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No. 7612

THE RELATIONSHIP OF COGNITIVE JOB SATISFACTION AND  
ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN A  
MILITARY ORGANIZATION

THESIS

Presented to the Graduate Council of the  
University of North Texas in Partial  
Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

By

Scott A. Middleton, B.S.

Denton, Texas

August, 1999

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Organizational Citizenship Behavior (OCB) is an established psychological construct that represents work behavior that is not required but contributes to improved organizational performance. This study examined the relationship of cognitive job satisfaction and OCB in a military organization. Several demographic variables previously identified to be related to OCB were also measured. Cognitive Job Satisfaction was significantly related to both self and supervisor ratings of OCB. The magnitude of correlations of pay and job cognitions with altruism and conscientiousness dovetailed with previous research results in field studies with much larger sample sizes. Government service civilians had significantly higher mean self-rated OCB than military personnel. Age and tenure were significant moderator variables in this relationship, but did not have significant main effects. Tenure was significantly correlated with self-rated OCB and both its factors, altruism and conscientiousness. Insufficient statistical power due to few respondents and range restriction due to pre-selection limited the ability to find significant group differences.

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THE RELATIONSHIP OF COGNITIVE JOB SATISFACTION AND  
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Introduction

Organ (1988) defines organizational citizenship behavior (OCB) as employee "behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization." (p. 4). There are three key aspects to Organ's operational definition of OCB. These behaviors are discretionary because they are not enforceable requirements of the employee's role, job description, or contractual terms of employment. So OCBs are entirely voluntary actions made by personal choice that are above and beyond the call of duty. An employee who performs OCBs is exceeding the standards, but doesn't regard these contributions as directly leading to formal rewards. Organ suggests that employees typically perform OCBs without any conscious motive for reward. They might hope to make a good impression, but this is at best, a probabilistic inference of reward that is not guaranteed to happen. These OCBs do, however, in the aggregate, summed across time and people, contribute to improved efficiency and effectiveness of organizational functioning.

Prosocial Organizational Behavior

OCB is conceptualized as a subset of the broader construct of prosocial organizational

toward an individual, group, or organization with whom he or she interacts while carrying out his or her organizational role, and (c) performed with the intention of promoting the welfare of the individual, group, or organization toward which it is directed (p. 711).

A key distinction of POB from OCB is that not all prosocial behaviors promote effective organizational functioning. For example, in attempting to help a co-worker, an employee might help them cover up a mistake, benefiting the individual, but not the organization (Organ, 1988).

#### Dimensions of OCB

Research has empirically identified two major behavioral factors or dimensions of OCB: altruism (helping) and conscientiousness. Conscientiousness was originally referred to as "generalized compliance" by Smith, Organ, & Near, 1983, to represent rule-adherence but renamed by Organ, 1988 because he felt it connoted servile obedience to authority.

Altruism is defined as face-to-face behavior that helps a specific person with an organizationally relevant task or problem. The recipient is usually a co-worker, but can be organizationally relevant outsiders such as customers, clients, vendors, and suppliers. (Organ, 1988).

Conscientiousness is defined as behaviors that are indirectly helpful to other people in the organization, but not targeted directly toward a specific recipient. They are

organizationally beneficial behaviors that are carried out well beyond minimum required levels. Punctuality, dedicated attendance, and scrupulous attention to cleanliness of facilities are examples Organ (1988) provides. Organ (1988) believes conscientiousness is a code of conduct or a level of resolve of how one should behave. Conscientiousness is correlated with altruism only "modestly," and Organ (1988) suggests that some people who are very conscientious are not always very altruistic and vice versa.

Re-analysis of the Bateman and Organ (1983) data found a third factor consisting almost entirely of negatively worded items. Organ (1988) named this factor sportsmanship because it seemed to measure avoidance of negative actions such as complaining, over-reacting, and filing petty grievances.

Organ (1988) suggests a possible dimension of courtesy that represents a degree of interpersonal sensitivity that helps preclude potential problems. Courtesy is similar to altruism, helping others solve problems, but is exhibited by behaviors demonstrating thoughtfulness, foresight, and communication that stop potential problems from happening.

Graham (1986) argues for civic virtue, defined as "responsible participation in the political life of the organization." (Organ, 1988, p. 12). Civic virtue is demonstrated by staying informed on critical issues, being involved in policy making, and tactfully speaking up when it is appropriate and necessary.

#### Measuring OCB

Bateman and Organ (1983) created a 30 item measure of behaviors related to OCB. This measure was found to have inappropriate wording and range restriction. (Cox, 1993; Organ, 1988). Smith, Organ, and Near (1983) systematically developed a 16 item scale by asking managers to provide examples of "employee behavior that you personally regard as quite helpful, but not absolutely required by the job." (Organ, 1988, p. 37). Factor analysis extracted two factors, altruism and generalized compliance (later renamed conscientiousness). Both factors possess very good internal consistency with coefficient alphas of .91 and .81, respectively. This scale has been used in the majority of research on OCB.

Podsakoff and MacKenzie (1989) developed a new 32 item instrument that was designed to measure all five dimensions suggested by Organ (1988). Podsakoff, et. al. (1990) validated this OCB measure by correlating salespersons' OCB scores with sales performance. (Cox, 1993).

#### Path Analysis OCB Model

Organ (1988) discussed eight OCB research studies that have found statistically significant correlation coefficients with job satisfaction ranging from .15 to .54. The causal hypothesis suggests employees that are satisfied with their job are more likely to engage in OCB, but the reverse is equally plausible with correlational data.

Smith et. al. (1983) analyzed supervisory ratings on the 16 item OCB scale for 422 bank employees. The employees completed Scott's (1967) "Me at Work" semantic

differential measure of job satisfaction. The two factors of altruism and compliance correlated .33 and .29 with job satisfaction, and .45 with each other. Smith et al. (1983) used path analysis to derive the best models for explaining altruism and general compliance. Supervisory consideration and neuroticism influenced job satisfaction which showed a "fairly strong, direct connection to altruism." (Organ, 1988, p. 38) Two demographic items emerged as reliable predictors of altruism, with employees with more education and employees from small-town and rural settings being rated as helping others more often. Job satisfaction was not directly linked to compliance, but supervisory consideration, rural background, and need for approval were.

#### Construct Validity of OCB

Becker and Vance (1993) utilized the direct product model, a new analysis tool for modeling multitrait-multimethod data, to evaluate the construct validity of OCB. Becker and Vance (1993) further developed the Smith et al. (1983) measure by incorporating 8 site-specific items. They created these new items by asking 15 employees to "think of a time when someone helped you out on the job in some very important way," and list "all of the helpful actions that you have seen while at this company." (Becker & Vance, 1993, p. 671). The respondents then estimated how often the helpful behavior occurred. The eight new items reflected behaviors that a majority of participants had seen and that occurred at least once per week. The combined 23 item instrument was expected to measure three forms of OCB: conscientiousness, altruism-local, and altruism-distant for

targets outside the respondent's department. Factor analysis of the 23 item instrument supported the three factor solution.

Becker and Vance (1993) also addressed a major limitation in the OCB literature of almost all studies: using only supervisors as raters. In line with modern 360 degree feedback techniques, they obtained self-ratings, peer ratings, and supervisor ratings for 763 employees of a large midwestern military supply company.

