



Burnout Research

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The mediating relationship of self-awareness on supervisor burnout and workgroup Civility & Psychological Safety: A multilevel path analysis[☆]

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ABSTRACT

The purpose of this study was to examine whether managerial self-awareness (defined as degree of agreement between self and subordinate ratings of leaders' behaviors) mediates the relationship between supervisor burnout and supervised workgroup climate. Using an HLM approach, supervisor emotional exhaustion, depersonalization and personal accomplishment exhibited significant indirect relationships with workplace Civility and Psychological Safety, via managerial self-awareness. No direct relationships between supervisor burnout and workgroup climate were found, suggesting that self-awareness may be an important mediator for individual characteristics of leaders previously thought to be non-significant. Additional post hoc comparisons indicated that workgroups with supervisors who over-rated their own performance behaviors reported the lowest levels of Civility and Psychological Safety compared to workgroups with supervisors who accurately rated or under-rated their own performance behaviors. However, supervisors that under-rated their own performance reported the highest levels of burnout, highlighting the importance of self-awareness (accurately rating oneself) in relation to individual and group outcomes. The relationships between supervisor burnout, managerial self-awareness, and workgroup perceptions of Civility and Psychological Safety differed when considering the directionality of self-other rating agreement, with the negative impact of burnout at the supervisor level having a more direct impact on the workgroup level perceptions of Civility and Psychological Safety when the workgroup is managed by an under-rater, as opposed to an accurate- or over-rater. Practically, organizations should consider the role of managerial self-awareness in influencing subordinate performance and creating desirable work climates. Also, this study suggests the effects of burnout extend beyond the individual and have significant implications for the performance of those in the supervision of the burned out manager.

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1. Introduction

Self-awareness is essential to effective leadership. Past research has started exploring the numerous ways in which “knowing-thyself” can lead to effectively managing others in the workplace and leading successful teams in dynamic environments. Self-awareness is conceptualized as having two components—understanding oneself and understanding how oneself is viewed by others (Taylor, 2010) and is related to, but distinct

from, mindfulness and emotional intelligence (Brown & Ryan, 2003; Richards, Campenni, & Muse-Burkse, 2010). Traditional theory defines self-awareness as consisting of both inner and outward (social) components, and describes it as an individual, relatively stable trait; as well as an understanding of one's personal resources, a prerequisite to self-regulation.

Burnout, on the other hand, results from the mismatch between resources and job demands, and dwindling personal resources (Bakker, Demerouti, & Euwema, 2005). Burnout manifests as increased emotional exhaustion and depersonalization, and a decreased sense of personal accomplishment (Maslach, 1981). In the current study, we show that self-awareness mediates the relationship between supervisor burnout and workgroup perceptions. Self-awareness allows supervisors with higher burnout levels to maintain workgroups with better climate than supervisors with the

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same burnout levels but with lower self-awareness. We examined the relationship of burnout at the individual level, as experienced by the supervisor, and civility and psychological safety at the workgroup level, as experienced by subordinates, while evaluating the role of the supervisor's self-awareness. While insufficiently understood, the relationship between these variables is important, because:

1. Burnout has strong effects on individual behavior (Hätinen et al., 2009; Leiter et al., 2013; Maslach, Schaufeli, & Leiter, 2001); therefore burnout in supervisors should affect their workplace behaviors, including behaviors displayed toward subordinates.
2. Supervisors' individual behavior defines workplace climate in influential ways (Edmondson, 2003; Hult, Hurley, Guinipero, & Nichols, 2000; Green, Albanese, Cafri, & Aarons, 2013), therefore any potential effects of burnout on supervisors' behaviors are expected to affect workplace climate in supervised workgroups.
3. Civility and psychological safety are important aspects of workplace climate, given their established relationship to valuable organizational outcomes.
4. Finally, self-awareness impacts individuals' (e.g. supervisors') ability to monitor and adjust their own behavior, such as to keep it aligned with organizational goals and support organizational outcomes (Eid, Mearns, Larsson, Laberg, & Johnsen, 2012; Fleenor, Smither, Atwater, Braddy, & Sturm, 2010; Taylor, Wang, & Zhan, 2012; Tiuraniemi, 2008). Therefore, supervisors with higher self-awareness, even when facing individually challenging circumstances (e.g. burnout), would be expected to recognize and mitigate the potential negative impact on subordinates. For example, supervisors with greater self-awareness may prevent their personal experience of burnout from negatively impacting civility and psychological safety climate in supervised workgroups.

We will now review the main findings from prior research which collectively suggested these conclusions, and led us to examine the relationship of supervisors' burnout to the subordinates' experience of civility and psychological safety while accounting for the supervisors' self-awareness levels.

1.1. Burnout and its influence on individual behavior

Maslach et al. (p. 399, 2001) describe burnout as a “psychological syndrome in response to chronic interpersonal stressors on the job.” Maslach (1981) conceptualized burnout as a combination of three factors: feelings of Emotional Exhaustion (EE), increasingly depersonalized (DP) interactions with work and recipients, and a decreased sense of Personal Accomplishment (PA). Organizations most commonly measure burnout using the Maslach Burnout Inventory (MBI). Burnout has been found to be associated with such outcomes as absenteeism, turnover intention, actual turnover, reduced levels of job satisfaction, of organizational commitment, and work-life balance (Boles, Dean, Ricks, Short, & Wang, 2000; Maslach et al., 2001).

Individual reactions to working conditions that mismatch what the employee considers optimal lead to burnout in the workplace (Maslach & Leiter, 2008). According to the Job Demands-Resources (JD-R) model (Bakker et al., 2005), burnout commonly occurs when job demands exceed job resources. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) expanded on the JD-R model by adding personal resources, defined as “aspects of the self that are generally linked to resiliency and refer to an individual's sense of their ability to control and impact upon their environment successfully” (p. 123, Xanthopoulou et al., 2007).

Xanthopoulou et al. (2007) found that the personal resources of self-efficacy, organizationally-based self-esteem, and optimism

mediated the relationship between job resources and engagement/exhaustion, and influenced the perception of job resources. Managers whose personal and job resources are too few to deal with high job demands face several options. They can shift resources from one job area to another to increase efficiency; shift resources to nonwork-related activities; or invest less overall, withdrawing from interpersonal relationships and work tasks in an effort to conserve resources (Ericson-Lidman & Strandberg, 2007; Lapointe, Vandenberghe, & Panaccio, 2011; Siegall & McDonald, 2004). For example, professors experiencing burnout have shifted time away from teaching and professional development, with burnout being a full mediator of the relationship between time spent in these activities and person-organization fit (Siegall & McDonald, 2004). Since withdrawing from work results in a further reduced sense of personal accomplishment as the person becomes less productive, this creates a potentially vicious circle for the burned out individual. Thus, burnout has strong effects on individual behavior. If this person is a manager and thereby in the role of structuring, supporting and supervising the work of others, then the withdrawal from interpersonal relationships can also cause a profound impact on the burned out manager's workgroup—particularly on the supervised employees perceptions of interpersonal climate aspects, such as psychological safety and civility.

Generally, the negative impact of individual burnout can spread throughout an organization, as the cycle of exhaustion, withdrawal, and reduced performance in one employee repeats in others who depend on the burned-out supervisor or coworker (Bakker et al., 2005; Maslach et al., 2001). For supervisors, we suggest that this impact may strengthen given the organizationally prominent role played by the burned out individual. For example, a supervisor who experiences a mismatch between job demands and resources might respond by depersonalizing; his or her subordinates will then have supervisory support partly withdrawn, and in turn can experience increased burnout. Vassos and Nankervis (2012) found that reduced supervisory support was one significant predictor of burnout in disability support workers, through effects on both emotional exhaustion and depersonalization. Because burnout spreads within shared job environments and because burnout often involves weakening interpersonal connections and a growing cynicism (Bakker et al., 2005; Maslach et al., 2001), burnout in managers can negatively affect the supervised employees' perceptions of psychological safety and civility levels at work.

1.2. Supervisors' behavior and workgroup climate

Distinct from culture, established norms, and expectations within an environment, climate is the aggregated attitudes and perceptions of a work environment (James & Sells, 1981). Leaders, including supervisors, have strong impacts on overall workgroup climate, which often acts as a mediator between supervisor behavior and workgroup outcomes (Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2014; De Poel, Stoker, & van der Zee, 2012; Isaksen & Akkermans, 2011). Dysvik and Kuvaas (2012) found that perceived supervisor support related to perceived investment in employee development, and these in turn related to overall business unit performance. Carmeli et al. (2014) found that leadership behavior affects psychological safety, one component of workgroup climate, which in turn affects creative problem-solving capacity. Abusive supervisor behavior, including dishonesty, intimidation, and threats, is associated with lower organizational citizenship behaviors in workgroups (Gregory, Osmonbekov, Gregory, Albritton, & Carr, 2013). Intimidating and avoiding behaviors, as occur when supervisors depersonalize and withdraw from relationships, are associated with lower employee engagement, decreased job satisfaction, and subordinate burnout (Leary et al., 2013).

