J Bus Psychol (2014) 29:669–681
DOI 10.1007/s10869-013-9307-8

ORIGINAL PAPER

The Moderating Role of Gender in Relationships of Stressors and Personality with Counterproductive Work Behavior

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Published online: 21 April 2013

Abstract
Purpose Gender differences in counterproductive work behavior (CWB: behavior that harms organizations or people) have been understudied. We explored gender mean differences, and the moderating effect of gender on the relationship of personality (agreeableness, conscientiousness, emotional stability, trait anger, and hostile attribution bias) and stressors (interpersonal conflict and organizational constraints) with three forms of CWB (directed toward organizations, directed toward persons, and relational aggression which are acts that damage relationships with other employees).
Design/methodology/approach A survey was conducted of 915 employed individuals recruited from university classes. All worked at least 20 h per week (mean 26.3 h), and held a variety of jobs in many industries.
Findings Men reported more CWB with correlations ranging from 0.12 to 0.18. Gender was found to moderate the relationship of job stressors and personality with CWB. The tendency for males to report engaging in more CWB was greater at high as opposed to low levels of interpersonal conflict, organizational constraints, trait anger and HAB and at low as opposed to high levels of agreeableness, conscientiousness, and emotional stability.
Implications These results suggest that gender differences in overall CWB are rather small, with men engaging in more than women only when they have certain personality characteristics or perceive high levels of job stressors. In other words men may be more reactive than women.
Originality/value This study shows that gender serves a moderator role, and is the first to adapt the construct of relational aggression to the workplace.

Keywords Counterproductive work behavior · Gender · Job stress · Personality · Relational aggression

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Introduction

Counterproductive work behavior (CWB) that harms organizations and people in organizations has become a well recognized problem among organizational scientists, as well as the public. Two meta-analyses have summarized this rapidly expanding literature, reporting the mean correlations of potential environmental and individual antecedents with CWB directed towards organizations and people in organizations (Berry et al. 2007; Hershcovis et al. 2007). On the individual difference side, although relationships between gender and CWB have been reported in the literature, little discussion can be found concerning potential reasons for gender differences in CWB or in exploring gender as a moderator. This is an important limitation to the organizational literature, given the focus on gender in the parallel literature on the related construct of aggression outside of the workplace, particularly in developmental and social psychology. This paper aims to remedy this gap in the literature by describing a study that focuses specifically on gender in the context of environmental and personality variables well established as being associated with CWB. We go beyond merely exploring gender differences in frequency of CWB in demonstrating

how gender serves a moderating role in relationships of environmental and individual factors with CWB.

Counterproductive Work Behavior

CWB refers to behaviors that harm organizations or stakeholders (Spector and Fox 2005), or run counter to the legitimate interests of the organization (Sackett and DeVore 2002). It overlaps with aggression that consists of behaviors that harm other people in the work setting (Neuman and Baron 1997) and deviance that consists of harmful behaviors that violate norms (Bennett and Robinson 2000). Although these terms are conceptually distinct, in the literature they are often used interchangeably, in large part because operationalizations of these constructs are overlapping, often including the same behaviors. We will follow this practice and use the term CWB to refer to a broad class of harmful behaviors at work.

As originally suggested by Robinson and Bennett (1995) in the context of deviance, we will distinguish CWB that is directed at organizations (e.g., sabotaging work or theft) versus people (e.g., physical assault or verbal abuse). CWB directed at people consists primarily of aggression that can be physical (hitting or pushing a coworker) or nonphysical (emotionally abusing or insulting a coworker). CWB directed towards the organization consists of harmful behaviors that are distinct from aggression.

Research on potential antecedents of CWB has focused on both environmental conditions and individual differences. Two job stressors stand out as particularly important, based on magnitude of correlations with CWB shown in the Hershcovis et al. (2007) meta-analysis. Interpersonal conflict is the extent to which employees get into arguments and disputes with other employees at work (Spector and Jex 1998). Organizational constraints concerns conditions and events at work that interfere with an employee's efforts to complete job tasks (Peters and O'Connor 1980).

Personality has also been investigated as a predictor of CWB. Some studies approached personality within the framework of the five factor model or FFM (Digman 1990), with the dimensions of agreeableness, conscientiousness, and emotional stability being most strongly related to CWB (Berry et al. 2007). It has been argued that the FFM is not complete, and that there are other personality constructs that can predict CWB over and above the FFM dimensions (e.g., Marcus et al. 2007). Looking broadly at the CWB literature, there are two personality traits that are particularly relevant that might not be well represented in the FFM: Trait anger and hostile attribution bias (HAB). Since anger has been identified as a central variable in aggression (Anderson and Bushman 2002; Berkowitz 1990), it would seem likely that individual differences in the tendency to experience anger would predict CWB as well. Trait anger has been identified as such an individual difference variable, with those high on this trait being more easily provoked to anger (Spielberger et al. 1995). Hershcovis et al.'s (2007) meta-analysis showed that trait anger related significantly with CWB (mean $r = 0.40$). In fact Douglas and Martinko (2001) found that trait anger had the largest correlation of several personality traits with workplace aggression, including negative affectivity which is closely related to emotional stability.

HAB is the extent to which individuals attribute hostile intentions to others (Crick and Dodge 1996; Dodge and Crick 1990). Given situations in which a person experiences something distasteful or harmful, where the motives of the person responsible are not clear-cut, individuals high in HAB are likely to assume malicious intentions of the actor. The attribution of an actor intentionally inflicting harm has been shown to be an important element in aggression (Anderson et al. 1995; Berkowitz 1990). Thus we would expect individuals high in HAB, because of their predisposition to attribute hostile intentionality, to engage more often in retaliatory CWB. As expected, HAB has been shown to relate to CWB (Chiu and Peng 2008; Douglas and Martinko 2001).

