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 Civility and Job Satisfaction: Measurement and Longitudinal Relationships

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Civility and Job Satisfaction:
Measurement and Longitudinal Relationships

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Abstract

Recently, in both professional and popular literature, civility and incivility have received increased attention. Incivility has been linked to important organizational constructs and researchers have consistently found that workplaces with high incivility have more absenteeism, higher turnover, and lower job satisfaction (Cortina et al., 2001; Pearson, Andersson, & Wegner, 2001; Lim & Cortina, 2005; Martin & Hine, 2005; Caza & Cortina, 2007). While the focus of research has been on incivility, in the context of strengths-based approaches to organizational change, focusing on civility offers a better alternative for interventions (Osatuke et al., 2009). Instead of attempting to reduce something negative (incivility), organizations can focus on building something positive (civility) to enhance the work environment (Luthans, 2002).

Job satisfaction is perhaps the most studied construct in organizational psychology, particularly because of its links to outcomes such as performance (Iaffaldano & Muchinsky, 1985; Judge et al., 2001), absenteeism (Kristensen et al., 2006; Wegge et al., 2007) and turnover (Boswell, Tichy, & Boudreau, 2005; Griffeth, Hom, & Gaertner, 2000). Additionally, how people are treated and their relations with others are important interpersonal elements of the work environment that lead to more general job satisfaction (Spector, 1997). In this context, civility fits as an interpersonal element that is likely to affect job satisfaction. Understanding the causal relationships between civility and satisfaction through longitudinal analyses could provide a rationale for targeting satisfaction through interventions to increase civility.

The goal of this study was to use longitudinal data to determine the causal directionality of the civility-satisfaction relationship, using psychometrically sound
measures. To achieve this goal, this study aimed to: 1) establish the measurement properties of the Veterans Health Administration All Employee Survey (VHA AES) single-item satisfaction measure, 2) confirm a one-factor model of civility as measured in the VHA AES, and 3) test path models to determine the causal patterns in the civility-satisfaction relationship. It was hypothesized that civility would be a stronger driver of satisfaction in longitudinal analyses of both a cross lagged panel and within year reciprocal influence model.

The Spearman-Brown correction for attenuation formula was used to establish the minimum reliability of the single item measure and the estimates indicated acceptable reliability. Confirmatory factor analyses and tests for factorial invariance across time with the VHA civility scale supported a well fitting single factor model with time invariant factor loadings. In the cross-lagged model, higher civility levels in previous years lead to more satisfied individuals in subsequent years. However, the reciprocal influence model had stronger path values, lower model implied correlation values, and explained more variance in satisfaction. The consistent pattern of higher coefficients on the civility paths, and greater variance explained for satisfaction, indicated that higher contemporary civility scores lead to a greater number of satisfied individuals. These findings provide evidence that an environment characterized by positive interpersonal treatment, a climate of civility, leads to higher proportions of satisfied individuals within workgroups. To some researchers studying interpersonal treatment, these findings may seem intuitive. However, this information has not been discernable from previous cross-sectional research.
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Chapter I

Introduction

Over the last ten years, in both professional and popular literature, the topics of civility and incivility have received increased attention. In both realms, authors have reached a general consensus regarding the prevalence and negative effects of incivility on society in general, and in the workplace specifically. Empirical backing for the common sense notion that the targets of rude and discourteous behavior experience negative effects in multiple areas of their lives leads to the question: What can we do about it? The dominant paradigm in the field of psychology is based on a disease model where weakness (or illness) is the focus of intervention efforts. The number of articles with incivility as the topic in the professional literature on interpersonal treatment is evidence of this approach. In contrast, a legacy of strengths-based approaches dating back to the beginnings of psychology coalesced into the positive psychology movement around the millennium (Seligman & Csikszentmihalyi, 2000). By concentrating on strengths, positive psychology approaches allow individuals to focus on the aspects of their environments and interactions that work well instead of dwelling on negative areas. Consistent with a positive psychology paradigm, focusing on increasing civility may be at least a partial answer to the question about what can be done to address the concerns raised by authors in the lay and professional press regarding incivility at work.

Civility and Incivility

Andersson and Pearson’s (1999) theoretical work regarding “incivility spirals” was one of the first to draw attention to the concept of incivility in the workplace and identified it as an antecedent of more aggressive behaviors. Subsequently, incivility has
been linked in cross-sectional research to important organizational constructs and researchers have consistently found that workplaces with high incivility have more absenteeism, higher turnover and lower job satisfaction (Cortina, Magley, Williams, & Langhout, 2001; Pearson, Andersson, & Wegner, 2001; Lim & Cortina, 2005; Martin & Hine, 2005; Caza & Cortina, 2007). While the focus of research in this area has been on incivility, in the context of strengths-based approaches to organizational change, focusing on civility offers a better alternative for interventions (Osatuke, Moore, Ward, Dyrenforth, & Belton, 2009). Instead of attempting to reduce something negative (incivility), organizations can focus on building something positive (civility) to enhance desirable qualities of the work environment (Luthans, 2002).

Both civility and incivility invite subjective interpretations of their definitions. This study adopts the definitions put forth by Andersson and Pearson (1999). They defined workplace incivility as “…low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect,” (p.457). The low-intensity nature and ambiguous intent of incivility distinguish it from more overt forms of aggression and violence. The lower intensity level creates a situation where incivility does not draw as much attention from management as other, more egregious, violations of norms. Further, Andersson and Pearson defined civility in the workplace as, “…behavior involving politeness and regard for others in the workplace, within workplace norms for respect…” (p.454) and emphasized the importance of behaving in predictably civil ways in complex social interactions in order to avoid causing offenses. Civility is the oil that makes social interaction run smoothly, reducing the friction in workplace exchanges.
As previously mentioned, nearly all articles published in this area have focused on incivility. This focus is consistent with the approach lamented by the positive psychology movement as overly concerned with deficiencies and weaknesses within individuals.

