

A Meta-Analysis of the Relationship among Psychological Contract Breach, Turnover Intention, and Organizational Citizenship Behavior

by

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A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF BUSINESS ADMINISTRATION
Major: International Human Resource Development

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National Taiwan Normal University
Taipei, Taiwan

June, 2020

ACKNOWLEDGEMENT

At this moment, I would like to appreciate everyone who have been together with me to finish the journey of thesis, especially my beloved advisor, Dr. Rosa, and all of you who helped me within these two years and on the way of Master degree.

First, the greatest appreciation is to dear Dr. Rosa, the IHRD super star in my heart. At the beginning when I just joined IHRD family, she is so warm and willing to share any valuable experience and suggestion to all the students. I feel really honor and grateful I can be her advisee and the research assistant. No matter for study, research or life, I enjoy every single moment I can talk and discuss with Dr. Rosa. She not only kindly guided me to finish thesis and conference paper, but also give me a great confidence when I am facing different challenges. Furthermore, I went through many awesome experiences with Dr. Rosa, including attending the international conference in Vietnam, and give the first try to do meta-analysis research. Her patience and guide do support me a lot to finish the thesis writing. I also would like to appreciate my committee members, Dr. Mavis and Dr. Darren. They both gave me a better overview and powerful suggestion of how to improve my thesis. Having them as my advisor and committees are the luckiest and best things during my master degree in IHRD.

Second, thanks to my dear friends and classmates. We work hard, play hard. I learned a lot from all of you during our teamwork, and enjoy the unforgettable time to hanging out for fun. Special thanks to Gill and Josie, for the time we worked as research assistant together and the memorable time we chatted, and solved the problem together. The other special thanks to Sean for being my great partner for most of the group affairs for class, life and the IHRD events. All of you are perfect listeners to accompany with me and help me relieve my stress a lot.

Last but not least, thanks to my family and boyfriend for supporting me process my master degree. No matter what decision I made, you are always the most powerful backup for me. In the foreseeable future, I will endeavor to be a professional HR, like our IHRD family members. I wish I could make you proud. Love you all and thank you very much.

ABSTRACT

Psychological contract can profoundly affect employees' willingness to stay and contribute to a company beyond their performance requirements. With the fast-paced advancement of internet and technology over these years, information has become readily accessible and transparent. The free flow of information not only can trigger new business models, but may also lead to a change in the mutual obligation between employees and their organization. This research aims to confirm the effect of psychological contract breach (PCB) on two important employee outcomes, turnover intention (TI) and organizational citizenship behavior (OCB). A quantitative approach was used by conducting a meta-analysis to synthesize the overall effect among the three variables from studies published between 2010 and 2019. A total of 76 articles were included in this meta-analysis. 38 articles on PCB and TI, and another 38 articles on PCB and OCB. The forest plot, subgroup analysis, moderation analysis, and publication bias analysis were applied to test the hypotheses. The results show PCB having a positive effect on TI, and a negative effect on OCB over the last 10 years. Country difference is found to moderate the association between PCB and OCB, but not the relationship between PCB and TI. Power distance strengthens the negative association between PCB and OCB. Uncertainty avoidance and the percentage of individual using internet weaken the negative association between PCB and OCB. This study adds new value to the literature on PCB, TI, and OCB. The findings confirm the severe workplace consequences caused by PCB and lead to the suggestion to improve company's talent management procedure and enhance the mutual communication between employees and employers.

Keywords: psychological contract breach (PCB), turnover intention (TI), organizational citizenship behavior (OCB), meta-analysis, country difference

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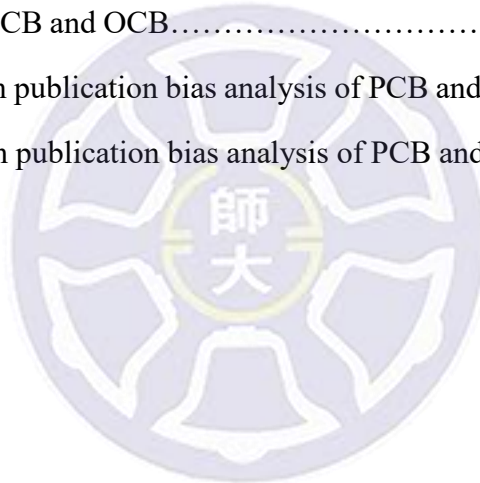
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CHAPTER I INTRODUCTION

In this chapter, an overview for the background of the study is provided, along with the problem statement, the research purpose, question, the contribution, and the limitation of this research. In the last part of this chapter, definition of each of the key terms is presented as well.

Background of the Study

Organizations have gone through substantial changes in order to be more competitive in the marketplace within the last decade. These changes add to the complexity of the working environment which impacted the work arrangements and modified the nature of psychological contract that exists between the employees and the employer (Malik & Khalid, 2016). Psychological contract is a belief about mutual agreement between an individual and another party (Rousseau, 1995), which is one of the critical antecedents about the attitude towards change, and is so dynamic that it can trigger certain emotions or behaviors. Moreover, psychological contract is formed in a process with various potential affection through the external and internal stimulus (Van den Heuvel, Schalk, Freese, & Timmerman, 2016). The external stimulus is generated by the information and internal stimulus is created by the behavior of other parties in the organization. All the provocation can influence employees' behavior and their perception toward the organization profoundly.

How the exchange relationship operates and what is the effect of perceived employer obligations are the key differences among a broad range of agreements (Coyle-Shapiro & Kessler, 2002). For the aspect of external stimulus, the perceived employer obligations can provoke various work-related outcomes and possibility, especially within the well-developed Internet era. Due to the digitalization, the channels used to post job vacancies nowadays are diverse with emerging social media or the platform launched by start-up companies. People can instantly and actively or passively obtain more job information with less effort than using

the traditional methods. In the meanwhile, with more new forms of job springing up, many free-lancers jobs appearing and more start-up companies setting up in recent years, people can find different work opportunities and entrepreneurial information through internet promptly. Hence, people now possess more selections to choose the job or the way of life they want. This phenomenon can be considered the way of working is changing or even moving to a new era, which means people tend to have higher possibility to change and choose their job. Employees can compare more information to measure whether their dedication to current job and corresponding returns are in line with their own expectations. However, easily accessed information and increased job choices might impact individual's fulfillment on their current job by comparing the offer and treatment of other companies.

For the aspect of internal stimulus, once the current company cannot achieve or fulfill the agreement or duty that they had promised to their employees, a concept called psychological contract breach, it might lower employees' intention to stay and their willingness to put more effort to the organization. This issue is not only about the employees but also related to how companies treat their employees. Coyle-Shapiro and Kessler (2002) confirmed that employees will reciprocate perceived employer fulfillment of obligations by cognitively adjusting their obligations to the employer and when fulfilling those obligations.

For practitioners, the implications of globalization and employment relations have renewed the concern on psychological contract, which triggers policy-makers to put more efforts to 'change the deal' in response to changing circumstances (Coyle-Shapiro & Kessler, 2000). For academics, psychological contract is deemed as another opportunity to re-appraise the fundamental aspect of organization life (Coyle-Shapiro & Kessler, 2000).

Statement of the Problem

In accordance with some latest issues, the statement of problem can be divided into the practical and the academic perspectives. For the practical investigation, according to HR F.B.I

Report (104 Corporation Taiwan, 2018) conducted by 104 Corporation, one of the biggest job bank in Taiwan, there is a big issue regarding how to retain new generation employees, which results in a significantly different perception of turnover reason between the employer and the employees. The Workplace Climate Survey of 104 Corporation (104 Corporation Taiwan, 2018) revealed employers involved in this survey considered the common reasons for the turnover of generation Y employee firstly is the dissatisfaction with the compensation (46.8% to 48.2%) and the feeling of being ineligible and disagreeable and misfit to the position (45.1%). The second is the main concern of generation Y and Z toward better career development (51.7%). The concern of these situations is that more and more potential talents will leave the current company to pursue other achievements, which will be a loss to the company. Consequently, the questions of how to effectively retain the employees from new generation and align the concepts between both parties remain unresolved. It is also noteworthy that Smithson and Lewis (2000) had discussed the changing notions with insecurity and career of young adults, effects of uncertainty on future planning of work and non-work lives for people, which means the job insecurity and turnover intention are regarded as important issues within the young generation for the distant future.

For employees who cannot leave their job for professional or personal reason, the potential consequence of psychological contract breach is lower engagement or commitment to the job, which may manifest in employees withholding extra-role contribution, specifically performance of the organizational citizenship behaviors (OCB). The breached expectation will reflect on the level of extra contribution to the company, because the uncertain feeling can be affected by how company treat the employee. Therefore, how willing an employee to contribute more may be adjusted with the perception of breach, which is another important issue when PCB occurs. Although OCB performance do not have an instant impact on the organization, it is still a loss for the company from the long-term point of view.