Relationship of Gender with CWB

As noted earlier, organizational studies have reported correlations of gender with CWB. Berry et al. (2007) reported a significant mean correlation of gender with CWB (they used the term deviance) of -0.14 and -0.11 for CWB directed towards people and organizations, respectively, with males tending to report they do more. Hershcovis et al. (2007), reviewing the same literature, used the term aggression and found similar significant mean correlations of -0.19 and -0.11, respectively, with men tending to report doing more CWB.

Gender has been given far more attention in nonwork than work literatures. Whereas the above-mentioned workplace meta-analyses found 14 gender studies, Card et al. (2008) summarized results of 148 studies in their meta-analysis of aggression in children and adolescents, and Archer (2004) found more than 200 studies in his broader meta-analysis that included field studies of adults and children. As far back as 1986 Eagly and Crowley (1986) found 86 studies of adult aggression including both field and laboratory studies in their review of the social psychology literature. Furthermore, these sources discussed several potential theoretical mechanisms that might account for gender differences, such as sexual selection theory (Archer 2004) and social role theory (Archer 2004; Eagly and Crowley 1986). Ostrov and Godleski (2010)

presented a model of gender differences in aggressive behavior in children and adolescents.

Beyond mean differences, gender has been investigated outside of the workplace as a moderator of relationships between aggression and other variables (e.g., Bowker, Markovic et al. 2012; Crick 1997; Fives et al. 2011; Zimmer-Gembeck et al. 2005). With adolescents, for example, Grych and Kinsfogel (2010) found a stronger correlations between aggressive attitudes and aggression in males than females. With adults, Wickens et al. (2012) showed gender moderated relationships of aggressive driving with several predictors. On the other hand, in a work setting Saad and Sackett (2002) failed to find that gender moderated the relationship between personality and the performance dimension of maintaining personal discipline that is often considered an indicator of CWB. Given conflicting findings in different domains, there is reason to do additional research on potential gender moderating effects in relationships between CWB and predictors of CWB.

In the developmental literature it has been found that boys and girls do not engage in the same forms of aggression. Whereas boys tend to engage in more physical and verbal aggression, girls engage in more relational aggression, that is, acts that damage relationships (Archer 2004; Card et al. 2008). Relational aggression involves acts that are both direct (withholding friendship unless a demand is met) or indirect (asking others to ostracize a target). This form of aggression is somewhat like undermining (Duffy et al. 2002), except that undermining concerns attacking a rival's reputation or standing, whereas relational aggression attacks an interpersonal relationship, often to exert power over the target. To the best of our knowledge, relational aggression has not been studied in the workplace. We included relational aggression as a third form of CWB because it occurs within a workplace setting, it targets organizational members, and it produces harm. This would make it a form of CWB directed toward people, although it is possible that it is motivated by personal animosity that has nothing to do with work. In other words individuals might engage in conflicts outside of the workplace that spills over to work.

The Current Study

We surveyed a sample of employed adults who reported their gender, as well as job stressors, personality, and CWB. We chose as job stressors, interpersonal conflict and organizational constraints, that were the strongest predictors of workplace aggression in the Hershcovis et al. (2007) meta-analysis. On the personality side, we included those variables (agreeableness, conscientiousness, emotional stability, HAB, and trait anger) shown clearly to relate to workplace aggression as noted earlier. We focused specifically on gender because the nonorganizational literature has shown gender differences and moderator effects with the related construct of aggression. Given the organizational literature has already shown gender differences in CWB, we went beyond looking just at gender main effect differences and explored possible moderating effects of gender on relationships of environment and personality with CWB. Furthermore, we adapted the idea of relational aggression, typically studied among children, to adult coworkers to see if we would find differences favoring women, as the developmental literature might suggest.

Method

Participants

A total of 915 employed participants were recruited from undergraduate classes at a large public university in Southeastern USA. Because the university is located in an urban area, it has an older employed student population with many holding full-time permanent positions. The mean age of all participants was 21.8 years ($SD = 4.3$, range 18–58), and the majority (78 %) of the sample were female. The average working hours per week was 26.3 h ($SD = 7.1$) and the mean tenure at their current positions was 24.6 months ($SD = 25.0$). The ethnicity distribution was as follows: Asian (5.0 %), Black (12.7 %), Hispanic (14.9 %), White (61.9 %), and Other (5.6 %). Participants held a wide variety of jobs from varied industries including education (e.g., teacher, tutor), finance (e.g., bank teller), healthcare (e.g., nursing assistant, pharmacy assistant), hospitality (e.g., bartender, server), legal (e.g., paralegal), and retail (e.g., cashier, salesperson). We set a criterion of working at least 20 h/week for participation and dropped an additional 115 participants either because they reported fewer working hours ($n = 59$) or because they failed to report their working hours ($n = 46$). An additional 17 participants were eliminated due to missing data on gender or other variables. We retained only those participants who provided complete data on the variables in the study, including demographics, and for whom all responses made sense (e.g., we dropped one participant who indicated working 98 h/week).