Psychology has, since World War II, become a science largely about healing. It concentrates on repairing damage within a disease model of human functioning. This almost exclusive attention to pathology neglects the fulfilled individual and the thriving community. The aim of positive psychology is to begin to catalyze a change in the focus of psychology from preoccupation only with repairing the worst things in life to also building positive qualities. (Seligman & Csikszentmihalyi, 2000, p. 5)

By focusing on the positive side of the construct, civility, there is the opportunity to align with positive psychology, which “…shifts the implicit value basis of psychological inquiry from only a deficit-focus to also an asset-focus” (Linley, Joseph, Harrington, & Wood, 2006, p.7). This shift also represents a break from the usual practice in the organizational context that, like the larger body of psychological study, focuses primarily on fixing what is perceived as broken (Luthans, 2002).

The causes of incivility are less studied than its consequences. Several books in the popular literature (e.g. Martin, 1996 & 1999; Forni, 2002) have attempted to explain the perceived decrease in civility in general society. As an explanation for the current state of affairs, Andersson and Pearson (1999) cited an overall shift in the consensus of what is acceptable behavior, along with a transformation of culture. “This has been
deemed the age of ‘whatever,’ implying that no one wants to make a judgment, impose a standard, or call conduct unacceptable,” (Morris, 1996; as cited in Andersson & Pearson, p. 453). This unwillingness to correct behavior allows unacceptable patterns of behavior to permeate societal and organizational interaction. “The relationship between coworkers was, for decades, characterized by formality yet friendliness, distance yet politeness. However, business has started to reflect the informality of society at large” (Andersson & Pearson, p. 453). The formality of the boundary between organizations and general society is weakening for a number of reasons.

As organizations have flattened and gone casual, there are fewer obvious cues as to what constitutes ‘proper’ business behavior. Scholars have cited employee diversity, reengineering, downsizing, budget cuts, increased pressure for productivity, autocratic work environments, and the use of part-time employees as causes for the increase in uncivil and aggressive workplace behaviors. (Andersson & Pearson, p. 453)

This pairing of less formal structures and increased uncertainties within organizations leads to situations where individuals do not always consider respectful and polite treatment of others a necessity.

In the first article to measure incivility, Cortina, Magley, Williams, and Langbou (2001) found, “incivility is quite prevalent in the American workplace, with over two thirds of employees reporting disrespect, condescension, social exclusion, and so forth” (p. 75). In addition to documenting the prevalence of incivility, they explored
relationships among incivility and individual and organizational level outcomes. Cortina et al. (2001) reported employees who experienced incivility considered quitting their jobs more frequently. They found a significant relationship between incivility and multiple aspects of job satisfaction beyond the effects of stress and demographic variables. In their findings, satisfaction always declined as incivility rose. They concluded their “results demonstrate that workplace incivility merits serious attention, and they replicate previous findings of job-related effects of related forms of interpersonal mistreatment in the workplace” (Cortina et al., p. 75).

Pearson, Anderssson, and Wegner (2001) conducted a qualitative exploration of incivility in the workplace. Their study provided a rich narrative in the words of a diverse sample of participants interviewed over three years. Through a series of increasingly specific questions, they explored the ambiguousness of intent to harm and the intensity level of uncivil behaviors. Their findings corroborated the “incivility spiral” theory espoused in Pearson and Andersson (1999), noting that situations where one of the targets lost face as a result of incivility are most likely to evoke behavioral responses that escalate in intensity. Participants also reported feelings of withdrawal from work and cited incivility as a reason for leaving their jobs. At the highest levels of experienced incivility, a break down of norms organization wide was reported and uncivil acts became institutionalized. The narrative nature of Pearson et al. (2001) provides some of the most compelling evidence of the effects of incivility in the current literature on the subject. The qualitative responses provide much greater insight into the human toll of incivility than is available from studies that rely on survey responses alone and magnify the importance of addressing incivility in the workplace.
In an attempt to bridge the gap between general mistreatment and sexual harassment, Lim and Cortina (2005) studied gender harassment. Gender harassment is a form of sexual harassment that does not involve sexual motive towards the target. They found a strong relationship between gender harassment and incivility, both characterized by rude, disrespectful behaviors devoid of sexual intent. They also found gender harassment provided the link to more sexualized types of harassment, with nearly all women who experienced sexual harassment reporting general incivility as well. The addition of each type of mistreatment to work histories was related to incremental worsening of outcomes, with even the lowest level, involving the experience of incivility alone, causing a decrease in occupational, psychological, and physical health.

Expanding the range of examined relationships between incivility and organizational constructs, Penney and Spector (2005) studied self and peer rated measures of incivility, self and peer rated counterproductive work behaviors (CWB), self and peer rated conflict, and negative affectivity. Correlational analyses yielded significant relationships among all variables and incivility except with peer ratings of CWB’s. However, in regression analyses with self reported CWB’s as the criterion, only the self-rated incivility by negative affectivity interaction term reached statistical significance. These results strengthen the case for incivility in the workplace as an important construct.

Caza and Cortina (2007) extended the understanding of the impact of incivility in a study of a large college population. They tested a structural model that included the cognitive mechanisms of perceived ostracism and perceived injustice. Social status of the perpetrator was also included in the model. The results of their analysis indicated targets of incivility feel socially rejected regardless of whether incivility originates from peers or
superiors, and further, this rejection could threaten needs for belonging and self-esteem. Perceptions of injustice were most strongly related to acts of incivility associated with those higher than the target in the organizational hierarchy. The finding that incivility perpetrated by individuals with greater organizational status leads to perceptions of the organization as unjust is important in the organizational context because perceptions of injustice are linked to a number of workplace outcomes including absenteeism, satisfaction, and turnover (Colquitt, Conlon, Wesson, Porter & Ng, 2001).