On the other hand, as discussed in the previous section, there are various choices and

form of work nowadays due to the Internet era and the technology development such as E-commerce, IoT and blockchain. As a result, some people decide to invest in new startups or begin their own businesses, and they possess various options from ample information of job vacancies to select their job as well, which could be a possible cause for higher turnover rate and lower intention to engage in extra-role performance such as OCB. How to deal with the negative outcome caused by the employees' psychological contract breach beforehand is necessary for employer. This paragraph concludes that the well-developed internet may produce a cognitive difference toward retention and OCB issues between employees and their employer in recent years after the employee's experience of psychological contract breach.

From the academic standpoint, although psychological contract has been studied in numerous research in the past, the most recent meta-analysis research focusing on psychological contract was done in 2007. Zhao, Wayne, Glibkowski, and Bravo (2007), who represented the first attempt of meta-analysis review suggested the researcher to continuously focus on the measures of breach in the future. Furthermore, there is no meta-analysis researches focusing on the relationship between psychological contract breach and organizational citizenship behavior in recent years. Consequently, the study proposes to figure out the overall effect between employees' psychological contract breach and two behavioral outcomes with individual and organizational scope by synthesizing the literature from 2010 to 2019.

Furthermore, there is a strong recommendation from previous studies to conduct national and cross-national research to examine a different levels of psychological contract within and across societies (Rousseau & Schalk, 2000; Malik & Khalid, 2016). Also, Thomas, Au, and Ravlin (2003) point out that the variation in the cultural orientation of individuals can affect the conception of the psychological contract in different stages of the PCB formation, which might influence the differentiation of work-related outcomes. According to Gladwind and Hofstede (1981), national culture matters to the organization, and the organizational behavior are culture-bound. It can generate the mental program which indirectly influence

peoples' perceptions and beliefs, then make individuals behave in various way. In other words, some previous research demonstrates that individuals' behaviors and attitudes toward job content and work environment could be alleviated or aggravated by the situational variables (Agarwal & Bhargava, 2013; Hofstede, Bond, & Luk, 1993; Suazo & Turnley, 2010). Hence the social group's reaction to turnover intention and OCB can vary in different cultures.

Purposes of the Study

Based on the preceding discussions, it seems that the managers need to have insight into employees' expectation toward the company. Also, realizing to which extent they had achieved and fulfilled the agreement with employees plays a crucial role. Hence, there are some objectives of this study.

Firstly, applying the psychological contract theory, the purpose of this research is to quantitatively synthesize findings across studies about the links among employee psychological contract breach, turnover intention and organizational citizenship behavior over the last ten years and raise the employer's awareness of how strongly the psychological contract breach will affect employees' turnover intention and organizational citizenship behavior. In line with this aim, the researcher can realize to which extent these relationships really matter by probing the overall effect size through the correlations between those variables. The first reason for including turnover intention and organizational citizenship behavior in the study is that the two variables have direct effect to the employee retention and contribution issue, which are important to each organization nowadays when facing the impact of PCB. Secondly, they have not been included in meta-analysis with PCB.

Second, with the main purpose, this study focuses on the articles related to turnover intention and OCB with psychological contract defined as "individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization" (Rousseau, 1995, p.9) to present a holistic picture of how the selected constructs

operate within the psychological contract breach literature from 2010 to 2019 by meta-analysis. The reason to select the beginning of 2010 is because 2014 was the year that well-developed 4G networks was launched and popularized in most of the countries. With the time passed, the popularity of social media and borderless 4G networks made it more attainable to access the Internet and online information. This progress lead to new business models for nearly all the occupations and industries. Therefore, it is possible that some of the variables may have developed different levels of effect. Hence, compared with the background before and after 2014, the accessibility of information may generate different impact on the relationship between psychological contract breach and the outcomes.

Third, with the technique of meta-analysis, this study proposes to assess what factors account for the different degree of association between psychological contract breach and a particular work-related behavior. Additionally, a meta-analysis not only can summarize past research but also highlights directions of future inquiry (Zhao et al., 2007). This researcher is convinced that firstly, there could be new findings over and above what were discovered in the previous research under traditional research design, which will add value to the literature. Second, it may provide some evidence and suggestions for future researchers who would like to probe into the psychological contract and behavioral outcomes.

Finally, with the suggestion and the technique of meta-analysis, this study will try to discover potential moderator that may differentiate the strength of the relationship among the variables, such us national difference. Since the variation of the cultural factors in the organization can successfully affect the different degree and aspects of behavior, so this study would like to use two of Hofstede's cultural dimensions to see how they can differentiate the main effect, including power distance and uncertainty avoidance. The reason why these two were chosen is because power distance and uncertainty avoidance have more profound influence on the interactions between an employer and the employees than the other factors. Furthermore, this study assumes the internet popularity to be a moderator because 4G internet

has become a source of change on business structures and communications in the workplace. Therefore, this study attempts to test whether the popularity of internet can vary the relationship between PCB and the outcome variables.

Questions of the Study

In accordance to the statement of problem and research purpose, the research seeks to examine the following questions:

1. Does an individual who experience high psychological contract breach (PCB) also experience high inclination to leave the organization?
2. Does country difference moderate the reported relationship between PCB and turnover intention?
3. Does an individual who experience high psychological contract breach (PCB) also experience low inclination to perform organization citizenship behavior (OCB)?
4. Does country difference moderate the reported relationship between PCB and OCB?

Significance of the Study

This study adds several contributions to the psychological contract breach literature. First, a meta-analysis not only enables one to synthesize the empirical findings with a larger sample size across settings, but also provides a closer estimation of the true effect in the larger population (Zhao et al., 2007). Second, it can summarize the impact of past studies and highlight directions of future research inquiry. Hence, this study provides a comprehensive quantitative review of the impact of psychological contract breach on employees' work-related behavioral outcomes. Third, this research tested the effect of multiple moderators in an attempt to can explain the variability in the effect sizes reported in individual studies, which can generate implications for future research on the psychological contract breach. Lastly, the result can help the organizations or managers have a better understanding of how psychological

contract breach really matters. In addition, the result can assist the HR practitioners to review and enhance their current retention, performance management, and career development policies to avoid negative behavioral outcomes in the future.

Definition of Key Terms

Psychological Contract Breach (PCB)

The most popular definition of psychological contract is by Rousseau (1995, p.9) as “individual beliefs, shaped by the organization, regarding terms of an exchange agreement between individuals and their organization”, which will affect a number of crucial organizational and individual outcomes, including turnover intention. Owing to the psychological contract, each employee has their own informal contract which probably involve a high degree of subjectivity (Rousseau, 1995; Robinson & Wolfe Morrison, 2000). PCB refer to the negative feeling with betrayal when employees are conscious that their organization cannot fulfill their expectation and obligation (Robinson & Wolfe Morrison, 2000).

Turnover Intention

Turnover intention is the voluntary behavior and perception to leave the current organization (Yamazakia & Petchdee, 2015) as well as a conscious desire to look for a new job with another organization (Mobley, 1986). More specifically, it is “a specific interval and described as the last in a sequence of withdrawal cognitions, to which thinking of quitting and intent to search for alternative employment” Matz, Woo, and Kim (2014, p.234).

Organization Citizenship Behavior (OCB)

Organ and his colleagues started to use the term of organization citizenship behavior (OCB) in 1980s which trigger the academic interest in this type of behavior (Smith, Organ, & Near, 1983). OCB is a kind of behavior which shows to what extent employees are willing to contribute to organizations beyond the performance requirements of their own job duties (Organ, 1988). In other words, OCB is employees’ intentional behavior that is discretionary

and typically not recognized to be rewarded which can make the organization more functional (Organ, 1988).





CHAPTER II LITERATURE REVIEW

This chapter provides a review of previous studies which is relevant to this research. Firstly, the definition and concept of psychological contract, turnover intention and organization citizenship behavior will be discussed. In the second part, will mention the theories which are related to this research or widely discussed within the previous meta-analysis. In the third part, will discuss the previous research of psychological contract associated with turnover intention and organizational citizenship behavior. In the last portion, the hypothesis will be developed in the end of the chapter.

Psychological Contract

Psychological contract has attracted attention of researchers in understanding the employment relationships. Argyris (1960) first used the term “psychological work contract” to describe an implicit relationship between a group of employees and their foreman that arose as a result of a particular leadership style. Rousseau (1989, p.123) defined psychological contract as “an individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between that focal person and another party”, which was the perspective of the individual as the central element. In addition, according to Rousseau (1989, p.124), psychological contract is “a mutual obligation existing at the level of the relationship (e.g. dyadic, inter-organizational)”.