The direct product model produces a multitrait-multimethod matrix of correlation coefficients. Based on this analysis, there was strong evidence for convergent validity of the three types of OCB, with statistically significant validity diagonal values ranging from .16 to .48, with a mean of .28. The results supplied moderate evidence for discriminant validity, especially for local altruism and conscientiousness, the two forms of OCB most widely studied. This finding supports the continued use of the Smith et al. (1983) instrument. (Becker & Vance, 1993).

#### Research on the Relationship of Job Attitudes with OCB

More recent research has examined two job attitudes, job satisfaction and organizational commitment, as possible antecedents to OCB. Several studies have consistently supported a significant relationship between various forms of job satisfaction and OCB (Moorman, Niehoff, & Organ, 1993). Mowaday, Porter, and Steers, 1982, p. 27) define organizational commitment as “the relative strength of an individual’s identification with and involvement in a particular organization.” Because

organizational commitment “reflects an employee’s willingness to aid the organization even if direct reward is not contingent upon that aid” it is suggested as an antecedent of OCB (Moorman, et al. (1993). Theoretical models of commitment describe it as an attitude that “could promote personal sacrifice for the sake of the organization.” Scholl (1981) and Weiner (1982) in Moorman, et al (1993). A significant relationship between commitment and OCB was supported in O’Reilly and Chatman (1986) and Becker (1992). Williams and Anderson (1991) measured both job satisfaction and organizational commitment and found that when organizational commitment was controlled, job satisfaction still explained significant variance in OCB, but not vice-versa. Procedural justice or organizational fairness has also been examined as an antecedent of OCB. Moorman (1991) and Organ (1988) determined that job satisfaction, when considered alone, influences OCB, but that when fairness perceptions are also considered, they influence OCB, but job satisfaction doesn’t.

#### Cognition Versus Affect as Antecedents of OCB

The attitude of job satisfaction has further been dissected into cognitive and affective components. “Given that job satisfaction measures reliably correlate with measures of OCB (Bateman & Organ, 1983; Motowidlo, 1984; Puffer, 1987; Smith et al., 1983) and given that a cognitive appraisal component dominates in satisfaction measures, it would seem to follow that cognitions rather than affect drive OCB.” (Organ & Konovsky, 1989, p. 158). They tested that hypothesis and determined that “measures of cognitions surpassed measures of

affect in the power to predict OCBs." (Organ & Konovsky, 1989, p. 162).

The construct of OCB originated in a study of the military. In an attempt to improve selection and placement in the U. S. Army, Borman, Motowidlo & Hanser (as cited in Borman and Motowidlo, 1993) attempted to develop a conceptual model of soldier effectiveness which cut across all the possible jobs a soldier might hold. The U.S. military promotes and indoctrinates OCBs in its personnel. Job satisfaction, particularly its cognitive component, has consistently been supported as a significant antecedent of OCB. Furthermore, job satisfaction is a key issue in the retention of personnel in today's all volunteer force. Retention is currently a critical issue for several skilled occupational specialties, especially pilots, in the U.S. Air Force. Another skilled specialty currently experiencing retention problems is behavioral science. This is particularly true in the Air Force Occupational Measurement Squadron. With the post-cold war personnel and budgetary draw-down, the U.S. Armed Forces are forced to "do more with less." Selecting and indoctrinating OCB is one way they can accomplish this. Using OCB measurements for selection is paradoxical, in that, by definition, OCBs are "above and beyond the call of duty" and are not formal job requirements. Therefore, legally, they should not be used for selection. If they become job requirements, they (by definition) are no longer OCBs. However, conscientiousness, a component of OCBs, is the single best predictor of job performance of the "big five" personality factors utilized in current job selection tests.

The purpose of this study is to assess the relationship between cognitive job satisfaction and OCB. The following hypotheses will be tested:

Hypothesis 1. The 16 item OCB instrument will load on two factors, altruism and conscientiousness.

Hypothesis 2. Both factors of OCB will be more prevalent in military members than in civilians.

Hypothesis 3. Both factors of OCB will be more prevalent in civilians with previous military experience.

Hypothesis 4. Both factors of OCB will be more prevalent in military officers than in enlisted personnel.

Hypothesis 5. Cognitive Job Satisfaction will be positively related to both factors of OCB.

Hypothesis 6. Both factors of OCB will be positively related with tenure.

Hypothesis 7. Both factors of OCB will be positively related with educational level.

Hypothesis 8. Both factors of OCB will be positively related with rural-urban context of upbringing.

Hypothesis 9. Self-report ratings of OCB will be more strongly correlated with cognitive job satisfaction than supervisory ratings

## Method

### Participants

Questionnaires were distributed to 150 employees of the Air Force Occupational Measurement Squadron. Responses were received from 73 research volunteers for a response rate of 48.7 percent. Of the 73 respondents, 49 were male and 24 were female. They ranged in age from 18 to 62, with a mean of 37.493 and a median of 36. They had a mean of 158.871, and a median of 138 months of total federal service. The respondents included 20 enlisted personnel representing 27 percent of the sample, 27 officers representing 37 percent of the sample, and twenty-five civilians representing 34 percent of the sample. The sample mirrors the squadron population, in that it is roughly comprised of equal parts of military officers, military enlisted personnel, and government service civilians.

### Measures

The questionnaires consisted of four parts. The first part was a biographical section of demographic items. The second part was a cognitive job satisfaction instrument. The third part was an OCB instrument for self-ratings. The fourth part was an identical OCB instrument for supervisor ratings. See Appendix A for a copy of the questionnaire.

The entire 12-item cognitive job satisfaction instrument had a split-half reliability of .76 and a Chronbach's alpha of .91. The satisfaction with the job 6-item sub-scale had a split-half reliability of .87 and an alpha of .89 while the satisfaction with the pay 6-item

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subscale had a split-half reliability of .74 and an alpha of .89. The 16-item self-assessment OCB scale had a split-half reliability of .67 and an alpha of .83. Its 7-item altruism subscale had a split-half reliability of .89 and an alpha of .88 while its 9-item conscientiousness subscale had corresponding reliabilities of .81 and .77, respectively. The entire supervisory rated OCB scale had split-half reliability of .74 and an alpha of .91. Its altruism subscale had .89 and .88, while its conscientiousness subscale had .93 and .90.

### Procedure

The respondents were given the option of using code numbers if they did not feel comfortable writing in their names. They returned their three sections and their signed informed consent volunteer form directly to the experimenter in the envelope provided. The volunteers forwarded the second OCB instrument to their supervisor and asked them to rate them on it. The supervisor then returned that copy directly to the experimenter in a separate envelope. This ensured confidentiality and maximized voluntary participation.

### Results

Hypothesis 1. The 16-item OCB instrument will load on two factors, altruism and conscientiousness. Hypothesis 1 was supported for both self-rated and supervisor-rated OCB. SPSS principal components analysis with varimax rotation was performed on both rating scales. All Tables with results are presented in Appendix B. Both the self-rated (see Table 1) and supervisor-rated (see Table 2) 16 item OCB instruments factored

identically, with the first seven items representing altruism and the last nine items representing conscientiousness. However, using the standard of eigenvalues greater than one allowed two additional factors to emerge. Items 8, 9, and 10 formed a factor representing the fact that they were reverse-coded, and items 14, 15, and 16 formed a factor representing the fact that they were presented in a manner that related to the rating scale that effectively made them double-negatives. Both rating scales are included in Appendix A.

Hypothesis 2. Both factors of OCB will be more prevalent in military members than in civilians. Hypothesis 2 was not supported. The mean self-rated total OCB score was 4.015 for the 25 civilian respondents and 3.822 for the 48 military respondents (see Table 5 and Table 10). The main effect of military status on self-rated total OCB was significant at the  $p < .10$  level,  $F(1,70) = 2.79$ ,  $p = .099$  (see Table 10), but in the opposite direction predicted. This main effect is made stronger by the inclusion of cognitive job satisfaction as a covariant, but is made weaker by inclusion of either tenure or age as a covariate. Since the main effect was significant, the effect of military status on the altruism and conscientiousness OCB sub-scale scores was examined. Military status did not significantly affect self-rated altruism,  $F(1,70) = .33$ ,  $p = .567$  (see Table 11). However, it did significantly affect self-rated conscientiousness,  $F(1,70) = 5.09$ ,  $p = .027$  (see Table 12). It was non-significant,  $F(1,42) = .13$ ,  $p = .717$  (see Table 13), for supervisory ratings, so the effect of the sub-scales was not tested.

Hypothesis 3. Both factors of OCB will be more prevalent in civilians with previous military experience. Hypothesis 3 was not supported. Of the 25 civilians in the sample, 7, or 28% had prior military service (see Table 6). The main effect of previous military status was non-significant for both self-rated total OCB,  $F(1,23) = .39, p = .539$  (see Table 14) and supervisor-rated total OCB,  $F(1,13) = .21, p = .655$  (see Table 15).

Hypothesis 4. Both factors of OCB will be more prevalent in military officers than in enlisted personnel. Hypothesis 4 was not supported. Of the 47 military respondents, 20 were enlisted and 27 were officers (see Table 4). The main effect of officer status was non-significant for both self-rated total OCB,  $F(1,44) = .25, p = .296$  (see Table 16) and supervisor-rated total OCB,  $F(1,26) = .25, p = .621$  (see Table 17).

Hypothesis 5. Cognitive Job Satisfaction (CJS) will be positively related to both factors of OCB. Hypothesis 5 was supported for self-rated OCB, but not supervisor-rated OCB. Descriptive statistics for CJS and both its subscales are presented in Table 3. The main effect of total cognitive job satisfaction on self-rated total OCB was significant,  $F(4,66) = 3.49, p = .012$  (see Table 18). Since the main effect was significant, the effects of both sub-scales were examined. Both satisfaction with the job,  $F(4, 66) = 3.07, p = .022$  (see Table 19) and satisfaction with pay,  $F(4,66) = 2.57, p = .046$  (see Table 20) significantly affected self-rated total OCB. Both factors of OCB self-ratings, altruism and conscientiousness were significantly related to both forms of cognitive job satisfaction. Total CJS was significantly correlated .41 with self rated total

OCB, .29 with self-rated altruism, and .38 with self-rated conscientiousness (see Table 23). Satisfaction with pay was correlated .38 with self-rated total OCB, .24 with self-rated altruism, and .37 with self-rated conscientiousness. Satisfaction with the job was correlated .36 with self-rated total OCB, .28 with self-rated altruism, and .31 with self-rated conscientiousness. None of the correlations with the supervisor-rated scales were statistically significant (see Table 24). Total cognitive job satisfaction was correlated .07 with supervisor-rated total OCB, .20 with supervisor-rated altruism, and -.11 with supervisor-rated conscientiousness (see Table 24). The main effect of total cognitive job satisfaction on supervisor-rated total OCB was not significant,  $F(3,38) = .39, p = .760$  (see Table 21).

Hypothesis 6. Both factors of OCB will be positively related with tenure. Hypothesis 6 was partially supported for self-rated OCB. Although ANOVA did not detect a significant main effect of tenure on self-rated total OCB, tenure was significantly correlated with self-rated OCB and both of its factors, altruism and conscientiousness. Hypothesis 6 was not supported for supervisor-rated OCB. Tenure was represented by total federal service, which was the sum of Total Active Federal Military Service (TAFMS) that represents military service and the Service Computation Date (SCD) that represents civilian government service. The seven prior military service civilians had both their military service and civilian service summed together. Total federal service ranged from 5 months to 527 months in the sample, with a mean of 158.87 months, and a

standard deviation of 128.14 months (see Table 3). The median was 138.0 months. Self-ratings of OCB were more strongly related to tenure, than were supervisory OCB ratings. For both self and supervisor ratings, altruism is more related to tenure than is conscientiousness. Total self-rated OCB was significantly correlated .36 with tenure. Self-rated altruism was significantly correlated .33 with tenure and self-rated conscientiousness was significantly correlated .25 with tenure (see Table 27). Tenure was not significantly correlated with supervisor-ratings of total OCB, .17, altruism, .19, or conscientiousness, .08. The main effect of tenure on self-rated total OCB was not significant,  $F(9,60) = 1.34$ ,  $p = .334$  (see Table 25). It was also not significant for supervisor-rated total OCB,  $F(1,40) = .22$ ,  $p = .96$  (see Table 26).

Hypothesis 7. Both factors of OCB will be positively related with educational level. Hypothesis 7 was not supported. The survey sample was highly educated, with 76.4% having a bachelor's degree or better (see Table 8). Over a third, 37.5% had graduate degrees. Educational level was more related to both self and supervisory ratings of conscientiousness, than was altruism. Education correlated .06 with total self-rated OCB, -.09 with self-rated altruism, and .21 with self-rated conscientiousness. Education correlated .21 with total supervisor-rated OCB, -.02 with supervisor-rated altruism, and .38 with supervisor-rated conscientiousness (see Table 30). Only the two correlations with conscientiousness were statistically significant. The main effect of education was not significant for either self-rated total OCB,  $F(3,67) = .15$ ,  $p = .927$  (see Table 28), or

supervisor-rated total OCB,  $F(3,39) = 1.39$ ,  $p = .262$  (see Table 27).

Hypothesis 8. Both factors of OCB will be positively related with rural-urban context of upbringing. Hypothesis 8 was not supported. Of the respondents, 22 were brought up in a rural context, 35 in a suburban context, and 15 in an urban context (see Table 9). Context of upbringing was much more strongly related to altruism for supervisory ratings than it was for conscientiousness. Context of upbringing correlated  $-.03$  with self-rated total OCB,  $.01$  with self-rated altruism, and  $-.07$  with self-rated conscientiousness. It correlated  $.03$  with supervisor-rated total OCB,  $.23$  with supervisor-rated altruism, and  $-.14$  with supervisor-rated conscientiousness. None of these correlation coefficients were statistically significant (see Table 33). The main effect of education was not significant for either self-rated total OCB,  $F(2,69) = .10$ ,  $p = .908$  (see Table 31), or supervisor-rated total OCB,  $F(2,40) = .26$ ,  $p = .775$  (see Table 32).

Hypothesis 9. Self-report ratings of OCB will be more strongly correlated with cognitive job satisfaction than supervisory ratings. Hypothesis 9 was supported. The 12-item cognitive job satisfaction scale loaded on the two expected factors, with odd items representing satisfaction with the job and even items representing satisfaction with pay. Self-ratings of OCB were much more strongly related to cognitive job satisfaction ratings than were supervisory ratings. In fact, supervisory OCB ratings correlations with job cognitions were very weak. Total CJS was significantly correlated  $.41$  with self-rated total OCB,  $.29$  with self-rated altruism, and  $.38$  with self-rated conscientiousness (see

Table 23). It was non-significantly correlated .07 with supervisor-rated total OCB, .20 with supervisor-rated altruism, and -.11 with supervisor-rated conscientiousness (see Table 22).

### Discussion

Hypothesis 1. The 16-item OCB instrument will load on two factors, altruism and conscientiousness. The factor analyses performed were confirmatory factor analyses that matched factor structures established in studies with much larger n's. Factor analysis requires five to ten respondents per item, so for the 16-item OCB scale and the 12-item cognitive job satisfaction scale, this study fell short of the ideal. The two established dimensions of OCB, conscientiousness and altruism did emerge as factors. However, the reverse coded items and double-negative items emerged as factors as well. A re-analysis of the Bateman and Organ (1983) data found a third factor of negatively worded items as well. These three items all loaded on conscientiousness. Their emergence as a factor is due to a confound introduced by their wording, rather than communality as a construct. The same is true for the last three items that are poorly worded as to become double negatives in relation to the rating scale. Apparently these have not been as problematic in the past as they were in this study, since the OCB measure has been repeatedly used relatively unchanged since 1983. The fact that such poorly worded items have remained in a scale that has been so thoroughly content, construct, and criterion validated and analyzed is surprising.

Hypothesis 2. Both factors of OCB will be more prevalent in military members than in civilians. Relying solely on supervisory ratings is the biggest criticism of the bulk of OCB research. This study capitalized on both self and supervisory ratings. In the literature this is usually only done if incorporating Leader-Member Exchange Theory. (Deluga, 1994). The self-ratings worked much better than the supervisory ratings in this study. I had expected the self-ratings to be inflated due to self-presentation bias, but in fact the 73 participants in the Air Force Occupational Measurement Squadron rated themselves much less leniently than did their supervisors. The statistical tests had much more power for the self-ratings with 72 respondents than the 43 supervisory respondents. The statistical power to test group differences between military and civilian and prior military civilians became even weaker when the numbers were split.

The main thesis that military training and experience indoctrinates or emphasizes organizational citizenship behavior was not supported in this study. The civilians respondents had statistically significantly higher mean OCB ratings. They also had higher mean supervisory OCB ratings, but the difference was not statistically significant, largely due to only having 43 supervisors participate. Again, almost all OCB research utilizes solely supervisory ratings. Part of the reason supervisory ratings did not work well in this study is the reduced statistical power due to only 43 respondents. Another reason is that the self-ratings appeared to be much more accurate, and therefore contain less error variance than the supervisor ratings that seemed to suffer from leniency and

halo effect errors. Military versus non-military status has never been directly tested in the voluminous OCB literature. There have been several field studies of OCB in organizations, but never in a military one. Since the construct of OCB originated in the job analysis of Army officers, it has always been assumed to be important in the military, but until now, never tested. For military personnel, the OCB construct does have a great deal of face validity.

Cognitive job satisfaction is a highly significant covariate that increases the magnitude of the main effect of military status on self-rated total OCB. However, when the mean cognitive job satisfaction scores of military and civilian personnel are compared, they are very comparable. Cognitive job satisfaction and both of its subscales had significant effects on self-rated total OCB across the entire sample. Furthermore, tenure is also a significant covariate in this relationship. When tenure is included, it makes the effect of military status on self-rated total OCB become non-significant. This is also true for age. Neither tenure nor age had significant main effects on self-rated total OCB, but obviously they are moderator variables in the military effect since they are significant covariates. The entire sample has a mean age of 37.49 and a median age of 36. The mean and median total federal service of the entire sample is 158 months. However, the military respondents had a mean age of 30.87 and a median age of 28, while the civilians had a mean age of 49.68 and median age of 51. The military respondents had a mean tenure of 112.152 months of federal service, with a standard

deviation of 97.612 , and a median tenure of 76.5. The civilians had a mean tenure of 248.417, with a standard deviation of 9.241, and a median tenure of 248.5. The civilians are significantly older and more experienced than the military, and that is a possible explanation for their higher mean OCB scores. Again 28% of the civilians were prior service military, serving a median time of 11.5 years in the military. Two of the seven retired after 30 years in the military and two others after 20 years. Also the remaining 18 civilians have served in an active Air Force unit almost exclusively for a median of 15 years. The majority of the civilians in the sample are officer-grade equivalents with master's degrees in psychology. If the military indoctrinates OCBs, individuals with such high levels of experience in a military organization, would be expected to demonstrate high levels of OCBs.

Another possible confound is the fact that in the Air Force Occupational Measurement Squadron, military and civilians perform essentially the same jobs, and work together side-by-side. Their educational training and profession in behavioral science makes them very similar. Unfortunately, there wasn't a control group in this study that did have any affiliation with the military to better test this hypothesis.

Hypothesis 3. Both factors of OCB will be more prevalent in civilians with previous military experience. The effect of previous military experience in civilians was not significant. This was due to small sample size and resultant lack of statistical power. This hypothesis also has never been examined in the research literature.

Hypothesis 4. Both factors of OCB will be more prevalent in military officers than in enlisted personnel. The effect of officer versus enlisted status was not significant. Again, this was largely due to small sample size and low statistical power. In addition, the sample of 20 enlisted personnel had a mean age of 32.895 and a median age of 33, with a mean tenure of 158.158 months and a median of 172 months. The majority of them hold at least bachelor's degrees. The 27 officers in the sample had a mean age of 29.444 and a median age of 27, with a mean tenure of 79.778 months and a median of 45. So the effect of age and experience seem to outweigh officer status. This also has never been previously examined in the research literature.

Hypothesis 5. Cognitive Job Satisfaction (CJS) will be positively related to both factors of OCB. The main effect of CJS on self-rated total OCB was significant, as were the effects of its two subscale factors: satisfaction with pay and satisfaction with the job. In fact, CJS was the single best predictor of self-rated total OCB. The effect of CJS on supervisor-rated OCB was not significant. The only previous study to examine this relationship using these exact two scales, Organ & Konovsky (1989) had supervisors rate the OCB of 369 hospital workers. They found that pay cognitions were the best single predictor of supervisor-rated OCB, followed by job cognitions. They only correlated the two subscales of both of the CJS and OCB measures, not the entire measure. Supervisor-rated altruism significantly correlated .21 with pay cognitions and .19 with job cognitions in that study with 369 respondents. Supervisor-rated altruism non-significantly

correlated .14 with pay cognitions and .21 with job cognitions in this study with 41 respondents. However, self-rated altruism significantly correlated .24 with pay cognitions and .27 with job cognitions based on 71 respondents in this study.

