The Effect of Interpersonal Counterproductive Workplace Behaviors on the Performance of New Product Development Teams

Tianjiao Qiu
California State University, Long Beach

Benjamin Steven Peschek
California State University, Long Beach

This research aims to investigate how interpersonal counterproductive work behaviors impact new product development team performance through teamwork. Specifically, we address two aspects of team work: team trust and team learning. Analyzing survey responses from 26 student teams with hierarchical linear modeling techniques, we demonstrate that team members' interpersonal misbehaviors lead to lower levels of emotional integration and less sharing and acquiring of new knowledge within the team. Furthermore, interpersonal misbehaviors are not only detrimental to effective team collaboration process, but also directly influence the success of new product development projects.

INTRODUCTION

New product development (NPD) teams are commonly adopted in organizations to optimize NPD process, rather than assigning projects to individuals solitarily (e.g., Brockman, Rawlston, Jones, & Halstead, 2010). Integrated product development is dependent upon how team members work together toward a common goal. The complex NPD process (including discovery, development, testing and launch) is inherently a group process, which requires the concerted efforts of all team members (e.g., Qiu, Qualls, Bohlmann, & Rupp, 2009). Any single team member who works in isolation will be at a disadvantage compared to a team of individuals who can utilize the entirety of the team members' contributions.
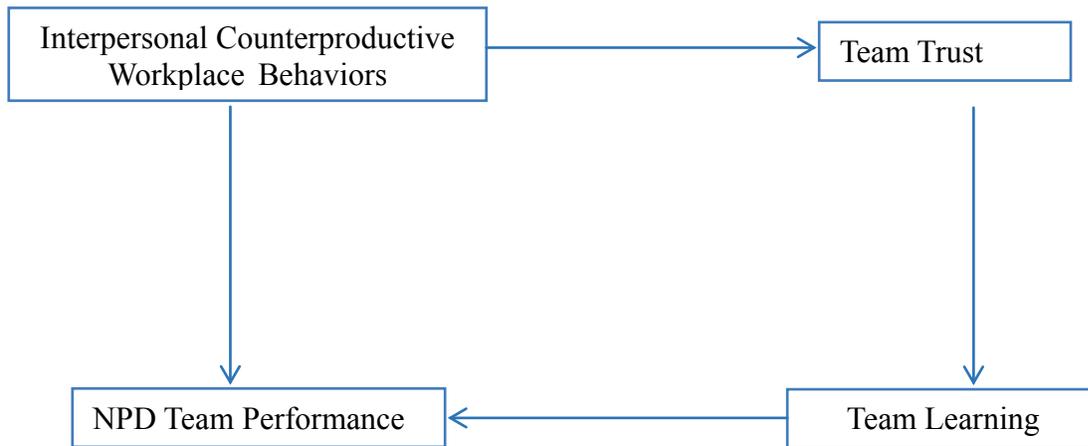
The increased need for teamwork has received wide attention in current research (Bstieler & Hemmert, 2010). One main stream of research focuses how cross-functional integration influences NPD success (e.g., Qiu et al., 2009). Another stream of research addresses the leadership role in promoting NPD performance through better coordination (e.g., Sarin & McDermott, 2003). However, despite the fruitful findings on the positive factors to generate success in NPD teams, little research has explored the dysfunctional aspect of team interactions. Dysfunctional, or counterproductive, workplace behaviors (CWBs) refer to the team members' acts that are intended to undermine the group efforts. Researchers have identified two major hierarchical subcategories of CWBs based on the behaviors' target: organizational CWBs and interpersonal CWBs. Previous research has mainly focused on examining the factors that influence the likelihood of CWBs occurrence, such as individual factors, situational factors, and organizational structures. For example, gender has been found to be a factor of CWBs, with males more likely to report engaging in them than females (Salami, 2010). Chi-Ko Kwok, Wing, and Ho (2005)

suggested that an increase in formal normative control, defined as the regulations of an organization or the superordinate presiding over the individual, leads to a reduction in counterproductive behavior.

While the antecedents of CWBs have received wide attention in previous research, the empirical examinations of how CWBs, especially interpersonal CWBs, impact small group interaction and effectiveness are scarce. Our present study aims to fill the research gap by examining how interpersonal CWBs impact NPD team performance through two aspects of teamwork: team trust and team learning. Specifically, we examine two key issues: (1) What is the relationship between interpersonal CWBs and the performance of NPD teams? And (2) how do team trust and team learning work together to mediate the above relationship?

We developed a conceptual model (see Figure 1) and collected data from 98 undergraduate senior business majors from two large public universities in the Midwest area. We then used hierarchical linear modeling techniques to empirically test the model. Our results demonstrate that team trust mediates the relationship between interpersonal CWBs and team learning, which in turn significantly impacts the performance of NPD teams.

FIGURE 1
THE CONCEPTUAL MODEL

In the subsequent sections, we present our theory and hypotheses on the effect of interpersonal CWBs on the performance of NPD teams. We then discuss the sampling procedure, the empirical test, and the findings. Finally, we discuss the implications of our study and the potential avenues for future research.

LITERATURE REVIEW AND HYPOTHESES

Counterproductive Workplace Behaviors (CWBs)

Detrimental CWBs have long been examined along with positive organizational citizenship behaviors (OCBs) (e.g., Sackett, Berry, Wiemann, & Laczo, 2006). OCBs are the prosocial behaviors members engage in that go beyond what is explicitly required by the organization that are within the organization's interest (Venkataramani & Dalal, 2007). Examples of this are brewing coffee for other members of the organization or offering encouraging advice to another member about a company project. Conversely, CWBs are deviant behaviors that lead to inefficiency and financial costs to the organization (Lanyon & Goldstein, 2004). Examples of this are illicit drug use, negligence, or blatant theft.

Although the types of behaviors that can be classified as CWBs are quite varied and fall under a broad definition in the research literature (Sackett et al., 2006; Fisk, 2010), research has shown that, in general, these behaviors often violate organizational norms and affect organizational effectiveness, damaging the long-term goals of all involved (Lau, Au, & Ho, 2003). Generally speaking, CWBs are

detrimental to the individuals within the organization and to the organization itself when individuals behave in ways that are deleterious to the organization's interests. Marcus and Schuler (2004) establish three criteria that need to be fulfilled in order for an act to be considered as a CWB: (a) The act must be volitional, regardless of the intention of harm committed during the act, (b) there must be a potential for harm by engaging in the act, though it may not be recognized by the individual prior to the act being committed, and (c) the act is against the legitimate interests of the organization.

Various explanations have been given in previous research literature as to why CWBs occur. Mangione and Quinn (1975) suggested that they could be the result of job dissatisfaction, though this was only supported in a limited population. Kelloway, Francis, Prosser, and Cameron (2010) suggested that they occur as a result of dissatisfaction with the organization itself, culminating as a form of protest against the organization through CWBs. Bechtoldt, Welk, Zapf, and Hartig (2007) suggested CWBs occur as a result of the individual's perceptions of his or her job demands, such as whether tasks are viewed as challenging or as hindrances. These are certainly not exhaustive, but give an idea of the variation in the research literature suggesting factors that may cause CWBs.

Interpersonal CWBs

Although researchers have shown that not a single factor or framework is likely to be explainable as the cause of CWBs, they have commonly agreed that there are two main types of CWBs based on the target of the misbehaviors: organizational and interpersonal (Robinson & Bennett, 1995). CWBs targeted toward organizations, that is, organizational CWBs, result in costs to the organization by way of fraud, failure to meet deadlines, and poor quality work (Aube, Rousseau, Mama, & Morin, 2009). They can also lead to negative organizational outcomes such as time wasting, sabotage, and vandalism (Lanyon & Goldstein, 2004). Those negative organizational outcomes may be circumvented by employing better systems, supervisors, and structures (Lanyon & Goldstein, 2004).

Interpersonal CWBs, on the other hand, are predominately directed toward other individuals and are observed in actions such as retaliations, sabotage, revenge, personal theft, and aggression (Cohen-Charash & Mueller, 2007). They are voluntary behaviors that lead to negative relational outcomes in other members, such as increased frustration, humiliation, and aggression (Ayoko, Callan, & Hartel, 2003), which in turn may have a moderating effect on job performance (Aube et al., 2009).

Robinson and Bennett (1995) developed a typology of CWBs that differentiates interpersonal CWBs from organizational CWBs. In this typology, interpersonal CWBs are distinguished from organizational CWBs through the inclusion of political deviant behaviors, such as favoritism, gossiping, and non-beneficial competition, as well as serious personally aggressive behaviors, such as sexual harassment, verbal abuse, and stealing from and endangering other co-workers (Robinson & Bennett, 1995). Lim and Cortina (2005) further distinguished between interpersonal CWBs that were deemed milder, such as emotional abuse, bullying, social isolation, and incivility, with interpersonal CWBs that were deemed more extreme such as sexual harassment.

Research has demonstrated that a number of factors can lead to the various forms of interpersonal CWBs described above. For example, interpersonal CWBs can result from perceived unfairness or envy by the individual (Cohen-Charash & Mueller, 2007). Emotions can also influence the incidence of interpersonal CWBs (Levine, 2010). While guilt and shame generally lead to self-destructive CWBs, anger and frustration generally lead to retaliatory CWBs (Martinko, Gundlach, & Douglas, 2002). They may also be heavily influenced by the amount of stress one experiences at work, as well as the degree to which the social norms and organizational structure of the workplace fail to prevent such behavior (Spector et al., 2006).

Individuals may engage in CWBs in an attempt to induce balance and achieve fairness within the organization (Cohen-Charash & Mueller, 2007). There may be a strong element of self-expression leading to "venting" behaviors that are directed at other co-workers, implying a cognitive process evident in the CWB-acting individual (Lee & Allen, 2002). Being a victim of mistreatment in the organization can also result in CWB retaliatory behaviors, such as social retaliation victimization, which includes harassment, ostracism, name-calling, and threats (Cortina & Magley, 2003). There are many other influences that lead

to interpersonal CWBs, such as high competition, dissatisfaction with the social climate, poor communication, and power imbalances, among others (Salin, 2003). Physical forms of CWBs focus on other individuals, are rare, and are mostly represented in forms of psychological aggression (Spector et al., 2006).

Interpersonal CWBs and Team Trust

The importance of conducting research on group interactions in the workplace has increased along with the increase in the utilization of group-based projects (Jackson, Colquitt, Wesson, &Zapata-Phelan, 2006). This means that the performance of individuals is not as important as their performance as members within a group. Collaborating with one another leads to a psychological collectivism, defined as "a syndrome of behaviors and related to interpersonal concern" (Hui & Yee, 1999). These include the consideration of others within the group, sharing resources with other members, and working towards a single outcome (Ayoko et al., 2003).

Team trust reflects a team member's confidence in the competence and dependability of other team members from both affective and cognitive perspectives (McAllister, 1995). Team trust from the cognitive perspective is built on rational knowledge that contributes to trust decisions, while team trust from the affective perspective focuses on emotional bonds and concern for others. Affect-based relationships are the emotional connections shared between group members, where team members are concerned with each other's shared interests. Cognitive-based relationships refer to the traits that are related to the performance of the group such as responsibility, reliability, and dependability, which form the basis for trust (McAllister, 1995). Team trust is important in team interactions because it leads to a greater flow of information sharing between members at the risk of leaving oneself vulnerable to other members (Curseu & Schrujier, 2010).

Empirical evidence from the social-psychological literature on trust suggests that trust is built upon cooperative interactions and reciprocity. Cooperation and coordination have been shown to increase trust between team members, which then positively impacts their commitment to the team through the recognition that their efforts are being appreciated (Sheng, Tian, & Chen, 2010). In contrast, interpersonal CWBs generate negative attitudes and feelings within a team, such as stress and suspicion about dependability. Team members who engage in interpersonal CWBs leave their teammates feeling vulnerable, both personally and towards the completion of the team goals. When individuals recognize that others in the group are engaging in CWBs that are impeding the group's progress to its shared goals and potentially harming the individual themselves, it negatively affects their trust in the other members. This decline in trust leads to less information shared between team members, trust declines, leading to even less information being shared, setting the team on a negative feedback cycle. Therefore, we suggest:

Hypothesis 1: Interpersonal CWBs have a negative relationship with team trust.

Interpersonal CWBs and Team Learning: Team Trust as a Mediator

Team learning is defined as the behaviors in which group members engage in an effort to combine task-relevant knowledge through interacting with one another (van Emmerik, Jawahar, Schreus, & de Cuyper, 2011). Team trust, reflected in reciprocity of affection and confidence in peer dependability, helps to facilitate the ongoing process at the team level that enables team members to acquire, share, and combine knowledge through group interactions. Because individuals are vulnerable when working as part of a team due to the flow of information between team members (Curseu & Schrujier, 2010), having trust in the team improves the sharing of information. When more individuals feel trustful of one another, they will be more likely to share knowledge and engage in more uniform team learning behaviors. As team members learn to trust one another, they will also cooperate to a greater degree and be more likely to share new insights and expertise with the group (Edmondson & Nembhard, 2009).

Trust facilitates the amount of information sharing between team members, allowing the group to collectively learn together. Positive climates breed a "psychological safety", an environment where the individual feels comfortable and valued (Edmondson, 1999). Edmondson, Dillon, & Roloff (2008) have

found that incremental team learning was superior to radical learning, akin to slowly building up trust rather than over-volunteering information. Furthermore, team trust was found to influence team learning (Edmondson, 1999). This is achieved through at least one of five modes: (a) increased help-seeking, (b) increased feedback-seeking, (c) increased speaking up about errors, (d) increased innovative behaviors, and (e) boundary spanning (Edmondson, 1999). Failure to increase trust between groups may initiate various types of incomplete team learning cycles, including situational learning (the individual adapts to solve the problem, but does not learn to incorporate it within the larger organization), fragmented learning (the individuals learn, but the organization does not), or opportunistic learning (actions are taken based on an individual's actions, rather than the organization's goals) (Kim, 1993). Therefore, we suggest:

> *Hypothesis 2: Team trust mediates the relationship between interpersonal CWBs and team learning.*

Team Learning and NPD Team Performance

The team learning process provides benefits for individuals such as learning new insights, expertise, skills, jargon, becoming adept at forming future teams, navigating social networks, and increasing communication skills (Edmondson & Nembhard, 2009). van Emmerik et al. (2011) have found that team learning is much higher in groups that are composed of individuals who are more similar to one another in terms of their attitudes, beliefs, and values, than in groups that are comprised of individuals who are different from one another in those areas.

Team learning enables effective knowledge dissemination, acquisition and new idea generation, which not only boost the morale of the team, but also contribute to the quality of NPD projects (Edmondson & Nembhard, 2009). Learning facilitates the individual's sharing of knowledge and allows team members to come closer together. When members have entered into a "psychological collectivism" by becoming sufficiently bonded within the team, individuals gain several benefits associated with being part of an "in-group", such as higher self-esteem and feeling more satisfied (Jackson et al., 2006; Hui, Yee, & Eastman, 2008). This shared knowledge then helps the team accomplish the tasks that could not be accomplished as quickly by individuals or disparate members. Therefore, we suggest:

> *Hypothesis 3: Team learning has a positive relationship with NPD team performance.*

Interpersonal CWBs and NPD Team Performance

The detrimental effect of interpersonal CWBs on the quality of work has been found to be amplified in small group settings where employees have to work closely with potentially disrespectful and aggressive coworkers (Yang, 2008). Furthermore, interpersonal CWBs may directly impact team performance since individual team members can be discouraged to voice their input because of the fear of CWBs targeted at them (Spector et al., 2006). The loss of the contributions of other team members increases the burden for the remaining team members to accomplish more tasks. CWBs may also impact the results of team performance even more directly through means of sabotage or theft (Cohen-Charash & Mueller, 2007). Working environments with more interpersonal CWBs increase the amount of anxiety and/or stress that detracts from the exchange of information between team members and their combined overall team performance (Rodell & Judge, 2009). CWBs also prevent contrasting organizational citizenship behavior, which provide positive benefits that are synergistic for the team and its performance (Venkataramani & Dalal, 2007). Therefore, we suggest:

> *Hypothesis 4: Interpersonal CWBs impact NPD team performance directly beyond the effects of two mediators: team trust and team learning behavior.*

METHODS

Sampling and Data Collection Procedure

We collected data from undergraduate senior business majors from two large public universities in the Midwest to test our model. The students were enrolled in NPD courses and were randomly assigned to three, four or five person teams. The course required the product teams to follow a stage-gates process, including idea screening, building a business case, development, and testing and launching stages, in order to develop detailed and actionable new product solutions to project ideas provided by corporate sponsors (Ettlie & Elsenbach, 2007). The components of the new product plan include not only product ideas but also actionable business plans for test marketing the new product. At the end of the semester, each team was required to submit the written new product plan and present the new product plan before the whole class and corporate sponsors. The faculty advisors then provided evaluations scores on each team based on the consideration of the written new product plan, the presentation, and feedbacks from both corporate sponsors and student audiences.

Data was collected via a paper and pencil survey before the teams received their evaluation scores from the faculty advisors. Valid data came from twenty-six NPD teams consisting of a total of ninety-eight undergraduate senior business majors. Among them, nine teams were three-member teams, fourteen teams were four-member teams, and three teams were five-member teams. Sixty-eight participants were female and thirty-one participants were male. Eight-six participants had full-time or part-time business work experience.

Measures

The survey contained measures of each team member's interpersonal CWBs, team trust, team learning, and self-report team performance. The measures were adapted from previously established scales. The measures of interpersonal CWBs, team trust, and team learning used 5-point Likert scales, with response options ranging from 1 = "strongly disagree" to 5 = "strongly agree". Specifically, we measured interpersonal CWBs by adapting Bennett and Robinson's (2000) 7-item interpersonal deviance scale. The scale measures the individual team member's behaviors that threatened the well-being of his or her teammates. The final measure contains all 7 items, with a reliability level of .72. The following is a sample item: "I acted rudely toward teammates." We adapted McAllister's (1995) interpersonal trust scale to measure each team member's trust toward his or her teammates. The final scale contains 6 items, with a reliability level of .90. The following is a sample item: "We have a sharing relationship. We can both freely share our ideas, feelings, and hopes." We adapted Edmondson's (1999) team learning scale to measure the extent to which team members seek and acquire new knowledge through team interactions. The final scale contains 6 items, with a reliability level of .73. The following is a sample item: "We regularly take time to figure out ways to improve our team's work processes."

We used both team members' self-report rating of team performance and faculty advisors' evaluation scores to measure team performance. The self-report rating was based on Sethi, Smith, and Park's (2001) team performance scale, which examines team performance from 5 perspectives: team morale, team efficiency, goal attainment, team reputation, and project quality. It is a 5-point Likert scale, ranging from 1 = "far below expectations" to 5 = "far above expectations." The reliability level is .91. Faculty advisor scores were based both on faculty advisors' and corporate sponsors' qualitative evaluation on "the degree to which the product provides a competitive advantage" (Griffin & Hauser, 1996).

We also set team members' gender, team members' ethnicity, and team size as our control variables in testing our model since previous research has demonstrated that individual factors and situational factors may have confound effects on CWBs (e.g., Salami, 2010).

We conducted confirmatory factor analysis (CFA) with the Amos 18 program in the SPSS software to assess the construct validity and the unidimensionality of the multi-item scales before our hypothesis testing (Anderson & Gerbing, 1988). The confirmatory factor analysis of the four-factor (interpersonal CWBs, team trust, team learning, and team performance) model showed satisfactory statistics (RMSEA = .06; CFI= .98; and NFI= .90). The chi-square for the four-factor model was insignificant (x^2 = 63.86, df =

50), which showed a good model fit. Each indicator demonstrated significant loadings ($p < .01$) on its corresponding latent variable. We then compared the fit of the unconstrained four-factor model with the fit of alternative models in which one or more covariances between latent variables were set equal to one. The unconstrained model showed the best statistics and fit the data better than all alternative models. The findings provide strong support for the construct and discriminant validity of the measurement model.

RESULTS

Because social interactions among team members during the new product project made them more homogeneous than randomly sampled individuals, the data obtained in the study were not fully independent. Therefore, we adopted hierarchical linear modeling (HLM) to address this nesting effect and tested for both within and between level effects. HLM involves the examination of multi-level variance: both the individual-level and the team-level at the same time, which allows the retention of variance of individual responses and simultaneous analysis of team-level variance.

Table 1 displays the means and inter-correlations among level 1 variables.

TABLE 1
DESCRIPTIVE STATISTICS AND CORRELATIONS

Construct	Mean	S.D.	Correlation					
			CWB	TT	TL	TP	GE	ET
Interpersonal CWBs (CWB)	1.50	.56						
Team trust (TT)	4.14	.82	-.53**					
Team learning (TL)	3.70	.73	-.40**	.51**				
Team performance (TP)	3.82	.78	-.56**	.59**	.67**			
Gender (GE)	1.69	.47	-.21	.26*	.37**	.29**		
Ethnicity (ET)	1.23	.82	.25*	-.23	-.18	-.13	-.13	
Team size (TS)	3.89	1.02	.09	-.30*	-.02	-.06	-.18	-.11

(*$p < .05$; **$p < .01$)

We examined the interclass correlation before testing the model. Specifically, we first used a null model, an intercept-only model with no predictors specified, to examine the between-group variance in team performance and within-group team member variance. We found that the between-group variance (τ^2) in team performance was .27, while the variance between members in the same team (δ^2) was .35. The interclass correlation coefficient $\frac{\tau^2}{\tau^2+\delta^2}$ was .44, indicating that 44% of variance in team performance resides between groups. This result indicated that the group effect is not ignorable and the variance should be examined both at the individual-level and at the team-level using HLM.

We followed the steps suggested by Baron and Kenny (1986) to test the presence of mediating effects in our multi-level model. Specifically, we set up five linear mixed equations to test the hypothesized relationships and examined the mediating effects of team trust and team learning in the relationship between interpersonal CWBs and team performance. Equation 1 examined the effect of interpersonal CWBs on team performance. Equation 2a and 2b examined the effect of interpersonal CWBs on the two mediators: team trust and team learning. Equation 3 examined the effects of interpersonal CWBs and team trust on team learning. Equation 4 examined the effects of interpersonal CWBs, team trust, and team learning on team performance.

Table 2 contains a summary of the parameter estimates $(\gamma's)$, between group variance ($\hat{\tau}$), within group variance ($\hat{\delta}^2$), and the global fit statistics (-2 loglike and AIC) of the linear mixed equations.

Equation 1 showed a significant negative effect of interpersonal CWBs ($\gamma = -.63$ $p <.01$) on team performance. The finding suggested that there is an effect between interpersonal CWBs and team performance that may be mediated.

Equation 2a and 2b treated the two mediators—team trust and team learning—as the outcome variables and examined the effects of interpersonal CWBs on the two mediators. The findings demonstrated that interpersonal CWBs significantly impact team trust ($\gamma = -.66$ $p <.01$) and team learning ($\gamma = -.41$ $p <.01$). Therefore, hypothesis 1 was supported.

TABLE 2
THE EFFECT OF CWB ON THE PERFORMANCE OF NPD TEAMS

Equation		Fixed Effects		Random effects				Fit statistics	
				Between		Within			
		γ's	(SE)	$\hat{\tau}$	(SE)	$\hat{s}^2$	(SE)	-2 loglike	AIC
1.	Int.	4.35**	(.53)	.11	(.06)	.22	(.05)	116.0	130.0
	CWB	-.63**	(.13)						
	GE	.42*	(.16)						
	ET	.00	(.07)						
	TS	-.07	(.09)						
2a.	Int.	5.71**	(.57)	.02	(.06)	.41	(.09)	138.4	152.4
	CWB	-.66**	(.15)						
	GE	.18	(.18)						
	ET	-.11	(.09)						
	TS	-.18*	(.08)						
2b.	Int.	3.66**	(.54)	.00	.	.39	(.07)	132.5	144.5
	CWB	-.41**	(.14)						
	GE	.45	(.17)						
	ET	-.10	(.08)						
	TS	-.01	(.08)						
3.	Int.	1.57	(.79)	.00	.	.33	(.06)	121.6	135.6
	CWB	-.17	(.15)						
	TT	.36**	(.11)						
	GE	.39*	(.16)						
	ET	-.02	(.08)						
	TS	.06	(.07)						
4.	Int.	2.13**	(.64)	.04	(.04)	.17	(.04)	89.4	107.4
	CWB	-.41**	(.12)						
	TT	.17	(.09)						
	TL	.41**	(.09)						
	GE	.12	(.14)						
	ET	.04	(.06)						
	TS	-.04	(.07)						

(*$p < .05$; **$p < .01$)

Equation 3 treated team learning as the outcome variables and examined the effects of interpersonal CWBs and team trust on team learning. The findings demonstrated the team trust had a significant relationship with team learning ($\gamma = .36$ $p <.01$), while interpersonal CWBs had no effect on team learning. This showed that team trust fully mediated the relationship between interpersonal CWBs and

team learning. We further checked the mediating effect of team trust on the relationship between interpersonal CWBs and team learning using Sobel's (1982) method. We found that the Sobel z-statistic was -2.63 ($p < .001$). The statistic confirmed a mediating role of team trust on the relationship between interpersonal CWBs and team learning, therefore, supporting hypothesis 2.

Equation 4 examined the relationship between interpersonal CWBs and team performance through the two mediators. The findings demonstrate that team learning significantly impacted team performance ($\gamma = .41$ $p <.01$), supporting hypothesis 3. Furthermore, interpersonal CWBs had a significant negative effect on team performance ($\gamma = -.63$ $p <.01$) after controlling the two mediators: team trust and team learning. This indicates a partial mediation; where team trust and team learning did not fully mediate the relationship between interpersonal CWBs and team performance, therefore, supporting hypothesis 4. Taken together, our findings strongly support our proposed mediating model.

To check possible common method bias due to the self-report of all measured items we tested the model with faculty advisors' evaluation scores as an alternative measure of team performance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Consistent with the above findings, team learning behavior significantly impacted team performance ($\gamma = .15$ $p <.05$). However, instead of the partial mediating effect, there was no direct effect of interpersonal CWBs on team performance with team trust and team learning as the mediators.

DISCUSSION

This study sought to reveal the impact of interpersonal CWBs on NPD team performance through the mediation of team interactions. While previous research has mainly investigated the antecedents of CWBs, our results reveal that interpersonal CWBs have significant effects on team interactions and outcomes. Specifically, we found that team trust mediates the effect of CWBs on team learning. Team learning in turn has a significant relationship with NPD team performance. In other words, team members' interpersonal misbehaviors lead to lower levels of emotional integration and less sharing and acquiring of new knowledge within the team. Furthermore, interpersonal misbehavior is not only detrimental to effective team collaboration process, but also directly influences the success of NPD projects.

Our study contributes to a better understanding of interpersonal CWBs in NPD processes. Previous CWBs research focuses mainly on the antecedents of CWBs and has demonstrated various individual and situational factors, such as individual integrity (Dalal, 2005), locus of control (Fox & Spector, 1999) and types of leadership (Einarsen, Aasland, & Skogstad, 2007) may influence the likelihood of CWBs occurrence. However, little is known about CWBs' impact on work outcomes in teams. Our study bridges this research gap and provides strong evidence to show the detrimental consequences of interpersonal CWBs on team congruity and capability in seeking new knowledge, which will lead to dampened team performance.

This study also provides important implications for practitioners in managing work teams. Given the increased popularity of teams in executing various tasks in the organizations, managers need to be aware that interpersonal aggression or deviances harm the social assimilation process among team members and creates "distance" among them, which may drag a team down and lead to low quality NPD projects. The NPD processes are inherently challenging and the success of NPD requires the concerted efforts of the whole team in generating innovative ideas. Team members' destructive behaviors can harm the team's overall performance through their impact on both team trust and team learning within the team.

The significant findings of the negative effects of interpersonal CWBs on various team outcomes, including team trust, team learning behavior, and overall team performance contribute to a better understanding of the interpersonal dynamics in NPD teams. However, it is important to note that there are several limitations in this study which should be addressed in future research. First, it is interesting to note that although interpersonal CWBs had a negative influence on NPD team performance through the mediation of team trust and team learning behavior with student self-report data, counter to our

expectations, interpersonal CWBs had no impact on NPD team performance with faculty evaluation scores as the performance indicator. This finding suggests that our findings need to be interpreted in light of the source of the data. Further research should replicate the study by examining the interpersonal team dynamics with work teams in a range of real business settings and using a variety of performance indicators. Collecting data from work teams in "the real world" allows the adoption of external performance indicators such as speed to market, customer satisfaction, and sales volume, which strengthen the external validity of the study. Second, the study examined team dynamics in NPD teams, where NPD processes are interactive and the success of NPD requires the ongoing contribution from all team members. However, the impact of interpersonal CWBs on teams working on non-interactive groups tasks, where the members work independently with little interaction may require further investigation. Third, research has shown that the structure of the organization and other situational factors play a role in CWBs. For example, Chi-Ko Kwok et al. (2005) found that an increase in formal normative control, defined as the regulations of an organization or the superordinates presiding over the individual, leads to a reduction in CWBs. This type of leadership style can also impact CWBs and/or aggression in the organization (Einarsen et al., 2007). Research on how those situational factors moderate the relationship between interpersonal CWBs and team outcomes will not only shed new light on the influence of interpersonal CWBs on team processes, but also provide practitioners with useful guidelines for boosting the efficiency and effectiveness of work teams.

REFERENCES

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two step approach. *Psychological Bulletin, 103*, 411-423.

Aube, C., Rousseau, V., Mama, C., & Morin, E. M. (2009). Counterproductive behaviors and psychological well-being: The moderating effect of task interdependence. *Journal of Business and Psychology, 24*(3), 351-361.

Ayoko, O. B., Callan, V. J., & Hartel, C. E. J. (2003). Workplace conflict, bullying and counterproductive behaviors. *The International Journal of Organizational Analysis, 11*(4), 283-301.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Bechtoldt, M. N., Welk, C., Zapf, D., & Hartig, J. (2007). Main and moderating effects of self-control, organizational justice, and emotional labour on counterproductive behaviour at work. *European Journal of Work and Organizational Psychology, 16*(4), 479-500.

Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*(3), 349-360.

Brockman, B. K., Rawlston, M. E., Jones, M. A., & Halstead, D. (2010). An exploratory model of interpersonal cohesiveness in new product development teams. *Journal of Product Innovation Management, 27*(2), 201-219.

Bstieler, L., & Hemmert, M. (2010). Increasing learning and time efficiency in interorganizational new product development teams. *Journal of Product Innovation Management, 27*(4), 485-499.

Chi-Ko Kwok, Wing, T. A., & Ho, J. M. C. (2005). Normative controls and self-reported counterproductive behaviors in the workplace in china. *Applied Psychology: An International Review, 54*(4), 456-475.

Cohen-Charash, Y., & Mueller, J. S. (2007). Does perceived unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy? *Journal of Applied Psychology, 92*(3), 666-680.

Cortina, L. M., & Magley, V. J. (2003). Raising voice, risking retaliation: Events following interpersonal mistreatment in the workplace. *Journal of Occupational Health Psychology, 8*(4), 247-265.

Curseu, P. L., & Schrujier, S. G. L. (2010). Does conflict shatter trust or does trust obliterate conflict? Revisiting the relationships between team diversity, conflict, and trust. *Group Dynamics: Theory, Research, and Practice, 14*(1), 66-79.

Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology, 90*(6), 1241-1255.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 34.

Edmondson, A. C., Dillon, J. R., & Roloff, K. S. (2008). Three perspectives on team learning: Outcome improvement, task mastery, and group process. In J. P. Walsh, & A. P. Brief (Eds.), *The academy of management annals (vol. 1).* (pp. 269-314). New York, NY: Taylor & Francis Group/Lawrence Erlbaum Associates.

Edmondson, A. C., & Nembhard, I. M. (2009). Product development and learning in project teams: The challenges are the benefits. *Journal of Product Innovation Management, 26*(2), 123-138.

Einarsen, S., Aasland, M. S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and conceptual model. *The Leadership Quarterly, 18*(3), 207-216.

Ettlie, J. E., & Elsenbach, J. M. (2007). Modified stage-Gate® regimes in new product development. *Journal of Product Innovation Management, 24*(1), 20-33.

Fisk, G. M. (2010). "I want it all and I want it now!" An examination of the etiology, expression, and escalation of excessive employee entitlement. *Human Resource Management Review, 20*(2), 102-114.

Fox, S., & Spector, P. E. (1999). A model of work frustration–aggression. *Journal of Organizational Behavior, 20*(6), 915-931.

Griffin, A., & Hauser, J. R. (1996). Integrating R&D and marketing: A review and analysis of the literature. *Journal of Product Innovation Management, 13*(3), 25.

Hui, C. H., & Yee, C. (1999). The impact of psychological collectivism and workgroup atmosphere on Chinese employees' job satisfaction. *Applied Psychology, 48*(2), 175-185.

Hui, C. H., Yee, C., & Eastman, K. L. (1995). The relationship between individualism-collectivism and job satisfaction. *Applied Psychology: An International Review, 44*(3), 276-282.

Jackson, C., Colquitt, J. A., Wesson, M. J., & Zapata-Phelan, C. P. (2006). Psychological collectivism: A measurement validation and linkage to group member performance. *Journal of Applied Psychology, 91*(4), 884-899.

Kelloway, E. K., Francis, L., Prosser, M., & Cameron, J. E. (2007). Counterproductive work behavior as protest. *Human Resource Management Review, 20*(1), 18-25.

Kim, D. H. (1993). The link between individual and organizational learning. *Sloan Management Review, 35*(1), 37-50.

Lanyon, R. I., & Goldstein, L. D. (2004). Validity and reliability of a pre-employment screening test: The Counterproductive Behavior Index (CBI). *Journal of Business and Psychology, 18*(4), 533-553.

Lau, V. C., Au, W. T., & Ho, J. M. C. (2003). A qualitative and quantitative review of antecedents of counterproductive behavior in organizations. *Journal of Business and Psychology, 18*(1), 73-99.

Lee, K., & Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology, 87*(1), 131-142.

Levine, E. L. (2010). Emotion and power (as social influence): Their impact on organizational citizenship and counterproductive individual and organizational behavior. *Human Resource Management Review, 20*(1), 4-17.

Lim, S., & Cortina, L. M. (2005). Interpersonal mistreatment in the workplace: The interface and impact of general incivility and sexual harassment. *Journal of Applied Psychology, 90*(3), 483-496.

Mangione, T. W., & Quinn, R. P. (1975). Job satisfaction, counterproductive behavior, and drug use at work. *Journal of Applied Psychology, 60*(1), 114-116.

Marcus, B., & Schuler, H. (2004). Antecedents of counterproductive behavior at work: A general perspective. *Journal of Applied Psychology, 89*(4), 647-660.

Martinko, M. J., Gundlach, M. J., & Douglas, S. C. (2002). Toward an integrative theory of counterproductive workplace behavior: A causal reasoning perspective. *International Journal of Selection and Assessment, 10*(1-2), 36-50.

McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal, 38*, 24-59.

Qiu, T., Qualls, W., Bohlmann, J., & Rupp, D. E. (2009). The effect of interactional fairness on the performance of cross-functional product development teams: A multilevel mediated model. *Journal of Product Innovation Management, 26*(2), 173-187.

Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879.

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal, 38*(2), 555-572.

Rodell, J. B., & Judge, T. A. (2009). Can "good" stressors spark "bad" behaviors? The mediating role of emotions in links of challenge and hindrance stressors with citizenship and counterproductive behaviors. *Journal of Applied Psychology, 94*(6), 1438-1451.

Sackett, P. R., Berry, C. M., Wiemann, S. A., & Laczo, R. M. (2006). Citizenship and counterproductive behavior: Clarifying relations between the two domains. *Human Performance, 19*(4), 441-464.

Salami, S. O. (2010). Job stress and counterproductive work behaviour: Negative affectivity as a moderator. *The Social Sciences, 5*(6), 486-492.

Salin, D. (2003). Ways of explaining workplace bullying: A review of enabling, motivating and precipitating structures and processes in the work environment. *Human Relations, 56*(10), 1213-1232.

Sarin, S., & McDermott, C. (2003). The effect of team leader characteristics on learning, knowledge application, and performance of cross-functional new product development teams. *Decision Sciences, 34*(4), 707-739.

Sethi, R., Smith, D. C., & Park, C. W. (2001). Cross-functional product development teams, creativity, and the innovativeness of new consumer products. *Journal of Marketing Research, XXXVIII*, 73-85.

Sheng, C. W., Tian, Y. F., & Chen, M. C. (2010). Relationships among teamwork behavior, trust, perceived team support, and team commitment. *Social Behavior and Personality, 38*(10), 1297-1307.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: Jossey-Bass, Inc.

Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior, 68*(3), 446-460.

van Emmerik, H., Jawahar, I. M., Schreus, B., & de Cuyper, N. (2011). Social capital, team efficacy and team potency: The mediating role of team learning behaviors. *Career Development International, 16*(1), 82-99.

Venkataramani, V., & Dalal, R. S. (2007). Who helps and harms whom? Relational antecedents of interpersonal helping and harming in organizations. *Journal of Applied Psychology, 92*(4), 952-966.

Yang, J. (2008). Can't serve customers right? an indirect effect of co-workers' counterproductive behaviour in the service environment. *Journal of Occupational & Organizational Psychology, 81*(1), 29-46.

Zaccaro, S. J., & McCoy, M. C. (1988). The effects of task and interpersonal cohesiveness on performance of a disjunctive group task. *Journal of Applied Social Psychology, 18*(10), 837-851.