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### Doing Good, Feeling Good: Examining the Role of Organizational Citizenship Behaviors in Changing Mood

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# Doing Good, Feeling Good: Examining the Role of Organizational Citizenship Behaviors in Changing Mood

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## Abstract

This study investigates whether the altruism and courtesy dimensions of organizational citizenship behaviors (OCB) regulate mood at work. Social psychological theories of mood regulation suggest helping behaviors can improve individuals' moods because helping others provides gratification and directs attention away from one's negative mood. We capture mood states prior to and following the enactment of OCBs using experience sampling methodology in a sample of managerial and professional employees over a 3-week period. Results suggest altruism shows a pattern consistent with mood regulation; negative moods during the prior time period are associated with altruism and positive moods in the subsequent time period. The pattern of results for courtesy behaviors is only partially consistent with a mood regulation explanation. Consistent with theories of behavioral concordance, interaction results suggest individuals higher on Extroversion have more intense positive mood reactions after engaging in altruistic behaviors. Interactions with courtesy were not significant.

“By helping you, perhaps I was trying to lift up my life a trifle. Heaven knows anyone's life can stand a little of that.” ~ *E. B. White, from Charlotte's Web*

As suggested by the quote above, the idea that helping others might make one feel better is not novel. The idea that “doing good” may lead to “feeling good” has been described in the context of altruistic behavior (Schaller & Cialdini, 1988; Williamson & Clark, 1989), volunteer behavior (Clary & Snyder, 1991; Omoto & Snyder, 1995), and spending money on

others rather than oneself (Dunn, Aknin, & Norton, 2008), all with the underlying idea that engaging in acts of helping others will improve one's affective state.<sup>1</sup> Indeed, even accumulating research in the animal domain suggests that helping and cooperation among animals may be driven by the resulting positive affective state (e.g., Perelberg & Schuster, 2008). Thus, these “doing good-feeling good” processes have been used to explain important individual behaviors. However, the preponderance of research on affect and organizational citizenship behavior (OCB) in organizational literatures presumes that positive mood is the driver of OCB rather than the idea that positive mood might instead result from OCB; “feeling good” leads to “doing good” (George & Brief, 1992). In examining this relationship at the momentary level, we take the view that negative mood may influence OCB, and positive mood follows from OCB rather than precedes OCB, consistent with a doing good-feeling good idea.

We draw upon the social psychology literature to suggest why negative mood may be a potential antecedent of OCB. Taylor (1991) suggests that negative stimuli may promote social activity and states that “affiliation with others appears to be a basic response to threat” (p. 71). Taylor (1991) goes on to describe how theories of social support and social comparison have as “core assumptions the idea that stressful, ambiguous, or fear-arousing conditions lead people to seek out the company of others” (p. 71). In accordance, we posit that negative mood, rather than the oft-studied positive mood (e.g., Carnevale & Isen, 1986; Isen & Levin, 1972), may also promote social forms of OCB (i.e., altruism and courtesy) because OCBs may function as a mood regulation mechanism (Larsen, 2000; Zevon & Tellegen, 1982) and promote positive mood. Experimental work (Carlson & Miller, 1987; Cialdini & Kenrick, 1976; Schaller & Cialdini, 1988) has suggested negative mood as a predictor of altruism (one dimension of OCB; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). For the most part, however, organizational research has neglected the role of negative mood in OCB. As noted in George and Brief's (1992) influential work on the related construct of organizational spontaneity:

All in all, positive mood states are proposed to facilitate or foster the five forms of organizational spontaneity. Notably absent from this discussion has been any mention of the influences of negative moods on organizational spontaneity. The influence of negative moods on behaviors like these is much less clear-cut. ... Thus, we consider positive mood states to be the force behind organizational spontaneity. This does not mean that researchers should completely abandon negative mood in the study of spontaneity, because this is probably premature.

Recent reviews and critiques of emotions research (see Fineman, 2006; Grandey, 2009) reiterate the idea that negative emotions are often neglected. We respond to these calls in the literature by explicitly focusing on the role of negative mood. This study contributes to the literature on mood and OCB in several ways. First, we examine the mood regulation utility of

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<sup>1</sup> Affect encompasses both specific emotions and more diffuse moods. We acknowledge that moods and emotions are complex, multidimensional constructs. We use the term affect to describe the more general experiences of positive and negative emotions and mood. We use the term mood when discussing a state-level experience of positive or negative mood.

the OCB dimensions of altruism and courtesy<sup>2</sup>—components of a behavioral construct widely studied in the organizational sciences (Podsakoff et al., 1990) and relevant to individual and organizational effectiveness. OCB is recognized as a primary component of individual-level effectiveness (Harrison, Newman, & Roth, 2006) and is also related to organizational-level effectiveness (Koys, 2001; Podsakoff & MacKenzie, 1997; Podsakoff, Whiting, Podsakoff, & Blume, 2009) as suggested by associations with outcomes such as performance, turnover, efficiency, productivity, customer satisfaction, and reduced costs. Thus, understanding the antecedents and outcomes of this organizational phenomenon can help promote individual and organizational functioning. However, theories of OCB have not explored extensively mood regulation as a possible function of OCB, although the social psychology literature would suggest that altruism and courtesy may function as mechanisms of mood regulation (Larsen, 2000) and “mood repair” (Carlson & Miller, 1987; Cialdini & Kenrick, 1976; Schaller & Cialdini, 1988), possibly because negative affect drives people to seek out the company of others (Taylor, 1991). But there are important restrictions in the generalizability of the social psychological mood regulation and altruism literature to a work setting because in much of that research, (a) mood is manipulated rather than caught in a naturally occurring mood stream, (b) a helping opportunity is presented to participants rather than volitionally engaged in by participants, and (c) participants are students in lab settings with few behavioral constraints rather than employees with many behavioral constraints in the form of organizational norms and expectations. It is critical to highlight these considerations in generalizing findings because Briner and Kiefer (2005) note that few empirical studies assess emotions when they are “experienced.” By examining the OCB components of altruism and courtesy occurring naturally in a work setting and whether they function as mood regulation, this study contributes to the burgeoning theoretical and empirical research on antecedents of OCB (e.g., Bolino, 1999; Vey & Campbell, 2004) as well as to the limited research on mood regulation in organizational contexts.

Second, we examine the moderating role of Extroversion on the mood regulation capabilities of altruism and courtesy. Extroversion is a particularly relevant individual difference in this study because of the concordance between the social aspects of altruism and courtesy and the social proclivities of individuals high in Extroversion (Costa & McCrae, 1992; Moskowitz & Côté, 1995). Specifically, we propose that extroverts in particular will evidence mood change from altruism and courtesy due to the social nature of these exchanges. Unlike much of the work on personality and OCB, which examines direct effects, we examine the moderating role of Extroversion on the OCB and mood relationship.

