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Article

An Empirical Study on the Model of Self-Efficacy and Organizational Citizenship Behavior Transmitted through Employee Engagement, Organizational Commitment and Job Satisfaction in the Thai Automobile Parts Manufacturing Industry

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Abstract: This research aims to study the direct and indirect influence of self-efficacy on organizational citizenship behavior transmitted through employee engagement, organizational commitment and job satisfaction, and to examine employee engagement, organizational commitment and job satisfaction as partial or full mediators. The study samples were 400 employees in the automobile parts manufacturing industry. The study instruments used by previous researchers were applied and back translation was conducted on all questionnaire items. Content validity and reliability was then tested prior to using them for data collection. Direct and indirect influences and mediators were analyzed with the Hayes Model 81 using the PROCESS Program. Results revealed that self-efficacy had a direct influence on organizational citizenship behavior with statistical significance, with an indirect influence transmitted through employee engagement, organizational commitment and job satisfaction. Employee engagement, organizational commitment and job satisfaction functioned as partial mediators between self-efficacy and organizational citizenship behavior with statistical significance. The model was based on the theory of self-efficacy to express organizational citizenship behavior. However, the study results showed that employee engagement, organizational commitment and job satisfaction play roles as mediators in transmission of effective organizational citizenship behavior. Therefore, these mediators are important factors that can accurately explain organizational citizenship behavior.

Keywords: self-efficacy; organizational citizenship behavior; employee engagement; organizational commitment; job satisfaction

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1. Introduction

Historically, academics and researchers have studied organizational citizenship behavior to determine guidelines for increased employee effectiveness. Katz [1] identified three parameters of effective employee behavior: joining and staying in the organization, meeting and exceeding standards of performances and spontaneously going beyond prescribed roles that he called “organizational citizenship behavior” [2]. These behaviors can be expressed in the forms of altruism, conscientiousness, sportsmanship, courtesy and civic virtue [3]. Organizational citizenship behavior can be expressed as employees’ actions beyond the work responsibility specified in their job descriptions. They voluntarily undertake extra activities because they focus on the effectiveness of the organizational operation, without the expectation of any rewards from these actions [4].

Bandura’s [5] self-efficacy theory is often used by behaviorists and researchers to study predictive factors of organizational citizenship behavior. Self-efficacy is a person’s belief

about his/her ability at different levels, influenced by motivation and living. Self-efficacy has effects on emotions, feelings or decision-making [6] as a determinant of how much effort is applied for performing each activity. Dussault [7] suggested that self-efficacy related to organizational citizenship behavior at the significance level of 0.01, consistent with Syamsuddin and Badarwan [8] who determined the influence coefficient of self-efficacy on organizational citizenship behavior at 0.471, regarded as a high level. Chin [9] argued that an influence coefficient of more than 0.20 was suspected to have latent factors between a causal variable and an outcome variable. Educators differ concerning the concepts and theories of mediating or empowering factors to enhance employees' organizational citizenship behavior. For example, Sulea, et al. [10] stated that employee engagement was a partial mediator between independent factors and organizational citizenship behavior, while Charkhabi, et al. [11] and Soto and Rojas [12] suggested that job satisfaction was another factor that influenced self-efficacy and organizational citizenship behavior and Batool [13] agreed that organizational commitment was a mediator to increase employee citizenship behavior. Therefore, to explain how self-efficacy affects the phenomenon of organizational citizenship behavior in a more accurate and effective way requires other constructs apart from the organizational environment.

Considering the systematic relationship among variables can reveal rigid relationships among the sequence of events or phenomena in a way which clearly depicts the organizational citizenship behavior, which is essential for large, medium, and small organizations. This is because the indicators can reflect the supportive behaviors which promote and enhance organizations to gain effective competitive capabilities in different industries. Therefore, studies into the relationships between such variables in different contexts are necessary to examine whether such relationships are significant in addition to confirm empirical evidence to support and enhance employees' organizational citizenship behaviors, which are the main mechanism for work units and organizations to increase sustainable competitive capability in the age of hard competition.

In this study, participants were employees in the Thai automobile parts manufacturing industry, ranked 13th in the world, with export income valued at 9.2 hundred billion baht [14]. Thailand has a policy of determining competitive capability by focusing on innovation to drive the automotive industry as a pilot to produce environmentally friendly products in the world market. Employees' organizational citizenship behavior is promoted by the automobile parts manufacturing industry to respond to government policy. If the organization can develop, support and promote good and desirable employee behaviors, then it becomes easy for human resource management to operate at full potential and lead the organization to gain competitive advantages in sustainable markets in the country, regions and the world.

Most studies on self-efficacy, employee engagement, organizational commitment, job satisfaction, and organizational citizenship behavior are in discrete forms, such as separately studying self-efficacy and employee engagement [15], the influence of self-efficacy on organizational citizenship behavior [16], self-efficacy and employee engagement [17], and employee engagement and job satisfaction [18]. Accordingly, it is difficult to integrate the findings from these previous studies to develop a holistic explanation about the studied phenomena. Researchers and educators who are interested in holistic studies are very few in comparison with holistic knowledge in other areas. Consequently, holistic knowledge is insufficient to create understanding and explain different phenomena of organizational citizenship behavior in order to obtain information and concepts for making decisions in management and effective development. Given the importance of this issue, and the problems and doubts mentioned above, the purpose of this study was to study the direct and indirect effects of self-efficacy on organizational citizenship behavior through the variables of employee engagement, organizational commitment, and job satisfaction. The study had two main questions. First, are the effects of self-efficacy on organizational citizenship behavior direct or indirect? Second, do employee engagement, organizational commitment and job satisfaction mediate between self-efficacy and organizational citizenship behavior?

The study population consisted of employees in the automobile part industry. The effects of the studied variables were examined and tested on the mediators, based on the concept of Hayes Model 81 using the PROCESS macro 3.1. The research results are useful for researchers, educators, students, human resource practitioners, and people interested in studying organizational citizenship behavior.