Civility is not synonymous with other behaviors and constructs that are prevalent in the organizational literature, such as organizational citizenship behaviors (OCB; Podsakoff, MaKenzie, Paine & Bachrach, 2000) and interactional justice (Bies & Moag, 1986). Civility differs from OCB in two important ways: target and intention. Individuals use OCB with the explicit intent of providing some type of benefit to the organization (and possibly self). Civil behaviors typically are not directed towards any specific organizational entity or person, nor are there specific intentions attached to them. Individuals report engaging in civil behaviors indiscriminately, and for no reason other than “it is the right thing to do” (Andersson & Pearson, 1999, p.454). One component of interactional justice, labeled interpersonal justice, involves being treated with honesty, respect and courtesy (Bies & Moag). While these are components of civility, interpersonal justice is concerned with these constructs as they are related to an authority figure that enacts a procedure or process. Civility, on the other hand, can occur in any situation and at any level and is thus less restricted than the interpersonal justice component of interactional justice.
Job Satisfaction

Job satisfaction is perhaps the most studied construct in organizational psychology, particularly because of its known links to outcomes such as performance (Iaffaldano & Muchinsky, 1985; Judge, Thoreson, Bono & Patton, 2001), absenteeism (Kristensen, Juhl, Eskildsen, Nielsen, Frederiksen, & Bisgaard, 2006; Wegge, Schmidt, Parkes & van Dick, 2007) and turnover (Boswell, Tichy, & Boudreau, 2005; Griffeth, Hom, & Gaertner, 2000). It is a common view that job satisfaction arises from an interaction of environmental and individual factors (Scarpello & Campbel, 1983; Spector, 1997). Much of the research on environmental factors has focused on the structural elements of the environment and not the interpersonal elements (e.g. Herzberg, Mauzner, & Snyderman, 1959; Hackman & Oldham, 1976). Hackman and Oldham incorporated the individual element of growth need strength in their model, which is conceptually similar to actualization needs in Maslow’s hierarchy. However, their model focused primarily on the specific characteristics of the work tasks such as type of work, feedback, and autonomy. Important interpersonal elements of the work environment that lead to more general job satisfaction are how people are treated and their relations with others (Spector, 1997). In this context, civility fits as an interpersonal element of the environment that is likely to affect job satisfaction. In addition, given the amount of time individuals spend at work, the level of satisfaction they feel towards their jobs is an important aspect of life. Satisfaction itself, however, is difficult to target with interventions. Establishing the nature of the causal relationships between civility and satisfaction through longitudinal analyses could provide a rationale for targeting satisfaction through interventions to increase civility.
Measurement of Job Satisfaction. Some controversy exists regarding the measurement of job satisfaction. Several authors argue that using a single-item to measure overall satisfaction is adequate (e.g., Wanous, Reichers, & Hudy, 1997; Nagy, 2002; Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005), while others advocate the use of summed facet satisfaction scales (e.g., Locke, 1969; Staines & Quinn, 1979). The arguments against using single-item satisfaction measures are typically psychometric in nature, while the arguments for their use are also psychometric, in addition to being conceptual and practical.

A primary criticism of single-item measures is the inability to compute internal consistency statistics for assessing reliability. This inability to measure reliability is often presented as evidence that the items must be unreliable as a result of the uncertainty regarding their measurement characteristics. Another psychometric concern regarding the use of single-items is the moderate to low correlations between global measures and facet scales reported in the literature. Interestingly, this is interpreted as the single-item measures not capturing the relevant information when, in fact, it is equally plausible that the facet scales are the faulty measure of overall satisfaction. Increased use of structural equation modeling in the psychological literature is also cited as a reason against the use of single-item measures because of the need to include reliable variance estimates in the model specification process (Wanous, Reichers, & Hudy, 1997). This is less of a concern than in the past, as more research conducted with reused items provides a basis for accurate, literature-based variance estimates for single-item indicators. These estimates can be included in SEM models using multiple techniques (Kline, 2005). A non-psychometric argument against single-item measures is the lack of specificity as to what
is the source of the (dis)satisfaction (Scarpello & Campbell, 1983). Inclusion of multiple facets allows for organizations to detect specific sources of positive or negative ratings, making the spread of best practices or interventions easier.

A global, single-item measure of satisfaction accounts for the elements individuals consider as important to satisfaction, which as a result of the sheer number of possible influences and resulting individual diversity, cannot be measured with facet scales (Scarpello & Campbell, 1983). The issue of single-item reliability can be addressed with the use of the Spearman-Brown correction for attenuation formula, which allows for the estimation of the minimum reliability of a single-item (Nunnaly & Bernstein, 1994). Practical considerations, while not representative of ideal research methodology, must also be taken into consideration when conducting research in the organizational context (Wanous, Reichers, & Hudy, 1997). Single-items take less effort from the perspective of survey administration and also reduce the burden for participants.

**Background and Organizational Relevance of Satisfaction and Civility in the Veterans Health Administration**

In addition to the relevance the constructs of satisfaction and civility have to the field of organizational research in general, this area of study holds immediate practical value to a specific organization. The Veterans Health Administration (VHA; the branch of the Department of Veterans Affairs that operates the nationwide hospital system) conducts an annual All Employee Survey (AES) to measure multiple elements of the work environment. Included in those elements are measures of individual level satisfaction and workgroup level civility. The AES results play an important role within the VHA because they are included in the development of action plans at the VHA.
facilities (i.e. medical centers, hospitals and clinics), thus shaping the local strategies addressing the strategic and human capital needs within the VHA hospitals across the nation. Additionally, the subsequent implementation of those action plans is reflected in upper managers’ performance measures. This prominent organizational role defines the importance of continually evaluating the psychometric qualities of the AES items and scales as well as understanding the relationships among the measured constructs.

Objectives and Hypotheses

The primary goal of this study was to use longitudinal data to determine the causal directionality of the civility-satisfaction relationship, using psychometrically sound measures. To achieve this goal, this study aimed to: 1) establish the measurement properties of the VHA AES single-item satisfaction measure, 2) confirm a one-factor model of civility as measured in the VHA AES, and 3) test path models to determine the causal patterns in the civility-satisfaction relationship. It is hypothesized that civility will be a stronger driver of satisfaction in longitudinal analyses of both a cross lagged panel and within year reciprocal influence model.

This study will extend the work of Meterko, Osatuke, Mohr, Warren, and Dyrenforth (2007) on the civility scale of the VHA AES. Meterko et al. (2007) identified the civility scale using exploratory factor analysis and multi-trait analysis of the 2004 AES data and, after its identification, the scale became an important employee metric within the VHA. In addition to its inclusion in the annual AES, the scale is used as a stand-alone instrument in conjunction with an organization development intervention strategy designed to improve civility, respect, and engagement in the workplace (CREW initiative). Currently, scales exist to measure the presence of incivility in the workplace
(Cortina, Magley, Williams, & Langhout, 2001; Martin & Hine, 2005). However, no scales purport to measure civility specifically.
Chapter II

Method

Participants and Procedures

The VHA AES, conducted by The VHA National Center for Organization Development (NCOD), is an annual census of satisfaction, civility, organizational culture, and other organizationally relevant constructs. The VHA NCOD collected AES data via internet, telephone, and paper surveys over four weeks in May-June of 2006, 2007, and 2008 with an average response rate of 70% (after data cleaning) across the three years.

Within the VHA, an onsite coordinator at every Veterans Affairs Medical Center (VAMC) and administrative office developed an organizational map linking groups of employees to their supervisors for the purpose of reporting the results of the survey. With the assistance of a computer program, the coordinators assigned unique workgroup identification numbers to each workgroup in order to create meaningful units to receive survey feedback. While the codes do not remain entirely static across time (e.g. old ones occasionally are deleted, new units get mapped to the survey), these workgroup codes are what allow for the comparison of groups across years.

As the primary focus of this study was to determine the nature of the civility-satisfaction relationship over time, it was necessary to select groups that could be matched across years from the original samples (2006 \( N = 149,628 \); 2007 \( N = 164,905 \); 2008 \( N = 164,502 \); \( N \) of groups \( \approx 14,000 \)). The first step of selecting matched groups resulted in 6,166 groups with data for all three years (\( N 2006 = 105,685 \); \( N 2007 = 110,620 \); \( N 2008 = 107,591 \)). The structural equation modeling (SEM) methods used in
this study require cases with no missing data, and as a result, I chose to use listwise deletion of individuals in the matched groups missing any values on the satisfaction or civility scale items ($N_{2006} = 88,558; N_{2007} = 92,351; N_{2008} = 90,170; N$ of groups = 6,155). The primary arguments against the use of listwise deletion are loss of power and poor representativeness of the remaining data (Allison, 2002). As initial sample sizes were large, the loss of power was not an issue for this study. Although sample sizes changed by a large percentage (56.6% average decrease, average $\Delta N = 90,473$), sample means, standard deviations, and correlations remained stable. The Appendix provides tables comparing original sample means and correlations to the study sample. The number of deleted cases is a function of the survey methodology combined with the choice to use listwise deletion. Nearly 90% of the responses for the survey are received via the internet and the design of the web based interface does not require answers to be given before moving to the next question. Therefore if, either by intention or accident, an employee left one out of twenty items (12 satisfaction, 8 civility) blank, their record was removed from the sample. The same issue applies to the paper and telephone versions of the survey as well, but their comparatively small usage dictates lesser impact. Additionally, the operational environment of the VHA makes the imputation of data undesirable, as explaining complex imputation methods would potentially generate suspicion regarding the application of research findings. In this context, imputation would create more problems than the technique would solve. The final sample sizes also represent the additional restriction of using groups containing between 4 and 40 members. This was done at the low end to eliminate groups that were underrepresented or atypical in size and on the high end for those that were most likely not representative of
functioning groups as a result of poor mapping at the facility level (2006 \( N = 67,733 \); 2007 \( N = 70,592 \); and 2008 \( N = 69,290 \); \( N \) of groups = 4,766).

The qualifying survey participants came from 136 different VAMC’s and 29 administrative offices covering 50 states, and Puerto Rico. I present the demographics for the combined, three year sample because the proportions were similar from year to year. The sample was 61.3% female, 35.4% male, and 3.3% did not identify a gender. The racial and ethnic breakdown of the sample was 65.7% white, 19.2% African American, 7.0% Hispanic, 8.9% Asian, 5.6% Native American, and 4.1% Pacific Islander. The race and ethnicity categories sum to more than 100% because individuals could choose more than one option. The AES collected age information in six, 10-year ranges and the three most selected were 30-39 years (15.6%), 40-49 years (28.4%), and 50-59 years (37.2%).

Survey Measures

The VHA used an 8-item measure of civility, and 11 facet satisfaction items (satisfaction with type of work, amount of work, pay, coworkers, supervision, senior management, promotion opportunities, working conditions, customer satisfaction, praise, and quality of work provided) as well as a single-item measure of overall satisfaction: “Compared to what you think it should be, what is your current overall level of satisfaction with your job?” Survey participants filled out the questionnaire under the instruction to think about their experiences over the previous six months. Table 1 displays the civility items that used a 5-point Likert-type response scale ranging from (1) *Strongly Disagree* to (5) *Strongly Agree*. The overall and facet satisfaction items used a 5-point response scale ranging from (1) *Not At All Satisfied* to (5) *Very Satisfied*. 
Table 1

_Civility Scale Items from the VHA All Employee Survey_

1. People treat each other with respect in my work group.
2. Disputes or conflicts are resolved fairly in my work group.
3. A spirit of cooperation and teamwork exists in my work group.
4. This organization does not tolerate discrimination.
5. Differences among individuals are respected and valued in my work group.
6. Managers/Supervisors/Team leaders work well with employees of different backgrounds in my work group.
7. The people I work with take a personal interest in me.
8. The people I work with can be relied on when I need help.

**Analysis**

_Individual Level Analyses._ Prior to including the single-item satisfaction measure from the VHA AES in the path analyses, this study sought to establish its reliability and validity. In order to accomplish this, I used the approach of Wanous et al. (1997) and Dolbier et al. (2005), which involved first correlating the individuals’ score on the single-item overall satisfaction measure with their summed facet items score to establish convergent validity. Second, the Spearman-Brown correction for attenuation formula was used to establish the minimum reliability of the single-item overall satisfaction measure. In the correction for attenuation formula shown in Equation 1:

\[
\hat{r}_{xy} = \frac{r_{xy}}{\sqrt{r_{xx}r_{yy}}}
\]

the assumed, true underlying correlation between the single-item measure and the summed facets is represented by \(\hat{r}_{xy}\), the observed correlation is \(r_{xy}\). The value of interest is the reliability of the single-item \(r_{xx}\), and \(r_{yy}\) is reliability of the summed facet satisfaction items. For this analysis, I used \(r = 1.0\) for the underlying, true correlation
even though it is perhaps overly conservative (Wanous, et al.) to assume a perfect relationship between a limited number of facets and overall satisfaction.

*Confirmatory Factor Analyses.* In order to extend the work of Meterko et al. (2007) and demonstrate that the civility scale is adequately represented by a single factor for subsequent inclusion in the path analyses, I conducted a CFA using a single-factor model on the datasets for all three years individually, beginning with 2006, and moving to subsequent years for cross-validation. All analyses utilized maximum likelihood estimation with covariance matrices. As a result of a priori content analysis of the questions and prior analyses with the civility scale (e.g. Meterko et al. 2007), I included correlated error terms between items 3, 7, and 8 because all items contain shared language regarding interpersonal relationships and cooperative effort and are likely to be correlated beyond what would be accounted for by the hypothesized civility construct (Cole, Ciesla & Stieger, 2007). Similarly, I included correlated errors between items 1, 4, 5, and 6 because these items contain shared language about respect for individuals and valuing diversity and also are likely to be correlated beyond what would be accounted for by the hypothesized civility construct (Cole, et al., 2007). Figure 1 shows the hypothesized single factor civility model for the CFA. With the intent of testing factor stability across time, I conducted an invariance test using multiple group analyses with progressively stricter parameter restrictions to determine the best method for fitting the model across all three years as suggested by Byrne (2001). The various restricted models were nested within the original, unconstrained model for comparison. By this method I could establish if the factor loadings, variances, and covariances are equivalent over time, which would provide psychometric support for the civility factor as a stable construct.
Figure 1. Hypothesized single factor model of civility for CFA. Refer to Table 1 for text of items.

Aggregation tests. In order to determine the appropriateness of aggregating civility and satisfaction scores to the workgroup level for subsequent path analyses, I calculated intraclass correlation coefficients --ICC(1) and ICC(2) -- for the civility and single-item satisfaction scores in all three years. ICC values were calculated according to Bliese (2000), using a one-way random effects ANOVA framework where ICC(1) is calculated with Equation 2 and ICC(2) is calculated with Equation 3.

\[
\text{ICC(1)} = \frac{\text{MS}_{\text{between}} - \text{MS}_{\text{within}}}{\text{MS}_{\text{between}} + (N - 1)(\text{MS}_{\text{within}})}
\]

(2)

\[
\text{ICC(2)} = \frac{\text{MS}_{\text{between}} - \text{MS}_{\text{within}}}{\text{MS}_{\text{within}}}
\]

(3)

The values for ICC(1) are interpreted as a measure of the amount of variance in the individual level scores that can be explained by group level properties in the data (Bliese & Halverson, 1998). It is an indication of how representative the group level mean is of
the individuals’ scores for a measure. The values for ICC(2) are interpreted as a measure of the reliability of group level means and are equivalent to coefficient alpha (McGraw & Wong, 1996). A concern when considering aggregating to the group level is an imbalance in group sizes because the number of individuals in a group is a component of the denominator for calculating ICC(1). As the groups varied in size from 4 to 40 members, the correction for group size reproduced in Bliese & Halverson (1998b) was explored and found to be almost identical to average workgroup size. As a result, the average workgroup sizes ($N$ in Equation 2) of 14.21, 14.81, and 14.54 were used in the calculation of the ICC(1) values for 2006, 2007, and 2008 respectively.

**Workgroup Level Analyses.** In order to determine the causal directionality of the civility-satisfaction relationship, I analyzed a cross-lagged panel model and a panel model that included within year reciprocal influence using three years’ of workgroup level data. To reiterate, a work group mapping approach was used to create survey feedback units; that is, onsite coordinators defined which employees were grouped together within the VAMCs and administrative offices. Therefore, it was desirable to take an aggregation approach using workgroup (or business unit) level means for the path analysis ($N = 4,766$). Koys (2001), Harter, Schmidt, & Hayes (2002), and Rentsch & Steel (2003) advocate for this methodology because the data represent meaningful organizational units, and single-item reliability is improved as scores represent an average of many individuals. Figures 3 and 4 show the final path models analyzed. As both measures came from the same self-report survey, error correlations were included in the model to help account for both common source and common method effects.
Chapter III

Results

Civility Scale

Descriptive statistics and correlations for the civility scale items for 2006, 2007, and, 2008 are displayed in Table 2.