Finally, we test our hypotheses in a real work setting using techniques suited to dynamic theory. As Organ and Ryan (1995) noted, the prediction of OCB from affective states would

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<sup>2</sup> Although LePine, Erez, and Johnson (2002) suggest the different dimensions of OCB are strongly related to one another and evidence similar relationships with other constructs in their nomological network, we focus on altruism and courtesy because they are more social forms of OCB and therefore more likely to operate under the mood regulation mechanisms we theorize. Further, from a practical perspective, the sportsmanship and civic virtue dimensions (Podsakoff et al., 1990) are less likely to occur in the momentary time context of this study and are also potentially conditional on organizational events (e.g., keeping up with organizational changes, attending meetings and functions voluntarily, etc.) making it difficult to assess them in an experience sampling context. In addition, in terms of organizational relevance, there is greater evidence that helping behaviors are associated with organizational performance, but the relationship of dimensions such as sportsmanship and civic virtue with organizational performance is mixed (Podsakoff & MacKenzie, 1997).

be a possible avenue for future research, but “this line of inquiry will somehow have to reckon with the problem of detecting discrete episodes of OCB (rather than subjective reactions that presumably reflect aggregations or trends of OCB over time) and the psychological states antecedent to or concurrent with those episodes” (p. 781). Only a few studies have empirically examined the relationship between momentary state mood and OCB (see for some exceptions Miner, Glomb, & Hulin, 2005; Ilies, Scott, & Judge, 2006), and we know little about the variability or functioning of OCB in real time, within person, and in organizational settings. Therefore, we capture fluctuation in moods and OCBs and their relationships at work in real-time using experience sampling methodology (ESM), an approach considered to be most appropriate to capture in vivo moods (Grandey, 2009). Given calls in the emotions (Grandey, 2009) and the wider management literatures (see Johns, 2006) to incorporate the role of context, we examine the mood–OCB relationship in a sample of managerial and professional employees from a Fortune 100 company.

## **Derivation of Hypotheses**

### ***Mood Regulation***

Research on mood regulation from the social psychological literature has consistently found that negative moods have a large impact on a variety of phenomena and that individuals engage in a range of processes and behaviors to reduce or remove the negative moods (see for reviews, Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Larsen, 2000; Taylor, 1991). Negative stimuli capture attention and may require more resources because of their novel or surprising nature; negative emotions function as a cue that some action must be taken (Schwarz, 1990) or that resources should be mobilized to maintain a hedonic neutral point (Solomon & Corbit, 1974). Research has suggested that individuals are generally in positive moods (Diener & Diener, 1996; Watson, 2000), a finding that has also been supported in the work context (Miner et al., 2005; Miner & Glomb, 2010). The underlying theoretical notion of mood regulation is that individuals seek to maintain this psychological neutral or a slightly positive point (Watson, 2000) through some response. Thus, negative moods at work are important because they represent a deviation from a desirable neutral point, and individuals engage in mood regulation actions to reduce this deviation.

Tice and Bratslavsky (2000) suggest there are six types of mood regulation (i.e., getting out of a good/bad mood, getting into a good/bad mood, or maintaining a good/bad mood). They also state that “according to self-reports, attempts to get out of a bad mood occur more frequently than the other five kinds of mood regulation put together (see Parrott, 1993; Tice & Baumeister, 1993).” Thus, attempts to regulate a negative mood are ubiquitous and have been proposed as a potential antecedent for many behaviors in everyday settings, including helping others (Clark & Isen, 1982). This research underscores the important role of negative mood and addresses the important activity of mood regulation. Yet, these attempts to “get out of a bad mood” have not been examined extensively in a work context. Although there are a variety of strategies for regulating mood, we believe the OCB dimensions of altruism and courtesy may be exemplars of the behaviors engaged in a work setting to change mood. Indeed, Larsen (2000) reports “helping others” in his taxonomy of possible mood-regulation strategies; this taxonomy was generated based on individual reports of things people do to get out of a negative mood (but was not specific to a work context). Research has also suggested

that people believe a variety of acts of helping (e.g., donating money, helping to pick up papers) will improve their mood (Harris, 1977) and that even just agreeing to help can improve mood (Batson, Coke, Jasnosi, & Hanson, 1978; O'Malley & Andrews, 1983). Lab research also suggests mood improvements following helping in a wide variety of laboratory manipulations (Harris, 1977; Williamson & Clark, 1989; Yinon & Landau, 1987). We posit and test the associations of two dimensions of OCB—altruism and courtesy—with mood change over time.

### *Altruism and Courtesy as Mood Regulation*

Research on the relationship between mood and OCB is complex. The role of positive mood in helping (similar to the OCB dimension of altruism) has been consistently recognized in laboratory studies where “under normal circumstances positive affect promotes helpfulness, generosity/responsibility, and friendliness/sociability” (Isen, 2000, p. 424). Researchers examining mood on the job have also argued for the critical role of positive mood in predicting altruism as well as OCB in general (George, 1991; George & Brief, 1992; Isen & Baron, 1991). George and Brief (1992) suggest that positive moods may be associated with helping because being in a good mood evokes mood congruent information and primes people to feel positively toward others, because positive moods may increase the interpersonal attractiveness of others, which increases the likelihood of helping, or because people in good moods help others to maintain their good mood. Although these postulates suggest positive mood is associated with increased helping, there are important considerations.

First, much of the research has examined or posits the effect of mood on OCB rather than the effect of OCB on mood. As noted by Grant and Sonnentag (2010), “sparse research has examined how the experience of helping others influences employees’ affective states.” Moreover, much of the research on OCB is cross-sectional using a correlational design and thereby is unable to determine the direction of the effect. Although associations between positive mood and OCB have often been interpreted to mean that being in a positive mood will promote OCB, it is equally plausible that OCB will promote a positive mood; it may be that “feeling good” leads to “doing good” (George & Brief, 1992) or, alternatively, that doing good leads to feeling good.

Second, research has suggested relationships between helping and mood repair that are consistent with mood regulation explanations. Theoretical and empirical research has suggested that engaging in altruistic behaviors can be one method of mood regulation or “mood repair” (Carlson & Miller, 1987; Cialdini & Kenrick, 1976; Schaller & Cialdini, 1988) as helping others may promote improved mood for those in a negative moods. For example, Shaffer and Graziano (1983) found that for individuals in a negative mood, the likelihood of helping was increased if they thought the task would improve mood (but decreased if they felt the task would worsen mood). The possibility that altruism and other forms of OCB might regulate mood has not been examined extensively in a work context.

Third, much of this research has not captured naturally occurring mood as a fluctuating, intra-individual affective state. Instead, mood is manipulated (in a lab setting) or mood is likened to broader affective constructs (e.g., job satisfaction) or trait-level measures of affective

disposition (e.g., positive affectivity or negative affectivity; Dalal, 2005; Organ & Ryan, 1995) in organizational settings. Only a few studies have examined mood and OCB using a dynamic approach in a work context. For example, in the Ilies et al. (2006) study, momentary mood assessed at the end of the workday was significantly associated with retrospective reports of OCBs during the workday; OCB was associated with positive mood. However, in this study, reports of current mood and OCB over the course of the day were assessed concurrently near the end of the workday, and therefore, causal statements are inappropriate. It may be that OCBs enacted during the day served to improve mood reported at the end of the day—an explanation that would be consistent with a mood regulation mechanism for OCB.

In contrast, in an experience sampling study by Miner et al. (2005), there were no statistically significant effects observed between OCB and mood. In their study, reports of momentary state mood and a global report of OCBs were assessed concurrently four times each day. A non-significant effect for OCB and mood using a similar method was also reported in Miner and Glomb (2010). Miner et al. (2005) suggest that the expectation that momentary positive mood will be related to OCB may not always be tenable because one needs to consider different dimensions of OCBs and different motivations for OCBs as they may have different implications for mood relations. Altruism and courtesy may be the OCB dimensions most likely to be associated with changes in mood.

Altruism and courtesy, the more socially oriented forms of OCB that are directed at other individuals rather than at organizations (Williams & Anderson, 1991; Podsakoff, MacKenzie, Paine, & Bachrach, 2000) are most likely to evidence mood change because these types of behaviors are most consistent with the operation of mood regulation and our theoretical rationale that social activities are often reactions to negative moods (Taylor, 1991). If negative affective states make people seek out others, then the likelihood of helping and courtesy may be increased. In their study of eudemonic behaviors and their association with well-being, Steger, Kashdan, and Oishi (2008) found that engaging in behaviors that were inherently meaningful had more impact on promoting well-being than engaging in behaviors that were inherently hedonistic. Using a set of daily diary studies of undergraduates, the set of eudemonic behaviors that promoted well-being and positive mood included several behaviors akin to altruism (e.g., volunteering one's time and giving money to others). In a work context, Heaphy and Dutton (2008) have proposed social interaction to have important physiological and psychological effects. Specifically, these authors suggest that positive social interactions at work generate physiological resourcefulness that contributes to work recovery and engagement in one's work role. Research from the organizational sciences is complemented by studies from social psychology on altruistic behavior and the ways in which it may regulate mood.