The definition of Rousseau (1995) highlights the significance issue that promises of future behavior by the organization are contingent upon action by the individual in that these reciprocal obligations are defined by the individual, not organization, even though the organization is perceived as making these promises (Heffernan & Rochford, 2017). Later, Morrison and Robinson (1997) consider the psychological contract breach as the failure of the employer or organizations to meet their obligations towards their employees, involved an

employee's perception that one or more obligations of the employer are unfulfilled. With the concept of Rousseau (1989), Rousseau, Hansen, and Tomprou (2018, p.1) defined psychological contract as "a cognitive schema, or system of beliefs, representing an individual's perceptions of his or her own and another's obligations, as well as the duties or responsibilities one feels bound to perform". Psychological contract can be regarded as a combination of the individual's dedication and organizational desire, and the organization's contribution to the individual's expectations.

Psychological Contract Breach, Violation and Fulfillment

Some important concepts in the psychological contract literature involve with psychological contract breach (PCB), psychological contract fulfillment (PCF), and psychological contract violation (PCV). PCB refers to the perception and awareness of expected promises of psychological contract become unreciprocated (Rousseau, 1995). Besides, PCB can mean the perception that one's psychological contract has been breached in an inherently a fundamentally individual and subjective phenomenon (Robinson & Wolfe Morrison, 2000). PCB is also described as when organizational intervention is critical for maintaining productive relationships (Lapointe, Vandenberghe, & Boudrias, 2013). On the other side, PCF refers to employee perceptions regarding the extent to which the organization has delivered on what was promised (Rousseau & Tijoriwala, 1998). PCF is used to measure the extent to which the individual to the contract (employee) deems the other (employer) has met his or her obligations. Akhtar, Salleh, Ghafar, Khurro, and Mehmood (2018) described that there are two forms of employees' perspective of fulfillment. Firstly, perceived employer fulfillment means the employee judges the extent to which the employer fulfills their obligations. Secondly, perceived employee fulfillment means the perceptions of employees' fulfillment of obligations to the employer. (Akhtar et al., 2018; Conway & Briner, 2005).

For psychological contract violation (PCV), Morrison and Robinson (1997) presented a theoretical model and outlined two conditions, renegeing and incongruence, which might lead

to the perception of violation. Reneging means when agent(s) of the organization recognize that an obligation exists but knowingly fail to meet that obligation (Morrison & Robinson, 1997; Robinson & Wolfe Morrison, 2000). On the other hand, incongruence is when the employee and organization agent(s) have different understanding about whether a given obligation exists or about the nature of a given obligation (Morrison & Robinson, 1997; Robinson & Wolfe Morrison, 2000). Firstly, when individual perceived being reneged on a deal by their employer with the unfulfilled obligation. Second, employees perceived the violation as a result of incongruence of treatment or obligation. Sometime the violation would not be obvious but still an inconsistent event caused by either party as to the nature of mutual obligation (Morrison & Robinson, 1997; Grimmer & Oddy, 2007).

Yet, Rousseau (1995) and Morrison and Robinson (1997) have different views toward PCV. Rousseau (1995, p. 112) defined PCV as “failure to comply with the term of a contract”. In comparison, Morrison and Robinson (1997) proposed a theoretical model distinguishing PCF and PCV, stating that contract fulfillment acting as a more cognitive mediator between the employee’s perception of unmet promises and perception of violation. Given that the differences indicated, there are more evidences shown the distinct but highly related constructs of PCF and PCV (Rousseau, 2001). Alternatively, other researchers started using the terms PCF and PCV indistinctively (Conway & Briner, 2005). Suggested by the definition of constructs, the opposite of breach is fulfillment such that researchers have used PCB and PCF to refer to two ends of same spectrum, establishing a breach-fulfillment continuum (Michigan, 2017). Compared with breach and violation, breach is the cognitive evaluation that their organization or employer fail to fulfill the promises and agreement, whereas violation refers to the emotional and affective state that may come out and influenced by the cognition of breach (Zhao et al., 2007). Moreover, this study faced the same issue with Zhao et al. (2007) that many studies used the term “breach” and “violation” interchangeably. Therefore, this research will follow the same conceptual distinction and regard violation as an outcome of breach.

Turnover Intention

Price (1977) defined “turnover” as the ratio that the organizational members who have left or quitted during the period being considered divided by the average number of employees in that organization during that time. Turnover is also defined as “individual movement across the membership boundary of an organization” (Price, 2001, p. 600). In the study of Zhao et al. (2007), turnover intention reflects the subjective tendency that an employee will leave his or her organization at certain future period. For turnover intention, the term is defined as a conscious desire to look for a new job with another organization (Mobley, 1986). Lacity, Lyer, and Rudramuniyaiah (2008, p.228) defined turnover intention as “the extent to which an employee plans to leave the organization”. Plus, Matz et al. (2014, p.234) defined turnover intention as “the conscious and deliberate willfulness to leave the organization”, which is often measured with reference to “a specific interval and described as the last in a sequence of withdrawal cognitions, to which thinking of quitting and intent to search for alternative employment”.

Turnover intention has been expressed interchangeably in many forms in the literature, including the intention to quit or leave. Turnover intention can mostly precede the decision to leave the organization. Theoretical framework of Fishbein and Ajzen (1975) suggests that turnover intention is a behavioral intention considered as a good anticipation as well as the best measurement to determinant of workers’ actual turnover (Kraut, 1975; Yamazakia & Petchdee, 2015). For the actual decision to quit, it might be affected by numerous factors, including chances of career development, dissatisfied with the financial reward, low degree of organizational commitment (Rahman & Nas, 2013). Turnover intention differs from actual turnover behavior since it is the subjective perception for employees to leave the current job, which is considered the main variable for this research to explore (Edmondson & Boyer, 2013).

Organizational Citizenship Behavior (OCB)

There are plentiful ways in which OCBs have been conceptualized over the years. Two of the most popular concepts are derived from Organ (1988, 1990) and Williams and Anderson (1991) (Podsakoff, Whiting, Podsakoff, & Blume, 2009).

Definition of Organizational Citizenship Behavior

Firstly, OCB was defined by Organ (1988, p.4) as “individual 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”. The behavior is performed with enforceable requirement of the specific role and job with five-factor model including altruism, courtesy, conscientiousness, civic virtue, and sportsmanship (Organ, 1988). Afterwards, more research related to OCB was conducted. To make the conceptual definition more clear and understandable, OCB has been subsequently expanded with two other dimension, including peacekeeping and cheerleading, in turn, redefined as “contributions to the maintenance and enhancement of the social and psychological context that supports task performance” (Organ, 1997, p.91).

Second, Williams and Anderson (1991) divided OCB into two main categories with OCBI and OCBO. Behaviors directed with the benefit of other individuals are called OCBI. The involved element of OCBI organized by Podsakoff et al. (2009) are listed as following, altruism, courtesy, peacekeeping, cheerleading (Organ, 1990); interpersonal helping (Van Dyne, Graham, & Dienesch, 1994); interpersonal facilitation (Van Scotter & Motowidlo, 1996), and helping coworkers and interpersonal harmony constructs (Farh, Earley, & Lin, 1997). Whereas, behaviors directed toward the benefit of the organization are called OCBO. The involved element of OCBO also organized by Podsakoff et al. (2009) are listed as below, compliance, civic virtue, and sportsmanship dimensions (Organ, 1990); organizational loyalty (Graham, 1991); endorsing, supporting, and defending organizational objectives (Borman & Motowidlo, 1993, 1997); job dedication (Van Scotter & Motowidlo, 1996); voice behavior (LePine & Van

Dyne, 1998); taking charge (Morrison & Phelps, 1999), and promoting the company's image constructs (Farh, Zhong, & Organ, 2004). To sum up, the conceptual scheme proposed by Williams and Anderson (1991) successfully captured all the OCB dimensions from Organ's original model (1988, 1990).

With the rapid growth in the theory and study about OCB, it also produced some issue regarding the conceptual confusion about the similarities and difference in some construct of OCBs and other form of extra-role behavior (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Organ (1997) pointed out that the difference between OCB and contextual performance is that the definition of contextual performance did not require the behavior be extra-role (discretionary) nor be non-rewarded, which means "non-task" in general (Motowidlo, 2000). Motowidlo (2000) found that there were some ambiguities and conceptual difficulties associated with the definitional requirements of OCB and contextual performance. Later, Motowidlo (2000) redefined OCB in the same way as Borman and Motowidlo (1993) defined contextual performance, "as contributions to the maintenance and enhancement of the social and psychological context that support task performance." (Organ, 1997, p.91).

