and exposure to bullying behaviors. The results of the present study indicate that both the specific conflict episode and how one tends to perceive and respond to such an episode may interact when predicting exposure to bullying behaviors from the two perspectives.

## Strengths and limitations

A strength of the present study is the use of a daily diary design. Diary methods are well suited and recommended for the short-term dynamics between variables and for identifying the points at which escalations in bullying processes occur, along with the work-related and personal factors that cause these changes (Neill & Tuckey, 2014; Spector & Pindek, 2016). Second, combining the study of interpersonal conflicts with personality traits as predictors of workplace bullying also adds to the bullying literature, as scholars in the field have requested that work environmental and individual factors should be combined when investigating antecedents of bullying (Nielsen & Einarsen, 2018). Approaching workplace bullying in this manner, by investigating different sets of variables from different levels may help to get a better understanding of the workplace bullying process and help identify the key moderating conditions across multiple levels (Rai & Agarwal, 2018; Samnani & Singh, 2016).



However, the study also has some limitations. First, our study relies on self-report single-source data and may therefore be subject to common method bias. Still, applying a general questionnaire followed by daily questionnaires over the course of 30 consecutive days, the temporal separation between measurements is likely to reduce the impact of this bias (Podsakoff et al., 2003). A diary approach also has the advantage that respondents report on experiences closer to the time at which they occurred, thereby minimizing recall biases and retrospective errors (Bolger et al., 2003). Second, as the cadets were confined to the same sail ship, with the same people for the entire diary study period, this fact and this context may have influenced the results. On the one hand, this context may be especially well suited to study the daily dynamics in interpersonal conflicts and exposure to bullying behaviors. Due to factors like disrupted or little sleep, potentially harsh weather conditions, and the fact that the cadets interact closely and daily over a long period of time, it is likely that conflicts will arise. On the other hand, to be admitted to the Royal Norwegian Naval Academy, the cadets need to have at least 1 year at Officer training School, which includes training in stress management, interaction, and leadership under pressure. Therefore, the cadet's prior training in coping with stress and their awareness of being in such a challenging condition may at the same time contribute to a greater focus on, and motivation for, dealing with emerging conflicts.

Because the focus in the present study is on episodes taking place in the initial phase of a potential interpersonal conflict—bullying escalation process—the survey was conducted in the cadet's first semester and during the first 30 days of the voyage. However, the cadets start at the Royal Norwegian Naval Academy about 2 months before the voyage. This may be a third potential limitation because it means that some interpersonal conflict between the cadets may have arisen already before starting the voyage. On the other hand, considering the length of a bullying process, we still believe that the episodes measured on the voyage can be considered as the initial phase of a potential interpersonal conflict—bullying escalation process. Furthermore, while this is in an intensive work context, the previous 2 months are in a school context, which may produce much less reasons for conflict to arise. Finally, the present study used a sample composed of very thoroughly selected cadets working in a 24-h military work setting. Moreover, the majority of the cadets were young males. Thus, our findings may not be generalizable to other occupational groups that are more gender and age balanced, which limits the generalizability of the results. Although the findings were in line with theoretically derived hypotheses, there is a need for further validation of our findings in other work contexts. However, when the day-to-day relationship between involvement in interpersonal conflicts and exposure to workplace bullying are found in this seemingly highly resilient sample, it is plausible that these relationships would be even stronger in more common, representative samples.

## Practical implications

Based on the results of the present study, it seems clear that the presence of interpersonal conflicts in the workplace may provide a fertile ground for bullying to develop, as increased exposure to bullying behaviors is detected already at the same day. The findings suggest that managers and HR personnel should be aware that acts of bullying may show up in daily conflict episodes and potentially escalate if not managed early on. Hence, management interventions should aim to reduce interpersonal conflicts, for instance, by offering conflict management

training and having conflict management procedures in place. Yet, it is neither realistic nor desirable not to have conflicts at all at the workplace. Results of the present study also show that some employees, due to individual disposition, may be extra at risk in such situations. This information may first and foremost be relevant for those in counseling roles, such as health and safety representatives, who often counsel in such cases, as they may make the involved parties aware that their own responses and behavior also influence whether the conflict escalates or de-escalates. However, managers should handle all such cases in the same way, irrespectively of personality. Lastly, our findings show that even though trait anger may be a risk factor for conflict escalation and bullying, it is particularly so in the presence of interpersonal conflicts at work, which underlines the importance of continuously striving to create and uphold a strong conflict management climate, where conflicts are managed early and in a good and fair manner (Einarsen et al., 2018; Zahlquist et al., 2019). Furthermore, organizations always need to put in place policies and procedures in order to build up a solid organizational infrastructure to handle all individual complaints of bullying in a proper way (Einarsen et al., 2017). Written antibullying policies commonly include a definition of bullying, along with a statement that such behavior is unacceptable, information regarding roles and responsibilities of management and other parties, as well as complaint procedures (see also Einarsen & Hoel, 2008; Rayner & Lewis, 2020; Zapf & Vartia, 2020).

## Conclusion

The present study sheds light on the role of time in the conflict–bullying relationship, by applying a daily diary design in a study among naval cadets. The findings support the well-established theoretical link between interpersonal conflicts and exposure to bullying behaviors, by demonstrating that this relationship occurs already in the initial phase of conflict escalation. Thus, the present study suggests that interpersonal conflicts have an immediate effect on exposure to bullying behaviors. In addition, the results show that the association between interpersonal conflict and exposure to bullying behaviors is stronger for those with a high score on trait anger, compared with those with a low score on this disposition. Yet, the risk is there for all. The study contributes to a greater theoretical understanding of the interaction of situational and individual antecedents in predicting bullying behaviors on a day-to-day basis. Hence, in order to ensure employee well-being and prevent workplace bullying, organizations should strive to manage conflicts in the initial phase of escalation, and at the same time be aware that some employees are at particular risk due to individual predispositions.

## CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## ETHICS STATEMENT

This study was approved by the Norwegian Social Science Data Services/Norwegian Centre for Research Data. The cadets signed informed consent forms before the mission.

## DATA AVAILABILITY STATEMENT

The dataset generated for this study is available on request. Any inquiries regarding the dataset can be addressed to Jørn Hetland ([joern.hetland@uib.no](mailto:joern.hetland@uib.no)).

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