In their review of the relationship between negative mood and helping, Carlson and Miller (1987) propose a troika of theoretical mechanisms for a possible relationship. The first, the negative state relief model (Cialdini, Darby, & Vincent, 1973), posits that the underlying motivation for altruistic actions is a desire to overcome a negative mood and “feel better.” Individuals in a negative mood engage in altruistic behavior because such actions provide gratification (Cialdini & Kenrick, 1976). The second theoretical explanation, the attentional focus model, suggests that focusing on the misfortunes of others will activate an empathetic response, which increases the reward value of helping. Therefore, the negative mood—

altruism relationship is qualified by the focus of attention: When attention is directed outwards toward others, negative mood will increase helping, but when attention is directed toward oneself, negative mood will not influence and perhaps decrease helping (Thompson, Cowan, & Rosenhan, 1980). Similar results have been observed for courtesy behaviors—negative moods induce more systematic information processing and attention deployment and are associated with higher courtesy behaviors (see Forgas, 1999). The third theoretical explanation, the responsibility/objective self-awareness model, suggests that self-awareness and feelings of responsibility can increase helping. Helping behavior is increased by creating attributions of responsibility for the negative mood and creating standards for helping others. Responsibility for helping others may be particularly salient in a work setting such as that under study here.

In this study we do not specifically posit any one of these theoretical mechanisms. Instead, we adopt these underlying theoretical mechanisms for the relationship between negative mood and altruism, and suggest that individuals may engage in altruism or courtesy (a) because of the gratitude or friendly acknowledgement that results from coworkers, (b) because these behaviors would serve to direct attention away from oneself and one's negative mood, and (c) because of the improvement in mood and increased likelihood of altruism and courtesy that is associated with social activity.

- *Hypothesis 1: Negative mood will be associated with higher enactment of the OCB dimensions of altruism and courtesy in the subsequent time period.*
- *Hypothesis 2: Enactment of the OCB dimensions of altruism and courtesy will be followed by positive mood.*

### ***The Moderating Effect of Extroversion***

To this point we have assumed that behavior–mood relationships will be essentially similar for all individuals. Clearly, that is not likely to be the case; engaging in behaviors to regulate mood will be differentially efficacious for different people. As noted by Larsen (2000), “Persons may differ in the strategies they employ for mood regulation, or in the frequency or successfulness of those mood-regulating behaviors” (p. 134). We propose that personality will influence the relationship between mood regulation and altruism and courtesy behaviors.

Previous studies have shown the importance of personality traits in the interplay of behaviors and mood. Côté and Moskowitz (Côté & Moskowitz, 1998; Moskowitz & Côté, 1995) proposed and tested the idea that personality traits operate, at least partially, by engendering positive affective reactions when congruent behavior is enacted. This notion of behavioral concordance (Côté & Moskowitz, 1998; Moskowitz & Côté, 1995) suggests that mood may be influenced by concordance between personality and behavioral enactment; positive mood results from behaviors that are concordant with one's personality. For example, individuals high on the trait of Agreeableness experienced greater levels of positive affect when they were behaving in an agreeable manner than individuals who were lower on the Agreeableness trait; individuals at the opposite pole for Agreeableness, those high on quarrelsomeness, experienced more positive affect when they were acting in a quarrelsome manner than those low on quarrelsomeness (Moskowitz & Côté, 1995). Similar findings have been shown for



other personality traits (e.g., dominance, Extroversion, Neuroticism; Côté & Moskowitz, 1998; Moskowitz & Côté, 1995). The behavioral concordance model has the potential to explain the processes that govern enactment of OCBs and their effects on mood. In this study, we examine the role of the personality trait of Extroversion based on its concordance with the altruism and courtesy dimensions of OCB. In doing so, we help to answer the question posed by Larsen (2000) in his seminal piece on mood regulation: “Are certain personality variables associated with using specific [mood regulation] strategies either more effectively or more frequently? For example, do extraverts engage in more active socializing, helping others, and talking to a friend or mentor than introverts?” (p. 138).

### ***Extroversion***

Research on Extroversion has consistently underscored the key facets of extroverts relating to sociability and seeking stimulation; individuals high on Extroversion are more likely to be social, gregarious, active, and outgoing (Costa & McCrae, 1992; Lucas & Fujita, 2000; Watson, Clark, McIntyre, & Hamaker, 1992). Extroversion is also associated with the biobehavioral process of approach (as compared to avoidance; Carver, Sutton, & Scheier, 2000; Gray, 1972, 1981). According to the behavioral concordance model, extraverts should experience relatively intense positive mood when acting in a manner that is consistent with their extroverted traits. For example, in Côté and Moskowitz (1998), extroverts not only reported engaging in agreeable interpersonal behaviors more frequently, they also reported more pleasant mood when doing so. In the context of our study, extroverts should experience positive mood when actively engaged in helping others and when acting in a socially outgoing manner. As discussed earlier, the altruism and courtesy components of OCB represent such a social, outwardly focused set of approach behaviors. Hence, these citizenship behaviors would be most concordant with the trait of Extroversion and, thus, would serve to enhance positive mood most effectively for those high on Extroversion.

- *Hypothesis 3: Extroversion will moderate the altruism–mood and courtesy–mood relationships; individuals high on extroversion will experience stronger positive mood after enactment of altruism or courtesy compared to individuals low on extroversion.*

We note that research on personality and OCB has reported associations with some other personality traits; specifically, Conscientiousness and Agreeableness are observed as antecedents of OCB (Organ & Ryan, 1995; Podsakoff et al., 2000). The trait of Extroversion has received only minimal support as a predictor of OCB (see Moon, Hollenbeck, Marinova, & Humphrey, 2008 for specific facets of Extroversion as antecedents of OCB). However, consistent with Larsen's (2000) propositions, the focus of this study is on the moderating role of Extroversion in predicting mood following OCB rather than examining a main effect of Extroversion on OCB.

## Method

### *Participants*

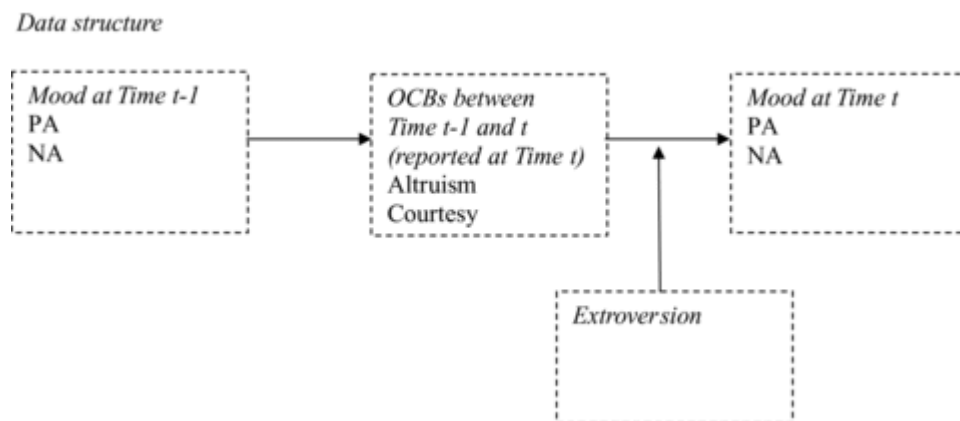
Using ESM, 68 employees in professional and managerial positions at the headquarters of a Fortune 100 midwestern diversified technology company responded to randomly signaled surveys presented on palmtop computers for 3 weeks. Participants were primarily professional/managerial employees and worked in a variety of functions. A majority of the participants were female (54%), White (94%), had a college degree or higher (73%), with an average age of about 42 years. The participants had an average tenure of about 14 years and worked close to 44 hours a week, on average.