Measures

Job Stressors

Interpersonal conflict was measured with the 4-item Interpersonal Conflict at Work Scale (Spector and Jex 1998). Each item asks participants how often a particular

thing happened to them at work, using response choices from 1 (Less than once per month or never) to 5 (Several times per day). A sample item is "How often do you get into arguments with others at work?". Coefficient alpha in the current sample was 0.87. Organizational constraints were measured with the 11-item Organizational Constraints Scale (Spector and Jex 1998). Participants were asked to rate how often they find it difficult or impossible to do their job because of each of 11 constraint areas, such as "Poor equipment or supplies" or "Inadequate training". Coefficient alpha was 0.91 in the current study.

Personality Characteristics

Agreeableness, conscientiousness, and emotional stability were measured with the 10-item measures from the International Personality Item Pool (IPIP), while trait anger was measured with an 8-item IPIP measure (Goldberg, Johnson, Eber, Hogan, Ashton, Cloninger et al. 2006). Participants were asked how close each item was to characterizing them, using response choices from 1 (Very inaccurate) to 5 (Very accurate) for all four measures. Example items included "I feel others' emotions" for agreeableness, "I pay attention to details" for conscientiousness, "I worry about things" for emotional stability, and "I get angry easily" for trait anger. Coefficient alphas of the scales in the current sample were 0.80 (agreeableness), 0.86 (conscientiousness), 0.87 (emotional stability), and 0.85 (trait anger). Hostile attribution bias (HAB) was measured with Bal and O'Brien's (2010) 7-item scale. Participants were asked how close each item characterized them, using response choices from 1 (Disagree very much) to 6 (Agree very much). A sample item was "When my things are missing, they have probably been stolen". Coefficient alpha of the scale was 0.85 in the current sample.

Counterproductive Work Behavior

CWB was measured with items from the Counterproductive Work Behavior Checklist (CWB-C; Spector et al. 2006). Participants were asked how often they have done each of the behaviors on their present jobs, using response choices from 1 (Never) to 5 (Every day), with high scores indicating engaging in more CWB. Two subscales were used to assess CWB directed towards the organization (CWB-O; 21 items) and CWB directed towards people (CWB-P; 23 items). Coefficient alphas for the current sample were 0.93 and 0.96 for CWB-O and CWB-P, respectively.

Relational aggression was measured using a 6-item scale adapted from a relational aggression measure used with children (Crick et al. 1997). Participants were asked how often they have engaged in each of the behaviors described at work, using response choices from 1 (Never) to 5 (Every day), with high scores indicating engaging more relational aggression. A sample item was "Tell others not to talk to a coworker". Coefficient alpha of the scale was 0.94 in the current sample.

Control Variables

In order to rule out the possibility that our gender effects might be due to age, tenure, or weekly working hours, we repeated our analyses with these three variables included and contrasted results to corresponding analyses without controls. We included age and tenure, as they are controls commonly used in organizational research (Spector and Brannick 2011). We were particularly concerned with weekly working hours because of the possibility that some results might be attributable to have a sample that included a large proportion of half-time workers who might not have the same level of commitment to the job we would expect of full-time employees. We computed partial correlations of gender, job stressors, and personality with each form of CWB with these three demographic variables controlled, and we computed our regression analyses both with and without the controls. Given the consistency of results with and without controls, for parsimony and ease of comparison with other studies, we reported in the tables only results without controls, but in the Results section we contrasted the two sets of analyses.

Procedure

Two approaches were used to recruit participants. First, the study was set up in an undergraduate psychology participant pool with information about the purpose of the study and requirements (e.g., employed status and minimum working hours). Second, an announcement was made to students in an undergraduate psychology class to explain the purpose of the study and requirements. Qualified participants from both approaches contacted the authors and were given a link to an online survey (SurveyMonkey). The total survey took approximately 20 min to complete. The procedures followed standards for ethical treatment of human subjects, and were approved by our university institutional review board.

Results

Table 1 includes the descriptive statistics of all study variables (means, standard deviations, observed and possible score ranges) and coefficient alphas as indicators of internal consistency reliabilities. As shown in the table, most measures spanned most if not all of the possible range

of scores, with the most notable exception for CWB-P. Furthermore, all measures had coefficient alphas of 0.80 or higher.

Table 2 contains the correlations among the study variables. It shows that gender was significantly and positively related to all three CWB measures with correlations between 0.12 and 0.18. In all cases males reported engaging in more of these behaviors than females. Table 2 also shows that all personality variables (agreeableness, conscientiousness, emotional stability, trait anger, and HAB) and both stressors (interpersonal conflict and organizational constraints) were significantly related to all three forms of CWB, although magnitude of correlation tended to vary by personality characteristic and to some extent by type of CWB. Conscientiousness and HAB were the strongest personality predictors of CWB-O, whereas agreeableness and HAB were the strongest personality predictors of CWB-P and relational aggression. Organizational constraints were more strongly related to CWB-O than interpersonal conflict, whereas interpersonal conflict was more strongly related to CWB-P and relational aggression than organizational constraints. It should also be noted that two pairs of the CWB predictors were strongly interrelated: Emotional stability with trait anger (−0.69) and interpersonal conflict with organizational constraints (0.57).

Table 3 shows results of the moderated multiple regression analyses of CWB (CWB-O, CWB-P, and relational aggression) on each of the job stressors and personality variables individually, gender, and their interactions. For each regression analysis, in the first step one of the CWB variables was regressed on either a job stressor or personality variable and gender, and in the second step the product term between gender and the other predictor was added for a total of 21 multiple regression analyses (2 job stressors plus 5 personality characteristics by each of 3 CWB forms). We conducted these analyses separately because we were interested in the separate moderator effects for each variable combination, and not the effects of one pair of variables contingent on others. As can be seen from the table, in all cases the overall multiple regression was statistically significant (R^2 is shown for Step 2 in all cases). The product terms in Step 2 were significant (indicating moderation) in predicting CWB-P for all but interpersonal conflict and the product terms were significant in predicting relational aggression for all but emotional stability. For CWB-O, only agreeableness, trait anger, and organizational constraints had significant moderator terms. Since gender is a binary variable, a significant product term means the slopes for men and women were significantly different from one another. The change in R^2 from Steps 1 to 2 are shown in the Table as well to indicate the additional variance accounted for by adding the product terms. As can be seen, the change in R^2 tended to be larger for CWB-P and relational aggression than for CWB-O.