1.3. Civility and Psychological Safety

As the summation of employee attitudes and perceptions of a respective work environment, climate encompasses a number of factors with the potential to significantly impact employee health and performance, such as employee perceptions of workgroup Civility and Psychological Safety. Positive workplace climate matters; it has obvious psychological benefits to individuals and substantial, empirically documented benefits to organizations (e.g. Demirtas & Akdogan, 2014; Garman, Corrigan, & Morris, 2002; Harter, Schmidt, & Hayes, 2002). More specifically, previous research about the impact of civility (e.g., Andersson & Pearson, 1999; Estes & Wang, 2008; Leiter, Day, Gilin-Oore, & Laschinger, 2012) and psychological safety (e.g. Dollard & Bakker, 2010; Edmondson, 1999; Walumbwa & Schaubroeck, 2009) supports these climate aspects as not only predictors, but also determinants of valuable organizational outcomes.

Civility refers to the interpersonal behaviors demonstrating mutual respect between individuals or groups (Andersson & Pearson, 1999). Conversely, uncivil workplace behaviors are “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect, [typically] displaying a lack of regard for others (p. 1389; Pearson, Andersson, & Wegner, 2001).” Uncivil behaviors (e.g. exclusion from meetings or events, hostile stares, demeaning remarks, sarcastic tones) result in increased turnover intentions, increased burnout, reduced satisfaction, and lower organizational commitment in employees (Andersson & Pearson, 1999; Lim, Cortina, & Magley, 2008; Osatuke, Moore, Ward, Dyrenforth, & Belton, 2009). Civil workplace climate, on the other hand, has been associated with positive individual and organizational outcomes including higher levels of organizational commitment, job satisfaction, management trust, and less turnover, physical symptoms of stress, and absences (Leiter et al., 2012; Leiter, Laschinger, Day, & Gilin-Oore, 2011). Leiter et al. (2012) found a significant change in distress symptoms (including burnout) in a study of a group intervention to increase civility among health care providers. Burnout scores improved during the intervention then further improved over the following year, providing further evidence for significant relationships between individual burnout and workgroup-level civility.

Psychological safety is the workgroup members’ shared beliefs that it is safe to take interpersonal risks and approach others to discuss difficult issues (Edmondson, 1999). Within psychologically safe workgroups, employees feel secure articulating problems and giving suggestions for improvement (Walumbwa & Schaubroeck, 2009). Psychologically safe environments promote learning and allow employees to proactively avoid mistakes with successive identification of errors (Tynan, 2005). Increased psychological safety was associated with higher rates of error reporting in health-care settings (Edmondson, 1996) and with increased levels of employee commitment and engagement (Rathert, Ishqaidef, & May, 2009).

Edmondson and others (Carmeli, Brueller, & Dutton, 2009; Edmondson, 2004) have noted the importance of high quality interpersonal relationships in fostering a psychologically safe environment. Given the significant influence leaders have on the behaviors and expectations of their subordinate workgroups, leader behavior is an important precursor to the psychological safety and civility climate within supervised workgroups (Edmondson, 2003; Hult et al., 2000). Leaders project workplace expectations upon subordinates, who are typically sensitive to the actions of their superiors (Tyler & Lind, 1992). Leaders fostering environments of collaboration and support are therefore more likely to have subordinates who feel psychologically safe and are civil to each other.

1.4. Self-awareness and its impact on individual behavior

Self-awareness and burnout together affect workgroup climate, and both involve the management of personal resources, which is central to effective leadership (Taylor et al., 2012). Leaders with self-awareness have the ability to self-regulate and change their behavior to address needs present within the organization (Atwater & Yammarino, 1992). The conservation of resources (COR) theory describes how individuals, including leaders, use personal resources. According to COR, people prefer to have more resources rather than less, and in response to stress, reorganize resources to minimize losses. Whereas personal resources are distinct from job resources (physical, social, or organizational aspects that originate from the job itself, not from the individual), both can be well-suited or ill-suited for the current job demands (Xanthopoulou et al., 2007) and managed as described by COR, e.g. reorganized when the demands exceed the resources.

Additionally, much has been written about the relationship between self-awareness, specifically in workplace leaders, and workgroup climate (e.g. Moshavi, Brown, & Dodd, 2003; Tiuraniemi, 2008). Supervisory self-awareness exerts positive effects on subordinate performance, attitudes, and satisfaction levels (Atwater & Yammarino, 1992). For example, Moshavi et al. (2003) found self-awareness significantly related to satisfaction with supervision and job satisfaction. Additionally, self-awareness significantly mediated and moderated the relationship between predictors of performance and work outcomes (Tiuraniemi, 2008). Another study (Richards et al., 2010) supported self-awareness as a mediator between psychologically relevant beliefs and related outcomes. In this study of mental health professionals, self-awareness, defined as possessing the self-inspection/evaluation (Self-Reflection) and clarity of understanding (Insight) of one’s thoughts, was a significant mediator between beliefs about the importance of self-care and overall well-being.

1.5. Self-awareness as self–other rating agreement

Self-awareness, operationalized as self-other rating agreement (SOA) from 360-degree assessment tools (Yammarino & Atwater, 1993), is the “degree of agreement between or congruence between a leader’s self-ratings and the ratings of others, usually coworkers such as superiors, peers, and subordinates” (p. 1005; Fleener et al., 2010). SOA is an individual difference variable that appears stable across time and has a curvilinear relationship to performance outcomes (Atkins & Wood, 2002; Atwater & Yammarino, 1997; Fletcher & Baldry, 2000; Kulas & Finkelstein, 2007; Nilsen & Campbell, 1993). Higher SOA relates to realistic goal setting, higher performance ratings, compensation, and likelihood of receiving promotions (Church, 1997; Fleener et al., 2010; London & Smither, 1995; Ostroff, Atwater, & Feinberg, 2004; Tiuraniemi, 2008; Yammarino & Atwater, 1993). Leader self-awareness measured through SOA shows direct benefits for subordinates. For example, job satisfaction, including satisfaction with supervision, and organizational commitment were higher for subordinates of leaders that had higher SOA (Szell & Henderson, 1997). Additionally, subordinates of leaders with smaller gap scores (reflecting high self-awareness) had significantly higher satisfaction with supervision and with their job than did subordinates of leaders that rated themselves higher than others rated them (Moshavi et al., 2003). Moshavi et al. found that supervisors who under-rated themselves also had more satisfied subordinates than did supervisors who over-rated themselves. Overall, research suggests that under-rating oneself on desirable workplace behaviors is associated with mixed outcomes (some positive and some negative); matching others’ ratings is associated with primarily positive outcomes;

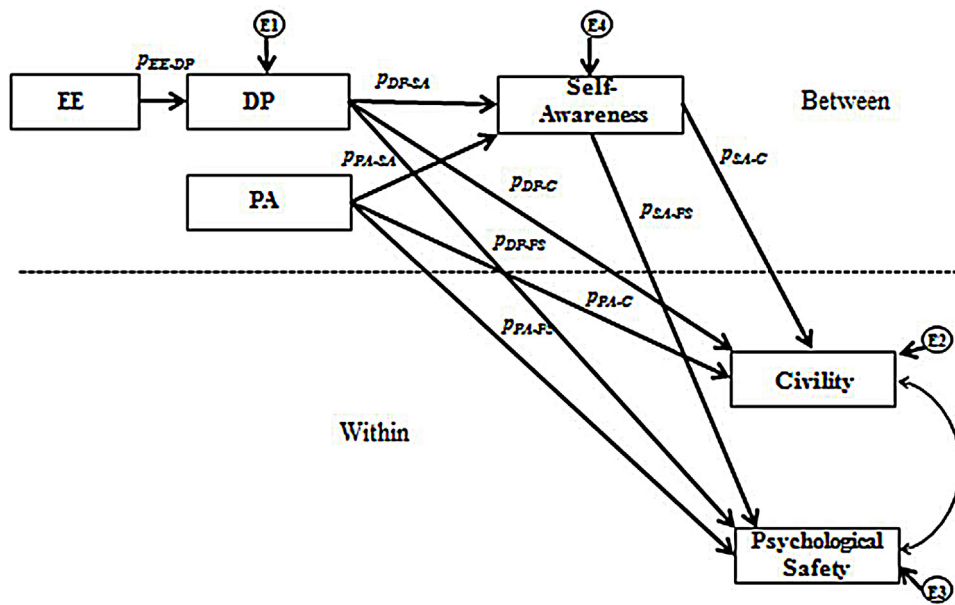


Fig. 1. Path diagram for hypothesized model predicting workgroup civility and psychological safety.

and over-rating oneself is associated with primarily negative outcomes.