2. Organizational Citizenship Behavior

Good behavior or organizational citizenship behavior results from employees undertaking extra work outside the job requirements for no expected reward [19]. In the work environment, good behavior motivates people to express altruism among one another and contribute to effective organizational performance [20]. However, educators, researchers and others are interested in good behavior from different viewpoints. Inandi and Buyukozkan [21] stated that good behavior is performed without expectation for rewards or benefits from such behaviors but through devotion and effort to achieve task assignments, and to voluntarily help other colleagues to accomplish their tasks to increase the overall effectiveness of organizational performance. Similarly, Rasheed, et al. [22] stated that organizational citizenship behavior refers to employees' cooperative behavior over and above their prescribed duties. Such behavior is performed without expectation of rewards and benefits but to support organizational effectiveness and success. According to Organ [2], good behavior refers to each person's consideration and decision-making to do something independently with no direct effect of getting rewards but to promote effective work responsibility. Organ [2] and Podsakoff, MacKenzie, Moorman and Fetter [3] classified organizational citizenship behavior into five components. (1) Altruism refers to behavior as independent decision-making to help other employees solve their work problems. (2) Conscientiousness refers to behavior as independent decision-making to perform tasks over and above the minimum work requirements such as paying attention to work, compliance with rules and regulations, working during break time and other related work behaviors. (3) Sportsmanship refers to employees' willingness to be patient and tolerant in different situations without expressing dissatisfaction, avoiding complaints and gossip, and not making unnecessary trivial matters into big deals. (4) Courtesy refers to behavior such as independent decision-making to prevent relationship problems between others by considering that one's actions may impact other people and always considering other people's rights. (5) Civic virtue refers to employee participation in various supportive organizational activities.

Expression of good citizenship behavior is very important as an outcome of performance at the personal level. Therefore, human resource management must focus on enhancing employees' organizational citizen behavior to support and promote sustainable success from work operation.

3. Organizational Commitment as a Mediator

Organizational commitment is another variable that attracts interest from educators and practitioners who study organizational behavior and psychology. Organizational commitment is employees' perception of the organization in two aspects: as behavioral commitment by accepting the organization's target, value and cultures, and attitudinal commitment by compliance with the organization's target, value and cultures [23].

High organizational commitment reduces absenteeism. Employees have job satisfaction and motivation to accomplish responsible tasks, are punctual, and staff turnover rate is also reduced [24]. Meyer, et al. [25] stated that employees' organizational commitment consists of three components. (1) Affective commitment refers to feeling part of and ready to devote oneself to the organization. (2) Continuance commitment involves no intention to move or change jobs. Employees consider that working with the organization is a time-investment, with longer working time resulting in higher payments and benefits. (3) Normative commitment refers to compliance with the organization's target, values, cultures and norms, and is expressed in the form of loyalty. These three concepts concurred

with Nazir and Islam [26]. They proposed three outcomes of employees' organizational commitment as (1) employees' participation in various activities arranged by the organization, (2) employees' devotion with full potential to achieve the organization's targets and (3) employees work at their full ability for effective work performance, with no thoughts of leaving.

Batool [13] studied the influence of justice and fair play on organizational citizenship behavior with a mediator of organizational commitment. Results showed that organizational commitment functioned as a transmitting variable to organizational citizenship behavior with statistical significance. When employees perceived justice in dealings with the organizational management, they gained more commitment and performed good behavior. Na-Nan, et al. [27] studied the influence of organizational commitment as a mediating variable in relation to organizational citizenship behavior. They found that organizational commitment as a mediator reinforced the independent variables with more effects on increasing good citizenship behavior.

4. Employee Engagement as a Mediator

The concept of employee engagement was developed by Kahn [28] in qualitative research by interviewing some organizational consultants about work engagement and disengagement. He concluded that employee engagement emanated from a person's psychological state in relation to work responsibility based on three aspects: meaningfulness, safety and availability. All these factors were main components or indicators of employee engagement. Employees performed work engagement behavior when their psychological state perceived that their work responsibility was meaningful to both themselves and the organization with safety and security. Saks [29] suggested that employee engagement was influenced by job attributes, perception of organizational support, perception of support from supervisors, rewards and acceptance, procedural justice and distributive justice. These factors contributed psychological effects on employees to perform two self-roles as self-work role and self-role as a member of an organization, while Schaufeli [30] stated that employee engagement could be measured in three components of vigor, dedication and absorption. Vigor refers to a person's behavior with devotion of attempt and effort to work, without discouragement from emerging problems, obstacles, difficulties and challenges to accomplish work assignments on time. Dedication refers to attitudes and feelings of a person toward work responsibility with willingness, pride and motivation to complete work according to the set targets. Absorption refers to a person's attention and concentration to complete task assignments. Time flies at work and the employee feels that the operation is meaningful for his/her life.

According to the literature review, employee engagement can be either an independent variable or a mediating variable when studying organizational behavior and human resource management. Sulea, Virga, Maricutoiu, Schaufeli, Zaborila Dumitru and Sava [10] noted that employee engagement was a full mediator between the independent variables and organizational citizenship behavior since a person with perception of employee engagement wants to comply with organizational guidelines. This result concurred with Gupta, et al. [31]. They tested employee engagement as a mediator between psychological capital and organizational citizenship behavior. Results determined that employee engagement functioned as a transmitting variable between the independent variables and the dependent variables with statistical significance.

5. Job Satisfaction of Employees

Job satisfaction is another important factor when studying organizational contexts [32]. A literature review concerning motivation found that educators currently agree that job satisfaction results from work performance appraisal [33,34]. Therefore, an organization with good business benefits needs to equip personnel with the requisite knowledge, capabilities and experience to maximize work output. Job satisfaction enables employees to input their full effort and intelligence to achieve targets effectively. On the other hand,

Jabeen, et al. [35] pointed out that components that do not contribute to job satisfaction cause inferior performance, reduced quality, higher work absence and turnover rate and more accidents at work. Job satisfaction is a person's feeling either in a positive or negative form. Job satisfaction occurs when a person obtains desirable things or achieves the desired target at a particular level. Such feelings may decrease if the desirable things or targets do not get responses [36]. Mathew and Nair [37] stated that job satisfaction involves attitudes or feelings about like or dislike, particularly relating to work responsibility or operational aspects.

Singh and Loncar [38] noted that employees' job satisfaction was affected by intrinsic and extrinsic motivation. Intrinsic motivation is formed internally in a person who perceives the usefulness of a particular activity and performs this activity willingly without any force or requirement from other people, whereas extrinsic motivation is formed externally as something that impacts the perception of the importance of activities such as getting rewards, praise and incentives. Paillé [32] concluded that job satisfaction was related to and had a positive influence on organizational citizenship behavior with statistical significance ($r = 0.58$, $p < 0.001$, $\beta = 0.214$, $p < 0.005$), while Charkhabi, Alimohammadi and Charkhabi [11] tested job satisfaction as a mediator and found that perception was affected by stimuli in the form of behavior.

6. Self-Efficacy

The concept of self-efficacy is an important component when studying social learning theory, developed into social physiology by Bandura [5,39], Pajares [40] and Pajares and Schunk [41]. This component is used to explain different behavior. Self-efficacy enables people to perform responsible behavior with confidence and to perform work with effectiveness [42,43]. Bandura [5] defined self-efficacy as a person's belief in his/her ability, influenced by motivation and ways of living. Self-efficacy impacts emotions, feelings or decision-making to do something as desired [6]. These factors determine how much effort that person uses to perform each task [44]. Schunk and Pajares [41] studied factors concerning families, friends, groups, education, ways of study life and differences in genders and society. All these factors affected individual abilities.

Dussault [7] determined that teachers with high self-efficacy had significant relationships with altruism, conscientiousness, sportsmanship, courtesy and civic virtue, while Muh Aqso and Arini [45] identified self-efficacy as an important factor that influenced organizational citizenship behavior with statistical significance.

In the same vein, Yakın and Erdil [46] found that self-efficacy in the physical form of accountants impacted employee engagement with an influence coefficient of 0.140 at significance level of 0.05. This result was consistent with Chapa, et al. [47] who tested the relationship between self-efficacy and employee engagement at the significance level of 0.05. They found that employees with high levels of self-efficacy and self-confidence positively engaged with their work responsibilities or assignments, while Consiglio, et al. [48] recorded the self-efficacy of employees at an influence coefficient of 0.28, whereby self-efficacy together with other variables predicted employee engagement at up to 34%.

Demir [49] noted that self-efficacy influenced organizational commitment and employee job satisfaction, while Chegini, et al. [50] found that nurses with self-efficacy greatly influenced organizational commitment with statistical significance. Rahayu, et al. [51] found that people with high self-efficacy also had high job satisfaction, whereas Liu [52] found that self-efficacy significantly influenced organizational commitment and employee engagement. These results concurred with Soto and Rojas [12] who reported job satisfaction as a mediator transmitting influence between self-efficacy and organizational citizenship behavior with statistical significance.

7. Model Development and Hypotheses

Thus, according to the self-efficacy theory discussed above, people with high self-efficacy perform organizational citizenship behavior. However, in the literature review,

some educators and researchers argued that organizational citizenship behavior was more influenced by self-efficacy when other factors were involved. They postulated that the self-efficacy theory might not accurately predict the occurrence of organizational citizenship behavior if the mediators of employee engagement, organizational commitment and job satisfaction were excluded (see Figure 1).

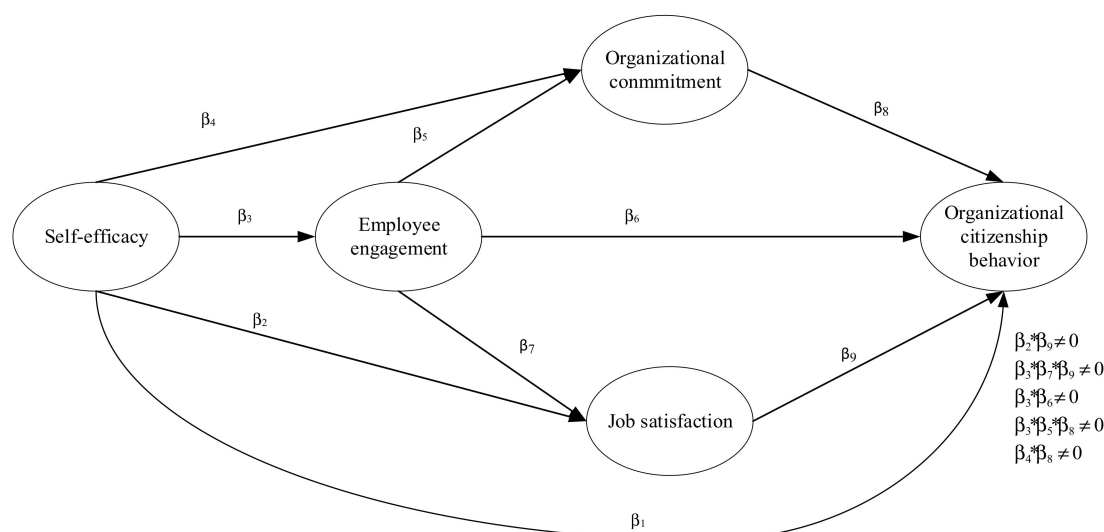


Figure 1. The influence model of self-efficacy on organizational citizenship behavior with mediators of employee engagement, organizational commitment and job satisfaction.

The hypotheses present indirect effects to answer the research question as whether employee engagement, organizational commitment and job satisfaction are latent variables that transmit influences of the causal factor (self-efficacy) to the outcome factor (organizational citizenship behavior). If the testing result of any indirect influence path is significant, this means that the mediator in the research framework exists in the study context.

Each linear indirect influence was tested as follows.

Hypothesis 1 (H1). $\beta_2 * \beta_9 \neq 0$: Job satisfaction is the mediator transmitting influence of self-efficacy to organizational citizenship behavior.

Hypothesis 2 (H2). $\beta_3 * \beta_7 * \beta_9 \neq 0$: Employee engagement and job satisfaction are the mediators transmitting influence of self-efficacy to organizational citizenship behavior.

Hypothesis 3 (H3). $\beta_3 * \beta_6 \neq 0$: Employee engagement is the mediator transmitting influence of self-efficacy to organizational citizenship behavior.

Hypothesis 4 (H4). $\beta_3 * \beta_5 * \beta_8 \neq 0$: Employee engagement and organizational commitment are the mediators transmitting influence of self-efficacy to organizational citizenship behavior.

Hypothesis 5 (H5). $\beta_4 * \beta_8 \neq 0$: Organizational commitment is the mediator transmitting influence of self-efficacy to organizational citizenship behavior.

The values and tests of indirect influences were also used to explain which indirect path was the most important, followed by the importance of the other paths in descending order.

8. Research Methodology

8.1. Sample

The units of analysis for the target population in this research were employees in the automobile parts manufacturing industry. These employees were selected as the study target because the automobile parts manufactory industry is very important in Thailand and earns considerable income for the country. This population group was selected since they are important for the country to earn income and a large number of people are employed in the automobile parts industry. The automobile parts manufacturing industry has management systems and human resource promotions in place to build employee engagement, organizational commitment, job satisfaction and organizational citizenship behavior. Some examples included development and training to gain higher potential, design of the payment system to motivate employees and encourage them to perform work at a higher level, arrangement of various activities to enhance love and commitment to the organization, and promotion and support to express desirable behavior during work operations. Following the concept of Tayraukham [53], the sample size was determined by the percentage criterion. For example, in a population of tens of thousands, the sample size is determined at about 10%, while in a population of hundreds the sample size can be at about 50%. In this study, the population was 833 companies, so the sample size was set at 416 sample units. Simple random sampling was used to recruit samples from all name lists of the population using a computer system. Then, questionnaires were sent to the sample organizations by post, addressed to the directors or managers in the human resources departments to request permission and assign personnel as representatives to complete the questionnaires.

The questionnaires were sent out in three batches. In the first, 416 questionnaires were sent to the sample units. After 4 weeks, only 189 returned questionnaires were received. Next, 227 questionnaires were sent to a new sample group (based on research ethics of participation), and after 4 weeks, 134 questionnaires were returned. Finally, 96 questionnaires were sent and 30 were returned. According to Williams [54], the return rate of the questionnaire is acceptable at more than 75%; therefore, 353 returned questionnaires at 84.85% passed this criterion and the decision was made to halt data collection.

8.2. Measures

The scale for measuring self-efficacy was applied from the questionnaire of Jones [55], developed on the basis of Bandura's theoretical concepts, and consisting of eight items, whereas the scale of employee engagement was modified from Saks [29] with six items. The scale of organizational commitment was taken from the questionnaire of Meyer and Herscovitch [56] with six items, while the scale of job satisfaction was improved from the questionnaire of Cammann, et al. [57] with three items, and the scale of organizational citizenship behavior followed Williams and Anderson [58] with seven items. A Likert scale was adopted with six levels as strongly disagree (1), disagree (2), slightly disagree (3), slightly agree (4), agree (5) and strongly agree (6). Back translation was conducted on all questionnaire items by first translating from English to Thai by experts in English and organizational behavior, and then retranslating from Thai to English, also by experts in English and organizational behavior to examine meaning similarity with the original version. All scales were examined by five experts in organizational behavior, management, industrial psychology, human resource development and behavioral research to test for content validity. Results determined the fit index in the range 0.8–1.0.

The reliability of the questionnaire was tested to discover the Cronbach's Alpha Coefficient by piloting the questionnaire with another group of 30 samples before collecting data from the sample group. Results revealed highest reliability on organizational commitment (0.906), followed by self-efficacy (0.886), job satisfaction (0.861) and organizational citizenship behavior (0.852), with the least reliability on employee engagement (0.848). The reliability value of the overall questionnaire was 0.926.

8.3. Response Bias

To minimize inaccuracies resulting from the participant response bias, Harman's single factor test was tested to identify common method variance of the factors in line with Scott and Bruce [59]. Principal component analysis gave individual factors with 44.87% cumulative variance. Eichhorn [60] noted that Harman's single factor score for total variance at less than 50% suggested that common method bias (CMB) did not impact the data.

In addition, the researcher performed a non-response bias test according to the concept of Armstrong and Overton [61] which suggests that the analysis of sample group characteristic differences between those who answered the questionnaire quickly and those who answered it slowly. T-test was used in the difference comparison. In this test, the researcher determined characteristics of people such as gender, age, status, educational level, and work position from each group, regarded as the representative of the non-response group. The analytical results indicate that no statistically significant difference was found between the response and the non-response groups, suggesting that there are no issues of non-response bias.

8.4. Scale Analysis

Convergent validity of the scale was also tested according to the concept of Fornell and Larcker [62], while confirmatory factor analysis was used to test the construct validity of factors in each model variable. This was done to determine whether they were real factors according to the theories and concepts tested with empirical data. Statistics used for measuring the congruence levels were Chi-square (χ^2), relative Chi-square (χ^2/df), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), comparative fit index (CFI), standard root mean square residual (SRMR) and root mean square error of approximation (RMSEA) [63,64]. Table 1 shows the construct validity of each of the studied factors with standardized factor loading in each item or observed variables with large factor loading (>0.50) and significance at $p < 0.001$. All items had a significant relationship under the theoretical structure, with the exception of item Ocb7 with a factor loading value less than 0.3. This item was without statistical significance and was excluded.

The test scores of composite reliability (CR) and average variance extracted (AVE) were calculated to test the construct reliability [62]. Considering the scale and model structure of the final measurement (shown in Table 1), the composite reliability scores were between 0.927 and 0.950 i.e., more than 0.7, so the reliability was at a good level, whereas the AVE was between 0.680 and 0.850 i.e., higher than the set criterion ($AVE > 0.50$). Thus, all the theoretical structures were acceptable in their psychological attributes.

The model was analyzed to determine whether there were mediators or not by considering the path coefficient of the overall influence. A path coefficient higher than 0.20 was regarded as a high value [9], implying that the suspected factor might be real or there might be a latent factor in the relation between the causal factor and the outcome factor. Mediators between the independent variables and the dependent variable were then analyzed for indirect influence. If an indirect influence was not found with statistical significance (i.e., acceptance of $H: \beta_i\beta_j = 0$) and the path coefficient reduced to 0, that variable was not regarded as a mediator. By contrast, if the indirect influence was found with significance (i.e., acceptance of $H: \beta_i\beta_j \neq 0$) and the path coefficient reduced but did not reduce to 0, it was regarded as full mediation. In addition, if it was found with statistical significance (i.e., acceptance of $H: \beta_i\beta_j \neq 0$) and the path coefficient reduced but did not reduce to 0, that variable was regarded as partial mediation and there might be other mediators [65].

Table 1. Results of confirmatory factor analysis of the latent factors used in model testing.

| Latent Factors/Questions | Standardized Factor Loading | AVE and Composite Reliability (α) |
|---|-----------------------------|--|
| Self-efficacy $\chi^2 = 14.056, df = 12.297, p\text{-value} = 0.297, \chi^2/df = 1.171, \text{GFI} = 0.990, \text{AGFI} = 0.970, \text{PGFI} = 0.330, \text{RMR} = 0.012, \text{RMSEA} = 0.022$ | | |
| Se1 | 0.820 | $\alpha = 0.950$ AVE = 0.707 |
| Se2 | 0.867 | |
| Se3 | 0.885 | |
| Se4 | 0.892 | |
| Se5 | 0.820 | |
| Se6 | 0.851 | |
| Se7 | 0.794 | |
| Se8 | 0.796 | |
| Employee engagement $\chi^2 = 9.388, df = 6, p\text{-value} = 0.153, \chi^2/df = 1.565, \text{GFI} = 0.991, \text{AGFI} = 0.969, \text{PGFI} = 0.283, \text{RMR} = 0.019, \text{RMSEA} = 0.040$ | | |
| Ee1 | 0.843 | $\alpha = 0.928$ AVE = 0.685 |
| Ee2 | 0.866 | |
| Ee3 | 0.892 | |
| Ee4 | 0.856 | |
| Ee5 | 0.851 | |
| Ee6 | 0.631 | |
| Organizational commitment $\chi^2 = 12.454, df = 6, p\text{-value} = 0.053, \chi^2/df = 2.076, \text{GFI} = 0.989, \text{AGFI} = 0.960, \text{PGFI} = 0.282, \text{RMR} = 0.020, \text{RMSEA} = 0.055$ | | |
| Oc1 | 0.864 | $\alpha = 0.942$ AVE = 0.732 |
| Oc2 | 0.835 | |
| Oc3 | 0.837 | |
| Oc4 | 0.770 | |
| Oc5 | 0.899 | |
| Oc6 | 0.922 | |
| Job satisfaction $\chi^2 = 0.274, df = 1, p\text{-value} = 0.600, \chi^2/df = 0.274, \text{GFI} = 0.999, \text{AGFI} = 0.997, \text{PGFI} = 0.167, \text{RMR} = 0.012, \text{RMSEA} = 0.000$ | | |
| Sat1 | 0.921 | $\alpha = 0.944$ AVE = 0.850 |
| Sat2 | 0.944 | |
| Sat3 | 0.901 | |
| Organizational citizenship behavior $\chi^2 = 5.561, df = 5, p\text{-value} = 0.351, \chi^2/df = 1.112, \text{GFI} = 0.995, \text{AGFI} = 0.978, \text{PGFI} = 0.237, \text{RMR} = 0.011, \text{RMSEA} = 0.018$ | | |
| Ocb1 | 0.904 | $\alpha = 0.927$ AVE = 0.680 |
| Ocb2 | 0.915 | |
| Ocb3 | 0.802 | |
| Ocb4 | 0.716 | |
| Ocb5 | 0.809 | |
| Ocb6 | 0.787 | |
| Ocb7 | * | |

Note: * Item deleted due to low factor loading.

9. Data Analysis

Among the sample units that responded to the questionnaire, (67.71%) were female and the remainder were male (32.29%). Most respondents were 36–40 years old (29.46%), followed by 31–35 years, 26–30 years and > 40 years (27.76%, 20.11% and 12.18%, respectively) whereas only 10.48% were 20–25 years old. Some (64.87%) were married, followed by single (30.31%) and divorced (4.82%). In terms of education, nearly all the respondents graduated below bachelor level (90.93%), with the others at bachelor and master levels (9.07%). For work experience (38.53%) had more than 10 years, followed by 6–10 years (32.01%), 4–5 years (13.88%), and 2–3 years and < 1 year (15.59%). Nearly all the respondents were employees (89.52%), while the rest were senior employees (10.48%).

Means, standard deviations and coefficient of variation of every indicator were at the high level, whereas relationships among the variables were at the moderate to high levels, as presented in Table 2. The highest as job satisfaction was 4.15, followed by organizational commitment, self-efficacy, organizational citizenship behavior and employee engagement at 4.07, 4.06, 3.97 and 3.95, respectively. For the relationship among 5 variables in 10 pairs, the correlation coefficients were between 0.803 and 0.888 at the high level of relationship. These relationships did not show multicollinearity among the latent variables. Tabachnick and Statistics [66] stated that multicollinearity between each pair of variables should be over 0.90; therefore, relationships between variables were compliant with the basic statistical requirements.

Table 2. Means, standard deviations and correlation coefficients of the variables.

| | Mean | S.D. | SF | EE | CC | SAT | OCB |
|-----|------|------|----------|----------|----------|----------|-----|
| SF | 4.06 | 0.95 | 1 | | | | |
| EE | 3.95 | 1.09 | 0.803 ** | 1 | | | |
| CC | 4.07 | 1.13 | 0.851 ** | 0.882 ** | 1 | | |
| SAT | 4.15 | 1.14 | 0.831 ** | 0.854 ** | 0.887 ** | 1 | |
| OCB | 3.97 | 0.96 | 0.868 ** | 0.863 ** | 0.888 ** | 0.864 ** | 1 |

Note: ** refers to the significance level at 0.01.

For the influence of the coefficient of self-efficacy on organizational citizenship behavior, the path coefficient was higher than 0.20 with statistical significance ($|t| > 2.58$, $p < 0.01$) (the upper number was the path coefficient and the lower number in brackets was the t-statistic). Therefore, self-efficacy was able to predict organizational citizenship behavior (R^2) at 0.752. This was regarded as very high since 0.260 was the criterion for the high level [67]. It was suspected that the path coefficient and R^2 might be too high in reality, and there might be some latent factors transmitting influence on organizational citizenship behavior (as shown in Figure 2).

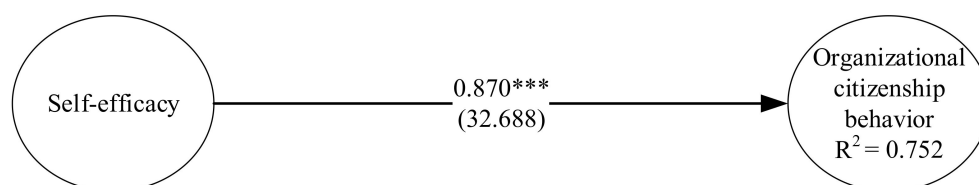


Figure 2. Self-efficacy value on organizational citizenship behavior. Note: *** refers to the significance level at 0.001.

The model was analyzed by integrating variables of employee engagement, organizational commitment and job satisfaction into the variables of self-efficacy and organizational citizenship behavior. Results showed that the path coefficient between self-efficacy and organizational citizenship behavior reduced from 0.870 to 0.301 at about 34.59% but still with statistical significance. This finding suggested a too high level of self-efficacy on organizational citizenship behavior. This might be because employee engagement, organizational

commitment and job satisfaction functioned as mediators and transmitted influence of self-efficacy to organizational citizenship behavior, meaning that self-efficacy enabled employees to express organizational citizenship behavior at the high level. If employees engaged with their work responsibility, their organizational commitment was supported, and their job satisfaction was at the proper level. These factors highly contributed to organizational citizenship behavior (as shown in Figure 3).

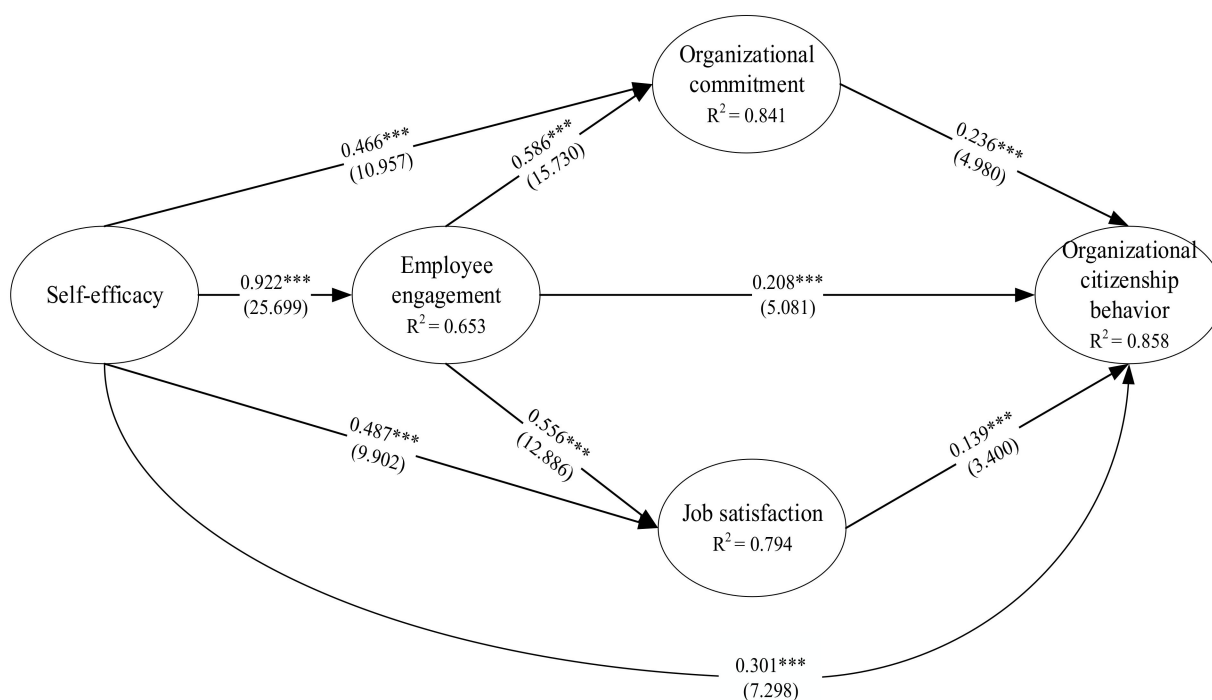


Figure 3. Analysis of the direct and indirect influence of self-efficacy on organizational citizenship behavior in relation to employee engagement, organizational commitment and job satisfaction as mediators. Note: *** refers to the significance level at 0.001.

The indirect influence was tested using resampling with replacement at 5000 sets. In this study, n was 353 units. In resampling with replacement, repetitive units were not regarded as incorrect. Each data set was then analyzed with regression analysis by indicating dependent, independent and mediating variables. Results were obtained with path coefficient, products of path coefficients along the path converging to and diverging from the mediators, and standard error (SE) of each of 5000 values. The implementation followed either Model 1 or Model 2 as follows: (In this paper, two models are represented; see Table 3).

Table 3. Indirect influence transmitted through employee engagement, organizational commitment and job satisfaction using the bootstrap method.

| Indirect Path | Effect | SE | t | 95% CI | |
|------------------------|--------|-------|-------|--------|-------|
| | | | | LL | UL |
| SF -> EE -> OCB | 0.192 | 0.041 | 4.665 | 0.109 | 0.270 |
| SF -> CC -> OCB | 0.110 | 0.032 | 3.434 | 0.051 | 0.178 |
| SF -> SAT -> OCB | 0.068 | 0.026 | 2.648 | 0.020 | 0.119 |
| SF -> EE -> CC -> OCB | 0.128 | 0.038 | 3.373 | 0.060 | 0.210 |
| SF -> EE -> SAT -> OCB | 0.071 | 0.024 | 2.934 | 0.022 | 0.119 |

Note: SE refers to standard error, t refers to t -value, CI refers to Confidence interval, LL refers to lower limit, UL refers to upper limit.

In Model 1, mean products of path coefficients and means of SE were calculated to find t-statistics and significance. If $|t| > 2.00$, it is regarded as a significance level at 0.05.

In Model 2, the products of path coefficients along the lines converging to and diverging from the mediators were calculated with 5000 values in an ascending order to consider the range of these values at positions of percentile 2.5 to percentile 97.5 in coverage with or without 0. If 0 is covered, the product value will not be different from 0 at significance level of 5% [66]. The indirect influence was analyzed with the Hayes Model 81 using the PROCESS macro 3.1 in IBM SPSS Statistics version 24.0 for Windows. Results were as follows.

According to Table 3, employee engagement was the latent factor in the relation between self-efficacy and organizational citizenship behavior. Organizational commitment was the latent factor in the relation between self-efficacy and organizational citizenship behavior, while job satisfaction was the latent factor in the relation between self-efficacy and organizational citizenship behavior. In considering the occurrence order of the studied factors, self-efficacy influenced organizational citizenship behavior transmitted through employee engagement, and then to organizational commitment. For the last influence, the path coefficient showed that self-efficacy influenced organizational citizenship behavior transmitted through employee engagement, and then to job satisfaction.

Results indicated that when employee engagement, organizational commitment and job satisfaction were integrated between self-efficacy and organizational citizenship behavior, the path coefficients reduced. Table 3 shows five indirect influence paths with statistical significance ($p < 0.001$), suggesting that although self-efficacy played an important role in organizational citizenship behavior, employee engagement was also important. When employees get engagement with their work responsibility, they will put their physical and mental efforts to work with dedication and feeling that work is a part of their life. With such work engagement, the employees get engagement with the organization through targets and values, with dedication to work for success and with intention to continue working with the organization. At the same time, employee engagement leads to job satisfaction and availability to perform task assignments. Employee engagement, organizational commitment and job satisfaction contribute to organizational citizenship behavior in the forms of altruism, conscientiousness, sportsmanship, courtesy and civic virtue. All of these are regarded as an expression of organizational citizenship behavior.

10. Discussion

Self-efficacy has a statistically significant direct influence on organizational citizenship behavior. This finding can be explained since a person with self-efficacy behaves with confidence in their work responsibility in order to gain success. This person is determined to perform various behaviors in the following forms. (1) Altruism is a person's behavior to make decisions freely by themselves to help others solve their work problems with the intention for their colleagues to operate work successfully. (2) Conscientiousness is an intention of a person with self-efficacy to work above the minimum requirements of their work and organization, such as paying full attention to their work, comply with the organization's rules and regulations, and work during break periods. (3) Sportsmanship refers to being tolerant to various situations without complaining, such as avoiding gossip and blaming other people; moreover, this person does not make a big deal out of small matters. (4) Courtesy is a behavior of someone with self-efficacy to form work relationships with other people while considering that their own action may affect other people, in which this person is always aware of other people's rights. (5) Civic virtue is a behavior of someone with self-efficacy to participate in the organization's different activities related to their work and the growth of the work unit. According to the research result, self-efficacy has statistically significant direct effects on organizational citizenship behavior. This result is consistent with the findings of Choong, et al. [68] and Soto and Rojas [12], which similarly found that self-efficacy statistically significantly affected organizational citizenship behavior. The aforementioned studies state that a person with self-efficacy usually

performs behaviors as expected by their work unit or organization. Such expectation is on basic behaviors for employees to perform. However, persons with self-efficacy intend to perform behaviors beyond their work expectations with the aim of working effectively and succeeding in their work and for their organization.

The study result also shows that self-efficacy directly influences employee engagement, since a person with self-efficacy has self-confidence, work commitment, high motivation, and vigor. Accordingly, such people work with their full effort and are willing and persistent to solve work problems and obstacles to complete their work successfully in accordance with the goals assigned to them. Moreover, self-efficacy leads employees to behave with dedication by devoting time to work without fatigue and without thinking about their working hours. Persons with self-efficacy feel proud about their work, and think that their work is challenging. Therefore, the person with self-efficacy is able to concentrate on their work, feel that working hours pass by quickly, and does not stop work if their work is incomplete. This finding is consistent with Yakın and Erdil [46] which tested the effects of self-efficacy on employee engagement, finding that self-efficacy influences employee engagement with a statistical significance of 0.05. Moreover, Chaudhary, et al. [69] tested the effects of self-efficacy on employee engagement with middle management positions in government and private agencies, finding that employees with self-efficacy had influence coefficient on employee engagement with a statistical significance of 0.05. Similarly, Consiglio, et al. [48] tested perceived self-efficacy from a sample of employees in a communication organization and found that employees' perceived self-efficacy had an influence coefficient of 0.28 at a statistical significance of 0.05. The self-efficacy variable in combination with other variables could predict employee engagement at 34 percent.

The results of the present study indicate that employee engagement functions as a mediator between self-efficacy and organizational citizenship behavior. Since employee engagement is a mental state which drives a person to behave differently to operate their work effectively, a person with self-efficacy behaves with vigor, dedication and absorption to complete their work successfully. Additionally, employee engagement is considered to be an important role for work units. Employee engagement allows the individual to perform the basic behaviors assigned by their organization, leading them to perform organizational citizenship behavior without realizing it, such as being more conscientiousness and having a greater sense of civic virtue. Employee engagement also encourages employees to perform behaviors beyond their assigned work such as altruism, sportsmanship and courtesy, since such employees want to successfully complete their assigned work and they perceive their work as a challenge. This result is consistent with the findings of Ayu Ayu Putu Widani Sugianingrat, et al. [70] and Biswas and Bhatnagar [71] which found that employee engagement functions as a mediator to activate desirable outcomes or behaviors.

The study also shows that self-efficacy influences organizational citizenship behaviors through employee engagement and organizational commitment in the form of a chain mediator variable. The employee with self-efficacy expresses determination, confidence, and motivation to work with their organization. These factors have mental effects to encourage the employee to behave with vigor, dedication and absorption in work operation. When the employee engages with their work, they gain organizational commitment without realizing it. This is because when the employee feels that their work is a part of their life, they form the following commitments: (1) Affective commitment refers to an individual's feeling of being part of an organization so that they are ready to devote their full potential to the organization. (2) Continuance commitment refers to the individual's feelings of attachment to their organization without the desire to change or move to another organization because they believe that working with the organization is a matter of time investment. The longer the employee works with the organization, the more remuneration they receive from the organization. (3) Normative commitment refers to the individual's feelings in accordance with the organization's goals, values, culture and norms. This commitment is behaved in the form of loyalty. This result is consistent with the findings of Kazemipour, et al. [72] and Paul, et al. [73] which found that organizational commitment functions as a mediator

with effects on organizational citizenship behavior. Similarly, Saks [29] also found that employee engagement affects organizational commitment as a chain mediator with effects on employees' organizational citizenship behavior.

The results of the present study also show that self-efficacy influences organizational citizenship behavior through employee engagement and job satisfaction in the form of a chain mediator variable. When the employee has self-efficacy, they are determined, confident, and motivated to work in various roles for the organization. These factors mentally encourage the employee to work with vigor, dedication and absorption, which results in job satisfaction because they operate their preferred tasks and perceive such assignments as a challenge to their capabilities. Such job satisfaction pushes the employee to perform positive behaviors and feelings. This is because when a person works on what they like or desire, they will feel satisfied organization's contexts and environment and they are ready to express positive emotions and behaviors. Therefore, if the employee has self-efficacy, they will feel engaged with their work, resulting in job satisfaction. When the employee has job satisfaction, they are ready to perform organizational citizenship behavior. This result is consistent with the findings of Charkhabi, Alimohammadi and Charkhabi [11] which tested the satisfaction variable as a mediator, finding that a person's perceived satisfaction is a mental perception which pushes or encourages that person to perform behaviors.

Employees perform organizational citizenship behaviors in-role and extra-role of their work assigned by their organization [74,75]. In particular, roles beyond their assigned work usually result in innovations and creativity since the employees involved are focused on promoting and supporting organizational success and growth and they are ready to devote their knowledge and skills to help their colleagues, supervisors, managers, work units and organizations to work effectively and succeed in meeting their goals.