Dimension of Organizational Citizenship Behavior

Research has therefore identified various other forms of OCB. As for the dimension of OCB, Organ, Podsakoff, and Mackenzie (2005) firstly propose seven major dimensions emerge from their review about OCB, which thoroughly clarified by Podsakoff and his colleagues (2000) as below. (1) Helping Behavior, conceptually is a critical element with helping other voluntarily by solving work-related problems or proactive cooperation. (2) Sportsmanship, a willingness of accepting the inevitable situation or inconveniences and the degree that employees could have positive attitude to deal with the extra workload without complaint (Organ, 1990). (3) Organizational Loyalty, means employees tend to prevent the external threats as well as the endorsing and defending behavior within their organization (Borman & Motowidlo, 1993, 1997). (4) Organizational Compliance, is the acceptance of the organization

regulation and guide which potentially seize the individual's internalization. This concept is also regarded as generalized compliance by Smith et al. (1983), as it is a form of conscientiousness to help all people involve the workplace instead of targeting at a specific one.

(5) Individual Initiative, means the voluntary behavior or speak out with the aim to transform the current situation and improve the performance (LePine & Van dyne, 1998). This form of OCB can be considered an extra-role for not only covering the work engaging aspect, but more commit than the task-related requirement.

(6) Civic Virtue, which derived from previous research Graham (1991) and defined by Organ (1988) as the acceptance of responsibility to perform non-mandatory effort, helping the workforce gain more benefit and monitoring the environment for threat and chances.

(7) Self Development, which make the employee enhance their work competence by training or workshop, dedicating to develop the knowledgeable skill to contribute. These seven dimensions are summarized as Table 2.1.



Table 2.1.

Summary of Four Dimensions and Each Construct of Organizational Citizenship Behavior

<i>Dimension</i>	<i>Constructs</i>	<i>Description</i>
Helping Behavior	Altruism	Behavior in some situation that intentionally and directly oriented towards helping a person with direct interaction (Smith et al., 1983)
	Courtesy	Compilation of those anticipated actions that help someone else prevent a problem (Organ, 1990).
	Cheerleading	“The words and gestures aiming to encourage and reinforcement of coworkers’ accomplishments and development” (Organ, 1990, p.96).
	Peacemaking	To “prevent, resolve or mitigate the unconstructive interpersonal conflict” (Organ, 1990, p.96).
	Interpersonal helping	Helping coworkers in the job when they need. (Moorman & Blakely, 1995).
	OCB-I	Behaviors that have immediately advantage to a particular individual and indirectly impacting the organization (Williams & Anderson, 1991).
	Interpersonal facilitation	“Encompasses a range of interpersonal acts that help maintain the interpersonal and social context needed to support effective task performance” (Van scooter and Motowidlo, 1996, p.256)
Sportsmanship	Sportsmanship	Tolerating the situation that are not ideal without complaints (Organ, 1988, 1990).
	Helping with others	“Organizational courtesy and not complaining” (Borman & Motowidlo, 1993, p.82)
Organizational Loyalty	Loyal Boosterism	“Promotion of the organizational image to outsiders” (Moorman & Blakely, 1995, p.130)
	Organizational loyalty	Identification and feeling of obligation to fidelity to organization (Van Dyne et al., 1994)
	Endorsing, supporting, and defending the organization	The concern for organizational objectives, saying “with the organization during the hard time and representing the organization favorably to outsiders” (Borman & Motowidlo, 1993, p.82)

(continued)

Table 2.1. (continued)

<i>Dimension</i>	<i>Constructs</i>	<i>Description</i>
Organizational Compliance	Generalized compliance	The behavior “seems to represent something akin to compliance with internalized norms defining what a good employee should do” (Smith et al., 1983, p.657)
	Organizational obedience	Recognition and acceptance of formal structure of the organization and understanding of the need for the regulations (Van Dyne et al., 1994)
	OCB-O	Behaviors that beneficial to the organization (Williams & Anderson, 1991).
Individual Initiative	Conscientiousness	A model of “going well beyond minimal required level” (Organ, 1990, p.96)
	Individual initiative	Improvement of group and individual performance in the workplace by communication (Moorman & Blakely, 1995)
	Job dedication	A motivational basic for “job performance that make people to act with the deliberate intention of promoting the organization’s best interest” (Van Scotter & Motowidlo, 1996, p.526)
	Organizational participation	Behavior of participating responsibly in the governance of the organization (Van Dyne, Graham, & Dienesch, 1994)
	Voice	Speaking-out and questioning the commonality for changing the better situation (LePine & Van dyne, 1998)
Civic Virtue	Protecting the organization	“The voluntary acts organizational members engage in to protect property” (George & Jones, 1997, p.155)
	Civic Virtue	Be responsible with constructive contribution in the political process of organization (Organ, 1990).
Self-development	Developing oneself	Employees improve their knowledge, skills, and abilities (KSA) to give well contribution to their organization (George & Jones, 1997).

Note. Adapted from “Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research” by Podsakoff, Mackenzie, Paine and Bachrach. 2000, *Journal of Management*, 26(3), 513-563. Copyright 2000 by Elsevier Science Inc. and “Organizational Citizenship Behavior: Its Nature, Antecedents and Consequences” by Organ, Podsakoff and Mackenzie. 2005. Copyright 2005 by the Sage Publications.

Theoretical Background and Hypotheses

This section will demonstrate the theory and previous studies related to the association between psychological contract breach, turnover intention and organizational citizenship behavior (OCB), then in order to develop the hypothesis for this research.

Psychological Contract Theory

In the framework of psychological contract theory, a contract refers to an agreement, formal or informal, overt or implied, between two or more agents (Rousseau, 1995). According to Rousseau (2001), the mechanism about antecedents that lead to psychological contract are activated through pre-employment experiences, recruiting procedure, early on-the-job socialization, and evolves over the worker's tenure in that organization (Soares & Mosquera, 2019). The process involves the perception of the obligation, perceived career development and well-being via the incentives and feedback of employer. Van den Heuvel, Schalk, Freese, and Timmerman (2016, p.41) signified that “psychological contract was identified as an overruling factor with the potential of reversing a positive evaluation of the change effect for employee into a negative attitude towards change and vice versa”.

As for the type of psychological contract, Rousseau (1995) explicated that there are two major categories of psychological contracts described as relational and transactional contracts. Rousseau and Tijoriwala (1998) proposed two other types, which are the balanced/hybrid contract and transitional/uncertain contract. With the aforementioned, Rousseau and Schalk (2000) developed the four dimension based on the duration and performance-reward contingencies (Soares & Mosquera, 2019). First, relational contracts can be characterized as “the beliefs about obligations based on long-term exchanges of socio-emotional factors (e.g. loyalty and support) rather than purely monetary issues” (Grimmer & Oddy, 2007, p.155; Rousseau & Schalk, 2000). Plus it includes “more direct, informal and ambiguous agreements, which clarify the significance of mutual emotional and physical investment” (Moquin, Riemenschneider, & Wakefield, 2019, p. 2). Second, in contrast, transactional contracts refer

to “short-term monetary agreements with little involvement of the parties”, mainly focused on economic exchange (Grimmer & Oddy, 2007, p.155; Rousseau & Schalk, 2000), as well as “the direct and explicit enumeration of duties, deliverables, compensation and duration agreed upon by all parties” (Moquin et al., 2019, p.2). Third, balanced contracts is a long-term arrangement, but more dynamic contract that rewards employees based on individual and organizational performance (Rousseau & Schalk, 2000). Lastly, Rousseau and Schalk (2000) pointed out the transitional type is regarded as a cognitive state due to organizational transitions, so that the performance terms are not specified. These four psychological dimensions proposed by Rousseau (2000) are summarized in Table 2.2.

Table 2.2.

Summary of Four Dimensions and Each Construct of Psychological Contract

<i>Dimension</i>	<i>Constructs</i>	<i>Description (Rousseau and Schalk, 2000, pp. 4-5)</i>
Relational Contracts	Stability	A long-term employment relationship for employees obligated to achieve the performance requirement and stay in the firm; for employer committed to offering stable wages
	Loyalty	The employees are obligated to support the firm. In return, the employer has committed to supporting the well-being and interests of employees and their families.
Transactional Contracts	Narrow	The employees are paid to perform only a fixed scope of duties; the employer has committed to offering only limited involvement in the organization with little training and development opportunities.
	Short-term	The employee has no obligation to stay for long term and is committed to working only for a limited time. Also, the employer is not obligated to any future commitments.
Balanced Contracts	External employability	The employee is obligated to develop their skills for the market demand; the employer has committed to enhancing the employee’s long-term employability.
	Internal advancement	The employee is obligated to develop their skills for the current employer; the employer has committed to providing internal career advancement plan for their employee.