### *Procedure*

Employees in several organizational functional areas were invited to participate in the research. No compensation was offered for participating in the study. Eighty-five interested employees attended an initial training session in which participants were given an overview of the study, provided a PalmIII™ palmtop computer for study administration and instructed in its use, and completed a paper-and-pencil survey that included a measure of Extroversion. Upon completion of the 3-week experience sampling period, participants were asked to attend a debriefing session to return the palmtop computer, complete an additional paper-and-pencil survey (not discussed in this study), and receive a study debriefing. Of the 85 employees that participated in initial training sessions, 69 attended the debriefing sessions, and 68 returned the palmtop computers with adequate usable data. There were no statistically significant differences between respondents who completed the study and those who only completed the survey at the initial training session on any variables, including demographic (e.g., gender, race, age, tenure, education) and personality (i.e., extroversion) variables.

As suggested by Ilies et al. (2006) in their study of OCB, which was assessed at one time point at the end of each day, “future research should include multiple surveys (at least two) on each day to enable lagged analyses over shorter time frames (3–4 hours versus approximately 24 hours in our study)” (p. 569). Our experience sampling approach achieves this goal of shorter timeframes. The experience sampling portion of this study included two different types of surveys: morning and workday. Each participant was signaled to respond to one “morning” survey to assess baseline mood and four short (1–2 minute) “workday” surveys per day that included questions about moods and the behaviors of altruism and courtesy (see Figure 1 for a representation of the data structure). Morning surveys were completed upon arrival at work, and workday surveys were set to occur at random intervals within 7.5 hours, stratified so that no signals occurred within 30 minutes of a previous one.

Figure 1. Data Structure.



*Note.* The representation above suggests only two time points. However, participants completed up to four surveys reporting their moods and OCBs at each time point in addition to the morning survey that queried mood only.

Each participant completed an average of 29.3 (SD 10.6, range 11–49) workday surveys and an average of 10.8 (SD 2.4, range 5–15) morning surveys. A total of 2,730 (1,993 workday plus 737 morning) surveys were completed.

### **Measures**

**Mood measure** Items from the hedonic tone, positive activation, and negative activation dimensions of the mood circumplex derived by Russell (1980) and Larsen and Diener (1992) were administered. Respondents indicated whether they were experiencing the mood state (e.g., happy, anxious, distressed, enthusiastic) described by each item at the signal by tapping “0 = not at all,” or one of 24 points on a continuum shown on the screen anchored by “a little” and “very much.” A space was inserted between the “0 = not at all” option and the continuum to distinguish not experiencing an affective state from feeling it to differing degrees. When appropriate, items were reversed scored so that higher scores represent more positive or negative mood. Respondents were instructed to respond how they felt *when the beep went off*.

For the morning survey, 28 items were administered to provide a baseline mood measure of negative mood (e.g., distressed, hostile, nervous, jittery, relaxed, calm, at rest) and positive mood (e.g., elated, enthusiastic, strong, active, sleepy, sluggish). At each workday administration, 10 items were sampled from the set of 28. Sampling items enabled the assessment, during each day, of a broader range of affective states than would be possible if the survey items were fixed. Sampling also avoided priming participants to attend to their specific affective states (e.g., enthusiastic) because it was difficult to predict which items would be asked at each signal (see Côté & Moskowitz, 1998 for a similar procedure). Four items were repeated at every time period (satisfied, unhappy, distressed, active), and each of

the remaining items appeared at least once per day. The order in which the four sets appeared during the day was determined randomly without replacement.

Because items were sampled, each of the four workday surveys had a different composition of mood items representing positive and negative mood. Thus, mood scores vary according to true variance on the underlying mood dimension plus specific variance on the items included in a given item set. To remove mean and standard deviation differences in measured mood due to differences among the item sets, scores on each of the five item sets (morning survey plus the four shorter workday surveys) were standardized across all signals and all participants. Thus, 0 on the negative mood dimension represents the mean score for a given item set across all signals and persons.

*Altruism and courtesy measures* Five altruism items were drawn from the Morrison (1994) scale and were modified for use in this study. Modifications included removing items that were unlikely to occur within a short timeframe (e.g., helping orient new people) or in this sample (e.g., helping patients and visitors). Because the number of items we could ask in an ESM environment is limited, other items were modified slightly to represent a combination of, or an extension to, existing items to enable the capture of a greater number of altruistic behaviors with a small number of items (e.g., “Covering for absent coworkers” was augmented to “Covered for coworkers who were absent or on break”). Because the Morrison (1994) scale does not include courtesy items, we adopted three items to assess courtesies used in Moorman (1993) adopted from the Podsakoff et al. (1990) scale, again modifying and combining items to be relevant to a short timeframe and broad enough to capture multiple types of courtesy behaviors with a small number of items. Such an approach is consistent with other ESM studies (e.g., Judge, Scott, & Ilies, 2006). Because most survey measures are typically designed to assess OCB at the between-persons level rather than the within-persons level, between-persons surveys can include a greater number of items to assess a construct and items to assess behaviors that occur only occasionally. Thus, modifications of existing scales are necessary. Items are reported in Table 1.

Because of the timeframe between signals (average of a 2 hours), a frequency-based response scale would not be appropriate in this context as individuals would be unlikely to engage in these behaviors multiple times within this short time frame. Thus, consistent with other ESM work (e.g., Miner et al., 2005), we used a dichotomous response option in which participants checked whether or not they had engaged in each behavior *since the last signal* at each signal. Confirmatory factor analysis at the signal level using Mplus 4.0 with dichotomous observed measures of two underlying factors yielded fit indices of RMSEA = .047 and CFI = .92, both indicating good fit (Bentler, 1990; Browne & Cudeck, 1993). Because of the short time frame and expectation that behaviors within a subcategory would function similarly, the subscales were scored dichotomously such that, if any of the behaviors that comprise the subscale were reported at the particular survey, respondents received a 1 for the scale, otherwise they received a 0.

Table 1. Endorsement of OCB Items<sup>1</sup> Aggregated Across Signals and Participants

Item text	% of signals endorsed
<i>Altruism items</i>	
Helped someone outside my workgroup?	32
Spent time helping others with their work tasks because I wanted to?	23
Cooperatively worked with others?	59
Volunteered to do things to help out in the department?	12
Covered for coworkers who were absent or on break?	10
<i>Courtesy items</i>	
Taken steps to prevent problems with other workers	16
Checked with others before doing something that would affect their work?	17
Ignored petty disputes among coworkers?	05

1. Note. <sup>1</sup>The item stem was, “Since the last beep have you ... ” n = 1993 signals.

**Personality measures** Extroversion was measured using Goldberg's (1997, 2006) public-domain International Personality Item Pool (IPIP) scales. The average correlation between domain markers for the NEO-FFI (Costa & McCrae, 1992) and the corresponding scales in the IPIP is high and increases when corrected for attenuation due to the unreliabilities of both scales. Prior to the start of the ESM portion of the study, a pre-survey was administered in which respondents indicated how accurately each statement described him or herself for 10 Extroversion items (e.g., “am the life of the party”) on a “*very inaccurate*” to “*very accurate*” scale ( $\alpha = .88$ ).

Neuroticism was also measured and included as a control variable in these analyses. Neuroticism is marked by a lack of emotional stability and a predisposition to experience negative emotions such as anxiety, stress, and worry at a relatively intense level and for extended durations (Costa & McCrae, 1980; 1992; additional control variables are discussed below). Neuroticism was also assessed using Goldberg's (1997, 2006) public-domain IPIP scale with 10 items (e.g., “get stressed out easily”) on a 1 = *very inaccurate* to 5 = *very accurate* scale ( $\alpha = .90$ ).

#### *Analytic Strategy*

Our analyses were conducted using STATA 10.0. Analyses focused on the mood–behavior relationships occurring within a particular day. Signals occurred at quasi-random times, which reduce the possibility of systematic time of day effects. Yet, ESM data such as these contain time-based dependencies that must be accounted for. Thus, models within the multilevel framework are considered where (a) mood at signal  $t$  is regressed on behaviors

engaged since signal  $t - 1$  after controlling for mood at signal  $t - 1$  and (b) behavior at signal  $t$  is regressed on mood at signal  $t - 1$  after controlling for behaviors at signal  $t - 1$ . By controlling for the outcome at the previous time point, the effect of the mood or behavior as a predictor is interpreted as the effect the predictor has on a *change* in the outcome. In addition, the baseline morning mood for each day, collected upon arrival at work, was included as a control for whether survey participants might be predisposed to be in a positive or negative mood on a particular day (i.e., having a good or bad day). All models control for whether the participant was in the first or second wave of data collection given possible changes due to organizational announcements, changes, or time of year effects (data were collected in two 3-week waves with approximately 1 week between the two). Models also control for the weekday given potential effects of the day of the week on mood and behaviors (Egloff, Tausch, Kohlmann, & Kronhne, 1995).

Additional models were fit to examine the moderating effect of Extroversion on the Level-1 mood and behavior associations. The continuous mood variables were standardized across all individuals. Because altruism and courtesy were measured dichotomously, no centering or standardizing of these variables was performed for these analyses. (As a check, models in which exogenous variables were person centered showed no changes in significance or direction of the results and are not reported.)

With respect to effect size estimates, researchers caution the use of pseudo  $R^2$  measures in multilevel models (e.g., Singer & Willett, 2003; Snijders & Bosker, 1999). Therefore, as recommended, we provide information on model deviance (an indicator of model fit) and the Wald statistic that enables testing the composite hypotheses about multiple effects (Singer & Willett, 2003). As Cortina and Landis (2009) explain, small effect sizes need not always be indicative of weak results (see also Prentice & Miller, 1992). They cite as an illustrative example ESM studies (Ilies et al., 2006) in which large amounts of within-person variance are explained—variance that is typically neglected.

## Results

### *Behavioral Frequencies*

Table 1 contains the frequencies of the altruism and courtesy behaviors aggregated across all 68 participants and 1993 workday signals. Because sampling experiences and behaviors occur in natural contexts and at random times, the mean frequency of a variable becomes an estimator of its true frequency in situ. Helping outside one's work group and engaging in cooperative actions were among the most frequently reported altruism behaviors, and initiating actions to prevent problems for coworkers or checking on things that would affect their work were the most frequently reported courtesy behaviors.

### *Correlations*

Insight into simple relationships between study variables is complex in an ESM context. Examining either within-person correlations at the signal level or between-persons correlations of variables aggregated to the person level makes interpretations vulnerable to the ecological fallacy and may mask important effects by mixing between- and within-person variance. Recognizing these limitations, we provide both within-person and between-person correlation matrices. However, we recognize that caution must be taken in interpreting

relationships from either matrix. A between-persons correlation matrix was constructed by aggregating the signal-level data to the person level and is presented in Table 2. The within-person correlation matrices are discussed below with their associated multilevel analyses.

Table 2. Means, Standard Deviations, and Bivariate Correlations for Study Variables Aggregated to the Person Level

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6	
1	Positive mood <sup>a</sup>	□□.00	.58	–						
2	Negative mood <sup>a</sup>	–.00	.55	–.24	–					
3	Morning positive mood	□□.01	.67	□□.87	–.36□□	–				
4	Morning negative mood	–.02	.69	–.30	.89	–.33	–			
5	Altruism	□□.72	.23	□□.02	.09	–.04	.00	–		
6	Courtesy	□□.31	.22	–.01	.35	□□.05	.41	.31	–	
7	Extroversion	32.99□	7.47□	□□.12	–.05□□	□□.11	.01	.19	.18	–
8	Neuroticism	23.40□	6.95□	–.14	.23	–.17	.14	–.04□□	.10	–.25

*Note.*  $n = 68$ . Correlations greater than .24 are significant at  $p < .05$ , and correlations greater than .31 are significant at  $p < .01$ .

<sup>a</sup>Aggregate of daily mood measures with the exception of the morning mood.

### **Multilevel Results**

The multilevel nature of these data (i.e., signals, nested within days, nested within persons) leads to variability, which can be characterized or modeled at different levels: variability between-persons and variability within-person. Simple partitioning of the variance reveals 59% and 61% of the variability for positive and negative mood, respectively, comes from within-day variability and between 70% to 87% of the variability in the altruism and courtesy behaviors comes from within-day variability, respectively.

We consider the companion questions of how altruism and courtesy are precipitated by mood and how these behaviors influence mood. When considered jointly, results predicting OCBs from mood and the prediction of moods from OCBs shed light on our research questions. Although our focus is on the effect of negative mood on OCB and OCB on positive mood, we examine the effect of both positive and negative mood both before and after OCB to examine the confluence of both positive and negative mood states on OCB.

Predicting OCB from positive mood and negative mood Hypothesis 1 predicts that negative mood will be related to higher enactment of altruism and courtesy behaviors. The within-person correlations, collapsed across all employees provide support for this idea; negative mood during the previous time period is significantly related to altruism ( $r = .07, p < .05$ ) and courtesy ( $r = .08, p < .05$ ) such that negative mood is associated with higher behavioral enactment of OCBs (see Table 3). Positive mood during the previous time period is unrelated to either altruism or courtesy behaviors. Thus, negative mood is associated with subsequent behaviors, consistent with Hypothesis 1.

Table 3. Within Person Correlations for Analyses Predicting Altruism and Courtesy From Positive Mood and Negative Mood

	Altruism	Courtesy
Previous altruism	.32	.05
Previous courtesy	.11	.22
Previous positive mood	.03	.04
Previous negative mood	.07	.08
Extroversion	.08	.13
Neuroticism	-.02	-.01

*Note.*  $n = 1256$ . Correlations greater than .04 are significant at  $p < .05$ , and correlations greater than .07 are significant at  $p < .01$ .

This finding is supported in the multilevel analyses (see Table 4). Negative mood at the previous signal is a statistically significant predictor of altruism ( $\hat{\gamma} = .27, p < .05$ ; odds ratio =  $\exp(0.27) = 1.31$ ) such that individuals experiencing a 1 standard deviation higher negative mood at signal  $t - 1$  have 1.31 the odds of reporting engaging in altruistic behavior “since the last beep” at signal  $t$ . The effect of negative mood at the previous signal predicting courtesy does not reach conventional levels of significance ( $\hat{\gamma} = .14, p < .10$ ; odds ratio =  $\exp(.14) = 1.15$ ) but is in the predicted direction such that individuals experiencing a 1 standard deviation higher negative mood at the previous signal have 1.15 the odds of indicating that they have engaged in courtesy behaviors since the previous assessment. Coefficients for previous positive mood are not significant.