Table 2
Descriptive Statistics and Correlations for AES Civility Scale Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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</tr>
<tr>
<td>1</td>
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<td>1.28</td>
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<tr>
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<td>3.34</td>
<td>1.28</td>
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<td></td>
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<tr>
<td>3</td>
<td>3.56</td>
<td>1.25</td>
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<td>0.71</td>
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<td></td>
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</tr>
<tr>
<td>4</td>
<td>3.79</td>
<td>1.24</td>
<td>0.51</td>
<td>0.57</td>
<td>0.52</td>
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<td>0.70</td>
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<td>0.68</td>
<td>0.76</td>
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<td>0.46</td>
<td>0.58</td>
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<tr>
<td>2007</td>
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<tr>
<td>2</td>
<td>3.39</td>
<td>1.28</td>
<td>0.78</td>
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<td>3</td>
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<td>0.67</td>
<td>0.49</td>
<td>0.60</td>
<td>0.55</td>
<td>0.71</td>
</tr>
</tbody>
</table>

All correlations significant at \( p < .01 \). Refer to Table 1 for text of items. 2006 \( N = 67,733 \); 2007 \( N = 70,592 \); and 2008 \( N = 69,290 \).
Single-item Satisfaction and Aggregation Tests

Table 3 shows the means, correlations, ICCs, and reliability estimates of the survey measures across the three-year period at the workgroup and individual levels, where appropriate. Correlations between the single-item satisfaction measure and the summed facet scales were high and stable across years (2006 $r = .80$, 2007 $r = .81$, 2008 $r = .81$), indicating good support for convergent validity. The correlations of the single item and summed facets, along with the Cronbach’s alpha for the summed facets ($\alpha = .89$ for all years), were inserted into Equation 1 to establish the minimum reliability of the single item measure. The minimum reliability estimates for the three years of single-item satisfaction measures were slightly lower than the Cronbach’s alpha for the summed scales, however, they were still of a magnitude generally considered to indicate good reliability. The positive findings regarding the validity and reliability of the single-item satisfaction measure provided support for the subsequent inclusion of the item in the path analyses.

The ICC(1) values for the civility scale indicated there was adequate influence of group membership for aggregating to the workgroup level and the ICC(2) values, indicating the reliability of the group level scores, were all above the widely used cutoff of .70 (Bliese, 2000). Both of these scores justified the use of civility scores at the workgroup level for the path analyses. However, the low ICC(1) values for overall satisfaction did not provide support for aggregating to the workgroup level as they indicated the individual level satisfaction scores were not sufficiently influenced by group membership. Additionally, the ICC(2) values for the single-item satisfaction measure fell below the .70 cutoff; indicating less than desirable reliability for the group
level scores. As a result of the low ICC values, I used the proportion of group members reporting a 4 (satisfied) or 5 (very satisfied) on the overall satisfaction question in the subsequent path analyses. The conceptual linkage between the civility and proportion of favorable responses on the satisfaction measure is that groups with higher civility levels were expected to have more individuals in a group who report they are satisfied or very satisfied with their jobs overall. Using the proportion of favorable responses enabled me to conduct the analyses without relying on aggregated satisfaction measures that did not meet acceptable cutoffs.

*Confirmatory Factor Analyses*

*Individual Year CFA.* To demonstrate the civility scale is adequately represented by a single factor solution and to extend the work of Meterko et al. (2007), I conducted a CFA of a single factor model. First, I fit the model to the 2006 data (standardized factor loadings range .63-.90). The model was then fit to the 2007 (standardized factor loadings range .64-.91), and 2008 datasets for cross-validation purposes (standardized factor loadings range .65-.91). The strength of the factor loadings in each year provided strong evidence of good fit as factor loadings above .4 are generally considered to be quality indicators (Kline, 2005). Table 4 shows the model fit statistics for each year. The $\chi^2$ values are large and significant, indicating a lack of fit between the observed and model implied covariance matrices. There is substantial debate in the field of SEM regarding the upward biasing of $\chi^2$ estimates as a result of large sample size. Some researchers indicate significant $\chi^2$ values should stop further interpretation of model fit regardless of sample size (e.g., Hayduk, 1996) while others posit alternative fit indices were created for just that reason (e.g., Kline, 2005). While hesitant to overlook significant results indicating
model misfit, very large samples such as in the current study lead me to relax the concern over apparent misfit based on $\chi^2$ values. Small implied residual covariances (range -.034 to .031) provided further support for this position. All other fit indices indicated very good fit. These findings provided support for the inclusion of the civility scale scores in the path analyses on the basis of the well fitting, single-factor model.

**Invariance Testing.** In order to test the stability of the single-factor structure of the civility scale over time, I conducted invariance testing using the covariance matrices according to the steps outlined by Byrne (2002). The first step of invariance testing constrained factor loadings, the second step constrained factor loadings and variances, and the third step constrained factor loadings, variances, and covariances. Table 4 displays the model fit statistics of the invariance testing. For each successive step of the invariance test there was a significant increase in $\chi^2$ values. These significant results indicated that constraining the model parameters to be equivalent did not result in improved model fit over individually estimating the parameters for each year. However, the values of the unstandardized factor loadings in the unconstrained model across the three year period differ by a maximum of |.02|. In light of the relatively small increase in $\chi^2$ and the small discrepancies between factor loadings, I posit the significant change in $\chi^2$ ($\Delta \chi^2 = 52.70, p < .01$) for the model with constrained factor loadings is also a result of the large sample sizes. This leads me to conclude that the factor loadings of the civility scale are invariant across time. By indicating the factor loadings are stable over time, the results of the invariance tests are further evidence of the psychometric soundness of the civility scale of the VHA AES. Figure 2 shows the CFA model with the values for the constrained factor loadings and ranges of the variance and covariance estimates. Raw
estimates are provided in the diagram as the standardized estimates can fluctuate as a result of the freely estimated variance components involved in their computation. Additionally, the indicator items are all measured on the same scale reducing the need to standardize for the purposes of interpretation.