(continued)

Table 2.1. (continued)

<i>Dimension</i>	<i>Constructs</i>	<i>Description (Rousseau and Schalk, 2000, pp. 4-5)</i>
Balanced Contracts	Dynamic performance	The employee is obligated to perform well of the demanding goals and make their firm be competitive; the employer has committed to provide continuous learning chances to assist employees achieving the job requirements.
Transitional Contracts	Mistrust	The employee does not trust the employer due to the unclear information provided by the firm, which is inconsistent with the organization intentions.
	Uncertainty	Employees feel not clear about the nature of their own obligations to the firm; the employer evaluate the extent that the employees are uncertain regarding the employer's future commitments to them.
	Erosion	Employee anticipates a declining of returns from their contributions to the firm compared to the past and the employer has introduced changes that reduce employee rewards.

Note. Adapted from “Psychological Contracts in Employment: Cross-National Perspectives” by Rousseau and Schalk. 2000. Copyright 2000 by the Sage Publications.

Two of the most commonly used dimensions are relational and transactional contracts. Grimmer and Oddy (2007, p.155) considered “the scope of relational contracts is more general and pervasive subject to clarification and modification as circumstances evolve”. Therefore, relational contracts might be more subjective and less tangible in comparison to transactional contracts (Grimmer & Oddy, 2007).

In addition, PCB can also be seen as reactions to violations of employment-related social exchanges, and can lead to reduced work efforts. The reduced work efforts can be the task performance, but may also be the contribution that beyond the performance requirements, such as OCB. More specifically, psychological contract breach will possibly cause the employees' negative reactions including the strengthened turnover intention and weakened willingness of OCB. As claimed by Coyle-Shapiro & Kessler (2002, p. 83), “employees seem

to balance future benefits from their employer with present contributions as a way of discharging their obligations and concurrently maximizing the realization of future benefits from the employer”. If the current obligation and agreement are breached, some negative behavioral outcomes will likely to occur. From the literature search between 2010 to 2019, the researcher found two most common outcomes of PCB, one is the higher turnover intention, and the other is the lessened contribution beyond employees’ job duties to the organization, which means the OCB.

In conclusion, when the promises are broken, employees’ trust and faith toward the company are destroyed with destructive outcomes, and it not only has impacts on an individual scope but also the organizational scope. More specifically, when this kind of “mutual obligation” between one person and another party in the organization is unfulfilled, it may cause employees to strengthen their inclination to leave the company and decrease the willingness to contribute more beyond the employees’ responsibility. The statements above demonstrate the negative effect caused by a violation of an invisible agreement mentally exist in our mind.

Psychological Contract Breach and Turnover Intention

When the behavioral and attitudinal change occur in employees who feel that their psychological contract is breached or violated (Kickul and Lester, 2001), it can lead to employees exhibiting deviant behaviors at workplace, like counterproductive work (Griep & Vantilborgh, 2018; Li & Chen, 2018). Previous meta-analysis study has suggested that PCB is significantly and positively related to the employees’ turnover intention (Zhao et al., 2007).

Over the past five years, there are numerous studies conducted to test the relationship between psychological contract and turnover intention (Behery, Abdallah, Parakandi, & Kukunuru, 2016; Hartmann & Rutherford, 2015; Heffernan & Rochford, 2017; Kraak, Lunardo, Herrbach & Durrieu, 2017; Liao, Widowati, & Tasman; 2017; Mai, Ellis, Christian, & Porter, 2016; Malik & Khalid, 2016; Moquin et al., 2019; Umar & Ringim, 2015; Van Stormbroek & Blomme, 2017; Wang, Li, Wang, & Gao, 2017). Malik and Khalid (2016) pointed out that the

PCB caused by the non-fulfillment of employees' demand, which will lead to their behavioral reaction toward work, like turnover. Kraak et al. (2017) states that the different factors of breach, including job content, social atmosphere, organizational policies and rewards have been proved to have a direct influence on violation as well as an indirect influence on turnover intention. Additionally, Moquin et al. (2019) claim that a psychological contract breach will occur with high possibilities of turnover intention when the unmet expectations regarding supervisor support, work exhaustion, emotional dissonance, and compensation are accumulated with time passed.

Besides examine the main effect between PCB and turnover intention, some researchers also test the relationship with the two dimensions of PCB, which are relational and transactional psychological contract breach (PCB). Relational contracts are the long-term contract with mutual trust and assess to what extent they trust their employer was obligated to provide them with long-term career development plans, job security, and other kinds of personal support (Kwon Choi, Koo Moon, Ko, & Min Kim, 2014). On the other hand, transactional contracts are the short-term economic exchange and assess to what extent they believed their employer was obligated to provide them with rapid advancement, reasonable pay with the current performance (Kwon Choi et al., 2014). As claimed by Behery et al. (2016), the finding of their study demonstrates that relational psychological contract has a significant effect on employees' intention to leave, which suggest organizations to use the relational psychological contract as a communication channel in building stronger relationships and belief. Some other studies have also proved the significant relationship between turnover intention, relational contracts, and transactional contracts (Mai et al., 2016; Umar & Ringim, 2015; Wang et al., 2017). However, some other studies did not find significant effect in the relationship between transactional contracts and turnover intention (Heffernan & Rochford, 2017; Liao et al., 2017).

Interestingly, there are some other different perspectives and findings that existed in previous studies based on the dimensions under PCB. Some of them come up with different

direction of results. For example, first, in the research of Liao et al. (2017), they found that the breach of relational psychological contract positively affects the employees' turnover intention, however, the effect between the transactional PCB and turnover intention is not significant with the sample of foreign workers in Taiwan. The same result are in the research of Heffernan and Rochford (2017) with the Irish sample. Second, Wang et al., (2017) stated the relationships between turnover intention and psychological contract with relational and transactional dimensions are all negative with China sample. Third, some other studies found that turnover intention was negatively affected by relational psychological contract but positively affects transactional psychological contract with the sample of Nigeria, China and the U.S (Mai et al., 2016; Umar & Ringim, 2015).

Based on the above discussion, this study believe that the turnover intention can be affected differently by the dimensions under PCB. Even though most of the previous research have already proved the positive relationship between PCB and turnover intention, there are still some inconsistent results that existed in the dimensions under PCB. Hence, to synthesize the overall effect with the regional and industrial differences over the last 10 years, the following hypothesis 1 is proposed.

Hypothesis 1: *Psychological contract breach (PCB) is positively related to turnover intention.*

Psychological Contract and Organizational Citizenship Behavior

OCB is a crucial performance that generate the extra effort and process so as to improve the task-related outcomes and workforce atmosphere by different way. Plus, OCB is widely regarded as the consequence of PCB. The theoretical basis of OCB is expanded by explicitly capturing the effects of the psychological contract, which highlights the importance of employer's contract behavior about the employees' fulfillment of specific obligations (Coyle-Shapiro & Kessler, 2000). Podsakoff and his colleagues (2000) examine the relationships between OCB and its antecedents, including individual characteristics, task characteristics,

organizational characteristics, and leadership behaviors, which demonstrates that individual characteristics especially the perceived fairness was positively related to OCB. In other words, when employees themselves feel the perceived agreement or obligation were not performed by their employer as relatively as they expect at first, their PCB will strengthen than usual. This concept can be supported by the previous research that psychological contract breach/violation can lead to a negative effect on the willingness to engage more in OCB (Biswas, 2016; Tran-Huy, 2016; Yang & Chao, 2016 ;Zhao et al., 2007).

For the effect of dimensions under PCB, Hui, Lee, and Rousseau (2004) states transactional contracts are becoming increasingly common with the direct effect to OCB. On the other hand, Restubog, Hornsey, Bordia, and Esposito (2008) found the variables associated with the group value model are more connected to OCB when caused by relational psychological contract breach rather than transactional. In recent years, Tufan and Wendt (2019) claim that OCB is negatively related to relational and transactional PCB, moreover, the effect by relational contract is stronger than the transactional contract. Conversely, the achieved level of transactional or relational psychological contract has been proved to have a positive association with OCB (Kishokumar, 2018; Kwon Choi et al., 2014). Nevertheless, in other point of view, some researchers found the different direction of results based on the two dimensions. Ali-Shah and Ali-Shah (2016) as well as Sharma, Pandey, and Sinha (2019) indicated that transactional contract is negatively related to OCB, but relational contract is positively related to OCB. In this study, the researcher states PCB, including relational and transactional contracts is negatively related to OCB.