We evaluated the form of the moderator patterns in all 15 significant cases by substituting the dummy coded values of 1 (male) and 0 (female) into the regression equations using the unstandardized weights shown in Table 3. We used the observed range of each predictor in evaluating the female and male levels of behavior at the extremes of each predictor (job stressor or personality characteristic). In all cases, the patterns were the same: the slope relating job stressors and personality to aggression was steeper for men than for women (see Fig. 1 for example plots for personality and Fig. 2 for example plots

Table 1 Descriptive statistics among study variables

Variable	Mean	SD	Observed range	Possible range	Coefficient alpha
Agreeableness	38.5	5.3	17–50	10–50	0.80
Conscientiousness	36.8	6.8	17–50	10–50	0.86
Emotional stability	31.8	7.6	10–50	10–50	0.87
Trait anger	20.4	5.9	8–40	8–40	0.85
Hostile attribution bias	16.3	6.2	7–38	7–42	0.85
Interpersonal conflict	5.6	2.7	4–20	4–20	0.87
Organizational constraints	19.5	8.1	11–55	11–55	0.91
CWB-O	32.4	10.1	21–84	21–105	0.93
CWB-P	29.1	10.2	23–92	23–115	0.96
Relational aggression	6.9	2.7	6–24	6–30	0.94
Age (years)	21.8	4.3	18–58	Na	Na
Tenure (months)	24.6	25.0	0.5–268	Na	Na
Work hours per week	26.3	7.1	20–60	Na	Na

$n = 915$

Table 2 Correlations among study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender													
2. Agreeableness	−0.20*												
3. Conscientiousness	−0.11*	0.33*											
4. Emotional Stability	0.12*	0.17*	0.24*										
5. Trait Anger	−0.04	−0.35*	−0.27*	−0.69*									
6. Hostile Attribution Bias	0.13*	−0.38*	−0.27*	−0.31*	0.35*								
7. Conflict	0.11*	−0.22*	−0.18*	−0.17*	0.23*	0.37*							
8. Constraints	0.10*	−0.14*	−0.17*	−0.20*	0.23*	0.31*	0.57*						
9. CWB-O	0.12*	−0.32*	−0.37*	−0.22*	0.32*	0.39*	0.53*	0.53*					
10. CWB-P	0.18*	−0.40*	−0.28*	−0.15*	0.26*	0.41*	0.58*	0.46*	0.84*				
11. Relational Aggression	0.14*	−0.37*	−0.24*	−0.09*	0.19*	0.38*	0.54*	0.37*	0.70*	0.85*			
12. Age (years)	0.06	0.10*	0.12*	0.00	−0.02	−0.02	−0.05	0.07*	−0.02	−0.03	−0.08*		
13. Tenure (months)	0.09*	0.04	0.08*	0.01	0.03	0.02	0.02	0.08*	0.04	0.05	−0.01	0.42*	
14. Work hours per week	0.05	0.03	0.04	0.01	0.04	0.01	0.05	0.17*	0.04	0.04	−0.02	0.37*	0.28*

$n = 915$

* $p < 0.05$

for stressors). We next computed linear regression analyses for all comparisons separately for men and women as simple slope tests to show if each slope was significantly different from zero. As can be seen in Table 4, the overall regression was significant for all 21 male and female analyses. Thus in all cases both men and women showed a significant relationship (nonzero slope) of personality and job stressors with CWB, with the male slope being steeper (significantly so according to the moderated regression analyses for 15 cases shown in Table 3).

Table 5 contains the standardized regression coefficients when each of the three CWB variables were separately regressed on all predictor variables entered simultaneously. As shown in the table, gender was only significant for CWB-P, but the magnitude of its contribution was far less than the other predictors, especially agreeableness and interpersonal conflict. For the other two measures of CWB, gender was overshadowed by the other variables in the regression model. Furthermore, agreeableness, conscientiousness, and HAB were the only personality variables that were significant predictors of all three CWB variables; trait anger was only a significant predictor of CWB-O, and emotional stability was significant only for relational aggression. Given, the strong correlation between emotional stability and trait anger, it is not surprising that they were not both significant in the same analysis. On the job stressor side, interpersonal conflict and organizational constraints were significant predictors in all cases, suggesting that despite the rather strong correlation between these two stressors, they each contributed incrementally to predicting CWB.

Analyses with the three control variables, age, tenure, and working hours, were only minimally different from those without them. For example, the partial correlations of the CWB measures with gender and the other variables were at most 0.01 different from corresponding zero-order correlations, and all remained statistically significant. Likewise, the moderated regression results differed little between analyses with and without the controls, with all product terms remaining statistically significant except for CWB-O with conscientiousness just missing significance at $p = 0.059$, which is likely due to sampling error. For the regression analyses in Table 5, gender with CWB-P lost significance in the presence of the controls ($p = 0.0575$), again likely due to sampling error. Thus we cannot attribute our results to potential confounding with these three variables.