1.6. Hypothesis

Previous research has suggested a significant, inverse relationship between staff burnout and civility climate at work (e.g. Lim et al., 2008), however, we are not aware of any prior studies examining supervisor burnout as a potential predictor of staff perceptions of Psychological Safety or Civility at work. Given the added responsibility of managerial duties (hence an additional risk of burnout, for supervisors) and considering that supervisors have a greater influence in shaping the climate of their workgroups than do other group members (e.g. Greenleaf, 2002; Kogler Hill, 2007; Zaccaro, Rittman, & Marks, 2001), effects of supervisors' burnout on the supervised workgroup climate is a question that merits consideration. Additionally, when supervisors face stressors, competing demands, or challenges at work—such as experiencing burnout—their self-awareness levels will mediate their ability to provide leadership to their employees. A leader who experiences burnout but is more self-aware will be more likely to reallocate personal resources as needed to cope, mitigating the negative effects of burnout on productivity and their staff. Self-aware leaders therefore are more likely to sustain an appropriate performance level of supervisory behaviors and thus continue to support the subordinates functioning and workplace climate than will leaders who face similar challenges but lack self-awareness. We hypothesize that managerial self-awareness exhibits a mediating relationship between supervisor burnout, on one hand, and workplace Civility and Psychological Safety, on the other hand (see Fig. 1).

2. Method

2.1. Participants

Participants included 3674 Veteran's Health Administration (VHA) supervisors in locations across the United States and represented 33 occupations over a 5 year period from 2008 to 2012. List-wise deletion of incomplete and missing data yielded a final sample size of 681. Within this final sample, Age was distributed as: 2.3% 20–29 years, 14.8% 30–39 years, 34.5% 40–49 years, 39.7%

50–59 years, and 8.7% 60 years or older. Women comprised 61.9% of the sample. Race was distributed as: 61.9% White, 29.0% African-American, 3.7% Hispanic, 3.3% American Indian/Alaskan Native, 1.2% Native Hawaiian/Pacific islander, 0.8% Asian. Participant Job Tenure was distributed as: 9.3% less than six months, 15.4% 6 months to 1 year, 43.5% 1–3 years, 14.1% 4–5 years, 10.7% 6–10 years, 5.2% 11–20 years, and 1.8% more than 20 years.

2.2. Procedure

Participants completed two separate organization-wide surveys administered by the VHA National Center for Organization Development (NCOD). The 360-feedback assessments were administered to participants with formal supervisor responsibilities during the 5 year period from 2008 to 2012. Participants completed the web-based assessment process either by self-initiated request or as part of a voluntary leadership development program. The results of the assessment are solely used for professional developmental purposes within the VA (Department of Veterans Affairs), and a personalized feedback report is shared with the participant only. The burnout measure was completed at the same time as the 360-degree assessment. The second survey utilized in this study, the All Employee Survey (AES), a voluntary confidential census administered by NCOD, was administered during a three to four week time period each Fall from 2008 to 2012. The survey, which has been in use since 2004, was completed by participants via the VA's intranet portal, paper & pencil, or over the phone. AES results are reported at the facility and workgroup-levels to ensure confidentiality.

2.3. Measures

2.3.1. Burnout

Burnout was assessed using the Maslach Burnout Inventory, Health Services Survey (MBI-HSS). The MBI-HSS is comprised of three subscales: Emotional Exhaustion (9 items; ex. "I feel burned out from my work"), Depersonalization (5 items; ex. "I worry that this job is hardening me emotionally"), and Personal Accomplishment (8 items; ex. I have accomplished many worthwhile things in this job"). Individual respondents were asked to rate the frequency of experiencing a particular feeling, using a 7-point scale ranging

from '0' (Never) to '6' (daily). High scores on EE and DP and low scores on PA are associated with high levels of burnout.

A confirmatory factor analysis (CFA) of the MBI-HSS suggested moderate fit for a revised 20-item model, $\chi^2 = 4871.33$, $p < .001$, $CFI = .91$, $TLI = .89$, $SRMR = .06$; deleting items 12 ("I feel energetic") and 16 ("Working with people directly puts too much stress on me"). Studies (Byrne, 1993; Leiter & Durup, 1994; Schaufeli & Van Dierendonck, 1993) have consistently found these items to cross-load (Item 12, a PA item also loading on EE & Item 16, an EE item also loading on DP) on multiple MBI factors. Similarly, these same items significantly cross-load within the current sample. Maslach, Jackson, and Leiter (1996) recommended the removal of these two items from analyses which are sensitive to small deviations in the predicted structure, such as CFA, so as to maintain consistency with the large body of research utilizing the MBI-HSS. However, when calculating MBI subscores, Maslach, Jackson, and Leiter recommend inclusion of all items. Using all 22 items, the MBI-HSS displayed adequate reliabilities of .91, .72, and .78 for the EE, DP, and PA subscales respectively.

2.3.2. Managerial self-awareness

2.3.2.1. Congruency-based self-awareness. Managerial self-awareness was operationalized as congruence between self and direct reports' behavioral ratings of job performance. Participants' subordinates rated them on behaviors identified as indicators of successful leadership in the VA, indicating, from 0% to 100% of the time, the *actual* frequency of each observed behavior ("actual" rating) and frequency of this behavior they *prefer* to observe ("preferred" rating). Performance ratings for the 681 supervisors in our sample were provided by 4746 subordinates. Each supervisor was rated by an average of 6.97 subordinates. The number of subordinates providing ratings ranged from one to twenty. Only *actual* frequencies reported of the observed behaviors were used in the computation of the managerial self-awareness measure. Managerial self-awareness was calculated using d , computed as the "square root of the sum of squared differences between self-report and average direct report score for each of the self-other item comparisons divided by the total number of items for that sample (Church, 1997)".

$$d_{\text{awareness}} = \sqrt{\frac{\sum_{N_{\text{items}}} (\text{Self} - (\sum \text{Others} / N_{\text{others}}))^2}{N_{\text{items}}}}$$

For the purposes of this study, all forty-six 360-feedback items were used when calculating d . Themes and representative items for the 360-feedback assessment are displayed in Table 1. As a measure of discrepancy between self-other performance ratings, larger values of d correspond to lower levels of managerial self-awareness. For ease of interpretation, d was reverse-scored (multiplied by -1) such that higher values correspond to higher levels of self-awareness.

Given the tendency of self-ratings to be inflated/biased (Arnold & Davey, 1992; Ashford, 1989; Vecchio & Anderson, 2009; Yammarino & Atwater, 1997), the potentiality of subordinate ratings accounting for a significantly larger portion of the variance in our managerial self-awareness variable was tested. To determine if self-awareness is a distinctly different construct than subordinate ratings of the target (supervisor) alone, subordinate ratings were entered into the first step of a hierarchical regression analysis, with self-awareness entered into the second step, with Civility or Psychological Safety as the outcome.

For Psychological Safety, self-awareness did not account for significant incremental validity, $\Delta R^2 = .001$, $p = .385$, 95% CI $(-.006, .015)$. Additionally, self-awareness could not be distinctly differentiated from subordinate's ratings when civility was used as the outcome variable, $\Delta R^2 = .003$, $p = .151$, 95% CI $(-.001, .007)$. However,

much of the concerns of limitations of range and ceiling effects related to inflated self-ratings are alleviated as self-ratings in our study were generally lower and displayed larger variances for the majority of 360-feedback items as compared to subordinate ratings.

2.3.2.2. Category-based self-awareness. The mean difference was calculated between self and subordinate ratings for each supervisor, allowing us to examine the direction as well as the magnitude of the self-other rating discrepancy. Based on the value of this discrepancy, each manager was placed into one of three categories: under-raters, accurate raters, and over-raters. Specifically, managers with mean self-other discrepancies less than .5 standard deviation below the mean of all managers were deemed under-raters, managers .5 standard deviation above the mean were deemed over-raters, and managers within .5 standard deviation from the mean were considered accurate self-raters. Additionally, there were no significant differences found in the number of subordinates providing ratings to over- ($M = 6.64$, $SD = 3.75$), under- ($M = 6.57$, $SD = 3.83$), or accurate-raters ($M = 7.31$, $SD = 3.9^2$), $F(2, 678) = 2.75$, $p = .06$.

2.3.3. Workplace climate

Climate within workgroups was measured as part of the annual Veterans Affairs AES. The AES includes measures of workplace civility and psychological safety (rated on a 1 – *strongly disagree* to 5 – *strongly agree* scale, with an additional option of *don't know*). Workgroups across the sample of supervisors included an average of 20.20 employees ($SD = 13.80$), with an average response rate of 76.09% per workgroup.

2.3.3.1. Civility. Civility was measured using an eight item scale (Meterko, Osatuke, Mohr, Warren, & Dyrenforth, 2007; Meterko et al., 2008), confirmed by CFA previously (Meterko et al., 2007; Meterko et al., 2008), displaying a reliability coefficient of .93 and item-to-scale correlations ranging from .67 to .83. Additionally, a CFA conducted with the current sample suggested similarly strong reliability ($\alpha = .96$) and item-to-scale correlations ranging from .81 to .92; $\chi^2 = 133.59$, $p < .001$, $CFI = .99$, $TLI = .97$, $SRMR = .02$. Scale items are displayed in Table 2.

2.3.3.2. Psychological safety. Psychological Safety was measured as the composite of two items from the AES: "Members in my workgroup are able to bring up problems and tough issues" and "It is safe

Table 1
360-Feedback assessment themes and representative items.

Theme	Representative items
<i>Flexibility/Adaptability</i> (3-items)	Effectively handles multiple inputs and tasks simultaneously
<i>Customer Service</i> (4-items)	Encourages subordinates to exceed customer expectations
<i>Systems Thinking</i> (11-items)	Considers the impact of decisions on other VA/VHA units
<i>Interpersonal Effectiveness</i> (12-items)	Tailors his/her interpersonal style appropriately for diverse groups of people and situations
<i>Creative Thinking</i> (4-items)	Thinks creatively in order to solve problems
<i>Organizational Stewardship</i> (4-items)	Demonstrates commitment to VA/VHA's mission
<i>Personal Mastery</i> (5-items)	Seeks out evaluation meant to improve his or her performance
<i>Technical Knowledge and Skills</i> (3-items)	Exhibits the functional and technical skills required to perform effectively

Notes: 360-feedback assessment items ask respondents to rate the percentage of time they "actually" observed the target engage in each behavior, as well as rate the percentage of time they would prefer the target engage in these behaviors. A "Not Observed" response option for each item was provided as well.

Table 2
Measures: subscales and items.

VHA Civility Scale (8 items)	Items
<i>Cooperation</i>	People treat each other with respect in my work group A spirit of cooperation and teamwork exists in my work group
<i>Conflict Resolution</i>	Disputes or conflicts are resolved fairly in my work group.
<i>Co-worker Support</i>	The people I work with take a personal interest in me. The people I work with can be relied on when I need help.
<i>Diversity Acceptance</i>	This organization does not tolerate discrimination Differences among individuals are respected and valued in my work group Managers/supervisors/team leaders work well with employees of different backgrounds in my work group
Psychological Safety (2 items)	Members in my workgroup are able to bring up problems and tough issues It is safe to take risks in this workgroup
MBI-HSS Scales (22 items)	Representative Items
<i>Emotional Exhaustion</i> (EE; 9 items)	I feel burned out from my work
<i>Depersonalization</i> (DP; 5 items)	I worry that this job is hardening me emotionally
<i>Personal Accomplishment</i> (PA; 8 items)	I have accomplished many worthwhile things in this job

Note: AES items ask to rate levels of agreement with descriptions of desirable characteristics of the workgroup, using a 5-point scale from '1' (Strongly Disagree) to '5' (Strongly Agree), with the Don't Know option available.

MBI-HSS items ask respondents to rate the frequency they experience a particular feeling, using a 7-point scale from '0' (Never) to '6' (daily). High EE, high DP and low PA scores indicate high levels of burnout.

to take risks in this workgroup." These items measure the extent with which workgroup members feel comfortable operating within their group, $r = .81$.

2.4. Analyses

Means and standard deviations were computed for MBI subscales, managerial self-awareness (d), and workgroup Civility & Psychological Safety. The relationships between burnout (EE, DP, and PA), managerial self-awareness, and Civility & Psychological Safety were tested through hierarchical linear modeling (HLM), using the MPlus statistical software package (Version 6.1; Muthén & Muthén, 2006). As subordinates were nested within workgroups, supervised by respective managers, a multilevel approach was taken to control for the effects of the nested data. Using multilevel SEM, mediating relationships were assessed using the methods recommended for clustered data by Preacher, Zhang, and Zyphur (2011). Individual level variables of workgroup perception of civility and psychological safety were considered to be Level 1 (within) variables, whereas, supervisor-level variables, such as EE, DP, and PA were considered to be Level 2 (between) variables. Total, direct, and indirect relationships between burnout, managerial self-awareness, and workgroup outcomes were assessed. In addition to the χ^2 statistic, model fit was assessed using the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). Following the recommendation of Hu and Bentler (1999) cutoffs for the each fit indices were set at

values $>.95$ for the CFI and TLI, $<.08$ for the SRMR, and $<.06$ for the RMSEA. The hypothesized model is displayed in Fig. 1. The full model without managerial self-awareness was tested first to determine if any significant direct relationships between supervisor burnout and Civility or Psychological Safety were evident. Then a model which included managerial self-awareness as a mediator was tested. To assess any differences in the hypothesized model as a function of directionality of self-other rating discrepancy, the hypothesized model was assessed for the three self-awareness groups (under-, accurate-, and over-raters). Post hoc comparisons between accurate-, under-, and over-raters were conducted to assess any significant differences in supervisor burnout, workgroup Civility or Psychological Safety.

3. Results

Table 3 displays the means, standard deviations, and intercorrelations for all study variables. Considering emotional exhaustion was found to be highly correlated with depersonalization ($r = .55$, $p < .001$) and the temporal conceptualization of burnout (i.e. emotional exhaustion resulting in depersonalized relationships, which ultimately results in reduced feelings of personal accomplishment), depersonalization was included as an additional mediator between EE and managerial self-awareness, as well as between EE and Civility/Psychological Safety. Additionally, this modification alleviates the observed redundancy of EE and DP when modeled as unique constructs. Results of the two-level model showed that 11.0% of the variation in perceptions of workgroup Civility and 12.3% of the variation in perceptions of Psychological Safety lie between supervised workgroups.

3.1. Congruency-based self-awareness

A preliminary model, without managerial self-awareness, testing the direct relationships between supervisor burnout and workgroup Civility & Psychological Safety displayed good model fit, $\chi^2(3) = 31.79$, $SRMR_{BW} = .043$, $RMSEA = .027$, $CFI = .997$, $TLI = .989$. However, EE did not display a significant indirect relationship, via DP, with Civility, $\beta = -.051$, $p = .118$, 95% CI $[-.115, .013]$, or Psychological Safety, $\beta = -.036$, $p = .256$, 95% CI $[-.097, .026]$. There are no significant direct relationships of DP on Civility, $\beta = -.087$, $p = .115$, 95% CI $[-.195, .021]$, or Psychological Safety, $\beta = -.061$, $p = .253$, 95% CI $[-.165, .043]$. Additionally, there are no significant direct relationships of PA on Civility, $\beta = -.038$, $p = .493$, 95% CI $[-.147, .071]$, or Psychological Safety, $\beta = .005$, $p = .937$, 95% CI $[-.110, .119]$ (Fig. 2).

When managerial self-awareness is added to the model as a mediator between supervisor burnout and workgroup Civility & Psychological Safety, model fit is improved, $\chi^2(4) = 31.68$, $SRMR_{BW} = .036$, $RMSEA = .023$, $CFI = .997$, $TLI = .989$, evidenced by reduced RMSEA and $SRMR_{BW}$. There are no significant direct relationships of DP on Civility, $\beta = -.056$, $p = .293$, 95% CI $[-.159, .048]$, or Psychological Safety, $\beta = -.018$, $p = .718$, 95% CI $[-.116, .080]$. Additionally, there are no significant direct relationships of PA on Civility, $\beta = -.064$, $p = .254$, 95% CI $[-.173, .046]$, or Psychological Safety, $\beta = -.029$, $p = .617$, 95% CI $[-.143, .085]$.

EE displayed a significant indirect relationship on Civility via DP and managerial self-awareness, $\beta = -.019$, $p = .006$, 95% CI $[-.033, -.006]$. DP displayed a significant indirect relationship on Civility via managerial self-awareness, $\beta = -.033$, $p = .005$, 95% CI $[-.057, -.010]$. Additionally, PA displayed a significant indirect relationship on Civility via managerial self-awareness, $\beta = .027$, $p = .013$, 95% CI $[-.006, .049]$. EE displayed a significant indirect relationship on Psychological Safety via DP and managerial self-awareness, $\beta = -.026$, $p = .003$, 95% CI $[-.043, -.009]$. DP displayed a significant indirect relationship on Psychological Safety via managerial self-awareness,

Table 3
Summary of means, standard deviations, and intercorrelations for burnout, civility, psychological safety, and demographics.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Awareness	-14.64	8.18											
2. Aware-Diff	0.18	11.86	-.115**										
3. Self-Rating	85.99	8.46	-.515**	.560**									
4. Other-Rating	86.01	10.00	.561**	-.723**	.166**								
5. EE	17.30	10.43	-.131**	-.099**	-.240**	-.080*							
6. DP	4.79	4.15	-.181**	-.092**	-.310**	-.153**	.590**						
7. PA	40.28	6.05	.140**	.088*	.255**	-.102**	-.333**	-.330**					
8. Civility	3.79	0.46	.159**	-.235**	-.010	.287**	-.022	-.052	.043				
9. Psy Safety	3.42	0.52	.223**	-.274**	.039	.356**	-.066	-.045	.027	.793**			
10. Gender	0.38	0.49	.039	-.031	-.026	.014	-.087*	.051	.062	.014	.000		
11. Age	3.38	0.92	.047	.008	.073*	.054	-.104*	-.191**	.174**	-.016	.003	.000	
12. Race	0.38	0.49	.022	.071	.150**	.042	-.134**	-.107**	.032	-.004	-.023	.023	.073

Note: N = 678. Aware: Managerial Self-Awareness (d). Aware-Diff: Mean of the relative difference between self-other ratings. Self-Rating: Mean self-rating across all 46 items. Other-Rating: mean subordinate rating across all subordinates and 46 items. Age was treated as a continuous variable given the equal distance between 5 categorical response options. Gender was dichotomized as Female (0) and Male (1). Race was dichotomized as White (0) and Minority (1).