Also, psychological contract has been proven useful in understanding and managing exchange relationships in the dynamic construct (Rousseau et al., 2018). Bankins (2015) proposed a process perspective model to demonstrate how breach or violation events trigger sense-making, resulting in initially negative employee reactions and a “withdrawal” of perceived contributions. With the critical event, a process of contract “repair” could occur if

the coping action were effective (Bankins, 2015). Hence, employer must pay attention to what type of psychological contract employee have, then can facilitate their OCB. Based on the discussion, hypothesis 2 assume there is a negative association between PCB and OCB.

Hypothesis 2: *Psychological contract breach (PCB) is negatively related to organizational citizenship behavior.*

Previous meta-research have indicated that PCB has a profound impact on work-related attitudes and behaviors (Zhao et al., 2007). From the aforementioned literature review, turnover intention and OCB are two of the most relatively indicative phenomena among the outcomes of PCB for organizational management scholars and practitioners. Therefore, this study intend to replicates previous research and examine the impacts of perceived PCB on work related attitude such as turnover intention, and work-related behavior such as PCB over the last 10 years.

The Moderating Effect of National Difference

Power distance, and uncertainty avoidance. Hofstede empirically categorized cultures at the national level with several dimensions, including power distance, and uncertainty avoidance (Gladwind & Hofstede, 1981). Power distance defined as “the acceptable degree of hierarchical power inequality existing between the authority and the subordinate” (Hofstede, 1980). Uncertainty avoidance refers to “the extent to which members of a culture feel threatened by uncertainty or an unknown situation.” (Hofstede & Bond, 1993). Most of the research conducted in Western countries regarding PCB are typically low in power distance and uncertainty avoidance. Conversely, Eastern countries tend to have higher degrees in both dimensions.

Individuals in high power distance are more likely to show greater respect, and loyalty to authority (Chao, Cheung, & Wu, 2011; Farh et al., 1997). The higher power distance nations tend to find “greater centralization, taller organization pyramids, closer supervision, and much less in the way of participative management” (Gladwind & Hofstede, 1981, p. 682). Chao et al.

(2011) indicates that power distance is a significant moderator between PCB and the counterproductive work behavior (CWB). When individual in high power distance countries, perceive PCB, even though the prior promises were not fulfilled by the organization, they would reasonably perform less behavior that against the authorities. If individuals in the low power distance countries feel been betrayed by the organization, they tend to generate negative performance and behavior to convey their unsatisfied emotion (Chao et al., 2011). Also, the other study from Zagenczyk et al. (2014) found power distance has a moderation effect between PCB and exit in that higher power distance orientation can weaken the positive relationship. With the finding, there is an assumption that the higher level of power distance culture may lead to higher resistance of breach, so the impact to turnover intention may be lower. For OCB performance, it would be lower with higher power distance culture when individuals face breach since the change will not be obvious comparing with the lower power distance culture. On the other hand, the lower level of power distance culture let the employees convey their real feeling and emotion, which could trigger the higher intent to leave once they feel breached. For uncertainty avoidance, it was also proved to have higher degree in Eastern countries and much lower in the Western countries. Although studies from 2010 to 2019 rarely probe into the moderation effect of uncertainty avoidance, this study proposes that higher level of uncertainty avoidance can enhance employees' intention to leave when facing breach, because these group of people tend to avoid as much negative impact as possible. Deciding to leave the current workplace would be preferable comparing to endure the uncertain outcome. For OCB performance, it will increase in the higher level of uncertainty avoidance culture, as individuals may try to contribute more to remove the uncertain feeling of breach. With the assumption, this study will test if power distance and uncertainty avoidance can moderate the associations of PCB and work outcomes. Hence, the hypothesis 3a, 3b, 4a and 4b are proposed.

Hypothesis 3a: *Power distance will moderate the relationship between PCB and TI, whereby a higher level of power distance will decrease the effect of PCB on TI.*

Hypothesis 3b: *Uncertainty avoidance will moderate the relationship between PCB and TI, whereby a higher level of uncertainty avoidance will increase the effect of PCB on TI.*

Hypothesis 4a: *Power distance will moderate the relationship between PCB and OCB, whereby a higher level of power distance will increase the effect of PCB on OCB.*

Hypothesis 4b: *Uncertainty avoidance will moderate the relationship between PCB and OCB, whereby a higher level of uncertainty avoidance will decrease the effect of PCB on OCB.*

Percentage of individual using internet. With the well-developed internet accessibility these years, people can get new information by various channels. It makes our life become more convenient, however, also increases some concern in workplace, such as information asymmetry. The term, information asymmetry refers to a situation when the message and information are not evenly received by the different parties, which may potentially increase the risk for PCB (Dries & De Gieter, 2014). For example, once the individuals obtain more critical information by internet than other parties (i.e. employer, colleagues, people from other company), they will start comparing the advantages and disadvantages among the internal workplace or even the external environment. By those comparing process, people will evaluate if their organization has fulfilled the original expectations or promises. If the results of the comparison lead to a feeling of breach by the current company, the intention to leave or to withdraw OCB contribution will be strengthened. Therefore, the internet popularity of a country is predicted to positively moderate the association between PCB and turnover intention, as well as PCB and OCB, which are stated as the following hypothesis.

Hypothesis 3c: *The percentage of individuals using internet will moderate the relationship between PCB and TI, whereby a higher percentage will increase the effect of PCB on TI.*

Hypothesis 4c: *The percentage of individuals using internet will moderate the relationship between PCB and OCB, whereby a higher percentage will increase the effect of PCB on OCB.*



CHAPTER III METHODOLOGY

In this chapter, it demonstrates the concept, procedure, and the statistical techniques to make sure the research process adequately meets the research purpose. This chapter describe the research framework, hypothesis, research procedure, design, and method. The research method of meta-analysis is introduced in detail. Lastly, the characteristics of the studies included in this meta-analysis are presented.

Research Framework

Based on the discussion in the literature review, the following framework demonstrate the relationship among three variables in this study. As mentioned in the hypothesis, the independent variable is psychological contract breach, which is assumed to predict the turnover intention and OCB. Moreover, the moderator is country difference with three national factors, power distance, uncertainty avoidance, and percentage of individual using internet. The research framework is shown in Figure 3.1.

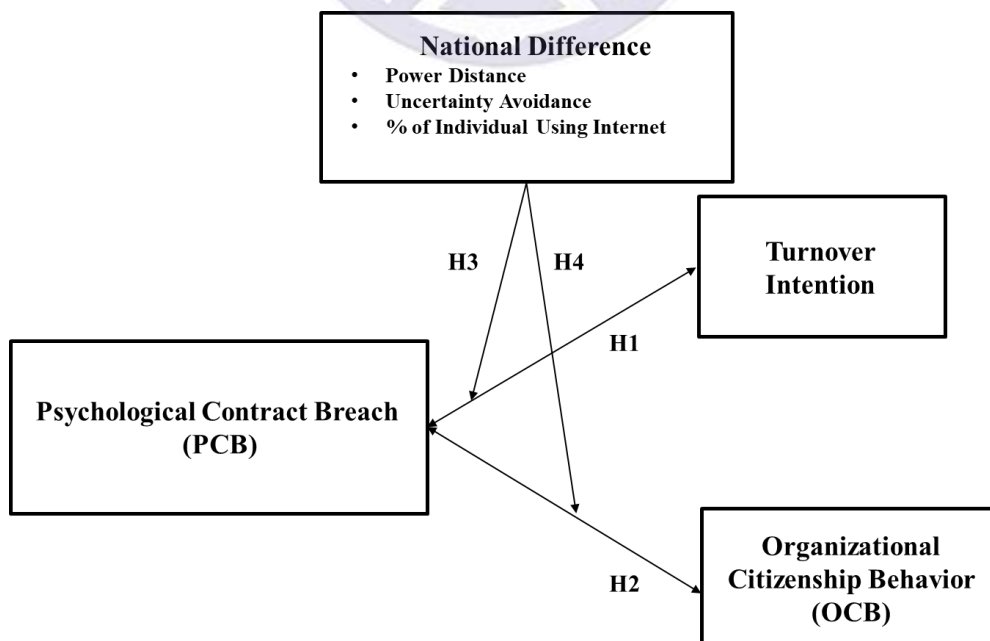


Figure 3.1. Research framework

Research Hypothesis

H1: *PCB is positively related to TI.*

H2: *PCB is negatively related to OCB.*

H3a: *Power distance will moderate the relationship between PCB and TI, whereby a higher level of power distance will decrease the effect of PCB on TI.*

H3b: *Uncertainty avoidance will moderate the relationship between PCB and TI, whereby a higher level of uncertainty avoidance will increase the effect of PCB on TI.*

H3c: *The percentage of individuals using internet will moderate the relationship between PCB and TI, whereby a higher percentage will increase the effect of PCB on TI.*

H4a: *Power distance will moderate the relationship between PCB and OCB, whereby a higher level of power distance will increase the effect of PCB on OCB.*

H4b: *Uncertainty avoidance will moderate the relationship between PCB and OCB, whereby a higher level of uncertainty avoidance will decrease the effect of PCB on OCB.*

H4c: *The percentage of individuals using internet will moderate the relationship between PCB and OCB, whereby a higher percentage will increase the effect of PCB on OCB.*

Research Procedure

In order to investigate the study of the stated hypotheses comprehensively, this study follows the 10-steps research procedure, as shown in Figure 3.2. Firstly, the researcher identified the initial topic of this research, which was based on the personal observation and experience when serving internship in a company, and the initial literature search. Secondly, the researcher conducted the literature review for the specific topics through reading article to gain substantial knowledge about the history and professional domain, which is one of the most important and essential process in research procedure. After reviewing the literature, next step was to identify the research gap and the research problem. Then, the research purposes, questions, and constructs were developed. Later, the researcher will collect the data via

literature search, setting the inclusion criteria, and coding procedure to do the further quantitative approach with a meta-analysis. Once all the needed data were collected, data were analyzed to test the hypotheses, and findings were interpreted. Finally, the research provided recommendations, implications, and suggestions, then conclude basing on the results.