The self-efficacy theory states that self-efficacy has a direct influence on organizational citizenship behavior. The study results showed that other relators or transmitters existed between both variables, with mediators as employee engagement, organizational commitment and job satisfaction. If administrators or human resource departments promote and support these three factors simultaneously, then employees will show increased organizational citizenship behavior. Research evidence suggests that the direct influence of self-efficacy on organizational citizenship behavior reduced but the prediction value in predicting organizational citizenship behavior increased when these three factors were introduced in the model.

At present, organizations require open innovation to support effective work operations. It is therefore important for organizations to adopt open innovation in order to continuously enhance and encourage employees' organizational citizenship behavior. According to Ishak [76], enhancing and encouraging employees' organizational citizenship behavior has a high relationship with the creation of open innovations within an organization, since organizational citizenship behavior makes employees determined inflows and outflows of knowledge in order to accelerate the creation of internal innovations and expansion to outside the organization [77]. Such open innovation may result in the development of products and services [78]. According to Naqshbandi and Kaur [79], organizational citizenship behavior has a statistically significant influence on the open innovation of an organization. They mention that supporting employees' organizational citizenship behavior causes knowledge to flow in and out of the organization, which results in operational innovations and organizational performance innovations, which can be used as drivers to gain competitive advantages in the context of hard competition and rapid changes.

Moreover, development of employees' self-efficacy can lead to employee engagement, organizational commitment, job satisfaction, and organizational citizenship behaviors, resulting in employees having a good quality of work life or work-life balance. In addition, development of employees' self-efficacy can also lead to effective and open innovation for organizations [80]. According to Yun, et al. [81], open innovation is helpful for organizations

to adapt themselves to rapidly changing environment in the present and to respond well to customer satisfaction. This finding is helpful to increase employees' organizational citizenship behavior and can be an important basis for organizations to improve employees' work-life balance. The creation of open innovation for organizations is an important factor to build competitive advantages in industry.

11. Theoretical Implications

Results demonstrated that employee engagement, organizational commitment and job satisfaction were mediators between self-efficacy and organizational citizenship behavior, conforming to the related concepts and theories of previous research. Therefore, educators in organizational behavior, human resource management, human resource development or general researchers who are interested in studying self-efficacy and organizational citizenship behavior should integrate these three factors to explain the phenomenon of organizational citizenship behavior. The prediction value was shown to increase with the integration of these three factors as mediators in this study. Moreover, the influence coefficients of these three factors were high on organizational citizenship behavior, especially on employee engagement and organizational commitment at >0.200 . This confirmed that these mediators related to organizational citizenship behavior.

However, although educators and researchers have effectively used the self-efficacy theory to explain organizational citizenship behavior, the current contexts and environment have changed. In the automobile parts manufacturing industry, organizational citizenship behavior of employees can be improved if employee engagement, organizational commitment and job satisfaction are used together to explain the phenomenon. In other words, the theory of self-efficacy cannot adequately explain the phenomenon of organizational citizenship behavior in the present context and environment, and theories of employee engagement, organizational commitment and job satisfaction are also necessary to present a comprehensive explanation.

Employee engagement is the perception of a psychological state that encourages employees to express dedication and work integrity [82]. An employee with work engagement follows operational norms or values and devotes mental and physical efforts to work for success [83], with job satisfaction as well as satisfaction on work units and the organization [11,84]. Therefore, these three factors are helpful to effectively explain self-efficacy and organizational citizenship behavior.

12. Practical Implications

Administrators or human resource departments can use the results of this study to explain the phenomenon of organizational citizenship behavior, which is directly influenced by self-efficacy, and indirectly influenced through employee engagement, organizational commitment and job satisfaction. The direct influence of self-efficacy is very important. Administrators or human resource departments should arrange models for human resource development such as training, consulting and coaching. They may also arrange activities to promote and support employees' talents through talent shows and give rewards and recognition for capable employees. Training and activities will encourage and help employees to gain full self-efficacy, resulting in their availability and willingness to perform organizational citizenship behavior.

The study results showed that employee engagement plays an important role as a mediator in relation to organizational citizenship behavior. Therefore, administrators and human resource departments should promote and support employee engagement through development and training to gain knowledge and understanding of their work responsibility. They should also arrange incentives to stimulate employee engagement, organizational commitment and job satisfaction in relation to organizational citizenship behavior. Administrators and related people need to promote and support various activities to encourage employee participation and involvement as a part of the organization, such as assigning important tasks and allowing participation in management or direction settings,

providing sufficient welfares, being aware of employee values and giving praise and recognition. These implementations will promote and support self-efficacy to influence and predict organizational citizenship behavior with effectiveness.

According to the study results, the indirect influence of the mediator reinforced self-efficacy on organizational citizenship behavior more than the direct influence of self-efficacy. Therefore, administrators or human resource departments should manage, promote and support employee engagement, organizational commitment and job satisfaction in the organization at a higher level.

13. Research Limitations

This research had several limitations. Data were collected in the form of a cross-sectional study at only one particular period of time, reflecting the phenomenon only at the study period. Longitudinal studies should be implemented in the future to analyze the results with more reliability. Samples in this study were also limited to employees in the automobile parts manufacturing industry, and the results reflect only reality in this aspect. The study results should be applied to other industries with carefulness or improved to reflect organizations' contexts and environment. Future research should also expand the framework to other industries by using the same model to examine whether these factors can adequately explain organizational citizenship behavior. The study results suggest that employee engagement and organizational commitment have influence coefficients at high levels so there might be other mediators transmitting influence to organizational citizenship behavior. Future studies should include more mediators such as positive thinking, value of success and career path in the model. Finally, the model was tested under Thai contexts and societies and during the COVID-19 crisis. Such situations might impact the rigidity of the results. Therefore, the study contexts should be expanded to include a variety of occupations, languages, societies, cultures and normal situations to increase the rigidity and effectiveness of the model.

14. Conclusions

The self-efficacy theory may not be the only factor that influences organizational citizenship behavior. According to previous research, its influence coefficient in combination with arguments of educators and researchers indicates that employee engagement, organizational commitment and job satisfaction are mediators between self-efficacy and organizational citizenship behavior. Results revealed that these three factors function as partial mediators between self-efficacy and organizational citizenship behavior. If employees are supported and promoted through proper engagement, organizational commitment and job satisfaction this will reinforce and stimulate organizational citizenship behavior with a significant increase in productivity.

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