* p < .05 (2-tailed).
** p < .01 (2-tailed).

$\beta = -.045, p = .002, 95\% CI [-.074, -.016]$. Additionally, PA displayed a significant indirect relationship on psychological safety via managerial self-awareness (Fig. 3), $\beta = .037, p = .008, 95\% CI [.009, .064]$. The final model, with non-significant paths removed displayed good model fit, $\chi^2(8) = 33.69, SRMR_{BW} = .039, RMSEA = .015, CFI = .997, TLI = .995$ (Fig. 4).

3.2. Category-based self-awareness

3.2.1. Burnout & self-awareness

Results of analyses of variance showed that accurate-, under-, and over-raters differed significantly on their self-rated levels of EE, DP, and PA (Table 4). Tukey's HSD post hoc comparisons showed that under-raters (M = 19.43, SD = 10.24) reported experiencing significantly higher levels of EE than over-raters (M = 16.01, SD = 10.29), with no significant differences found between accurate- (M = 17.17, SD = 10.48) and over-raters or between accurate- and under-raters. Under-raters (M = 5.73, SD = 4.63) reported experiencing significantly higher levels of DP than accurate- (M = 4.72, SD = 4.09) or over-raters (M = 4.23, SD = 4.80), with no significant differences between accurate- and over-raters. Finally, under-raters (M = 38.43, SD = 6.80) reported

experiencing significantly lower levels of PA than accurate- (M = 40.62, SD = 5.72) or over-raters (M = 40.80, SD = 6.07), again with no significant differences between accurate- and over-raters.

3.2.2. Workgroup civility, psychological safety & supervisors self-awareness

Results of analyses of variance showed that accurate-, under-, and over-raters differed significantly on their subordinate-rated levels of Civility and Psychological Safety (Table 5). Using Tukey's HSD post hoc tests, significant and consistent differences for Civility and Psychological Safety across the three groups existed (Table 5). Specifically, over-raters' workgroups reported significantly lower levels of Civility (M = 3.66, SD = 0.51) than did workgroups supervised by accurate- (M = 3.82, SD = 0.41) or under-raters (M = 3.91, SD = 0.45). There were no significant differences, however, between workgroups supervised by accurate- and under-raters. Similarly, workgroups of over-raters (M = 3.25, SD = 0.58) reported significantly lower levels of Psychological Safety than did workgroups of accurate- (M = 3.46, SD = 0.47) or under-raters (M = 3.54, SD = 0.50). Once again, there were no significant differences between workgroups of accurate- and under-raters (Table 6).

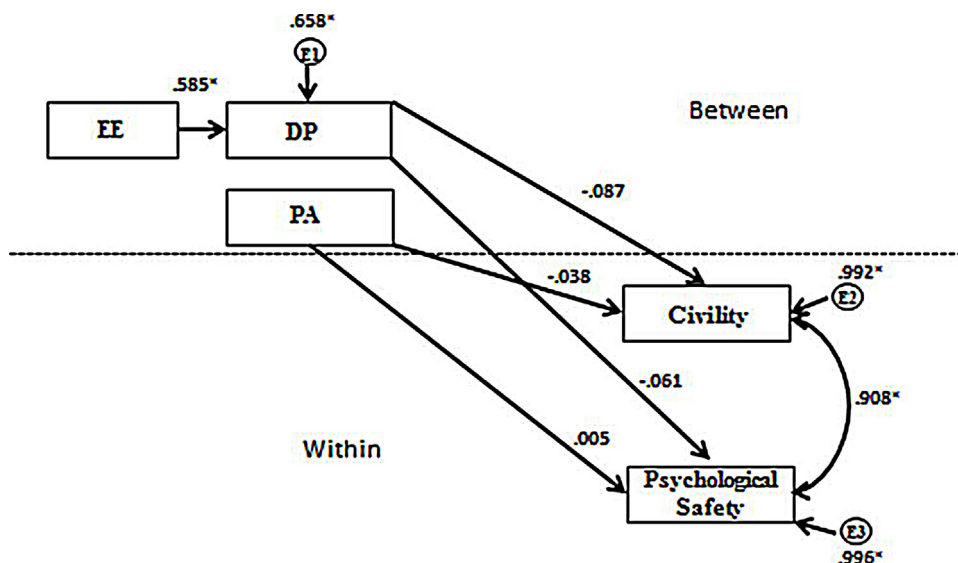


Fig. 2. Path diagram predicting workgroup Civility and Psychological Safety (Excluding self-awareness)

*p < .01. $\chi^2(3) = 31.79, p < .01, SRMR_{BW} = .043, SRMR_{WIN} = .000, RMSEA = .027, CFI = .997, TLI = .989. N_{subordinates} = 13,378, N_{supervisors} = 657.$

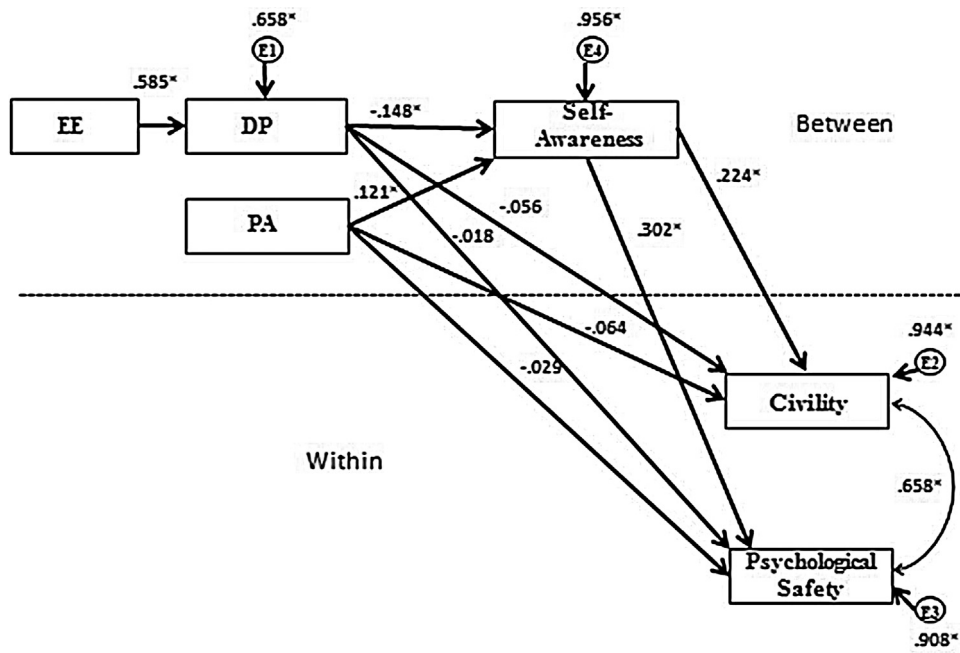


Fig. 3. Path diagram predicting workgroup Civility and Psychological Safety, mediated by managerial self-awareness. * $p < .01$. $\chi^2(4) = 31.68$, $p < .01$, $SRMR_{BW} = .036$, $SRMR_{WIN} = .000$, $RMSEA = .036$, $CFI = .997$, $TLI = .989$. $N_{subordinates} = 13,378$, $N_{supervisors} = 657$.

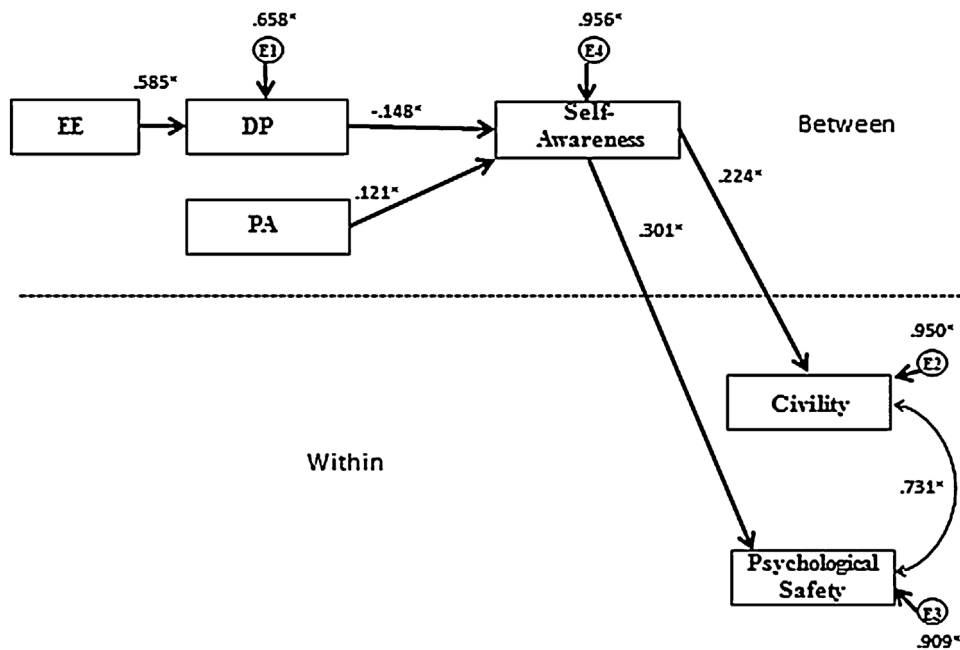


Fig. 4. Final path diagram predicting workgroup Civility and Psychological Safety, mediated by managerial self-awareness. * $p < .01$. $\chi^2(8) = 33.69$, $p < .01$, $SRMR_{BW} = .039$, $SRMR_{WIN} = .000$, $RMSEA = .015$, $CFI = .997$, $TLI = .995$. $N_{subordinates} = 13,378$, $N_{supervisors} = 657$.

3.3. Congruency-based self-awareness by rater category

For supervisors who under-rated their performance relative to ratings from their subordinates, all indirect relationships of both DP and PA with Civility and Psychological Safety, via managerial self-awareness were no longer significant. Managerial self-awareness was not a significant predictor of workgroup Civility or Psychological Safety. However, direct relationships between DP and both Civility, $\beta = -.268$, $p = .005$, 95% CI $[-.456, -.079]$ and Psychological Safety, $\beta = -.228$, $p = .015$, 95% CI $[-.412, -.044]$ were significant (Fig. 5). Additionally, significant indirect relationships between EE

and Civility, $\beta = -.161$, $p = .008$, 95% CI $[-.280, -.041]$, and Psychological Safety, $\beta = -.137$, $p = .022$, 95% CI $[-.254, -.020]$, via DP were found.

For supervisors who accurately rated their performance relative to ratings from their subordinates, EE and DP did not have any significant direct or indirect relationships with Civility or Psychological Safety. However, PA had a significant indirect relationship with Civility, $\beta = .053$, $p = .047$, 95% CI $[.001, .106]$ and Psychological Safety, $\beta = .058$, $p = .042$, 95% CI $[.002, .113]$, via managerial self-awareness (Fig. 6). Finally, for supervisors who over-rated their performance relative to ratings from their

Table 4
One-way analyses of variance comparing managerial self-awareness and burnout.

Burnout Factor		SS	df	MS	F	η^2
EE	Awareness category	776.21	2	388.11	3.60*	0.011
	Error	72,823.61	675	107.89		
	Total	73,599.82	677			
DP	Awareness category	188.29	2	94.15	5.54**	0.016
	Error	11,473.70	675	17.00		
	Total	11,661.99	677			
PA	Awareness category	395.77	2	197.89	5.47**	0.016
	Error	24,415.65	675	36.17		
	Total	24,811.42	677			

* $p < .05$.
** $p < .01$.

Table 5
One-way analyses of variance comparing managerial self-awareness and workgroup climate.

Workgroup Climate		SS	Df	MS	F	η^2
Civility	Awareness category	5.20	2	2.60	12.76*	0.036
	Error	137.48	675	0.20		
	Total	142.68	677			
Psych safety	Awareness category	8.37	2	4.19	16.01*	0.045
	Error	176.50	675	0.26		
	Total	184.87	677			

* $p < .001$.

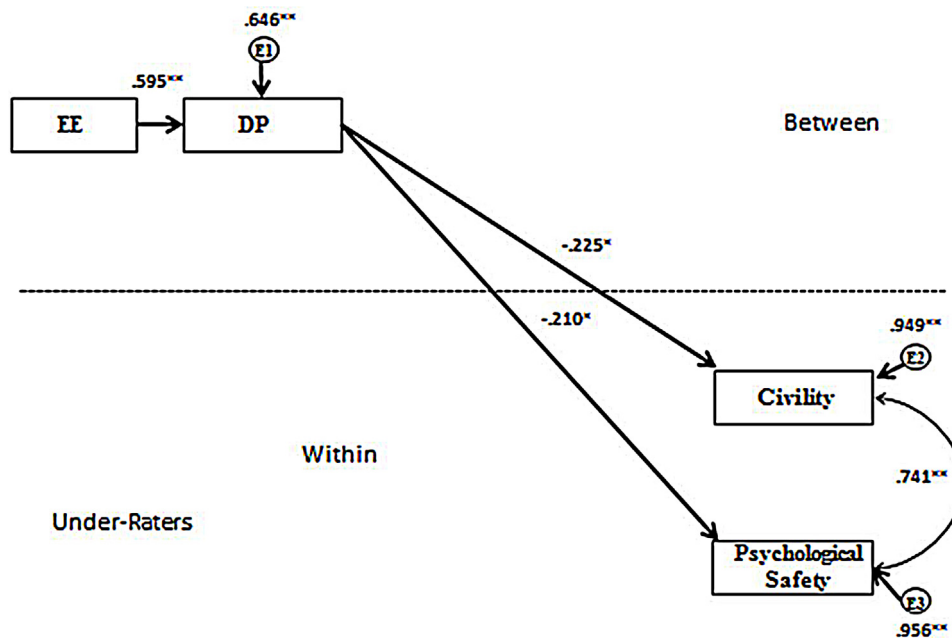


Fig. 5. Path diagram predicting workgroup Civility and Psychological Safety, mediated by managerial self-awareness for the group of supervisors who under-rated their performance relative to their subordinate's ratings. * $p < .05$. ** $p < .01$. $\chi^2(2) = 9.18, p = .01, SRMR_{BW} = .000, SRMR_{wIN} = .062, RMSEA = .031, CFI = .997, TLI = .990. N_{subordinates} = 3649, N_{supervisors} = 180$.

subordinates, direct relationships from burnout to Civility or Psychological Safety were non-significant. Additionally, there were no significant indirect relationships from supervisor burnout to Civility, via managerial self-awareness. However, there was a significant indirect relationship from EE to Psychological Safety, via DP & managerial self-awareness, $\beta = -.061, p = .044, 95\% CI [-.120, -.002]$. Additionally, there was a significant indirect relationship from DP to Psychological Safety, via managerial self-awareness, $\beta = -.106, p = .036, 95\% CI [-.205, -.007]$ (Fig. 7). Table 7 displays the fit indices for all models and all self-rating groups tested.

4. Discussion

These reported results provide support for a relationship between higher level supervisor burnout and subordinate-level workgroup Civility and Psychological Safety, when controlling for the effects of the within workgroup variance. The multilevel approach of this study provides evidence of the direct impact supervisor burnout, a personal experience, has on the perceptions of their subordinates. However, this relationship was only evident when accounting for the level of self-awareness of the supervisor; such that higher levels of self-awareness in supervisors were associated

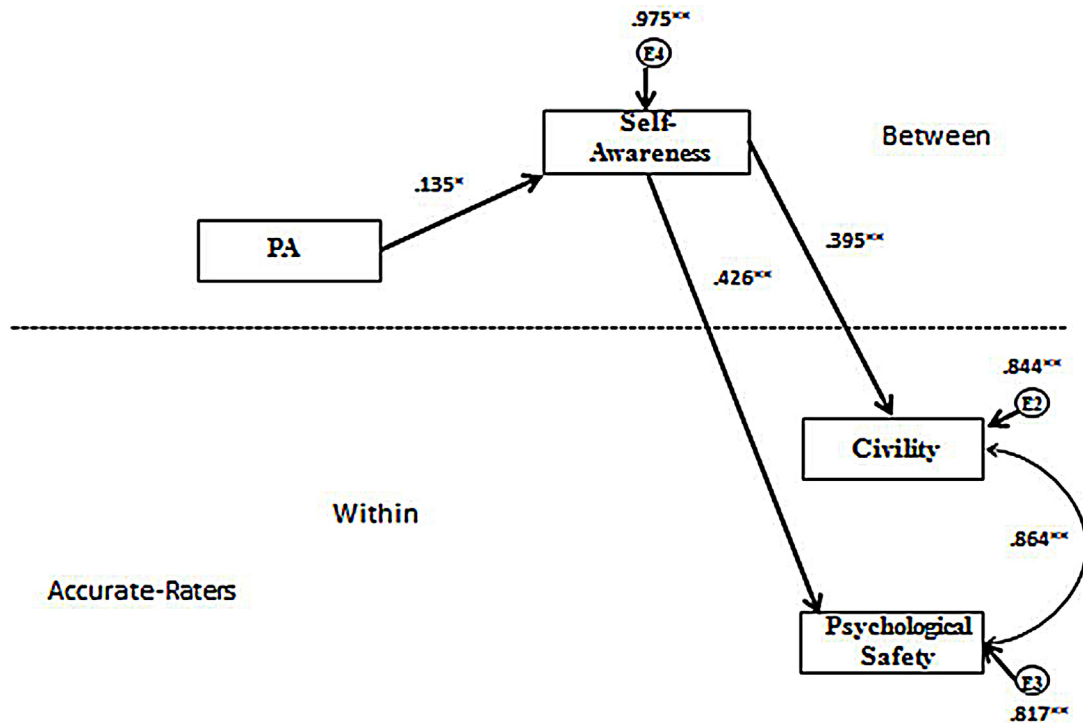


Fig. 6. Path diagram predicting workgroup Civility and Psychological Safety, mediated by managerial self-awareness for the group of supervisors who accurately-rated their performance relative to their subordinate's ratings. * $p < .01$. $\chi^2(2) = 0.15$, $p = .93$, $SRMR_{BW} = .005$, $SRMR_{WIN} = .000$, $RMSEA = .000$, $CFI = 1.00$, $TLI = 1.00$. $N_{subordinates} = 6452$, $N_{supervisors} = 309$.

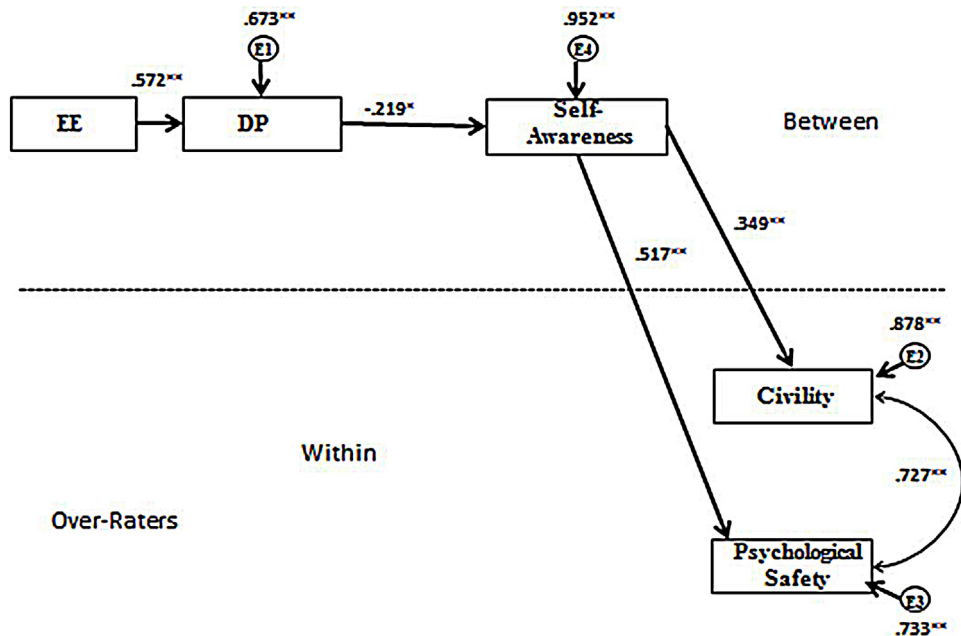


Fig. 7. Path diagram predicting workgroup Civility and Psychological Safety, mediated by managerial self-awareness for the group of supervisors who over-rated their performance relative to their subordinate's ratings. * $p < .01$. $\chi^2(5) = 1.51$, $p = .91$, $SRMR_{BW} = .020$, $SRMR_{WIN} = .000$, $RMSEA = .000$, $CFI = 1.00$, $TLI = 1.00$. $N_{subordinates} = 3342$, $N_{supervisors} = 177$.

with more favorable ratings of workgroup climate by subordinates. Additionally, not only is the discrepancy of self-other ratings (degree of self-awareness) informative, but these results show that the direction of discrepancy is also an important consideration in examining the relationship between supervisor burnout and subordinate perceptions of Civility and Psychological Safety. Specifically, for supervisors who rated themselves lower than subordinate's

ratings, self-awareness was not as influential as burnout, with significant relationships found between DP and both Civility and Psychological Safety. For supervisors who rated themselves similarly to how their subordinates rated them, PA had significant indirect relationships with Civility and Psychological Safety, but DP did not. Supervisors displaying high self-awareness, are likely well-attuned to their feelings, such as burnout, thus less likely to allow

Table 6
Means & standard deviations for dependent variables by rating category.

Dependent variable	Rater category	N	M	SD	Std. Error
EE	Under	138	19.30	10.44	0.89
	Accurate	347	17.08	10.46	0.56
	Over	193	16.26	10.22	0.74
DP	Under	138	5.77	4.68	0.40
	Accurate	347	4.68	4.06	0.22
	Over	193	4.27	3.80	0.27
PA	Under	138	38.77	6.62	0.56
	Accurate	347	40.62	5.70	0.31
	Over	193	40.74	6.10	0.44
Civility	Under	138	3.90	0.46	0.04
	Accurate	347	3.82	0.41	0.02
	Over	193	3.66	0.51	0.04
Psych Safety	Under	138	3.54	0.50	0.04
	Accurate	347	3.46	0.47	0.03
	Over	193	3.25	0.58	0.04

its negative components (EE and DP) to affect the management of their workgroups. Finally, those supervisors who rated themselves higher than the ratings from their subordinates displayed a stronger relationship between DP and Psychological Safety. These over-raters are less likely to be aware of the negative consequences of their experienced DP. Thus, DP within supervisors is an important predictor of Civility and Psychological Safety for less self-aware supervisors.

4.1. Theoretical implications

With the cross-sectional nature of our study, we could not establish causal relationships between burnout, self-awareness, and workgroup Civility & Psychological Safety. Given that burnout is a personal experience, the effects of a supervisor's experienced burnout might be too distal to have a significant direct relationship with workgroup Civility and Psychological Safety. However, managerial self-awareness, a personal attribute, with obvious impact on the perceptions of subordinates, served as a viable intermediate between supervisor burnout and workgroup climate. Considering the multilevel relationship of supervisor-subordinate variables found in our study, the examination of managerial self-awareness as a mediator between additional individual, supervisor-level predictors on subordinate outcomes merits future consideration. Often

thought to result from organization-wide policies and culture, our study highlights the potential impact individual attributes and experiences have in altering workgroup Civility and Psychological Safety, distinct from organizational factors.

Drawing upon a larger theoretical context than was specifically reflected in our hypotheses, there are several possible explanations for the trends we saw. Higher pre-existing levels of self-awareness might make burnout less likely. Conversely, sustained burnout could result in decreases in self-awareness over time. Additionally, higher self-awareness levels might come at a cost, contributing to burnout if the supervisor does not have the job resources necessary to deal with job demands. For example, even though supervisors displaying greater self-awareness are more capable of monitoring their on-the-job behaviors even when experiencing burnout, thus minimizing the effects of their burnout on their workgroups, this self-awareness requires personal resources itself—in other words, this comes at a personal cost. Supervisors with greater self-awareness likely allocate additional personal resources to monitor their behaviors and the effects that those behaviors have on their workgroup. This higher self-monitoring might explain the higher levels of Civility and Psychological Safety reported by the workgroups with more self-aware supervisors.

Another theoretical consideration to take into account is the effect of supervisor self-awareness on outcomes. Results for under-, accurate-, and over-raters differed significantly when examining the relationship between supervisor burnout and workgroup Civility & Psychological Safety. In the current study, under-raters were found to experience more burnout than either accurate- or over-raters. This makes sense when considering that under-raters likely view their performance as lacking in some regard and this perceived underperformance leads to self-imposed stress driven by efforts to improve to acceptable levels. Perhaps under-raters are unlikely to be satisfied with their level of performance, given their unrealistically high performance goals. If so, then the observed favorable perceptions of their workgroup climate may eventually suffer given the consistent, self-imposed burnout that is likely to be continuously experienced by the workgroup supervisors who under-rate their own performance.

Although over-rating of own performance relates to detrimental work related outcomes, a number of studies suggest that under-rating is not particularly important (Atwater & Yammarino, 1992; Tiuraniemi, 2008). Our results indicated that under-rating is also associated with negative outcomes, albeit of a different kind (i.e. individual costs, such as higher burnout in under-rating employees); this supported the view that under-rating should be

Table 7
Model fit indices for models testing the relationship between supervisor burnout and workgroup civility & psychological safety for overall group and each self-rating category.