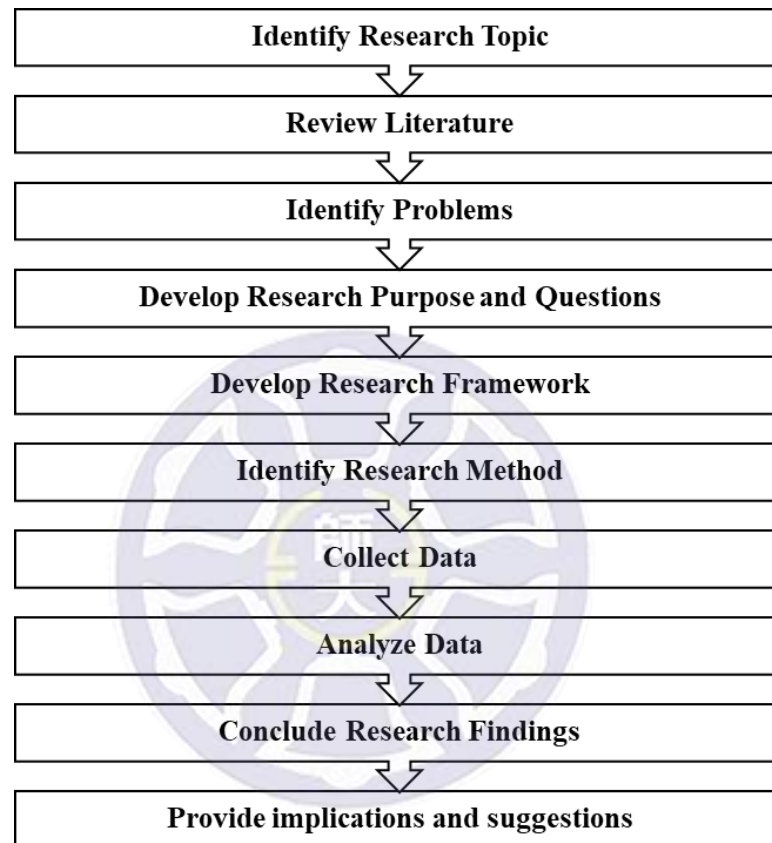


Figure 3.2. Research procedure

Research Design

This research is attempts to offer insight to the organization practitioners on how strongly PCB will influence the employees' turnover intention and willingness of OCB over the last 10 years. Thus, the hypotheses state that PCB will positively affect the inclination to turnover and negatively affect the engaged degree of OCB from 2010 to 2019. In order to test these hypotheses, this study will apply the quantitative approach by using meta-analysis, which is a method that can systematically integrates primary research on psychological contract breach with turnover intention and OCB.

Research Method

Meta-analysis is a quantitative technique that aims to reconcile conflicting empirical results, to provide a clear picture of the current state of knowledge on a specific topic (Stanley, 2001). This analysis was conducted and reported following some of the items from the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009). There are three steps before the meta-analytic procedure, which are literature search, inclusion criteria, and coding procedure.

Literature Search

Only quantitative empirical studies and results are considered to be included in the meta-analysis. The search is restricted to published literature in journals or books and unpublished dissertations and thesis both in English and Chinese. With the advance in science and technology in Taiwan, there were more research written in Chinese that also qualified to be included, which enable a comprehensive scope of this meta-analysis. An extensive literature search using electronic techniques was carried out to identify empirical studies that had examined the relationship of psychological contract with turnover intention and OCB.

Meta-analysis was conducted to mathematically combine the results of previous empirical research on the relationships between psychological contract, turnover intention, and OCB. To identify as many potential quantitative studies as possible that met the inclusion criteria, the researcher searched the following databases concerning publications published in the period from January 2010 to December 2019. The computer databases are used to conduct a literature search reviewing articles, including Google scholar, Scopus, EBSCOhost, PsycINFO, JSTOR, Wiley Online Library, AIS Electronic Library (AISeL), Open Access Theses and Dissertations (OATD). For Chinese articles, the researcher utilized National Digital Library of Theses and Dissertations in Taiwan, Airiti Library and Taiwan NCL Periodical Information Center to search. Since the electronic search with specific keywords might miss

the relevant studies sometimes (Stewart & Roth, 2004; Zhao et al., 2007), the researcher also conducted a manual search of journals that regularly publish psychological contract studies such as Personnel Psychology, Academy of Management Journal, Journal of Applied Psychology, International Journal of Human Resource Management, Human Resource Management, and Journal of Organizational Behavior as well as searching the conference proceedings.

The following keywords for turnover were used: turnover intention, turnover intent, intention to/of leave, intention to quit, intent to leave, turnover cognitions, leaving intention/intent, resignation tendency. The following keywords for psychological contract breach were used: psychological contract, psychological contract breach, psychological contract violation, psychological contract fulfillment, psychological contract expectation, relational psychological contract, transactional psychological contract, balance psychological contract. The following keywords for OCB were used organizational citizenship behavior, OCB, OCBI, OCBO, contextual performance.

Inclusion Criteria

To preserve the rigor of the study, this research developed a set of inclusion criteria to specify the studies to be include in this meta-analysis. The researcher reviewed the abstracts from the above mentioned initial search and eliminated studies of a literature reviews, previous meta-analyses, qualitative studies, and excluded studies only concerned with actual turnover rate or behavior. To be included in the meta-analysis, the study must have reported sufficient data to calculate an effect size (Zhao et al., 2007). A set of rules were established to determine if a study could be retained given the purpose of the current meta-analysis. Each publication had to meet the following criteria to be included in the meta-analysis. The literature search encompassed thoroughly with the following steps:

1. First, this study includes only quantitative empirical study providing quantitative results. Experimental laboratory studies and qualitative studies are excluded.

2. The study has to report perceived PCB. Studies are not included if it only focused on perceived promises or obligations but did not really measure breach. The study with PCV or PCF were excluded as well.
3. Consistent with most studies that suggest the psychological contract is held by employees themselves (Zhao et al., 2007), this research excluded any correlation that addresses the employer's or organizational agent's perspective of the employee's PCB.
4. Studies need to report the correlations between the psychological contract breach and turnover intention or OCB, which were used to calculate the effect size.
5. The first outcome variable, turnover intention was considered applicable if it represents the cognition or intention; the actual turnover, or turnover rate were excluded.
6. The second outcome variable, OCB was considered applicable if a research listed the relevant OCB dimensional variable with a correlation.