Discussion

This article addresses an important gap in the organizational literature by investigating the moderating role of gender in CWB. We began by testing associations between gender and these harmful behaviors, finding gender differences consistent in magnitude with prior workplace studies and meta-analyses. For example, our observed correlations of 0.12 and 0.18 for CWB-O and CWB-P,

Table 3 Results of moderated regressions of CWB and relational aggression regressed on gender, personality or stressors, and their interaction

	CWB-O		CWB-P		Relational aggression	
	b	R^2 (ΔR^2)	b	R^2 (ΔR^2)	b	R^2 (ΔR^2)
Intercept	51.51*		52.24*		12.58*	
Agreeableness	−0.50*		−0.62*		−0.15*	
Gender	16.47*		22.64*		6.03*	
G × A	−0.40*	0.11* (0.006)	−0.54*	0.18* (0.012)	−0.15*	0.15* (0.013)
Intercept	50.60*		41.33*		9.24*	
Conscientiousness	−0.51*		−0.36*		−0.07*	
Gender	7.94		12.29*		4.55*	
G × C	−0.16	0.15* (0.002)	−0.24*	0.11* (0.004)	−0.11*	0.08* (0.012)
Intercept	41.34*		34.05*		7.52*	
Emotional stability	−0.31*		−0.19*		−0.03	
Gender	5.40		12.68*		2.78*	
G × ES	−0.05	0.07* (0.000)	−0.23*	0.07* (0.005)	−0.05	0.03* (0.004)
Intercept	21.64*		20.72*		5.44*	
Trait anger	0.49*		0.36*		0.06*	
Gender	−2.46		−5.04		−1.50*	
G × TA	0.28*	0.12* (0.005)	0.48*	0.12* (0.013)	0.12*	0.07* (0.012)
Intercept	22.77*		19.01*		4.53*	
Hostile attribution bias	0.57*		0.58*		0.14*	
Gender	−1.97		−2.36		−1.30*	
G × HAB	0.21	0.16* (0.003)	0.32*	0.19* (0.007)	0.11*	0.17* (0.010)
Intercept	21.28*		16.96*		4.07*	
Interpersonal conflict	1.92*		2.04*		0.48*	
Gender	0.80		0.92		−0.45	
G × IC	0.13	0.28* (0.001)	0.33	0.35* (0.001)	0.16*	0.30* (0.006)
Intercept	20.27*		18.49*		4.71*	
Organizational constraints	0.60*		0.51*		0.10*	
Gender	−1.76		−0.53		−0.46	
G × OC	0.17*	0.29* (0.003)	0.19*	0.23* (0.004)	0.06*	0.15* (0.005)

$n = 915$

b unstandardized regression coefficient when all three terms are entered, ΔR^2 change in R^2 from Step 1 with only the additive terms entered to Step 2 when the product term was added

* $p < 0.05$

respectively were quite close to the Hershcovis et al. (2007) meta-analysis mean correlations of 0.11 and 0.19 (we reversed signs to be consistent in how gender was coded), respectively. Our finding that relational aggression was reported more by males than females was a bit unexpected considering the developmental literature finds the opposite (Archer 2004; Card et al. 2008). There are at least two possible explanations for this finding. First, it is possible that by adulthood, women have learned to suppress their relational aggression. Since this form of aggression is seen as more consistent with female norms and roles (Ostrov and Godleski 2010), it seems likely that adults might spend more time discouraging girls than boys from engaging in this behavior. The focus for boys is more on controlling physical aggression, so male relational aggression might not be inhibited as much, and thus by adulthood, males who have not learned to inhibit this behavior engage in more of it than females who have learned to inhibit it. Second, we assume that females would continue to lead males in the use of relational aggression from adolescence to adulthood, but we did not consider the differing nature of relationships between classmates (which are likely close and personal) and coworkers (often distant and professional). It has been shown with adults that one area in which women can be more aggressive than men, both physically and verbally, is with intimate partner violence (see meta-analysis by Archer 2000). Thus, one might conclude that men would engage in more relational

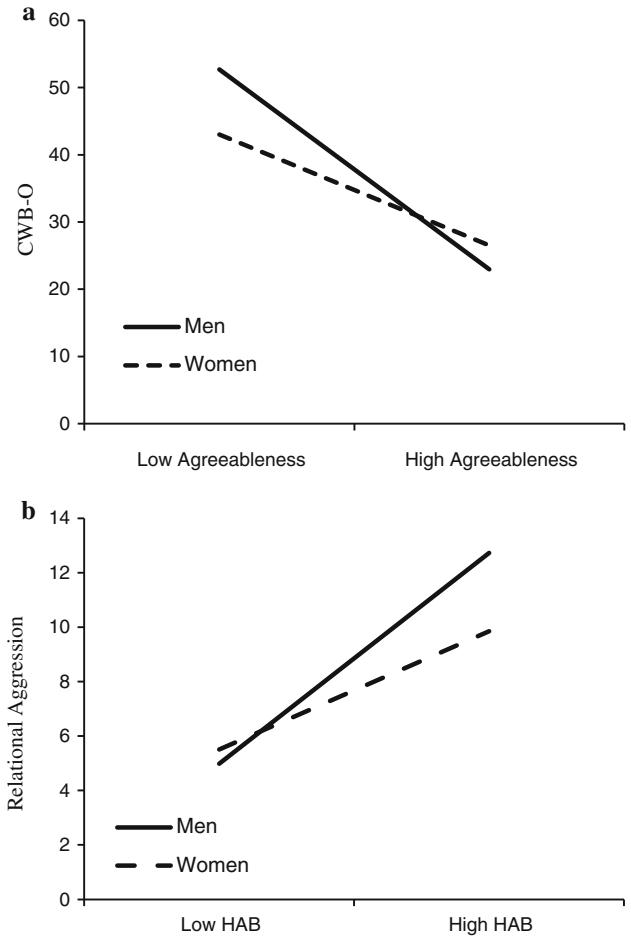

Fig. 1 Example plots of the moderator effect of gender on relationships of personality with and workplace aggression

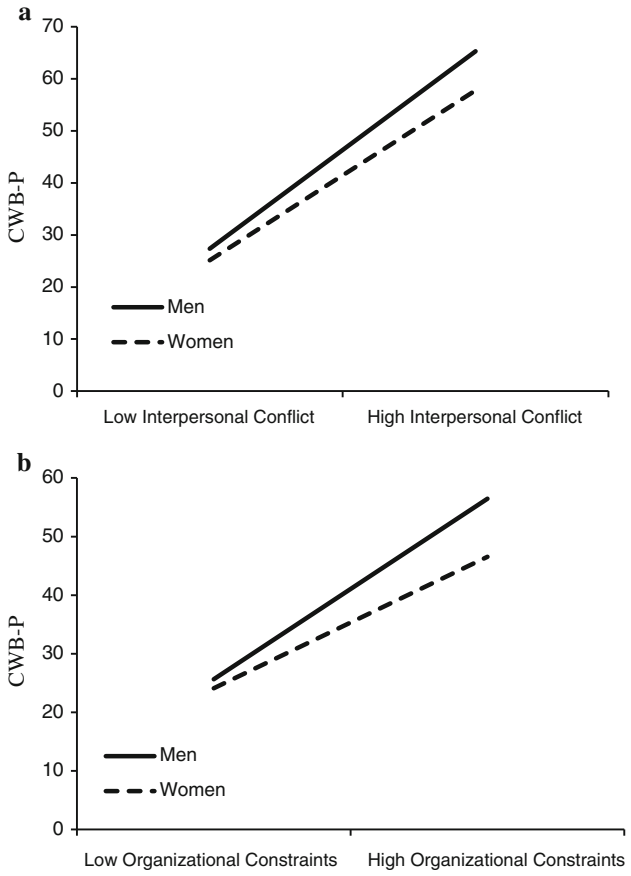

Fig. 2 Example plots of the moderator effect of gender on relationships of stressors with workplace aggression

aggression when relationships are distant, whereas women would engage in more relational aggression when relationships are close. This idea could be tested in the future by investigating relationship closeness as a moderator of the gender-relational aggression relationship.

Our moderator tests explored gender differences in the relationship of stressors and personality with CWB. These are new findings that shed light on gender differences in how personality relates to behavior and in how men and women respond to job stressors. On the stressor side, men showed more reactive pattern, especially for interpersonal forms of CWB, in that the slopes for the male regression lines were significantly steeper than for the corresponding female analyses in all but one case. Furthermore, it is only at the high stressor end of the continuum that the male level of CWB is higher (see Fig. 2), with the two lines converging at low stressor levels. With personality, in most cases men again had a steeper slope relating personality traits to interpersonal forms of CWB, suggesting that personality traits had a bigger effect on men than women. With the FFM dimensions, men high on agreeableness, conscientiousness, and emotional stability are not much different in their CWB from women, with the same levels of personality. At low levels of these personality dimensions, we see gender differences. Similarly for HAB and trait anger, at low levels women are not much different from men, with the lines for women being even a little lower (see Fig. 1), but the differences increase as the levels of these traits increase.

The explanation that men with certain personalities or men under stressful job circumstances engage in more CWB than women can be extended from the aggression literature. Certainly gender stereotypes (Prentice and Carranza 2002) and gender role theory (Edwards and Greenberg 2010) support the idea that aggression (and perhaps other forms of CWB) is acceptable for males and not females (see also Vandello et al. 2009). According to this view individuals are socialized to understand appropriate norms and roles according to gender. Such norms and roles serve a prescriptive function in underscoring acceptable and unacceptable behavior for males and females (Prentice and Carranza 2002). At a young age boys learn that it is acceptable for males to be aggressive and tough (Cairns et al. 1989; Ostrov and Godleski 2010), and that males can

Table 4 Results of Regressions of CWB and Relational Aggression on Personality and Stressors By Gender

	CWB-O		CWB-P		Relational aggression	
	Females	Males	Females	Males	Females	Males
Intercept	51.51*	67.98*	52.24*	74.88*	12.58*	18.62*
Agreeableness *b*	−0.50*	−0.91*	−0.62*	−1.16*	−0.15*	−0.30*
R^2	0.08*	0.14*	0.12*	0.20*	0.11*	0.17*
Intercept	50.60*	58.53*	41.33*	53.61*	9.24*	13.79*
Conscientiousness	−0.51*	−0.67*	−0.36*	−0.59*	−0.07*	−0.18*
R^2	0.14*	0.12*	0.07*	0.09*	0.04*	0.09*
Intercept	41.34*	46.74*	34.05*	46.72*	7.52*	10.30*
Emotional stability	−0.31*	−0.36*	−0.19*	−0.42*	−0.03*	−0.08*
R^2	0.06*	0.05*	0.02*	0.06*	0.01*	0.03*
Intercept	21.64*	19.18*	20.72*	15.67*	5.44*	3.93*
Trait anger	0.49*	0.78*	0.36*	0.84*	0.06*	0.18*
R^2	0.10*	0.14*	0.06*	0.15*	0.02*	0.09*
Intercept	22.77*	20.80*	19.01*	16.66*	4.53*	3.23*
Hostile attribution bias	0.57*	0.78*	0.58*	0.89*	0.14*	0.24*
R^2	0.14*	0.16*	0.15*	0.19*	0.13*	0.18*
Intercept	21.28*	22.08*	16.96*	17.88*	4.07*	3.62*
Interpersonal conflict	1.92*	2.05*	2.04*	2.37*	0.48*	0.64*
R^2	0.26*	0.29*	0.32*	0.34*	0.27*	0.32*
Intercept	20.27*	18.51*	18.49*	17.96*	4.71*	4.25*
Organizational constraints	0.60*	0.78*	0.51*	0.70*	0.10*	0.16*
R^2	0.26*	0.31*	0.19*	0.22*	0.12*	0.15*

Female $n = 717$, Male $n = 198$

b unstandardized regression coefficient

* $p < 0.05$

Table 5 CWB and relational aggression regressed on gender, personality, and stressors

	b CWB-O	*b* CWB-P	*b* Relational aggression
Gender	0.01	0.05*	0.01
Agreeableness	−0.09*	−0.20*	−0.21*
Conscientiousness	−0.20*	−0.09*	−0.06*
Emotional stability	0.04	0.05	0.08*
Trait anger	0.11*	0.04	−0.01
Hostile attribution bias	0.09*	0.12*	0.14*
Interpersonal conflict	0.25*	0.38*	0.40*
Organizational constraints	0.29*	0.16*	0.07*
F (df = 8, 906)	93.04*	94.97*	69.14*
R^2	0.45	0.46	0.38

$n = 915$

b standardized regression coefficient when all variables in the table were entered simultaneously

* $p < 0.05$

take risks in order to protect others through the use of aggression (Eagly and Crowley 1986). Conversely, girls are expected to be caring and communal, and to avoid the risk of being injured (Eagly and Steffen 1986). Thus males have more of a tendency than females to engage in aggression and other acts of harmful behavior that are consistent with the male role and are inconsistent with the female role. Furthermore, that men can be more reactive than women to workplace stressors is consistent with work on aggression outside of the workplace. It has been shown that males react more than females to provocation with aggression (Kerig and Stellwagen 2010) and that males are quicker to respond aggressively to anger (Lustman et al. 2010).

It should be noted that the magnitude of several of our moderator effects was comparatively quite large, reflected in the increase in R^2 from Step 1 of the regression analyses with only additive terms to Step 2 with the product terms included. It has been shown that the incremental variance accounted for by the addition of product terms into a multiple regression analysis tends to be rather small. In their review of 30 years of studies using moderated regression, Aguinis et al. (2005) found a median proportion of variance of 0.002. Our significant moderator analyses showed R^2 gains larger than this in all statistically significant cases, and were as much as 6.5 times larger (see Table 3).

Finally, the regression analyses shown in Table 5 suggest that although gender and all of our stressor and personality measures related significantly to CWB in their zero-order correlations, they all did not contribute unique variance to predictability. The gender relationship with two forms of CWB could be completely explained by the other variables. On the job stressor side, despite their rather strong intercorrelation, interpersonal conflict, and organizational constraints both contributed to predictability in all cases. With personality, it was mainly agreeableness, conscientiousness, and hostile attribution bias that explained unique variance in CWB. That the two personality variables most strongly related to emotion showed the weakest relationships with CWB was a surprise, given the close link in the literature between emotion and aggression (Berkowitz 1990, 1998). To directly compare emotional stability and trait anger, we did additional regression analyses with both as predictors and each form of CWB as criteria. In all three cases trait anger was significant and emotional stability was not, suggesting that on the emotion side it is primarily anger that is important, although when other variables are considered, even anger has little incremental predictability. Perhaps one explanation is that in working populations, CWB at work is under tighter cognitive control than behavior in other settings. Most such behavior might be more instrumental than hostile, with people being careful to choose safe opportunities and targets for their CWB because the consequences for impulsive, emotionally reactive acts can be severe. Thus the largely cognitive personality traits of agreeableness, conscientiousness, and hostile attribution bias are more important factors.

Limitations

The results of this study should be interpreted in light of potential limitations and weaknesses in the design and sample. The design of this study was single source with all data coming from a self-report survey, which raises concerns about common method variance (CMV). It seems unlikely that our results can be attributed to CMV for three reasons. First, CMV is less likely when there is little overlap among measures (Conway and Lance 2010), which is the case with our main variable of gender. Furthermore, it is difficult to imagine that reports of gender were distorted to be consistent with other variables in a way that would inflate correlations. Second, comparisons of self versus other reports of CWB (including aggression) tend to find consistent relationships with job stressors and personality (Berry et al. 2011, 2007; Hershcovis et al. 2007). Berry et al. (2011) provided three forms of evidence in support of the use of self-reports of CWB: Convergence between self and other reports, small differences in correlations of self versus other reports of CWB with job stressors and personality, including most of the variables in the current study, and the finding that employees do not under-report their CWB compared to other sources. Third, although it is possible that zero-order correlations might be distorted by CMV, it has been shown that moderated regression results (Evans 1985; Siemsen et al. 2010) or results of multiple regression with several predictors (Siemsen et al. 2010) like that shown in our Table 5, are unlikely to be distorted by CMV.