Supervisor-rated compliance, which is now known as conscientiousness, correlated .19 with pay cognitions and .15 with job cognitions in their study. Supervisor-rated conscientiousness correlated -.1379 with pay cognitions and -.0542 with job cognitions with only 42 respondents in this study. However, self-rated conscientiousness correlated .37 with pay cognitions and .31 with job cognitions with 71 respondents. Organ and Konovsky (1989) did not utilize self-ratings of OCB to avoid method bias with the self-rated cognitive job satisfaction measure. However, even taking into account any inflation due to self-ratings being similar across construct, the results of both studies dovetail nicely. Smith et al (1983) had supervisors rate 422 bank employees on the same two-factor 16 item OCB scale and used Scott's "Me at Work" job satisfaction measure, and reported correlations of .33 and .29. These results also match up nicely.

Hypothesis 6. Both factors of OCB will be positively related with tenure. The main effect of tenure on both self-rated and supervisor-rated OCB was not significant. So analysis of variance did not support significant group differences in OCB based on subjects' tenure. However, tenure significantly correlated .33 with self-rated altruism and .25 with self-rated conscientiousness. Tenure correlated .19 with supervisor-rated altruism and .08 with supervisor-rated conscientiousness. The supervisor-rated

correlations were not statistically significant. Organ and Konovsky (1989) reported tenure correlated .08 with supervisor-rated altruism and .03 with supervisor-rated compliance.

Hypothesis 7. Both factors of OCB will be positively related with educational level. The effect of education was not significant for either self-rated or supervisor-rated OCB. Education was correlated -.0940 with self-rated altruism and .2060 with self-rated conscientiousness. It was correlated -.0235 with supervisor-rated altruism and .3795 with supervisor-rated conscientiousness. Organ and Konovsky (1989) found education to be correlated .07 with supervisor-rated altruism and .04 with supervisor-rated compliance. Also, educational level was much more strongly related to conscientiousness than altruism for both self and supervisory ratings. This makes sense because achieving academic degrees teaches responsibility and rewards following the rules, rather than being nice and helping people. The relationship of conscientiousness and education level was stronger for supervisory ratings than for self-ratings, and was statistically significant despite the smaller sample size and statistical power. The fact that educational level was more significant for supervisor ratings suggests a halo effect. Also, educational level suffers from some range restriction due to pre-selection in our squadron, due to the academic nature of our mission. The majority of the enlisted personnel hold bachelors degrees and almost all civilians and several of the officers have masters degrees.

Hypothesis 8. Both factors of OCB will be positively related with rural-urban context

of upbringing. The effect of context of upbringing was not significant for either self-rated or supervisor-rated total OCB. It was correlated .0133 with self-rated altruism and -.0661 with self-rated conscientiousness. It was correlated .2269 with supervisor-rated altruism and -.1378 with supervisor-rated conscientiousness. None of these correlations were statistically significant. Organ and Konovsky reported context of upbringing was correlated .03 with supervisor-rated altruism and -.05 with supervisor-rated conscientiousness.

Hypothesis 9. Self-report ratings of OCB will be more strongly correlated with cognitive job satisfaction than supervisory ratings. Self-ratings of OCB were significantly more strongly related to cognitive job satisfaction than were supervisor ratings of OCB. Again, self-ratings were based on 72 respondents while supervisory rating were based on only 43 respondents. However, even taking into account the reduced statistical power and inflation due to common method bias previously discussed, the differences are sizable. The comparison of self rated vs. supervisor rated OCB and cognitive job satisfaction have never been examined explicitly because researchers wanted to avoid common-method bias. Obviously, individuals are better able to assess their own job satisfaction, particularly job and pay cognitions, than their supervisors are. Based on the results of this study, they are also better at assessing their OCB than their supervisors.

## Summary and Conclusion

This study measured several variables previously shown in the research literature to be related to OCB. Cognitive job satisfaction demonstrated the strongest relationship with OCB. The thesis that OCB is indoctrinated by the military was not directly supported, since civilians exhibited higher mean values of OCB than did military personnel. Both age and tenure moderated this relationship. The civilian sample was older and more experienced than the military sample. I conclude that these are the reasons they possess higher levels of OCB. The tests of the relationship of all of these variables were hampered by low sample size and the resultant lack of statistical power. The results of this study fit in with results of previous studies using similar measures on much larger sample sizes.

The relationship of cognitive job satisfaction and organizational citizenship behavior in military organizations merits further research. Future research should focus on more diverse and numerous military samples to correct the major limitations of this study, low statistical power and range restriction due to pre-selection. It would be useful to have OCB measured in a full 360-degree assessment, with individual ratings, peer ratings, supervisor ratings, and subordinate ratings. This was not possible in the Air Force Occupational Measurement Squadron. It would also be helpful to survey individuals in a civilian organization. I wanted to survey employees of Mary Kay Cosmetics because they have a philosophy they call "The Golden Rule" that they emphasize that is similar to

OCB. Unfortunately this was not possible. However, this would better test the idea that the military indoctrinates organizational citizenship behavior.

APPENDIX A  
QUESTIONNAIRE

## MEMORANDUM FOR VOLUNTEER RESEARCH PARTICIPANT

FROM: AFOMS/OMYA (Captain Scott Middleton)

SUBJECT: Request for Voluntary Research Participation

1. I am collecting research data from squadron personnel for my thesis to complete degree requirements for a Master of Science degree in Industrial/Organizational Psychology at the University of North Texas. I have obtained Lt. Col. Kailiwai's approval to solicit voluntary participation from military and civilian squadron personnel. This project has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940. I would greatly appreciate your participation in this research study.
2. Your benefit of participating is simply the good feeling of self-satisfaction in helping a co-worker, which is exactly what the topic of my thesis, Organizational Citizenship Behavior, is about. There are no risks to subjects. Participation is entirely voluntary, and subjects may withdraw at anytime without penalty, prejudice, or loss of benefits. The information you provide will be kept confidential.
3. Attached is a questionnaire that consists of four parts, a seven question biographical section, a 12-item Cognitive Job Satisfaction measure, and two identical, 16-item Organizational Citizenship Behavior (OCB) measures. Please write your name in the space provided on each form and sign and date the informed consent line below, signifying that you have read and understood this request, and volunteer to participate. Please complete the biographical, cognitive job satisfaction, and the OCB self-assessment measures. Please return these to me as soon as possible in the envelope they came in to maintain confidentiality. Please write your name on the OCB supervisor ratings measure and give it to your supervisor for them to complete. Ask them to please return it directly to me in the envelope provided to maintain confidentiality and ensure honest ratings.
4. Please call me at 7-3696 with any questions you may have. Thank you very much for your time and participation!

SCOTT MIDDLETON, Captain, USAF  
Assistant Chief, Management Applications

1<sup>st</sup> Ind., Volunteer Research Participant

TO: Captain Scott Middleton

I have been satisfactorily informed of this research project and voluntarily consent to participate this \_\_\_\_\_ day of February 1999.

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Signature

## Biographical Section

Adapted from Organ & Konovsky (1989)

**Instructions:**

1. Please write your name in the space provided.
2. Please answer the following 7 questions.
3. The information you provide will be kept confidential.
4. Please return this form to Scott Middleton in the envelope provided as soon as possible.
5. Thank you very much for your participation!

**Your Name:** \_\_\_\_\_

1. What is your gender?

Male      Female

2. What is your age?

\_\_\_\_\_

3. How long have you been in the military or civil service?

For military, please use Total Active Military Service Date (TAFMS), in months

For civilians, please use Service Computation Date (SCD), in months

If you have served as both, please give each.