![Diagram of factor loadings and ranges for unstandardized variance and covariances.](image)

*Figure 2. Single factor model of civility with unstandardized invariant factor loadings and ranges for unconstrained variances and covariances.*

**Longitudinal Civility-Satisfaction Path Analyses**

In order to address the primary goal of the study, I conducted path analyses with two separate models to test the causal directionality of the civility-satisfaction relationship. The fit of the two path models was very similar; with the cross-lagged model, displayed in Figure 3, exhibiting slightly better fit according to $\chi^2$ values. In this model, the consistent pattern of higher civility coefficients on the crossed paths provided evidence for the causal directionality in the civility-satisfaction relationship. Higher civility levels in previous years lead to an increased proportion of satisfied individuals in subsequent years, while the satisfaction effects were non-significant and near zero. The reciprocal influence model, shown in Figure 4, had stronger path values, lower error
correlation values, and explained more variance in proportional satisfaction. The consistent pattern of higher coefficients on the civility paths, and greater variance explained for satisfaction, indicated that higher contemporary civility scores lead to a greater proportion of satisfied individuals. The stronger path values, and greater variance explained, implied the contemporary influence was more important than that of previous years. In addition to the $\chi^2$, SRMR, and RMSEA values listed in Figures 3 and 4, both models had NFI = .99, GFI = .99, and CFI = .99, indicating excellent fit. All standardized residual covariances for both models were less than $|2|$, indicating the significant chi square values may be influenced by the large sample sizes as described by Kline (2005).

These findings provide evidence that an environment characterized by positive interpersonal treatment, a climate of civility, leads to higher proportions of satisfied individuals within workgroups. To some researchers conducting work on interpersonal treatment these findings may seem intuitive; however, this information has not been discernable from previous cross-sectional research in this area.
Table 3. Means, Correlations, ICCs, and Reliability for Measures Across Years and Levels

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Mean</th>
<th>σ</th>
<th>Mean</th>
<th>σ</th>
<th>ICC(1)</th>
<th>ICC(2)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Satisfaction</td>
<td>67,733</td>
<td>3.77</td>
<td>1.12</td>
<td>3.77</td>
<td>0.48</td>
<td>0.09</td>
<td>0.59</td>
<td>(.72)</td>
<td>.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Satisfaction</td>
<td>70,592</td>
<td>3.76</td>
<td>1.13</td>
<td>3.77</td>
<td>0.48</td>
<td>0.09</td>
<td>0.60</td>
<td>.39</td>
<td>.73</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Satisfaction</td>
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<td>3.82</td>
<td>1.11</td>
<td>3.83</td>
<td>0.47</td>
<td>0.09</td>
<td>0.60</td>
<td>.30</td>
<td>.39</td>
<td>.74</td>
<td>.60</td>
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</tr>
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<td>0.98</td>
<td>3.61</td>
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<td>.39</td>
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<td>0.16</td>
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<td>.65</td>
<td>.38</td>
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<td>6 Civility</td>
<td>69,290</td>
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<td>0.97</td>
<td>3.71</td>
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<td>0.16</td>
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<td>.31</td>
<td>.39</td>
<td>.66</td>
<td>.53</td>
<td>.63</td>
<td>.93</td>
</tr>
</tbody>
</table>

Workgroup level N = 4,766. All correlations p < .01. Correlations below diagonal are workgroup level and represent workgroup civility means correlated with proportional satisfaction data. Above the diagonal are individual level correlations. Values on the diagonal are reliability estimates based on individual level responses: Cronbach's alpha for Civility Scale, Spearman-Brown minimum reliability for single-item measure using true r = 1.0.
Table 4. Civility Scale CFA and Invariance Test Results

<table>
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<tr>
<th></th>
<th>$\chi^2$</th>
<th>df</th>
<th>RMR</th>
<th>GFI</th>
<th>AGFI</th>
<th>RMSEA</th>
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<td>Factor Loading Invariant</td>
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<td>14**</td>
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<td>0.995</td>
<td>0.994</td>
<td>0.016</td>
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*Δ $\chi^2$. **Δ df.
Figure 3. Path Analysis diagram of a cross-lagged panel for longitudinal satisfaction and civility data showing standardized estimates. Dotted lines represent non-significant hypothesized paths dropped from final model. Accounted variances are bolded.

Figure 4. Path Analysis diagram of longitudinal satisfaction and civility data with reciprocal influence within year showing standardized estimates. Dotted lines represent non-significant hypothesized paths dropped from final model. Accounted variances are bolded.
Chapter IV

Discussion

The primary goal of this study was to establish the causal directionality of the civility-satisfaction relationship. As a precursor to this goal, it was desirable to establish the measurement properties of the instruments used to measure both constructs to increase confidence in the findings. These measurement properties included the factor structure of a multi-item civility scale and the reliability and validity of a single-item satisfaction measure used in the VHA.