Group	Model	N Subs	N Sups	ICC		Fit Indices					
				Psy Safety	Civility	X ² (df)	CFI	TLI	RMSEA	SRMR _{within}	SRMR _{between}
Overall	1	13,378	657	.109	.123	31.79 [*] (3)	.997	.989	.027	.000	.043
	2	13,378	657	.110	.123	31.68 [*] (4)	.997	.989	.023	.000	.036
	3	13,378	657	.110	.123	33.69 [*] (8)	.997	.995	.015	.000	.039
Under-Raters	1	3624	176	.108	.142	12.41 [*] (3)	.996	.988	.029	.000	.060
	2	3624	176	.108	.142	12.46 [*] (4)	.997	.989	.024	.000	.051
	3	3649	180	.106	.139	9.18 [*] (2)	.997	.990	.031	.000	.062
Accurate-Raters	1	6437	306	.090	.100	21.36 [*] (3)	.996	.986	.031	.000	.050
	2	6437	306	.092	.100	22.47 [*] (4)	.996	.985	.027	.000	.043
	3	6452	309	.091	.100	0.15 (2)	1.00	1.00	.000	.000	.005
Over-Raters	1	3317	175	.110	.117	5.41 (3)	.999	.996	.016	.000	.034
	2	3317	175	.110	.117	5.25 (4)	.999	.998	.010	.000	.029
	3	3342	177	.108	.115	1.51 (8)	1.00	1.00	.000	.000	.020

Notes: Model 1: Hypothesized model excluding managerial self-awareness. Model 2: Full Hypothesized model. Model 3: Final model excluding non-significant pathways from Model 2. N Subs: Number of subordinates in sample. N Sups: Number of supervisors.

^{*} $p < .05$.

of concern. Importantly, whereas much of the previous research concerning burnout, civility, and psychological safety considered their relationships at a single level (i.e. subordinates, peers, etc.), our study examined civility and psychological safety at the subordinate level in relation to individual-level predictors at a higher level (supervisor). Additionally, we extended the study of managerial self-awareness beyond examining its effects on subordinates' satisfaction aspects (such as satisfaction with supervisor, satisfaction with job—e.g., in [Moshavi et al., 2003](#)). The current study included additional outcomes, namely group civility and psychological safety, which are important to individuals and organizations (e.g. [Edmondson, 2003](#); [Leiter et al., 2011](#); [Lim et al., 2008](#)), yet not frequently evaluated in the context of examining various effects of supervisors' behaviors.

Considering that under-raters display significantly higher levels of burnout, the negative effects of under-rating likely go undetected in most other cross-sectional studies examining self-awareness solely as the degree of agreement between self-other ratings, rather than the directionality of the agreement as well. Additionally, given that no direct relationships were found between supervisor burnout and workgroup climate for the overall sample, negative repercussions of under-rating likely operate at the individual level (e.g. via increased burnout accumulating over time) as examined in our study, whereas the negative effects of over-rating are seen at the group level, via subordinate perceptions. As such, the current study highlights the importance of examining additional negative repercussions and potential long-term work related outcomes of under-rating.

Another important theoretical implication to consider is the disparities in the relationships of supervisor burnout, managerial self-awareness, and workgroup Civility & psychological Safety. For under- and over-raters, supervisor DP was the primary indicator of workgroup Civility and Psychological Safety, either directly (for under-raters) or via managerial self-awareness (for over-raters). However, for accurate-raters, DP was not a significant predictor of workgroup perceptions, but PA instead was an important indicator, suggesting that for supervisors with high self-awareness, the satisfaction or pride they perceive within their own work reflects in the work environment perceived by their subordinates. It is likely that supervisors with greater self-awareness are more attuned to their personal experiences, such as burnout, and do not allow negative attributes, such as experienced EE or DP affect their work, as supervisors with lower self-awareness might. It is interesting to note that managerial self-awareness did not mediate the relationship between supervisor burnout and subordinate perceptions of workgroup Civility or Psychological Safety, as it did for accurate- and over-raters, instead with EE and DP displaying significant relationships without this mediator. Without looking at the directionality of self-awareness within supervisors, this relationship is undetectable in the current study, and likely other studies as well. As such, our results illustrate how self-awareness can serve as a viable mediator for a number of potential predictors, like supervisory behaviors that impact supervised workgroup outcomes significantly but differently depending on supervisor self-awareness, and which would be dismissed as unrelated to workplace outcomes unless the mediating influence of self-awareness were accounted.

4.2. Practical implications

Our results pose an interesting challenge to the interpretation of burnout in the workplace. Reducing burnout is undoubtedly a desired goal for any organization; however, simply monitoring changes in burnout levels in supervisory employees is likely an insufficient indicator of positive change, thus, we suggest caution when examining burnout in the workplace. To name

one possibility, observing a decrease in levels of burnout over time might simply reflect reduced efforts toward beneficial work behaviors. Additionally, for the majority of our sample (excluding under-raters), supervisor burnout in its own right did not significantly predict workgroup Civility or Psychological Safety; in contrast, supervisor self-awareness was found to be a significant predictor. Whereas addressing burnout and its effects on the workplace is vital to maintaining employee health and satisfaction, employee self-awareness is an important consideration when determining the need for interventions to assist burned out employees. We hasten to acknowledge that high levels of burnout will likely be detrimental for any type of employee, in any case, particularly if sustained over time. Nevertheless, it is worth noting that for supervisory employees, developing and maintaining high self-awareness might be more vital than ensuring lower levels of burnout, particularly if the outcome of interest is to optimize subordinate performance and thus, sustain organizational performance.

This study highlights the importance of self-awareness in employees with supervisory responsibilities. As a trainable skill, improved self-awareness is feasible, with potential interventions capable of targeting this skill. Feedback provided to leaders from 360-degree assessment is an effective avenue to increase self-awareness. In VA, participants routinely receive their assessment-based feedback; moreover, feedback sharing is the primary purpose of the assessment. This is because the 360-degree assessment has developmental, as opposed to evaluative, purposes; e.g., nobody except the participants themselves receives the results). This practice creates optimal conditions for the genuineness of raters' evaluations and integrity of participants' use of results. As an additional recommendation, rater training for all rating sources (e.g. more detailed explanations or illustrations of the rated behaviors) would ensure that self-ratings and other-ratings refer to the same behaviors, and allow more accurate measures of supervisor self-awareness. Additionally, organizations can target interventions for workgroups with unsatisfactory climates and supervisors displaying discrepant self-other ratings, with a particular emphasis on workgroups with supervisors over-rating their performance. Additionally, workgroups with supervisors displaying high self-awareness and reporting high levels of perceived workgroup Civility and Psychological Safety help to identify organizational best practices, in hopes of replicating this favorable situation throughout the organization.

4.3. Limitations

One limitation of our study is the operationalization of self-awareness as self-other agreement, as subordinates within workgroups likely have different rating biases in evaluating the same supervisor. This limitation was alleviated by averaging all the ratings of subordinates within each workgroup to create a single "other" rating. Further, we used data from a 360-degree feedback measure which required respondents to report the percentage of time the target actually spends engaging in specific behaviors. This is a limitation as subordinates may not always be aware of their supervisors' activities; e.g., supervisory positions typically require extended work hours to fulfill certain responsibilities, which subordinates may not observe. The most important limitation is our use of cross-sectional data, which restricted our ability to fully examine the relationship between the variables in the model. For example, we could not evaluate the direction of causality, or examine the changing relationship of burnout, self-awareness, and workgroup climate across time. Specifically, we were unable to ascertain the temporal relationship of supervisor burnout and self-awareness, as the two variables are likely reciprocal, such

that compromised self-awareness likely results in compromised management of burnout and vice versa.

4.4. Future directions

Considering the theorized successive relationship of the factors of burnout, future studies should examine the changing relationship between burnout, self-awareness, and work-related outcomes. Additionally, future studies should examine any longitudinal changes in self-awareness and reported burnout, to allow for explanations of the potential reciprocal relationship between supervisor burnout and self-awareness. Additionally, although we found that supervisors displaying higher burnout related to workgroups with higher levels of workgroup civility and psychological safety, longitudinal studies should examine whether or not future increases in awareness result in increased or decreased levels of burnout or if burnout remains unchanged. Future studies should also examine the mediating effect of supervisor self-awareness on other predictors of work related outcomes, such as supervisor on-the-job personality, locus of control, and intelligence. As was illustrated in the current study, there might be predictors, previously thought to be unrelated to work outcomes that indeed have significant effects via supervisor self-awareness.

5. Conclusions

Self-awareness in supervisors is an important mediator in the relationships between supervisory behaviors and attributes and work-related outcomes, such as workgroup Civility and Psychological Safety. Supervisors exert much influence on their subordinates; as such, their own actions and attributes are important to consider when assessing subordinate satisfaction and performance. Even more so than burnout levels, the self-awareness of a supervisor predicts workgroup Civility and Psychological Safety. These findings highlight the importance of monitoring and managing burnout and increasing self-awareness in employees with supervisory responsibilities. Additionally, these findings emphasize the potential impact of higher level (supervisory) organizational predictors on broader (front line and subordinate) organizational outcomes. Organizations must be aware of the negative individual effects of burnout (e.g. reduced engagement and satisfaction), as well as the negative workgroup repercussions (e.g. reduced civility and psychological safety) of supervisor burnout and the important mediating role of self-awareness in these relationships. Additionally, researchers and practitioners should be wary of the directionality of SOA when measuring self-awareness, as the situations of under-raters and over-raters likely differ significantly, such that these differences would remain undetected if the absolute degree of difference in SOA is used.

Conflict of interest

The authors report that there are no competing interests.

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