Although CMV might not be a serious problem in this study, there is still the possibility of a gender difference in reporting bias when it comes to CWB and other variables. It is possible that men are more inclined to admit to aggressive behaviors because such behavior is seen as more acceptable by men than by women (Vandello et al. 2009). Thus women might tend to minimize reporting the extent to which they perform behaviors which are for them unacceptable, whereas men might feel more free to admit to them. Given, the rather small gender differences, it is possible that reporting bias contributes in part or whole to gender differences in reporting that would lead to correlations between gender and behavior reports. Indirect evidence for the possibility of gender bias in reporting can be found in the Berry et al. (2011) meta-analysis that showed larger relationships for self-reports (significant mean $r = -0.17$) than other-reports (nonsignificant mean $r = -0.07$) between gender and CWB. Furthermore, it is possible that gender roles could affect reports of personality and stressors as we do find small but significant correlations of gender with all but trait anger. Although bias might affect correlations of gender with other variables, as with method variance, it seems unlikely that it would be the cause of our moderator results. If women uniformly under-report, we would expect to find that their regression line would remain lower than the men's (change in intercept), thus showing a more or less constant effect across the range of the predictor in question, but we would not expect an effect on the slopes.

A second limitation is our cross-sectional design that cannot shed light on the direction of effects. Although models of CWB assume it is a response to the environment, it is also possible that it is an antecedent. For example, in a five-wave longitudinal study, Meier and Spector (2013) found evidence that engaging in CWB can affect future organizational constraints. Longitudinal designs would be helpful in identifying direction of effects between CWB and other variables.

Another concern is the nature of the sample, which consisted of employed individuals recruited from university classes. Although this sample differs in some ways from more commonly used samples of individuals who are

not taking university classes, it represents a diverse population that experiences a wide range of jobs and job conditions. Furthermore, there is evidence from a CWB study by Fox et al. (2001) that this population differed little in their results from samples of employees recruited from off-campus organizations. It should also be noted that findings here were quite consistent with prior primary studies and meta-analyses that used different populations. Finally, since the majority of our sample worked part-time, we reran our analyses controlling for weekly working hours and found that it had very little impact on the results, thus suggesting that the part-time status of a proportion of our sample could not explain the results.

A final concern is that one of the items of the interpersonal conflict scale "How often do you get into arguments with others at work" overlapped with an item of the CWB-P scale "Started an argument with someone at work". The remaining conflict items were distinct, and asked about things that happened to the respondent, rather than things he or she might have done. As a check we removed the overlapping item from the conflict scale and contrasted correlations of the 3-item versus 4-item versions with the CWB scales, finding correlations of 0.58 versus 0.53, 0.53 versus 0.49 and 0.54 versus 0.48, for CWB-O, CWB-P, and relational aggression, respectively. These differing results suggest that it might be worth revising the content of the Interpersonal Conflict at Work Scale items.

Implications for Research and Practice

Our results suggest that men do not always engage in more CWB than women, but do so only under certain external and internal conditions. That is, personality traits associated with CWB and job stressors have a larger effect on men's than women's CWB. What our study does not provide insights about are the reasons. Future research should investigate why men might be more reactive than women. Is it because men are more likely to experience negative emotions that facilitate CWB, is it because men are more likely to experience aggressive cognitions when provoked, or is it because women are more likely to inhibit aggressive and counterproductive responses? If the latter, is it because these behaviors are more consistent with male than female gender roles? An answer to these questions might not only inform research on gender, but research on the underlying processes by which CWB occurs.

In terms of practice, our results suggest that personality and stressful job conditions can be an antecedent of CWB. On the personality side, this suggests that personality measures might be useful selection devices in jobs where reduction of CWB is important. Our results add to the literature showing this connection. Interestingly, our results show that stressors have a larger relationship with CWB than personality. This suggests that to the extent it is possible reducing stressful job conditions, in this case interpersonal conflicts among employees and organizational constraints, shows promise for reducing CWB. This might include developing practices to reduce conflict and other social stressors such as incivility, and assuring adequate and efficient systems that support performance. Given their greater reactivity, it is important not to neglect men in efforts to reduce workplace stress.

Conclusions

Both the workplace and nonworkplace literatures are consistent in suggesting that males are more aggressive than females, although the magnitude of differences in most cases is rather small. Meta-analyses of CWB suggest that gender accounts for less than 4 % of the variance in these behaviors, and in some cases gender accounts for as little as 1 % (e.g., Berry et al. 2007; Hershcovis et al. 2007). Our findings are consistent with the organizational literature in showing a small but significant correlation of gender with all three of our CWB measures. Our main contribution is in going beyond mere correlation in showing that gender has a significant and moderator effect, especially for interpersonal forms of CWB. At levels of predictor variables, both environment and personality, that are associated with low levels of CWB, men were no more likely to report CWB than were women. However, conditions favorable for CWB had a larger effect on men than women. Thus we can conclude that men are not automatically more prone to CWB than women, but rather they are more reactive. This gender difference only occurs under stressful conditions, or with individuals who have certain personality traits that facilitate CWB.

A second contribution of this study is in distinguishing CWB-O, CWB-P, and relational aggression in the workplace. Unexpectedly, we failed to find support for findings in the developmental psychology literature that females would engage in more relational aggression than males, as it was males not females who reported more relational aggression.

The implications of this study are that the role of gender in CWB is likely complex, and that a combined focus on both environmental conditions and personality is most likely to be effective in reducing harmful behaviors. Although both genders likely respond negatively to stressful job conditions, it is men more than women who respond to such conditions with CWB. Unfortunately, this study does not provide much insight into why these gender differences exist, although we provided some possibilities based on gender norms and roles. Future research should address the underlying reasons that men and women differ in their response to CWB facilitating conditions.

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