This study confirmed and cross validated a single factor model of civility as measured by the VHA AES civility scale. Further, multiple group analysis confirmed the time invariance of the scale factor loadings providing additional psychometric support for the scale. The results of this study also provided support for the use of single-item satisfaction measures by demonstrating convergent validity and minimum reliability of the VHA AES single-item measure. I also found support for the hypothesized causal directionality of the civility-satisfaction relationship; civility had a stronger influence on satisfaction than vice versa. Accurate measurement is foundational to psychological inquiry and the confirmation of the measurement properties of the civility scale and single-item satisfaction measure provide confidence for the inferences drawn from data collected with these measures.

Theoretical Implications

In this study, individual and group level analyses showed civility and job satisfaction to be quite highly correlated (See Table 3). The strength of this relationship is noteworthy, considering the differences in the definitions of the constructs. This finding
provides quantitative support to the qualitative evidence collected by Scarpello and Campbell (1983). When conducting interviews about job satisfaction, the authors used a free response question regarding factors that influence satisfaction but are not included on the Job Descriptive Index (JDI). Responses to this question pointed, among other things, to the pleasantness of interactions with people at work, cooperative coworkers, and the enjoyment of interacting with different, interesting people as additional aspects of the work environment that contributed to satisfaction. These areas have substantial overlap with the items in the VHA civility scale that measure cooperation, diversity, and respect among coworkers.

The ICC support for aggregating civility data and the lack of support for aggregating satisfaction data are conceptually consistent with the levels of measurement for each construct. Satisfaction is an inherently individual construct whereas the rating of civility refers to an environmental factor outside the individual. The empirical support for these conceptual relationships is strong evidence for the multi-level aggregation approach in research that uses these constructs and other constructs of a similar nature.

Both path models in this study provided support for the hypothesis that civility is a stronger driver of satisfaction than vice versa. While the cross-lagged panel displayed slightly better fit statistics, the reciprocal model showed stronger path weights and explained more variance in the constructs of interest. Additionally, the reduced error correlations suggest that modeling the influence of civility on satisfaction within years is important as they reflect a reduction in the importance of the relationship between causes of the constructs not included in the model (error), some of which are assumed to be common (e.g., measured by the same instrument). Even with marginally poorer fit, the
reciprocal influence model is a better conceptual fit to the data from a practical perspective as the contemporary influence of current civility levels in the workgroup is more salient than conditions from the previous year. This model is also more appropriate from an intervention perspective as individuals are encouraged to work in the “here and now” to address elements of the environment they would like to build upon or change. Further, the stronger evidence for causal directionality from civility to satisfaction indicates that improving the interpersonal environmental conditions in the workplace can lead to improved satisfaction.

**Implications for OD Field Work**

In the organizational context, civility holds merit as a stand alone construct. Additional relationships to other relevant organizational constructs, such as job satisfaction, increase the imperative of attending to an already important environmental element. The longitudinal nature of the data in this study provided the opportunity to establish evidence for a stronger causal link for civility driving satisfaction. The implication of this finding is relevant in the context of organizational interventions because it identifies a behaviorally based environmental construct, civility, which can be targeted as an intervention focus to increase satisfaction. Environmental drivers or antecedents provide greater opportunity for intervention than personal characteristics because of the difficulty associated with changing characteristics such as personality. Additionally, an environmental factor related to interpersonal treatment, like civility, offers an easier alternative than intervening around other environmental factors such as job type and autonomy. While job type and autonomy may be important drivers of satisfaction (Spector, 1997), organizational constraints often dictate the status of those
factors. Intervening around civility has shown to be effective for improving civility levels (Osatuke et al., 2009) but satisfaction has not been evaluated in this context. Given the amount of time spent at work, an environment of “…love of thy neighbor” (Andersson & Pearson, 1999, p. 1) characterized by mutual respect among individuals represents an end state organizations should work to achieve in exchange for the efforts of employees.

**Study Limitations**

One limitation of this study is that it does not take into account possible other causes for the measured levels of civility and satisfaction. For instance, as much of the data in this study are collected from direct healthcare providers, negative interactions among workgroup members with patients could drive low civility and satisfaction scores. This study does not provide a perfect measure of invariance because the data were matched at the workgroup versus individual level. As a result of turnover, the individuals in the study were not exactly the same people over the three year period, although I believe the match among years for group membership was high enough to provide the data for answering the question of interest. A further limitation is that the employee participants of the study come from one organization. However, the geographic and occupational diversity of the VHA provides a buffer against the claim of an overly homogeneous sample. The VHA operates medical care delivery sites in all 50 states and encompasses a broad spectrum of occupations including doctors, nurses, accountants, engineers, housekeepers, social workers, psychologists, administrative personnel, researchers, police officers, and many others (>170 distinct occupations with >50 employees). Another limitation of the study is the potential for influence by common source and common method variance. While the modeling took this concern into account
with correlated errors, the full impact of the influence of common method/source is unknown.

**Future Directions**

In this study, the anonymous nature of the AES data limited longitudinal analyses to the mapped, workgroup level. Future explorations with data matched at the individual level could provide additional insight regarding the relationship between civility and job satisfaction. Some exploration has been done regarding organizational interventions designed to improve civility (Osatuke, et al., 2009), however, the concurrent influence of such interventions on satisfaction has not been analyzed. Future explorations into the relationship between civility and satisfaction in this context are warranted, to determine if increases in civility as a result of intervention also result in increases in satisfaction.
References


Bliese, P.D. (2000) Within-group agreement, non-independence, and reliability:


*Personnel Psychology* 36, 577-600.


### Appendix A. Comparison of Full Sample and Study Sample Means, SD’s, and Correlations*

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*Above diagonal correlations are for the study sample, below diagonal correlations are for the full sample.

Full sample 2006 \( N = 149,628 \); 2007 \( N = 164,905 \); 2008 \( N = 164,502 \).

Study sample 2006 \( N = 67,733 \); 2007 \( N = 70,592 \); and 2008 \( N = 69,290 \).