**Table 4.** Results of HLM Analysis Testing Effects of Positive Mood and Negative Mood on Altruism and Courtesy Behaviors

	Altruism	Courtesy
Intercept ( $\hat{\gamma}_{00}$ )	-1.86□	□-2.91**
Previous altruism ( $\hat{\gamma}_{01}$ )	□□□.61**	-.03
Previous courtesy ( $\hat{\gamma}_{02}$ )	□□□.38*	□□□□.52**
Previous positive mood ( $\hat{\gamma}_{03}$ )	-.03	-.00
Previous negative mood ( $\hat{\gamma}_{04}$ )	□□□.27**	□□.14
Extroversion ( $\hat{\gamma}_{05}$ )	□□□.06*	□□□.05*
Neuroticism ( $\hat{\gamma}_{06}$ )	□□.02	□□.00
Wald $\chi^2$	□50.65**	□24.53**
Model deviance	1268.35□□□	1382.35□□□□

*Note.*  $n = 1,256$  signals. The entries for the predictor variables are estimates of the fixed effects ( $\gamma_s$ ). The effects for the wave and day of the week controls are not shown in these tables. Variables identified as “previous” are measured at the signal ( $t - 1$ ) immediately preceding a target signal ( $t$ ). For the models with altruism and courtesy as outcomes, the estimates associated with the effect of moods represent the log odds increase (or decrease) in doing the behavior, given a 1 standard deviation increase in the mood. Model deviance, which is an indicator of model fit, is based on  $-2$  log likelihood; as per the smaller-is-better criterion, the model with the smaller value indicates a better overall fit (Burnham & Anderson, 2002; Cavanaugh, 2005).

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

Note that previous enactments of OCB, both altruism and courtesy, are controlled for in these analyses. Thus, the above results are observed after accounting for the idea that the best predictor of future behavior is past behavior (Ajzen, 1991). Overall, these results provide support for Hypothesis 1.

***Predicting negative mood and positive mood from behaviors*** Hypothesis 2 predicts that enactment of altruism and courtesy behaviors will regulate moods, resulting in higher positive mood following their enactment. Examination of the within-persons correlations, aggregated across people, suggests statistically significant relationships between previous behaviors and subsequent mood. As shown in Table 5, previous altruism is significantly related to higher positive mood ( $r = .10, p < .05$ ). Interestingly, previous courtesy is positively related to both positive mood ( $r = .06, p < .05$ ) and negative mood ( $r = .11, p < .05$ ).

**Table 5.** Within Person Correlations for Analyses Predicting Positive Mood and Negative Mood From Altruism and Courtesy Behaviors

	Positive mood	Negative mood
Morning positive mood	.42	-.17
Morning negative mood	-.16	.40
Previous positive mood	.46	-.11
Previous negative mood	-.09	.42
Altruism	.10	.03
Courtesy	.06	.11
Extroversion	.09	-.05
Neuroticism	-.02	.16

*Note.*  $n = 1993$ . Correlations greater than .04 are significant at  $p < .05$ , and correlations greater than .06 are significant at  $p < .01$ . Variables identified as “previous” are measured at the signal ( $t - 1$ ) immediately preceding a target signal ( $t$ ).

The results of the multilevel analyses also reveal that both altruism and courtesy are related to positive mood (Table 6), that is, engaging in an altruistic behavior results in a statistically significant increase in positive mood ( $\hat{\gamma} = .23$ ,  $p < .01$ ) as does engaging in a courtesy behavior ( $\hat{\gamma} = .10$ ,  $p < .01$ ). These results are after controlling for the significant effects of morning positive mood and positive mood at the previous signal.

Engaging in courtesy behaviors ( $\hat{\gamma} = .10$ ,  $p < .05$ ) is also statistically significantly related to negative mood as the outcome variable. These results are after controlling for the significant effects of morning negative mood and negative mood at the previous signal. Thus, results support Hypothesis 2 for altruism behaviors and provide partial support for courtesy behaviors.

**Table 6.** Results of HLM Analysis Testing Effects of Altruism and Courtesy Behaviors and Personality-Behavior Interactions on Positive Mood and Negative Mood

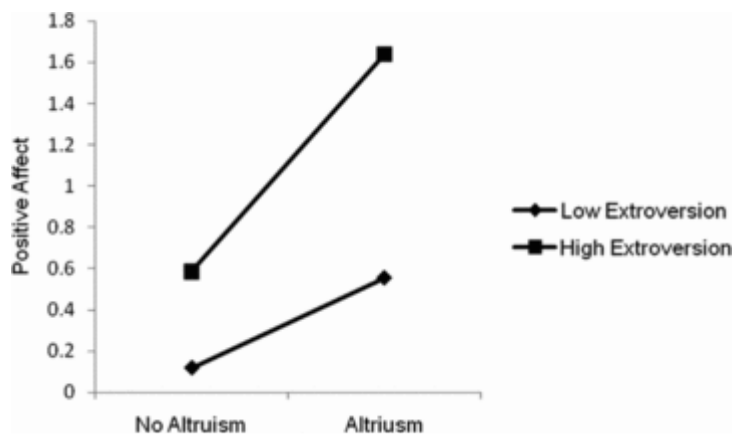
	Positive mood	Negative mood
<i>Main effects model</i>		
Intercept (baseline $\hat{\gamma}_{00}$ )	.15*	.01
Morning positive mood (baseline $\hat{\gamma}_{01}$ )	.18**	-.02
Morning negative mood (baseline $\hat{\gamma}_{02}$ )	-.06*	.17**
Previous positive mood (baseline $\hat{\gamma}_{03}$ )	.11**	-.04
Previous negative mood (baseline $\hat{\gamma}_{04}$ )	-.01	.14**
Previous altruism (baseline $\hat{\gamma}_{05}$ )	.23**	.03
Previous courtesy (baseline $\hat{\gamma}_{06}$ )	.10*	.10*
Extroversion (baseline $\hat{\gamma}_{07}$ )	.02*	-.00
Neuroticism (baseline $\hat{\gamma}_{08}$ )	.00	.01
$\chi^2$	301.54	166.53
Model deviance	4,754.17	4,966.34
<i>Moderated effects model</i>		
Effect of Extroversion on:		
Intercept ( $\hat{\gamma}_{00}$ )	.08	.02
Previous altruism ( $\hat{\gamma}_{05}$ )	.21**	.02
Extroversion ( $\hat{\gamma}_{07}$ )	.01*	-.00
Extroversion * altruism ( $\hat{\gamma}_{08}$ )	.01*	.01
$\chi^2$	257.98	155.64
Model deviance	4,748.47	4,965.04
<i>Moderated effects model</i>		
Effect of Extroversion on:		
Intercept ( $\hat{\gamma}_{00}$ )	-.03	.02
Previous courtesy ( $\hat{\gamma}_{06}$ )	.11**	.10*
Extroversion ( $\hat{\gamma}_{07}$ )	.01	-.00
Extroversion * courtesy ( $\hat{\gamma}_{09}$ )	.01	.00
$\chi^2$	253.33**	165.87**
Model deviance	4,751.83	4,966.30

*Note.*  $n = 1993$  signals. The entries for the predictor variables are estimates of the fixed effects ( $\gamma_s$ ). The effects for the wave and day of the week controls are not shown in these tables. Variables identified as “previous” are measured at the signal ( $t - 1$ ) immediately preceding a target signal ( $t$ ). For the models with moods as outcomes, the estimates associated with the effect of altruism and courtesy represent the expected standard deviation increase (or decrease) in mood given the behavior engaged in since the last beep. Following Ilies et al. (2006), the moderating effects of Extroversion were estimated in separate models for altruism and courtesy; these models included the same set of controls included in the main effects models, and only coefficients of the key variables of interest are noted. Model deviance, which is an indicator of model fit, is based on  $-2 \times \log$  likelihood; as per the smaller-is-better criterion, the model with the smaller value indicates a better overall fit (Burnham & Anderson, 2002; Cavanaugh, 2005).

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

**Extroversion interactions** Hypothesis 3 examined the role of Extroversion in moderating the altruism–mood and courtesy–mood relationships. Incorporation of the interaction effects for Extroversion suggests more nuanced complexities of the altruism findings. In addition to the main effect of Extroversion on positive mood, there was a statistically significant interaction for Extroversion and altruism in the prediction of positive mood ( $\hat{\gamma} = .01$ ,  $p < .05$ ). The coefficient of the Extroversion and courtesy interaction, however, was not statistically significant. The results provide partial support for Hypothesis 3 and indicate that individuals engaging in altruistic behaviors who are high on Extroversion have higher increases in positive mood than individuals low on Extroversion (see Figure 2). Note that analyses involving Extroversion were performed at the between-person level ( $n = 68$ ).

Figure 2. Extroversion and Altruism Interaction.



## Discussion

This study suggests a mood regulation explanation for the OCB categories of altruism and courtesy may be plausible. Results provide preliminary support for the idea that engaging in OCB behaviors that are more externally focused, behaviors that are social in nature such as helping another person, may be one mechanism for regulating moods at work. Results suggest that altruism in particular seems to have potential as a mood regulating behavior given its pattern of relations with mood. This effect appears to be particularly strong for individuals high in Extroversion.

**Altruism and courtesy as mood regulation** Although the pattern of our results suggests preliminary support for OCB as a possible route to mood regulation, the dimensions of altruism and courtesy showed different patterns, with the pattern of altruism results more consistent with that expected of mood regulation. Results suggest that engaging in altruism may actually change mood; negative mood preceded altruism, which in turn was associated with higher positive mood. Our findings for courtesy are more mixed in the extent to which they adhere to a mood regulation pattern. Courtesy is not predicted by negative mood at traditional levels of statistical significance (it is significant at a 10% level), and courtesy is related subsequently to both higher negative mood and higher positive mood, suggesting both mood regulation and mood maintenance effects.

Given the difficulties of assessing moods and behaviors at very short, discrete time intervals within an organizational setting, it is difficult to claim causality as in an experimental design. We can, however, claim evidence for a core component of causality, temporal precedence (Cook & Campbell, 1979) for the altruism results. Our results for altruism are supportive of the relationship between negative mood and altruism based on the underlying theoretical mechanisms (though not formally tested) proposed by Carlson and Miller (1987) that helping behaviors may result in feelings of gratitude from coworkers, or to focus the attention away from the individual affective state, or to generate social activity. Although it may not be initially apparent, the relationship between negative mood and altruism found in our study complements the well-established relationship between positive mood and helping behaviors (George, 1991; Isen, Clark, & Schwartz, 1976; Salovey, Mayer, & Rosenhan, 1991) given the different timing and methods of assessments of mood and OCB; depending on the timing of the assessment, altruism may be linked to negative mood (before behavior) or positive mood (after behavior). This result also suggests that altruism, long considered beneficial to organizational functioning, may also be beneficial to the moods of employees.

As indicated earlier, our findings for courtesy do not adhere to the mood regulation pattern as clearly. Supplemental analysis indicated that these results were influenced by the item “Checked with others before doing something that would affect their work,” which is associated with both positive mood and negative mood. It may be that actions to verify work tasks with other individuals may be perceived as either obligatory hassles, in which case they sustain a negative mood, or as opportunities to interact and be courteous, in which case they regulate mood. The result suggestive of the mood maintenance properties of courtesy behaviors is similar to the argument of Isen and colleagues that certain types of helping behaviors may adversely affect mood. Thus, these results provide preliminary evidence that courtesy behaviors may follow either a mood-regulation or mood-maintenance pattern. These courtesy associations should be examined further to determine the potential implications for mood.

In general, our findings are consistent with research on other forms of altruism and helping behaviors. For example, the functional theory of volunteerism (Clary & Snyder, 1991; Omoto & Snyder, 1995) highlights different motivations for why individuals engage in prosocial behaviors such as volunteering and suggests individuals do so in order to maintain or enhance positive mood. This mood enhancement contributes to the growth and development of the individual's ego, thereby serving as one of the motivational functions for volunteerism (Clary et al., 1998). A recent study by Grant and Sonnentag (2010) suggests that perceiving that your work helps and benefits others ameliorates the effects of negative task and self perceptions on emotional exhaustion in employee samples (although they did not measure helping behaviors directly). Therefore, our results from an organizational context are consistent with “doing good–feeling good” processes in other research.

**Moderating role of Extroversion** The moderating effect of Extroversion on the relationship between altruism and positive mood suggests heightened reactivity to this possible mood regulation behavior for individuals high in Extroversion. Specifically, individuals higher on Extroversion have more intense positive mood reactions after altruistic behaviors. Thus, the social, outwardly focused behaviors of altruism may be particularly efficacious in changing mood for those high in Extroversion. A recent corollary finding in an experimental study reported that extroverts in a positive mood state were more likely to engage in helping behavior (Barnes, Ilies, Hollenbeck, Nahrgang, & Schwind, 2006); this increased likelihood may be due to the improved mood extroverts receive from engaging in altruistic behaviors.

Consideration of the role of Extroversion in moderating the altruism–mood relationship suggests that for individuals higher on Extroversion, engaging in helping behaviors may also be related to the emphatic arousal associated with altruistic actions (Penner, Dovidio, Piliavin, & Schroeder, 2005). Thus, engaging in OCB may not be solely to adhere to norms of social responsibility and reciprocity that encourage helping so that individuals maintain positive self-images (Penner et al., 2005) but may be one avenue of individual mood enhancement, especially for those higher on Extroversion. This adds complexity to the issue of motivations for OCB as they are likely to differ not just between individuals, but, quite possibly, over time. This is congruent with the functional approach to examining OCB, which argues that there may be multiple motives for engaging in altruistic behaviors; two people engaging in OCB may not have the same motives (Rioux & Penner, 2001).

The results for the Extroversion and courtesy interaction were not statistically significant. It may be that courtesy is not as efficacious as a mood regulation strategy for extroverts given that it often does not involve behaviors that are overtly social but rather suggest consideration of one's behavior on others (e.g., taken steps to prevent problems with other workers). Another reason for the lack of statistical significance of the Extroversion–courtesy interaction may be the small sample size on which these relationships were tested—the Extroversion moderator is tested at the between-persons level.

### **Practical Recommendations**

Our results suggest that in addition to being effective for group and organizational functioning, the OCB dimensions of altruism and courtesy may benefit the individual as well. This marks a subtle shift in emphasis from considering OCB as a dependent variable of interest to considering OCB as an antecedent of important organizational and individual outcomes. Until recently, managers and organizations have been interested in identifying the determinants of OCB, assuming that OCB enactment is beneficial. Only recently have the outcomes of OCB been examined; however much of this work looks at organizational- or unit-level effectiveness (e.g., Koys, 2001; Nishi, Lepak, & Schneider, 2008; Podsakoff & Mackenzie, 1997) rather than individual employee outcomes. Our work suggests that engaging in OCB promotes positive mood, which has been suggested as important for a variety of individual (see Fredrickson, 1998, 2001) as well as organizational outcomes (see Staw & Barsade, 1993; Wright & Staw, 1999). Thus, managers need not view OCB purely as a dimension of performance (Campbell, 1990) but as a mechanism that promotes employee well-being.

In a related vein, this work also highlights collateral benefits of organizational practices that facilitate structured interactions among employees. If indeed, “doing good” leads to “feeling good,” then organizations may consider feeling good an additional benefit to engaging in helping, which is often organizationally encouraged through mechanisms such as mentoring (Wanberg, Welsh, & Hezlett, 2003), participation in volunteer efforts (Booth, Park, & Glomb, 2009), or team coaching (Hackman & Wageman, 2005). Expansion of such organizational practices, often designed with primarily employee development objectives important to the organization, may also reap unexpected benefits in terms of regulating individual mood.

Practitioners might also consider whether jobs can be sculpted to include opportunities to help others, either outside or inside the organization. Indeed, recent work by Grant and

Sonnentag (2010) suggests that perceiving prosocial impact of one's job may ameliorate the effects of negative task and self-evaluations on emotional exhaustion. Thus, finding ways to increase or highlight the prosocial nature of one's work tasks may be beneficial to one's mood.

Further this work adds to the burgeoning work on the importance of social interaction at work (e.g., Morgeson & Humphrey, 2006). Social interaction emphasizes the frequency of friendly relations with members of the work group (Klein, Conn, Smith, & Sorra, 2001) and is associated with desirable outcomes for individuals, including physiological benefits (Heaphy & Dutton, 2008). Practitioners should be cognizant of providing regular opportunities for social interaction among employees through formal (e.g., team-based work, task forces, team training) and informal (e.g., intramural sports teams, office parties, and celebrations of accomplishments) mechanisms. The OCB components of altruism and courtesy, specific forms of social interaction at work, may be considered part of a continual social exchange between individuals and their social system that helps preserve worker psychological health (Caplan, 1976). Such potential linkages between mood and worker well-being would be of interest to researchers as well as practitioners.

### **Limitations and Future Directions**

Perhaps the most significant limitation of this study is that we did not explicitly query our participants' mood regulation efforts, and thus, the inferences drawn from these data need to be qualified. Although the mood-OCB relationships examined in this study are consistent with a pattern of mood regulation, it may be premature to state with certainty that behavioral enactment was in the service of regulating mood. Nonetheless, our results suggest that OCB enactment was followed by positive mood even though the motives of mood regulation, whether intentional or otherwise, may be unclear. Larsen (2000) suggests that "acting in ways that regulate mood may or may not be the result of conscious or effortful action" (p. 131), and so these behaviors may not be consciously enacted to regulate mood. Indeed, alternative motivations for engaging in OCB may be masking effects that could be present otherwise. Attempts to capture the motivations for behaviors is a difficult problem, however, one that ESM may be uniquely poised to examine. Beal and colleagues provide a thoughtful analysis of affective influences on performance as captured within "performance episodes" (Beal, Weiss, Eduardo, & MacDermid, 2005); such an episodic approach may have been able to better capture these mood-OCB linkages. We feel that this research is a first step in supporting a mood regulation function of OCB and invite future researchers to determine the individual and situational conditions under which these behaviors are most likely to be effective in regulating mood.

Similarly, we do not have a comprehensive understanding of the drivers of the mood states of our study participants. Our results were consistent with previous work suggesting that employees were generally in moderately favorable moods at work. Although most of the time people seek to regulate moods to keep them at a baseline of mildly positive moods (Diener & Diener, 1996; Larsen, 2000), there are instances where the mood standard may be negative and individuals do not regulate negative moods because they are expected or appropriate for a situation; negative mood states due to work events may be one such situation. A related but distinct idea is the notion of wallowing in a negative mood as hedonistic; individuals may take pleasure in a bad mood, particularly if it absolves them from engaging in other self-regulatory activities (Tice & Bratslavsky, 2000). Although these situations may be less

frequent than are situations where individuals attempt to regulate moods (Tice & Bratslavsky, 2000), we are unable to say whether in some instances our participants desired to remain in a negative mood, thereby influencing relationships between mood and possible mood regulation mechanisms. It may be that OCB is an effective strategy for regulating mildly negative mood and would be less effective in regulating intense, negative, discrete emotional states such as fury or extreme sadness. Future analytic work might also examine the entire trajectory of mood up to a particular time point or preceding an instance of OCB using semi-parametric techniques to identify trajectory patterns in different groups (e.g., individuals high versus low on Extroversion).

The self-report nature of these data is a limitation. Despite efforts to reduce bias resulting from recall, it is possible the results were influenced by social desirability or priming (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In particular, OCB enactment could be deemed socially desirable. Given the frequency of endorsement, these results may provide evidence that OCBs may not be truly discretionary behaviors as some researchers have argued, but rather they are common behaviors expected and performed by most employees (Motowidlo, 2000). However, the within-person nature of the data and the temporal separation of the predictor and criterion variables mitigate to some extent problems of social desirability and common method bias (Podsakoff et al., 2003). In addition, the presence of the moderating effect of Extroversion on the mood–OCB relationship argues against a correlated method bias. Moreover, the sample for this study is a group of managerial and professional employees in a Fortune 100 organization, which may make it difficult for other individuals to report on OCB (Eastman, 1994) given limited close supervisory monitoring (Zhou, 2003). Thus, despite the potential same-source bias in these data, we believe the tradeoff of securing frequent within-person assessments from the same source, rather than multiple or other sources (e.g., supervisors and coworkers) with their associated biases, was appropriate given the research questions (see Chan, 2009).

Our focus was on the mood regulation properties of altruism and courtesy, and as such, did not examine other routes to regulating mood. For example, some researchers have proposed that task focus may help to regulate mood, but others have suggested that regulatory activities must be reduced to recover depleted resources (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven & Baumeister, 2000), and work tasks would certainly maintain regulatory activities. Further, a wider array of OCBs from the altruism and courtesy dimensions or from alternative dimensions may have yielded additional insight. Nonetheless, alternative ways individuals may regulate mood in a work setting where there are constraints on behaviors warrant additional research attention.

Additional individual differences may be useful to examine. For example, research by Ilies et al. (2006) suggests Agreeableness as an important moderator of the association between mood and citizenship behavior and Conscientiousness has also been found to play a role in OCB (Organ & Ryan, 1995; Podsakoff et al., 2000). Fredrickson (2001) suggests that individuals who are more psychologically resilient may create experiences to promote positive emotions to cope with negative emotions—they are “expert users of the undoing effect of positive emotions” (p. 223) and thus may be good at selecting appropriate behaviors to regulate mood. In a similar vein, research has suggested that individuals with low self-esteem are less motivated to repair their moods even though knowledge of mood-repair strategies is equivalent in high and low self-esteem individuals (Heimpel, Wood, Marshall, & Brown, 2002). Other state-like capacities (Luthans, 2002) such as self-efficacy (Bandura, 1997) and optimism (Seligman, 1998) might also be considered to understand whether



individuals draw from such psychological resource capacities to deal with work situations. Indeed, emerging work in positive psychology suggests such positive traits and capacities, as well as behaviors such as altruism and courtesy have a beneficial impact on performance and other relevant work outcomes (see Luthans & Youssef, 2007 for a review).

Finally, this study reflects only a single sample of managerial and professional employees in a Fortune 100 firm. It will of course be desirable and necessary to replicate these results in different organizations (e.g., small businesses), with multiple employee groups within organizations (e.g., nonmanagerial front-line employees), and using different methods (e.g., qualitative interviews for examining employees mood regulation strategies) before generalizing these findings.

In conclusion, OCBs, in particular altruism, may serve to alleviate negative mood as evidenced by its prediction from negative mood and prediction of positive mood—an effect that is stronger among extroverts. This pattern of results suggests a mood regulation mechanism for altruism. It is possible that OCB, which is often considered to have utility for organizations, may also be advantageous for individuals as an organizationally desirable mechanism of mood regulation.

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