TAFMS: \_\_\_\_\_

SCD: \_\_\_\_\_

4. What is your rank or paygrade?

\_\_\_\_\_

5. If you are an officer, what was your commissioning source?

Officer Training School

Reserve Officer Training Corps

Service Academy

6. Indicate the highest level of education you have completed. Choose only one.

- High school graduate or equivalent
- Associate's Degree
- Bachelor's Degree
- Master's Degree or higher

7. How would you best characterize the context of your childhood or upbringing?

- Rural
- Suburban
- Urban

## Cognitive Job Satisfaction

Adapted from Scholl, Cooper, and McKenna (1987) in Organ & Konovsky (1989)

**Instructions:**

1. Please write your name in the space provided.
2. Please answer the following 12 questions using the rating scale provided by circling the appropriate number.
3. The information you provide will be kept confidential.
4. Please return this form to Scott Middleton in the envelope provided as soon as possible.
5. Thank you very much for your participation!

**Your Name:** \_\_\_\_\_

**Rating Scale:**

1. Very Bad
2. Bad
3. Fair
4. Good
5. Very Good

**Rating**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. How good is your job compared to similar individuals in this company who have this job?          | 1 | 2 | 3 | 4 | 5 |
| 2. How good is your pay compared to similar individuals in this company who have the same job?      | 1 | 2 | 3 | 4 | 5 |
| 3. Compared to all individuals who work for this organization, how good is your job?                | 1 | 2 | 3 | 4 | 5 |
| 4. Compared to all individuals who work for this organization, how good is your pay?                | 1 | 2 | 3 | 4 | 5 |
| 5. Compared with other individuals doing the same job in other organizations, how good is your job? | 1 | 2 | 3 | 4 | 5 |
| 6. Compared with other individuals doing the same job in other organizations, how good is your pay? | 1 | 2 | 3 | 4 | 5 |
| 7. How good is your job compared to other people who have the same amount of education as you?      | 1 | 2 | 3 | 4 | 5 |
| 8. How good is your pay compared to other people who have the same amount of education as you?      | 1 | 2 | 3 | 4 | 5 |
| 9. How good is your job compared to others who are the same age as you?                             | 1 | 2 | 3 | 4 | 5 |
| 10. How good is your pay compared to others who are the same age as you?                            | 1 | 2 | 3 | 4 | 5 |
| 11. Compared to what you expected by this time, how good is your job?                               | 1 | 2 | 3 | 4 | 5 |
| 12. Compared to what you expected by this time, how good is your pay?                               | 1 | 2 | 3 | 4 | 5 |

## Organizational Citizenship Behavior – Self Assessment

Smith et al. (1983) in Organ & Konovsky (1989)

**Instructions:**

1. Please write your name in the space provided.
2. Please rate **yourself** on the following 16 statements regarding **your** work behavior. Please use the rating scale provided and circle the appropriate number.
3. The information you provide will be kept confidential.
4. Please return this form to Scott Middleton in the envelope provided as soon as possible.
5. Thank you very much for your participation!

**Your Name:** \_\_\_\_\_

**Rating Scale:**

1. Never
2. Seldom
3. Occasionally
4. Often
5. Almost Always

**Rating**

1. Assists supervisor with his or her work.	1	2	3	4	5
2. Makes innovative suggestions to improve department.	1	2	3	4	5
3. Volunteers for things that are not required.	1	2	3	4	5
4. Orients new people even though it is not required.	1	2	3	4	5
5. Helps others who have been absent.	1	2	3	4	5
6. Attends functions not required but that help company image.	1	2	3	4	5
7. Helps others who have heavy workloads.	1	2	3	4	5
8. Takes undeserved breaks.	1	2	3	4	5
9. Coasts toward the end of the day.	1	2	3	4	5
10. Great deal of time spent with personal phone conversations.	1	2	3	4	5
11. Punctuality.	1	2	3	4	5
12. Gives advance notice if unable to come to work.	1	2	3	4	5
13. Attendance at work is above the norm.	1	2	3	4	5
14. Does not take extra breaks.	1	2	3	4	5
15. Does not spend time in idle conversation.	1	2	3	4	5
16. Does not take unnecessary time off work.	1	2	3	4	5

## Organizational Citizenship Behavior – Supervisor Ratings

Smith et al. (1983) in Organ & Konovsky (1989)

### **Instructions:**

1. Please write **your name** and the **name of the individual being rated** in the spaces provided.
2. Please rate **the individual you supervise** on the following 16 statements regarding **their** work behavior. Please use the rating scale provided and circle the appropriate number.
3. The information you provide will be kept confidential.
4. Please return this form to Scott Middleton in the envelope provided as soon as possible.
5. Thank you very much for your participation!

**Supervisor's Name:** \_\_\_\_\_

**Name of Individual Rated:** \_\_\_\_\_

### **Rating Scale:**

1. Never
2. Seldom
3. Occasionally
4. Often
5. Almost Always

### **Rating**

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Assists supervisor with his or her work.                     | 1 | 2 | 3 | 4 | 5 |
| 2. Makes innovative suggestions to improve department.          | 1 | 2 | 3 | 4 | 5 |
| 3. Volunteers for things that are not required.                 | 1 | 2 | 3 | 4 | 5 |
| 4. Orients new people even though it is not required.           | 1 | 2 | 3 | 4 | 5 |
| 5. Helps others who have been absent.                           | 1 | 2 | 3 | 4 | 5 |
| 6. Attends functions not required but that help company image.  | 1 | 2 | 3 | 4 | 5 |
| 7. Helps others who have heavy workloads.                       | 1 | 2 | 3 | 4 | 5 |
| 8. Takes undeserved breaks.                                     | 1 | 2 | 3 | 4 | 5 |
| 9. Coasts toward the end of the day.                            | 1 | 2 | 3 | 4 | 5 |
| 10. Great deal of time spent with personal phone conversations. | 1 | 2 | 3 | 4 | 5 |
| 11. Punctuality.  | 1 | 2 | 3 | 4 | 5 |
| 12. Gives advance notice if unable to come to work.             | 1 | 2 | 3 | 4 | 5 |
| 13. Attendance at work is above the norm.                       | 1 | 2 | 3 | 4 | 5 |
| 14. Does not take extra breaks.                                 | 1 | 2 | 3 | 4 | 5 |
| 15. Does not spend time in idle conversation.                   | 1 | 2 | 3 | 4 | 5 |
| 16. Does not take unnecessary time off work.                    | 1 | 2 | 3 | 4 | 5 |

APPENDIX B

TABLES

Table 1

Factor Analysis of OCB Self Ratings

Item	Factor 1 Altruism	Factor 2 Conscientiousness
Self OCB 5	.85	-.00
Self OCB 4	.82	.15
Self OCB 7	.80	.12
Self OCB 6	.65	-.05
Self OCB 1	.64	.10
Self OCB 2	.63	.27
Self OCB 3	.52	.14
Self OCB 15	.16	.71
Self OCB 9	.27	.68
Self OCB 14	.23	.66
Self OCB 8	.14	.65
Self OCB 16	.13	.63
Self OCB 10	-.04	.55
Self OCB 11	-.01	.52
Self OCB 12	-.08	.49
Self OCB 13	.14	.39

Note. Principal Components Analysis with Varimax Rotation

Table 2

Factor Analysis of OCB Supervisor Ratings

Item	Factor 1 Altruism	Factor 2 Conscientiousness
Supervisor OCB 5	.82	.14
Supervisor OCB 6	.80	.24
Supervisor OCB 2	.77	.22
Supervisor OCB 7	.76	-.01
Supervisor OCB 1	.73	.31
Supervisor OCB 4	.71	.24
Supervisor OCB 3	.61	.08
Supervisor OCB 14	.02	.84
Supervisor OCB 11	.26	.82
Supervisor OCB 16	.04	.80
Supervisor OCB 15	.24	.79
Supervisor OCB 13	.23	.72
Supervisor OCB 12	-.00	.68
Supervisor OCB 9	.32	.63
Supervisor OCB 10	.32	.63
Supervisor OCB 8	.36	.58

Note. Principal Components Analysis with Varimax Rotation

Table 3

Descriptive Statistics of Continuous Variables

Variable	<u>M</u>	<u>SD</u>	Minimum	Maximum	<u>n</u>
Self-Rated Total OCB	3.89	.47	2.50	4.75	72
Self-Rated Altruism	3.41	.70	1.14	4.71	72
Self-Rated Conscientiousness	4.26	.49	3.11	5.00	72
Supervisor-Rated Total OCB	4.29	.53	3.06	5.00	72
Supervisor-Rated Altruism	3.99	.69	2.14	5.00	43
Supervisor-Rated Conscientiousness	4.50	.55	3.22	5.00	44
Total Cognitive Job Satisfaction	3.86	.70	1.67	5.00	71
CJS-Job	4.04	.73	1.67	5.00	71
CJS-Pay	3.69	.83	1.67	5.00	71
Age (Years)	37.49	12.39	18	62	71
Total Federal Service (Months)	158.87	128.14	5	527	70

Table 4

Frequency Count for Officer Status of Military

Value	Frequency	Percent
Enlisted	20	42.6
Officer	27	57.4
Total	47	100

Table 5

Frequency Count for Military Status

Value	Frequency	Percent
Civilian	25	34.2
Military	48	65.8
Total	73	100

Table 6

Frequency Count for Prior Military Status of Civilians

Value	Frequency	Percent
Never Military	18	72
Prior Military	7	28
Total	25	100

Table 7

Frequency Count for Gender

Value	Frequency	Percent
Male	49	67.1
Female	24	32.9
Total	73	100

Table 8

Frequency Count for Education

Value	Frequency	Percent
High School	9	12.5
Associate's Degree	8	11.1
Bachelor's Degree	28	38.9
Master's Degree	27	37.5
Total	72	100

Table 9

Frequency Count for Context of Upbringing

Value	Frequency	Percent
Rural	22	30.6
Suburban	35	48.6
Urban	15	20.8
Total	72	100

Table 10

Effect of Military Status on Self-Rated Total OCB

Source	SS	df	MS	F	p
Military Status	.61	1	.61	2.79	.099
s within-group error	15.27	70	.22		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military	.04	.03	2.79	.50

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Civilian	4.02
Military	3.82

Table 11

Effect of Military Status on Self-Rated Altruism

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Military Status	.16	1	.16	.33	.57
s within-group error	34.58	70	.49		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military Status	.01	.00	.33	.28

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Civilian	3.48
Military	3.38

Table 12

Effect of Military Status on Self-Rated Conscientiousness

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Military Status	1.15	1	1.15	5.09	.027
<u>s</u> within-group error	15.83	70	.23		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military Status	.07	.05	5.09	.72

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Civilian	4.43
Military	4.17

Table 13

Effect of Military Status on Supervisor-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Military Status	.04	1	.04	.13	.72
<u>s</u> within-group error	12.00	42	.29		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military Status	.00	.00	.11	.16

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Civilian	4.32
Military	4.27

Table 14

Effect of Previous Military Status on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Previous Military Status	.09	1	.09	.39	.54
s within-group error	5.22	23	.23		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military Status	.02	.00	.39	.29

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Never Military	4.05
Prior Military	3.92

Table 15

Effect of Previous Military Status on Supervisor-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Previous Military Status	.04	1	.04	.21	.66
<u>s</u> within-group error	2.76	13	.21		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Military Status	.02	.00	.21	.18

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Never Military	4.28
Prior Military	4.40

Table 16

Effect of Officer Status on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Officer Status	.25	1	.25	1.12	.30
s within-group error	9.65	44	.22		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Officer Status	.03	.00	1.12	.28

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Enlisted	3.91
Officer	3.77

Table 17

Effect of Officer Status on Supervisor-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Officer Status	.09	1	.09	.25	.62
<u>s</u> within-group error	9.07	26	.35		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Officer Status	.01	.00	.25	.21

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Enlisted	4.32
Officer	4.21

Table 18

Effect of Total Cognitive Job Satisfaction on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Total Cognitive Job Satisfaction	2.67	4	.67	3.49	.01
<u>s</u> within-group error	12.62	66	.19		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Total CJS	.18	.13	13.96	.91

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
CJS Rating of 1	3.69
CJS Rating of 2	3.63
CJS Rating of 3	3.76
CJS Rating of 4	4.02
CJS Rating of 5	4.40

Table 19

Effect of Satisfaction with the Job on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
CJS Job	2.40	4	.60	3.07	.02
<u>s</u> within-group error	12.89	66	.20		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
CJS Job	.16	.11	12.28	.87

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
CJS Job Rating of 1	3.69
CJS Job Rating of 2	3.85
CJS Job Rating of 3	3.72
CJS Job Rating of 4	3.90
CJS Job Rating of 5	4.28

Table 20

Effect of Satisfaction with Pay on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
CJS Pay	2.06	4	.51	2.57	.046
<u>s</u> within-group error	13.23	66	.20		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
CJS Pay	.14	.08	10.28	.80

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
CJS Pay Rating of 1	3.69
CJS Pay Rating of 2	3.76
CJS Pay Rating of 3	3.78
CJS Pay Rating of 4	4.00
CJS Pay Rating of 5	4.34

Table 21

Effect of Total Cognitive Job Satisfaction on Supervisor-Rated Total OCB

Source	SS	df	MS	F	p
Total Cognitive Job Satisfaction	.31	3	.10	.39	.76
s within-group error	9.97	.38	.26		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Total CJS	.03	.00	1.17	.20

Note. Effect size measures and observed power at the  $p = .10$  level

Group	M
CJS Rating of 2	4.22
CJS Rating of 3	4.33
CJS Rating of 4	4.29
CJS Rating of 5	4.63

Table 22

Correlation of Self-Rated OCB and Supervisor-Rated OCB

	Self OCB	Self Alt	Self Con	Supr OCB	Supr Alt	Supr Con
Self OCB	1.00	.83	.79	.30	.42	.05
		n = 72	n = 72	n = 43	n = 42	n = 43
		p=.00	p=.00	p=.05	p=.01	p=.73
Self Alt		1.00	.3223	.2170	.4218	-.0962
			n = 72	n = 43	n = 42	n = 43
			p=.01	p=.16	p=.01	p=.54
Self Con			1.00	.28	.28	.18
				n = 43	n = 42	n = 43
				p=.07	p=.07	p=.26
Supr OCB				1.00	.85	.86
					n = 43	n = 44
					p=.00	p=.00
Supr Alt					1.00	.47
						n = 43
						p=.00
Supr Con						1.00

Legend:

Self OCB = Self-Rated Total OCB

Self Alt = Self-Rated OCB Altruism Sub-scale

Self Con = Self-Rated OCB Conscientiousness Sub-scale

Supr OCB = Supervisor-Rated Total OCB

Supr Alt = Supervisor-Rated OCB Altruism Sub-scale

Supr Con = Supervisor-Rated OCB Conscientiousness Sub-scale

Table 23

Correlation of Cognitive Job Satisfaction and Self-Rated OCB

	Total CJS	CJS Pay	CJS Job	Self OCB	Self Alt	Self Con
Total CJS	1.00	.91 n = 71	.89 n = 71	.41 n = 71	.29 n = 71	.38 n = 71
		p=.00	p=.00	p=.00	p=.02	p=.00
CJS Pay		1.00	.62 n = 71	.38 n = 71	.24 n = 71	.37 n = 71
			p=.00	p=.00	p=.04	p=.00
CJS Job			1.00	.36 n = 71	.28 n = 71	.31 n = 71
				p=.00	p=.02	p=.01
Self OCB				1.00	.83 n = 72	.79 n = 72
					p=.00	p=.00
Self Alt					1.00	.32 n = 72
						p=.01
Self Con						1.00

Legend:

Total CJS = Total Cognitive Job Satisfaction

CJS Pay = Cognitive Job Satisfaction Pay Sub-scale

CJS Job = Cognitive Job Satisfaction Job Sub-scale

Self OCB = Self-Rated Total OCB

Self Alt = Self-Rated OCB Altruism Sub-scale

Self Con = Self-Rated OCB Conscientiousness Sub-scale

Table 24

Correlation of Cognitive Job Satisfaction and Supervisor-Rated OCB

	Total CJS	CJS Pay	CJS Job	Supr OCB	Supr Alt	Supr Con
Total CJS	1.00	.91	.89	.07	.20	-.11
		n = 71	n = 71	n = 42	n = 42	n = 42
		p=.00	p=.00	p=.64	p=.22	p=.48
CJS Pay		1.00	.62	.02	.14	-.14
			n = 71	n = 42	n = 41	n = 42
			p=.00	p=.00	p=.38	p=.38
CJS Job			1.00	.12	.21	-.05
				n = 42	n = 41	n = 42
				p=.45	p=.02	p=.73
Supr OCB				1.00	.85	.86
					n = 43	n = 44
					p=.00	p=.00
Supr Alt					1.00	.47
						n = 43
						p=.00
Supr Con						1.00

Legend:

Total CJS = Total Cognitive Job Satisfaction

CJS Pay = Cognitive Job Satisfaction Pay Sub-scale

CJS Job = Cognitive Job Satisfaction Job Sub-scale

Supr OCB = Supervisor-Rated Total OCB

Supr Alt = Supervisor-Rated OCB Altruism Sub-scale

Supr Con = Supervisor-Rated OCB Conscientiousness Sub-scale

Table 25

Effect of Tenure on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Between groups	14.16	60	.24	1.34	.33
Within groups	15.74	9	.18		

Table 26

Effect of Tenure on Supervisor-Rated Total OCB

Source	SS	df	MS	F	p
Between groups	9.92	40	.25	.22	.96
Within groups	1.13	1	1.13		

Table 27

Correlation of Tenure with OCB measures

	Self OCB	Self Alt	Self Con	Supr OCB	Supr Alt	Supr Con
Tenure	.36	.33	.25	.17	.19	.08
	n = 70	n = 70	n = 70	n = 42	n = 41	n = 42
	p=.00	p=.01	p=.04	p=.28	p=.22	p=.63

Legend:

Tenure = Total Federal Service

Self OCB = Self-Rated Total OCB

Self Alt = Self-Rated OCB Altruism Sub-scale

Self Con = Self-Rated OCB Conscientiousness Sub-scale

Supr OCB = Supervisor-Rated Total OCB

Supr Alt = Supervisor-Rated OCB Altruism Sub-scale

Supr Con = Supervisor-Rated OCB Conscientiousness Sub-scale

Table 28

Effect of Education on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Education	.11	3	.04	.15	.93
s within-group error	15.66	67	.23		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Education	.01	.00	.46	.14

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
High School	3.84
Associates Degree	3.80
Bachelors Degree	3.92
Masters Degree	3.91

Table 29

Effect of Education on Supervisor-Rated Total OCB

Source	SS	df	MS	F	p
Education	1.16	3	.39	1.39	.26
s within-group error	10.85	39	.28		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Education	.10	.03	4.16	.47

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
High School	3.93
Associates Degree	4.46
Bachelors Degree	4.31
Masters Degree	4.36

Table 30

Correlation of Education with OCB measures

	Self OCB	Self Alt	Self Con	Supr OCB	Supr Alt	Supr Con
Education	.06	-.09	.21	.21	-.02	.38
	n = 71	n = 71	n = 71	n = 43	n = 42	n = 43
	p=.63	p=.44	p=.09	p=.18	p=.88	p=.01

Legend:

Education = Level of Education

Self OCB = Self-Rated Total OCB

Self Alt = Self-Rated OCB Altruism Sub-scale

Self Con = Self-Rated OCB Conscientiousness Sub-scale

Supr OCB = Supervisor-Rated Total OCB

Supr Alt = Supervisor-Rated OCB Altruism Sub-scale

Supr Con = Supervisor-Rated OCB Conscientiousness Sub-scale

Table 31

Effect of Context of Upbringing on Self-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Context	.04	2	.02	.10	.91
s within-group error	15.83	69	.23		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Context	.00	.00	.19	.13

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Rural	3.92
Suburban	3.87
Urban	3.89

Table 32

Effect of Context of Upbringing on Supervisor-Rated Total OCB

Source	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>	<u>p</u>
Context	.14	2	.07	.26	.78
<u>s</u> within-group error	10.92	40	.27		

Source	R-Squared	Adjusted R-Squared	Noncentrality	Power
Context	.01	.00	.51	.16

Note. Effect size measures and observed power at the  $p = .10$  level

Group	<u>M</u>
Rural	4.33
Suburban	4.26
Urban	4.41

Table 33

Correlation of Context of Upbringing and OCB measures

	Self OCB	Self Alt	Self Con	Supr OCB	Supr Alt	Supr Con
Context	-.03	.01	-.07	.03	.23	-.14
	n = 72	n = 72	n = 72	n = 43	n = 42	n = 43
	p=.80	p=.91	p=.58	p=.86	p=.15	p=.38

Legend:

Context = Context of Upbringing or Childhood

Self OCB = Self-Rated Total OCB

Self Alt = Self-Rated OCB Altruism Sub-scale

Self Con = Self-Rated OCB Conscientiousness Sub-scale

Supr OCB = Supervisor-Rated Total OCB

Supr Alt = Supervisor-Rated OCB Altruism Sub-scale

Supr Con = Supervisor-Rated OCB Conscientiousness Sub-scale

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