Summary of Literature Search and Inclusion Result

This literature search yielded around 1000 abstracts from the database search and 181 full papers are selected for further reviews. A total of 76 studies were retrieved and included in full text for further coding. Of these 10 studies are written in Chinese and 66 in English. Figure 3.3. outlines the flow chart for literature search and shows the number of studies included after each stage. With the inclusion procedure, the number of article being included is indicated as below:

1. Records after duplicates removed. (k=403)
2. Records screened. (k=181)
3. Full-text articles assessed for eligibility. (k=87)
4. Remove the non-qualified studies with detail selection (k=11)
5. Retained studies that meet final inclusion criteria as described in manuscript. (k=76)

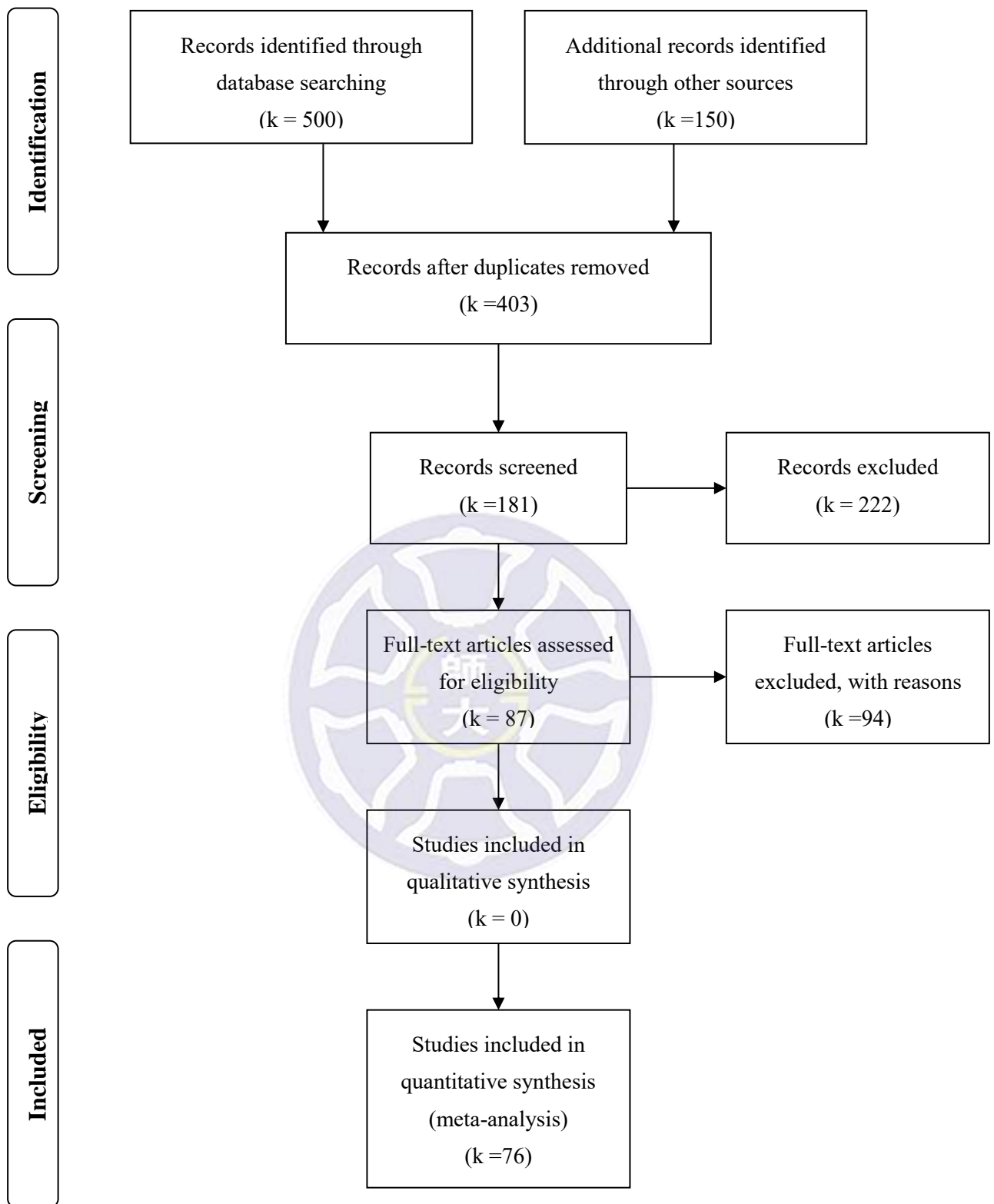


Figure 3.3. Literature screening process using PRISMA (2009)

Coding Procedures

The coding of studies was systematized via the use of a coding spreadsheet that cued coders to attend to specific study information and characteristics. In addition to the basic study information, and the key results (e.g. correlation between psychological contract, turnover intention, and OCB, the associated sample size), the following characteristics for sample variations, and publication variations were coded.

As described in the hypothesis development section, this research considered national difference in power distance, uncertainty avoidance, and the percentage of individuals using the Internet for each year included in the study as the moderator of the relationship between PCB and TI, and PCB and OCB. For power distance and uncertainty avoidance, this study used the score of Hofstede Insights (2019) for cultural dimensions (<https://www.hofstede-insights.com/country-comparison/>) for each country as the moderator data. For internet popularity, the researcher used the data from The World Bank (2019) (<https://www.worldbank.org/>), which reported the percentage of individuals using the internet (% of population) for every country each year. Since the meta-analysis software can run the data with text categories, the country economic level, region of country and language are coded as text; the moderators of power distance, uncertainty avoidance and percentage of individual using internet were coded as numbers reported on the online sources above. The coding for items under each category are shown in Table 3.1, and the full record of the coding sheet can be found in the Appendix A to D.

Table 3.1.

Summary of the Coding for this Study

Categories	Items	Codes
Basic study information	Author	Text
	Year	Text
	Language of article	Chinese, English
Publication variations	Publication channel	Journal Thesis/dissertation Conference
	Correlations coefficient	Numerical value
	Sample size	
Sample variations	Country economic level	Developed, Developing
	Region of country	Asia, non-Asia
	Power distance	Numerical value from Hofstede's cultural dimensions
	Uncertainty avoidance	Numerical value from Hofstede's cultural dimensions
	Percentage of individual using internet	Numerical value from The World Bank

Note. This table was compiled by the author for the purpose of this study

Meta-Analytic Procedures

Meta-analysis was conducted by Meta-Essentials (Suurmond, Van Rhee, & Hak, 2017; Van Rhee, Suurmond, & Hak, 2015) using procedures proposed by Hunter and Schmidt's (2004) psychometric meta-analytic method drawing from a random-effects model, assuming population effect sizes would vary across studies (Weber, Unterrainer, & Höge, 2019).

Meta-Essentials is a series of Microsoft Excel workbook that facilitate the integration and synthesis of effect sizes through the collected studies (Van Rhee et al., 2015). Based on the

researcher's input data, the workbook can automatically generate all the related figures, tables and statistics (Van Rhee et al., 2015). This free statistical method has been used in around 200 public-research with meta-analysis, not only for the medical field but also in organizational behavior topics (Candel & Turliuc, 2019; Hartley, Dorstyn, & Due, 2019; Holliday, Holder, & Suris, 2018).

Hunter and Schmidt's method (2004) is preferred as it help to estimate the population correlation between psychological contract and outcome variables and conduct a direct variation estimate among them. In random effects model, it assumes that the different true-effects might accentuate the effect sizes from different studies (Van Rhee et al., 2015). In addition, random effects models are preferred when the associations tested in those primary studies are presumed to be heterogeneous across studies (Borenstein, Hedges, Higgins, & Rothstein, 2010; Zhao et al., 2007).



Data Analysis

This study used the statistic tool Meta-Essentials (Excel workbook) to analyze and examine the collected data. This research took Pearson's correlation coefficient (r) as an effect size for each study and compute composite correlations for those studies that included multiple measures of the same construct. Along with Weber et al., (2019), for each effect of interest, the following were computed and analyze: (1) the sample size weighted mean correlation across studies (r), (2) the variance of the sample correlations was corrected by sampling error and artifact corrections, the estimated true correlation (z), and the standard deviation of the true correlation ($SD z$), (3) 95 % confidence intervals (CIs), (4) Cochran's Q test, and (5) I^2 index. The statistical test are described as below and in Table 3.2.

Pearson's Correlation Coefficient Test

First, the sample-weighted mean uncorrected correlation (r) and the corrected correlations, the estimated population correlation (z) were calculated. When there are multiple

indicators, dimensions or sub-constructs used within the same study, correlations were averaged by Fisher's z-transformation and treated as a single overall correlation for each sample, which is a procedure recommended for averaging Pearson correlations (Lipsey & Wilson, 2001; Rattrie, Kittler, & Paul, 2019; Weber et al., 2019).

Confidence Intervals (CIs)

CIs can evaluate the presence of sampling error and the accuracy of effect size and estimate variability in the mean effect size (Weber et al., 2019; Whitener, 1990). The 95% confidence interval was computed by the (r) and (SDr). Bui, Chau, Degl'Innocenti, Leone, and Vicentini (2019) agree the CIs with Hunter and Schmidt's method (2004) tends to be more accurate than those from other conventional methods.

Cochrane's Q test

This test was report to assess the existence of potential moderators, which is an absolute measure of the absence or presence of significant heterogeneity, (Hunter & Schmidt, 1990; Rubenstein, Eberly, Lee, & Mitchell, 2017). The Q statistic is distributed approximately as a chi-square, and a significant Q means there is a considerable heterogeneity in the effect sizes across studies. A significant z-score represents the moderating effect exists and the one-tailed z-test was adopted.

I² Index

The percentage of variance attributable to heterogeneity in a predictor-psychological contract breach is quite useful for comparing different study sizes across meta-analyses (Higgins, