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Workplace Helping: Interactive Effects of Personality and Momentary Positive Affect

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We investigated interactions between positive affect and personality (empathy and altruism) as predictors of workplace helping. We conducted an experience sampling study with 80 participants, each of whom completed personality instruments and responded to a maximum of 5 electronic surveys per day for 5 workdays. This approach allowed us to study relationships over time between momentary positive affect and workplace helping behavior. We found that affect's relationship with later helping depended on the personality trait of altruism. We also found evidence that the relationship was reciprocal—helping others lead to increased positive affect, but again the relationship depended on altruism.

Helping in the workplace has been recognized as a critical type of organizational behavior by Katz (1964) and later as a key component of "citizenship behavior" (Coleman & Borman, 2000; Organ, 1988; Organ, Podsakoff, & MacKenzie, 2006). Other taxonomies of discretionary or extrarole behavior also include helping as a component, including Brief and Motowidlo's "prosocial organizational behavior" (1986), George and Brief's "organizational spontaneity" (1992), and Borman and Motowidlo's "contextual performance" (1993). Helping is obviously a desired behavior from an interpersonal relationship perspective but also appears to be important for promoting organizational productivity (Podsakoff & MacKenzie, 1997).

Taxonomies such as citizenship behavior also include prosocial acts aimed at helping an organization rather than an individual. Examples include organizational loyalty (promoting and defending the organization) and civic virtue (demonstrating responsible, active participation in the organization's political process; Organ et al., 2006; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Our focus is exclusively on helping individuals because (a) it is a common element to all taxonomies we cited earlier, (b) it has a rich theoretical and research history in personality and social psychology (e.g., Carlson, Charlin, & Miller, 1988) as well as in organizational research, and (c) theory and research provide a clear link between helping others and positive affect, the focus of the present study as we describe later.

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Despite the large amount of research in nonorganizational settings, there is much we do not know about workplace helping given the dearth of longitudinal work. In the present study we take a focus consistent with affective events theory, examining within-person relationships between positive affect and helping, and interactions with personality variables. We also examine relationships across time and within days to determine whether positive affect leads to helping or helping leads to positive affect.

Our consideration of positive affect, personality, and workplace helping focuses on within-person changes in behavior across time in response to situations. This is consistent with Mischel and Shoda's approach (1998) of linking within-person dynamics to stable personality dispositions and with Weiss and Cropanzano's affective events theory (1996). Affective events theory posits an important role for affect in explaining organizational behavior, which is conceived of as unfolding over time—momentary affect fluctuates in response to events, and these changes in affect levels can lead to changes in behavior (i.e., in "affect driven behaviors"). Weiss and Cropanzano (1996) identified helping as a frequently studied affect-driven behavior, though they noted that little of the research has been done in an organizational context. As we explain later, we believe that momentary positive affect can be both a cause of helping and a consequence of it.

MOMENTARY POSITIVE AFFECT AND HELPING

At least five organizational studies have shown helping or individual-focused citizenship to be related to positive affect, most of them published after Weiss and Cropanzano's (1996) review (Fisher, 2002; George, 1991; Ilies, Scott, & Judge, 2006; Kelley & Hoffman, 1997; Lee & Allen, 2002). Although the relationship these studies demonstrated is consistent with Weiss and Cropanzano's characterization (1996) of helping as an affect-driven behavior, each of these studies used a correlational design and an important issue is the direction of causality—Does positive affect lead to helping or vice versa? Further, none of these studies showed that within-day fluctuations in affect were related to helping; Ilies et al. (2006) showed that daily positive affect was related to daily citizenship behaviors but they acknowledged that they could not specify the direction of cause and effect, suggesting further research using multiple surveys per day (p. 569). The organizational research thus far has documented relationships but does not disentangle the causal possibilities. Causal relationships have been studied, however, in nonorganizational research with separate experiments evaluating each causal direction.

Carlson et al. (1988) reviewed experimental evidence from nonorganizational settings demonstrating that induced positive affect leads to increased helping; this evidence is consistent with affective events theory. For example, Rosenhan, Salovey, and Hargis (1981) had participants imagine themselves on a beautiful Hawaiian vacation to induce positive affect. These participants subsequently showed more altruism, answering more multiple-choice questions to help out a researcher in need of participants, than did participants in a control condition. This experiment is exemplary of the substantial literature showing that positive affect increases helping.

The main issue in Carlson et al.'s article (1988) was not the mere existence of the effect but on the theoretical explanation for it. They reviewed six different but overlapping hypotheses and found at least some empirical support for all of them. All hypotheses are consistent, to some extent, with the notion that positive affect primes positive thoughts and emotions about helping situations. One example was the mood maintenance hypothesis, which states that people who feel good help others to prolong the positive affective state.

In the present study we tested the idea that positive affect at work predicts organizational helping. Our approach involved experience sampling of both positive affect and helping several times during the workday, over the course of 5 workdays. This allowed us to examine within-person relationships (involving fluctuations in behavior and affect within each day) to see if positive affect at one time point was followed by greater helping in the subsequent period. We note that Ilies et al. (2006) also used experience sampling to relate positive affect and helping but only measured the variables once per day; they therefore could not examine within-day changes, which Ilies et al. acknowledged produced ambiguity in cause-and-effect conclusions. Based on previous research, we hypothesize the following:

H1: Within-person, over-time relationships will show that when a person experiences greater positive affect the person will be more likely to help than when experiencing less positive affect.

PERSONALITY AND HELPING

Another line of research involves personality traits as predictors of helping. Borman and Motowidlo (1993); Motowidlo, Borman, and Schmit (1997); and Organ and Ryan (1995) suggested that personality variables should predict organizational citizenship. However, research on altruistic citizenship behavior has shown very modest correlations with broad personality traits such as agreeableness and conscientiousness (Organ & Ryan, 1995; Podsakoff et al., 2000).

We believe that finding larger personality-helping relationships would be facilitated by a better match between the specificity of the criterion and the bandwidth of the personality traits (Paunonen, Rothstein, & Jackson, 1999; Schneider, Hough, & Dunnette, 1996). Rather than broad traits such as the Big Five (e.g., Conscientiousness and Agreeableness) we believe that the narrow criterion of helping individuals will be best predicted by the narrow traits empathy and altruism. In describing these helping-oriented traits we draw from Penner's work on the "prosocial personality" (Penner, Fritzsche, Craiger, & Freifield, 1995), which was developed specifically to predict prosocial actions.

Empathy

Dispositional empathy has been linked to helping both theoretically and empirically by Rushton (1981) and Penner et al. (1995). Penner et al. described "other-oriented empathy" as one of two dimensions of the prosocial personality; people high on empathy tend to experience prosocial thoughts and feelings (e.g., having concern for others' well-being). The other factor was labeled "helpfulness," which reflects a behavioral history of being helpful. We focused on empathy rather than helpfulness because (a) empathy has a richer history of theory and research related to helping (e.g., Batson, Ahmad, Lishner, & Tsang, 2002; Penner, 2002; Rushton, 1981), and (b) Borman, Penner, Allen, and Motowidlo (2001) reviewed several studies showing that the empathy factor was a better predictor of altruistic citizenship than was the helpfulness factor (e.g., Midili & Penner, 1995). Also, we believe that the helpfulness factor overlaps somewhat with the altruism trait we describe later.

H2: People higher on empathy will engage in more helping behavior.

Altruism

The concept of altruism, like empathy, has a rich theoretical history (e.g., Batson & Powell, 2003; Rushton, 1981). Altruism has also been identified as a narrow facet of the broader Big Five personality factor agreeableness (Costa, McCrae, & Dye, 1991). The altruism facet was defined by Costa et al. (1991) as "selflessness and concern for others" (p. 888). This facet does not have a strong research history with helping behavior so our argument is largely conceptual. The broader trait of agreeableness has shown correlations with altruistic citizenship (Organ & Ryan, 1995), though these relationships have been low to moderate. We believe this is because agreeableness includes facets such as modesty and compliance, which are not conceptually linked to helping individuals. Focusing on the facet of altruism, which is most conceptually linked to our criterion, should lead to a stronger relationship with helping.

H3: People higher on altruism will engage in more helping behavior.

PERSONALITY MODERATES THE MOMENTARY POSITIVE AFFECT–HELPING RELATIONSHIP

In addition to the main effects posited above, that helping is predicted by momentary affect, altruism, and empathy, there is good reason to suggest that these factors might interact to further explain helping. The idea that stable dispositions interact with momentary variables has been suggested by Mischel and Shoda (1995, 1998) as well as by Weiss and Cropanzano (1996). We hypothesize that the over-time relationship between positive affect and helping will be stronger for those low in altruism and low in empathy and weaker for those high on each of the two personality variables. This is because people high on altruism and empathy will tend to be helpful in general, even when experiencing negative affect.

Moderation by altruism is supported by research showing that the broader trait, agreeableness, is involved in regulation of negative emotions (Tobin, Graziano, Vanman, & Tassinary, 2000). Studies have shown that more agreeable people are less prone to aggression when experiencing negative affect (Meier, Robinson, & Wilkowski, 2006). Tobin et al. and Meier et al. provided evidence on the mechanism for regulation. Tobin et al. showed that high-agreeableness people exert more effort to control negative emotion, and Meier et al. found that participants with high levels of agreeable affect activated prosocial thoughts when primed with antisocial words (e.g., *argue, disapprove*). These findings suggest that when confronted with a negative affective state, agreeable people counteract it with positive thoughts consistent with helpfulness. Support for an effect on actual prosocial behavior (as compared to prosocial thoughts) in a work setting comes from Ilies et al. (2006), who found that people high on the broad Big Five trait Agreeableness had a weaker daily affect-citizenship relationship than did people low on Agreeableness—in particular, when experiencing less positive affect, high-agreeableness people showed much higher citizenship than did low-agreeableness people.

Although the findings for regulation of negative affect (or lack of positive affect) concern the broader trait of agreeableness we believe they will also apply to the more specific facet of altruism, given the facet's clear prosocial focus. We also believe the result will be that although there will be a general tendency to be helpful when experiencing positive affect, only altruistic people will

counteract lack of positive affect by being helpful. Low-altruism people will respond to low positive affect by becoming less helpful.

We make a similar argument for empathy. Empathic people will tend to experience emotional responses consistent with another person's welfare regardless of affective state. The empathic response will lead to helping regardless of high or low positive affect. On the other hand, those low on empathy will show an empathic emotional response, and tend to be helpful, when experiencing positive affect (this is consistent with Nezlek, Feist, Wilson, & Plesko's finding [2001] that people showed higher empathy when in a positive mood). In the absence of positive affect, such people will not tend to experience empathy and will therefore be less likely to help.

H4: Altruism moderates the within-person positive affect–helping relationship—the relationship will be stronger for those low on altruism. (Individuals high on altruism will be just as likely to help when experiencing low or high positive affect; those low on altruism will be less likely to help in the absence of positive affect as compared to high positive affect.) Empathy moderates the within-person positive affect–helping relationship—the relationship will be stronger for those low on empathy. (Individuals high on empathy will be just as likely to help when experiencing low or high positive affect; those low on empathy will be less likely to help in the absence of positive affect as compared to high positive affect.)

SUMMARY OF OUR INTENDED CONTRIBUTION

Our goal was to examine relationships among momentary positive affect, workplace helping, and personality. We seek to further understand both the determinants and consequences of helping. Our approach provides a contribution to the current literature on two key fronts: (a) there has been very little research simultaneously taking into account all three of these variables, and (b) the research that has been done on affect and helping in organizations has not taken an over-time and within-day approach as we do, which is essential for understanding temporal precedence. We used the experience sampling method in which participants completed multiple surveys during the same day for 5 days. This design lets us test over-time relationships in both directions—we can test whether positive affect leads to later helping, and separately test whether helping leads to later positive affect. Although this latter relationship (helping leading to positive affect) is not the main focus of our study, there is some theoretical support. Williamson and Clark (1989) described one theory which states that people are rewarded for helping others, so they associate helping with rewards and positive affect, and eventually internalize helping as a value. Further, experimental evidence from outside of organizational research suggests that the relationship is plausible (Harris, 1977; Harris & Smith, 1975; Williamson & Clark, 1989).

METHOD

Overview of Design: Experience Sampling Method

We tested our hypotheses using the Experience Sampling Method (ESM; also referred to as the "diary" method; Alliger & Williams, 1993; Beal & Weiss, 2003; Bolger, Davis, & Rafaeli, 2003). At an initial meeting participants completed a number of instruments described later (e.g., person-

ality) and were trained in the use of a Palm Pilot to complete experience sampling surveys. Participants then carried a Palm Pilot for 5 consecutive workdays. During each workday a participant was signaled with a beep five times (for a total of 25 signals) at somewhat random intervals; the signal indicated that the Palm Pilot was ready to administer a survey. Participants had up to 15 min to begin the survey, which included items measuring positive affect at the time of the signal and questions about whether a variety of experiences (e.g., whether the participant had helped someone else) had occurred since the previous signal. Last, participants completed a short paper survey evaluating their experience.

Participants

We used a variety of techniques to recruit participants, including e-mails or letters to local businesses, visits to evening and/or university graduate classes (likely to be attended by full-time employed workers), e-mails to acquaintances, and postings (electronic and hardcopy) at several universities and colleges. We also used the snowball technique by asking acquaintances and participants to let others know about our study. Initial contacts (e.g., e-mails) simply stated that the study concerned work experiences and mood.

Participants were 83 individuals who worked at least 5 hr per day for at least 5 days in a week, recruited by researchers at universities in North Carolina and Connecticut. We excluded 3 participants who did not complete at least 12 (about half) of the 25 surveys, leaving a total of 80 participants on which our results are based. Of the 80 participants, 76% were female and the mean age was 35.76 (SD = 12.57). Of the 78 participants who provided their race/ethnicity, 75% reported they were Caucasian, 13% African American, 1% Hispanic, 1% Native American Indian, and 3% indicated more than one racial/ethnic category. Five percent reported their race/ethnicity as Other.

Participants came from many different organizations and industries. Tenure on the job ranged from 1 month to 13 years, with a mean of 2.57 years (Mdn = 1.46 years); 61% indicated they were line/staff and 39% were supervisory or higher (3 participants chose not to respond to this item). Examples of job titles provided by participants included Bank Teller, Vocational Rehabilitation Counselor, Employment Specialist, Finance Officer, Administrative Assistant, Product Manager, Assistant Dean of Students, and Property Manager.

Responses to 1,742 Palm Pilot surveys were collected from the 80 participants, for a mean of 21.78 out of 25. (One participant's unit malfunctioned during the study. She then began another 5-day period and we included all 32 of her surveys.)

Procedure

Initial Meeting. Before the experience sampling period, participants met individually or in small groups with one of the researchers. Participants completed one-time surveys of personality and demographics described later. We explained that participants would be compensated with up to $35. They received $1 for each completed experience sampling survey plus an additional $1 for each day they responded to a least four of the five surveys; additionally each participant received $3 for the initial meeting/training session and a final $2 for the final meeting. Participants then received and reviewed a manual explaining the survey items and instructions for operating the Palm Pilot. Last, participants completed a practice experience sampling survey with the researcher present to answer any questions.

Experience Sampling. Participants' work experiences (particularly helping others) were self-reported for five consecutive workdays using Palm Pilot Zire 21 units running the Purdue Momentary Assessment Tool software (Weiss, Beal, Lucy, & MacDermid, 2004). The units were programmed to signal five times per day during the participants' work hours. The timing of the signals was random with the constraint that signals had to be at least 45 min apart. Upon a signal, if a participant did not begin responding right away the unit would signal every 30 sec for two minutes. If the participant did not begin responding within 15 min of the first signal the survey became unavailable.

Final Meeting. After the five workdays carrying the unit participants met again with one of the researchers to complete a short survey about the experience and return the Palm Pilot. The survey asked for participants' potential negative reactions (e.g., "How inconvenient was it to use the Palm Pilot during the study?" and "How often did the Palm Pilot's signals make you annoyed during the study?"). Only a handful of participants indicated a significant degree of negative reaction (4 out of 80 participants responded "fairly often" or "a lot" to the two items above).

Measures

Initial Survey. A one-time survey was administered at the initial meeting that assessed personality characteristics and other variables.

Empathy. Empathy was measured using the 10-item International Personality Item Pool (http://ipip.ori.org/) analog of the Jackson Personality Inventory scale. Participants responded using a 5-point Likert scale, from 1 (*very inaccurate*) to 5 (*very accurate*), regarding how accurately each statement described them. Sample items included "Feel others' emotions," "Cry easily," and "Am not interested in other people's problems." Three items were negatively worded and were reversed scored. A global score of Empathy was assessed by calculating their mean score, with a higher score indicating higher Empathy. International Personality Item Pool reported a coefficient alpha of .80 and a correlation with the Jackson Personality Inventory Empathy scale (corrected for unreliability) of .82. Coefficient alpha for the current study was .84.

Altruism. Altruism was assessed using a 10-item Altruism subscale of the Agreeableness scale from the long International Personality Item Pool analog of the NEO–PI–R. Participants responded using a 5-point Likert scale, from 1 (*very inaccurate*) to 5 (*very accurate*), regarding how accurately each statement described them. Sample items include "Anticipate the needs of others," "Love to help others," and "Take no time for others." Items negatively worded were reversed scored. A global score of Altruism was calculated as their mean score, with a higher score indicating higher Altruism. International Personality Item Pool (see http://ipip.ori.org/) reported a coefficient alpha of .77 and a correlation with the NEO-PI Altruism subscale (corrected for unreliability) of .90. Coefficient alpha for the current study was .84.

Demographics/Workplace Characteristics. Participants were asked several questions regarding their demographic information, including their gender, age, and ethnicity. They were also asked questions regarding workplace characteristics, including their tenure with the organization, their tenure within their current position, their hierarchical position within the company, their industry, and a summary of their major job duties.

Experience Sampling Method (ESM)/Palm Pilot Survey.

Positive affect. Momentary positive affect was assessed using a 4-item modification of Fisher's Job Emotions Scale (2000), a 16-item measure of negative and positive affect. We selected the 4 of Fisher's 8 positive items with the highest factor loadings in an analysis provided by Fisher (personal communication, July 13, 2004). These items ask participants to rate how much they were "happy," "enthusiastic," "pleased," and "enjoying something" at the current moment using the following response options: *very slightly or not at all* (1), *a little* (2), *moderately* (3), *quite a bit* (4), or *very much* (5). Ratings were averaged for a global positive affect score at each survey time. Coefficient alpha, calculated with survey response as the level of analysis with variables standardized to z-scores within person, was .87.

Helping behavior. Helping behavior was assessed on each survey using the question, "Since the last signal, did you voluntarily help someone else (in a way that was not an assigned duty)?" We stressed that this question only pertained to helping that was outside of participants' assigned duties. The manual provided to participants explained the difference between voluntary helping and assigned duties and gave examples that might fit the description of voluntary helping (as long as it is not required for their job), such as "Talking or listening to someone (e.g., providing advice or helpful information, keeping someone informed about things that affect them, listening to others' problems, helping others work out disputes)." We discussed with the participant this difference between voluntary helping and assigned duties and then asked the participant to describe an example of voluntary helping from his or her recent work experience (we discussed the examples as needed for clarification).

Respondents were given the option to choose *No* (coded as 1), *Once* (coded as 2), *Twice* (coded as 3), or *3+ times* (coded as 4).

As a follow-up, on the survey at the final meeting (after carrying the Palm Pilot for 5 days) we asked participants to write out one example of voluntary helping during their 5-day period. An example was, "I assisted a coworker in planning her workspace a few times (she's moving into a new space), assisted w/ planning (re-planning) existing workroom to accommodate new supplies & furniture."

RESULTS

Descriptive Statistics

Participants reported having helped someone else on 448 of the 1,742 signals, or 26%. At the daily level, of the 397 workdays in our dataset, participants helped at least once on 253 or 64% of them. The mean score for helping was 1.32 with a standard deviation of .61. For momentary positive affect, the grand mean across the 1,742 signals was 3.01, almost exactly the midpoint of the 1-to-5 scale, and the standard deviation was 1.05. For descriptive purposes we aggregated the experience sampling reports for helping and positive affect to compute means for each participant. Correlations among person-means for these variables and personality variables appear in Table 1. There were significant ($p < .05$) correlations between person-mean helping and empathy ($r = .43$), person-mean momentary positive affect and altruism ($r = .25$), and altruism and empathy ($r = .50$).

TABLE 1
Means, Standard Deviations, and Correlations Among Personality Variables and Person-Mean Experience Sampling Reports

Variable	*M*	*SD*	*1*	*2*	*3*	*4*
1. Helping–Mean experience sampling report	1.32	0.25	1.00			
2. Positive affect–Mean experience sampling report	3.00	0.74	0.10	1.00		
3. Altruism	4.16	0.58	0.21	0.25*	1.00	
4. Empathy	3.44	0.72	0.43*	0.02	0.50*	1.00

*$p < .05$.

Because the helping distribution (at the experience sampling survey level rather than person-mean level) was positively skewed (skewness = 2.18) we tried several transformations including taking the square root, the logarithm, and the reciprocal, producing skewness values of 1.75, 1.48, and –1.22, respectively. We use the untransformed helping variable in analyses presented later though we replicated analyses using each transformed version of helping (as well as a dichotomous version) and there were no substantial differences.

A concern with the ESM approach is that drawing participants' attention to particular behaviors (e.g., helping others) will change either the frequency of the actual behavior itself or the participants' reports of the behavior. These effects can be referred to generally as "reactivity" (e.g., Hufford, Shields, Shiffman, Paty, & Balabanis, 2002). However, we did not find much evidence of reactivity in our data. We used one-way repeated measures analyses of variance (ANOVAs) to test for changes in momentary positive affect and helping reported over the 5 days (we aggregated each variable within-person by day). Neither ANOVA was statistically significant at $p < .05$.

Multilevel Analysis

For our main analyses we took a multilevel modeling approach (Hofmann, 1997; Schwartz & Stone, 1998) using HLM 6 software (Raudenbush, Bryk, Cheong, & Congdon, 2004). Our "Level-1" (in multilevel terminology) was the experience sampling survey level, consisting of within-person reports up to five times per day of helping and positive affect. Our Level 2 was the person level; for example, altruism and empathy were Level-2 variables. Our main goal was to assess the within-person (Level-1) relationship between helping and positive affect, and then see if that relationship was moderated by the Level-2 variables, altruism and empathy.

We first used HLM 6 to conduct ANOVAs on each of the experience sampling variables to determine the relative proportions of variance within- and between-persons (similar to calculating an intraclass correlation). For helping 13% of the variance was within-persons and 87% between-persons; for positive affect 52% was within-persons and 48% was between-persons.

H1: Momentary Positive Affect Predicting Helping

Next we estimated models to test our hypotheses. Our first multilevel model specified the within-person (Level-1) regression with positive affect as a predictor of helping. This Level-1 model estimated slopes and Y-intercepts of the within-person regression equations. One complication was that on a given experience sampling survey, participants' helping reports were for the previous pe-

riod ("since the last signal") whereas positive affect items asked how the participant was feeling right at that moment. To see if positive affect *predicted* helping we needed to match the report of helping on a given survey with the *previous* survey's positive affect report. The very first survey completed by each participant had no previous positive affect report, resulting in the loss of the first case for each participant. We also dropped the first survey of each day because the previous survey's positive affect report was from the end of the previous workday, which we did not think was an appropriate predictor. We therefore used only 1,345 of the 1,742 surveys in this analysis.

We centered positive affect ratings within-person to remove between-person differences. A consequence is that the Y-intercept of each person's regression equation is equal to the person's mean level of helping and intercepts can therefore be interpreted as person-means. This approach to centering provides unbiased estimates of the within-person slopes (Hofmann & Gavin, 1998); this was critical in the present study given that we used these slopes to test our hypotheses.

H1 stated that helping would be predicted by positive affect (a within-person or Level-1 relationship). To test this hypothesis we estimated only the within-person relationship, pooled across participants. The Level-1 equation for predicting helping at time *i* by person *j* is

$$\text{Helping} = \beta_{0j} + \beta_{1j}(\text{Positive Affect}_{ij}) + r_{ij}, \quad (1)$$

where β_{0j} is person *j*'s intercept or mean helping across all experience sampling surveys;

β_{1j} is person *j*'s slope for positive affect predicting helping; and

r_{ij} is a residual or error term for person *j* at time *i*.

For this analysis the Level-2 model simply pools the Level-1 intercepts and slopes across participants:

$$\beta_{0j} = \gamma_{00} + U_{0j} \text{ [this equation concerns Level-1 intercepts]} \quad (2)$$

$$\beta_{1j} = \gamma_{10} + U_{1j} \text{ [this equation concerns Level-1 slopes]}, \quad (3)$$

where γ_{00} and γ_{10} are the pooled intercept and slope, respectively, and U_{0j} and U_{1j} are residuals.

H1 concerned only γ_{10}, the pooled slope. The estimated value of .02 was not statistically significant, $t(79) = .68$ ($p > .05$), indicating a lack of support for H1.

H2 and H3: Personality Predicts Helping Behavior

H2 and H3, stating that empathy and altruism would predict helping behavior, were tested by inclusion of Level-2 personality variables. We specified altruism and empathy as predictors of within-person intercepts and slopes. Given the moderately large correlation between empathy and altruism ($r = .50$; see Table 1) leading to a concern about collinearity, we decided to conduct separate analyses for each trait variable.[1] In other words, several Level-2 (person-level) regression equations were estimated, predicting Level-1 intercepts and Level-1 slopes. For example, analyses involving altruism can be expressed as follows:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Altruism}) + U_{0j} \quad (4)$$

[1]We originally included both trait predictors, empathy and altruism, in the same analysis. Results were substantially similar in demonstrating the interaction we describe later and show in Figure 1, except that high-altruism participants showed lower predicted helping when positive affect was high. (In the results we present in Table 1, high- and low-altruism participants had about equal predicted helping when positive affect was high).

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Altruism}) + U_{1j}, \quad (5)$$

where γ_{01} relates altruism to the intercept (person-mean for helping) and γ_{11} relates altruism to the slope (within-person relationship between positive affect and helping). Two similar analyses were done for empathy.

H2 and H3 were tested by prediction of Level-1 intercepts, that is, by γ_{01}s (see Table 2). The estimated coefficient for empathy predicting person-mean helping was .16, $t(78) = 4.12$, $p < .05$, and the coefficient for altruism predicting person-mean helping was .11, $t(78) = 2.00$, $p < .05$ (see Table 2). We therefore found support for H2 and H3 regarding empathy and altruism.

H4 and H5: Personality Moderates the Momentary Positive Affect–Helping Relationship

H4 and H5, that empathy and altruism would moderate the affect–helping relationship, were tested with the same analyses as just described by prediction of Level-1 slopes. Results showed that altruism was a significant predictor of within-person slopes, coefficient = –.10, $t(78) = –2.64$, $p < .05$ (see Table 2) whereas empathy was not, coefficient = –.02, $t(78) = –.54$, *ns*. We therefore found support for H5, which stated that altruism would moderate the within-person relationship; we did not find support for H4 regarding moderation by empathy.

Next we probed the cross-level moderation for altruism, using the approach from Aiken and West (1991) to graph interaction results. Figure 1 shows positive affect–helping slopes for low-altruism participants (one standard deviation below the altruism mean) and high-altruism participants (one standard deviation above the altruism mean).

We predicted a positive slope for those low in altruism and essentially a flat slope for those high in altruism. Figure 1 shows that the low-altruism results are consistent with our hypothesis but the high-altruism line, rather than being flat, indicates a negative relationship. Although the high-altruism group still had a negative slope, the regression lines only crossed at a very high level of positive affect (just below the 90th percentile). Essentially, high-altruism participants did much more helping than did low-altruism participants when experiencing little positive affect, but when experiencing a great deal of positive affect there was virtually no difference between high- and low-altruism participants. Another way to look at the result is that throughout most of the positive affect range, high-altruism people helped more; the only exception was the extreme high end of the range.

TABLE 2
Multilevel Modeling Results for Momentary Positive Affect Leading to Helping

	Coefficient	*t*
Predicting the Level-1 intercept (person-mean for helping)		
Empathy	.16	4.12*
Altruism	.11	2.00*
Predicting the Level-1 slope (within-person positive affect–helping relationship)		
Empathy	–.02	–0.54
Altruism	–.10	–2.64*

*$p < .05$

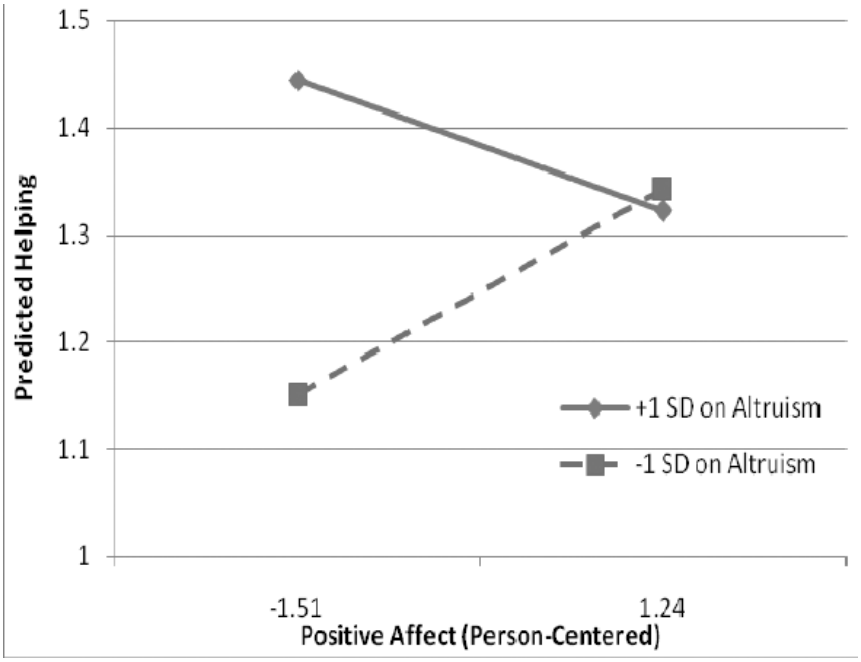

FIGURE 1 Regression lines for positive affect predicting helping, for high-altruism versus low-altruism participants.

Exploratory Analysis: Helping Predicting Momentary Positive Affect. An advantage of our within-subjects, within-day approach to measuring affect and helping is that it allowed us to test the relationship in both directions. We reported earlier in the article on whether momentary affect lead to helping (it did, at least for those low in altruism). We then tested whether helping lead to increased positive affect. We estimated a model specifying helping as a within-person predictor of positive affect. For this analysis, unlike for H1, we used helping and positive affect measures from the same experience sampling survey (for H1 we match the report of helping on a given survey with the *previous* survey's positive affect report). This was because a survey asked about helping prior to the signal and positive affect at the time of the signal.

We needed to include several control variables. First, we were concerned about serial dependency in the momentary positive affect measure; this is when measures from adjacent time points have correlated errors which increase the correlation between the time points. In fact, we correlated our momentary positive affect variable with a time-lagged version (correlation between adjacent time points) and found $r = .67$. We controlled for serial dependency by including the lagged positive affect score as a predictor along with helping. Second, we tested for day-of-week effects by conducting an ANOVA (using SPSS rather than HLM software) with positive affect as the dependent variable, day of the week and a code for person (as a control variable) as independent variables. Day of week had a significant effect so in our multilevel model we included six dummy variables for Monday through Saturday. We therefore included seven Level-1 control variables. They were included as "fixed effects," meaning their slopes were not allowed to vary across persons (allowing slopes to vary caused difficulty in estimating the models).

TABLE 3
Multilevel Modeling Results for Helping Leading to Momentary Positive Affect

	Coefficient	*t*
Predicting the Level-1 intercept (person-mean for helping)		
Empathy	–.14	–1.01
Altruism	.42	2.54*
Predicting the Level-1 slope (within-person helping-positive affect relationship)		
Empathy	.07	0.99
Altruism	–.19	–2.24*

Note. These analyses also included Level-1 control variables as predictors of momentary positive affect but results for control variables are not shown. Control variables included lagged positive affect and day-of-week dummy variables for Monday through Saturday.

*$p < .05$.

We tested the "helping-leads-to-positive-affect" relationship with the pooled within-person slope. The pooled slope coefficient was .05, $t(79) = 1.07$, *ns*, showing no evidence that helping leads to positive affect.

However, given that we found moderation by personality for the affect-to-helping relationship we decided to investigate moderation of the helping-to-affect relationship. We did this in a way similar to our tests of moderation earlier. Moderation was tested with Level-2 coefficients relating altruism and empathy to the within-person slopes (see Table 3). The coefficient for altruism of –.19 was significant, $t(77) = –2.24$, $p < .05$. The coefficient for empathy was not significant.

We probed the cross-level moderation for altruism using the approach described earlier. Figure 2 shows helping-positive affect slopes for low-altruism participants (one standard deviation below the altruism mean) and high-altruism participants (one standard deviation above the altruism mean).

Figure 2 shows a positive slope for those low in altruism. The high-altruism line shows a slightly negative relationship. Essentially, helping lead to increased positive affect for those low in altruism, but not for those high in altruism.

DISCUSSION

The present study provided evidence that helping others, a critical dimension of organizational citizenship behavior, was related to an interaction of personality and momentary positive affect. The use of ESM allowed us to investigate the positive affect–helping relationship separately in each direction (whether momentary positive affect predicts helping, and whether helping predicts positive affect). Both relationships were moderated by altruism. Positive affect was positively related to later helping but only for those low in altruism, and helping was positively related to later positive affect but only for those low in altruism. We explored but did not find significant moderation for empathy, another narrowly defined personality trait.

One contribution of our research is examining temporal precedence in organizational helping. Previous experimental research on nonorganizational helping has established cause–effect rela-

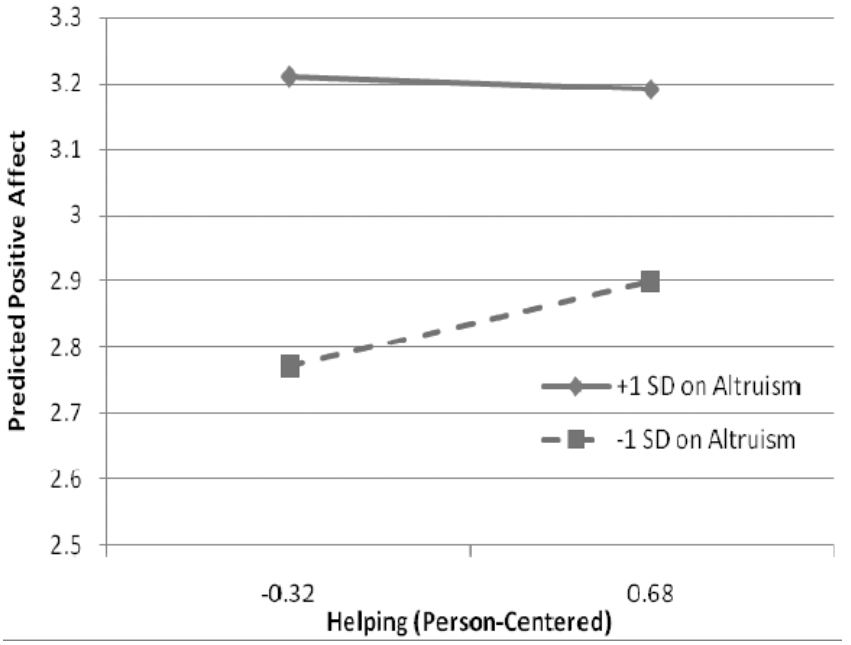

FIGURE 2 Regression lines for helping predicting positive affect, for high-altruism versus low-altruism participants.

tionships for both directions between positive affect and helping, but this has not yet been done for organizational helping. Ilies et al. (2006) acknowledged that they could not specify the direction of cause-and-effect because they measured affect and citizenship only once per day. They suggested further research using multiple surveys per day (p. 569). Our study did explore fluctuations in affect during the workday and we therefore exploited an advantage of the ESM approach, establishing temporal precedence. To our knowledge we are the first investigators to establish this relationship, providing a stronger basis for inferring causation.

We also extend previous results on personality and helping. Our results are consistent with evidence that empathy predicts helping (e.g., Penner et al., 1995; Rushton, 1981). We extend past findings by demonstrating that altruism has a more complex relationship, interacting with positive affect and helping.

Theoretical Implications

One theoretical implication of our findings is that fluctuations in momentary affect covary with important organizational behaviors. This is an important idea in Weiss and Cropanzano's affective events theory (1996). Experimentally induced fluctuations in affect have been shown to affect helping in nonorganizational settings and our findings show that this effect generalizes to organizations (with the important caveat that it depends on a person's level of altruism).

A second theoretical implication (consistent with affective events theory) is that helping may not merely be an important *consequence* of positive affect—it may also be a *cause* of positive af-

fect. This has been demonstrated experimentally, and we provided evidence that the effect generalizes to organizational situations. Although we cannot be certain about cause-and-effect because of the lack of an experimental manipulation, our demonstration of temporal precedence improves on previous studies of organizational helping and affect.

A third theoretical implication is the importance of stable personality dispositions for affect-driven behavior. Our finding for altruism is consistent with literature showing that agreeable people effectively regulate negative emotions whereas disagreeable people do not (e.g., Tobin et al., 2000). It may be that empathy is not related to regulation of negative emotions in the way that altruism or agreeableness is, but it still showed a significant relationship with mean helping.

The personality findings raise the issue of the relative importance of affect versus personality in determining helping behavior. It could be argued that our data show a more important role for personality; both empathy and altruism predicted mean levels of helping in the HLM analyses, whereas positive affect only related to helping for low-altruism individuals. However, we found an interaction between positive affect and personality (altruism) so (a) we should bear in mind that the effects of each variable depend, to some extent, on the other variable, and (b) we cannot parcel out proportions of variance due to affect versus personality. Still, there is no denying that the personality effects are very important. This point has implications for the study of work-related affect, and for affective events theory (Weiss & Cropanzano, 1996).

Positive affect is clearly more central to affective events theory than is personality. However, Weiss and Cropanzano did state that dispositional variables could play an important role in affective reactions. Our results, along with those of Ilies et al. (2006), underscore the importance of considering how personality plays a role the flow of affective events, for example, reducing or amplifying their effects. We (along with Ilies et al., 2006) showed that altruism and agreeableness help to regulate negative affective states. Possibly other personality characteristics such as neuroticism amplify the effects of events, producing greater effects on behavior. Researchers studying affective events might give careful consideration to personality variables that may moderate affect-behavior relationships.

A fourth theoretical issue is the unexpected negative relationship of positive affect as a predictor of helping for those high in altruism. This relationship is consistent with evidence mentioned earlier that agreeable people respond to negative affective states with prosocial thoughts (Meier et al., 2006). It is also consistent with the "attentional focus model" described by Carlson and Miller (1987). According to this model negative mood leads to helping when one's attention is directed toward the needs of others, but not when focusing on one's own problems or concerns. Altruistic people may tend to focus on the needs of others when lacking positive affect, and therefore increase their helping.

Limitations and Future Research

One limitation of the current study concerns our use of a convenience sample. One potential concern is that relatively helpful people would opt into the study leading to range restriction. We addressed this by looking at variability on two types of measures—the personality measures of empathy and altruism and momentary helping reports. We had reasonable variability on all these measures, particularly on momentary helping. On average, participants reported having helped someone on 26% of their signals; the low was zero and the high was 71%, with a standard deviation of 17. Examination of the distribution showed that it approximated a normal curve with sub-

stantial variability. Distributions of empathy and altruism were also reasonable. We therefore did not consider range restriction on helpfulness to be a problem.

A related sampling issue is that we were limited to jobs in which workers are able to stop work and complete a brief survey. Although a variety of industries and job types were represented in our data, we do not know how our sampling may have affected results. Future research should test the limits of our conclusions, possibly focusing on job characteristics as moderators.

A second limitation is that all variables were measured by self-reports. We do not believe same-source bias was likely to inflate relationships with helping, however. We think the short time frame for measuring helping (approximately 1.5 hr between signals) and the concrete nature of the response (how many times the worker helped since the last signal) helped to minimize systematic error in helping reports. However, future research with reports of helping from coworkers or other sources would be useful.

A third limitation is the use of two specific personality traits, empathy and altruism. We do not know that these traits alone comprise a "prosocial personality." As Penner, Dovidio, Piliavin, and Schroeder (2005) suggested, it is possible that the prosocial personality is comprised of "a constellation of traits" (p. 375), which predict a broad purview of prosocial responses (e.g., helping directed toward individuals, helping directed toward the organization). Future research should attempt to explore other aspects of prosocial personality that could provide incremental predictive validity for workplace helping.

It is possible that the time lag between measurement of affect and later helping may have affected the results. Our ESM approach provides much more fine-grained within-day data than typical survey studies, but we do not know if a shorter time lag would produce different results. We do not recommend research with more frequent surveys because we feel that more than five surveys in one day would be burdensome for participants. One suggestion for future research is to conduct "event-contingent" sampling studies (Beal & Weiss, 2003) as opposed to the signal-contingent approach we used. In event-contingent studies participants report whenever certain criteria are met (e.g., whenever they have helped someone). Having immediate reports of helping might allow researchers to more clearly identify short-term affective responses. Beal and Weiss also suggested combining the different approaches and we recommend that researchers consider this for the affect-helping relationship.

Summary

We examined relationships among momentary positive affect, workplace helping, and personality using an over-time and within-day approach to identify temporal precedence. We found that affect's relationship with later helping depended on the personality trait of altruism. We also found evidence that the relationship was reciprocal—helping others lead to increased positive affect, but again the relationship depended on altruism.

A practical implication is that helping others is not a function of personality alone but of positive affect—those low in altruism did more helping when experiencing positive affect. This indicates that if an organization wishes to encourage helping it should pay attention to workers' affective reactions in the workplace. Basch and Fisher (2000) found that positive reactions were caused by (among other things) involvement in planning (e.g., "when being involved in discussing future strategies," p. 40) and receiving recognition (e.g., "when my boss tells me that I am doing well,"

p. 40). Organizations might encourage involvement and recognition to increase positive affect and indirectly to increase helping.

A final implication is that helping can actually increase people's positive affective reactions, at least for workers low in altruism. This means anything that encourages helping can have the beneficial side effect of increasing positive feelings—and the positive feelings can facilitate more helping, creating a cycle of affect and helping behavior.

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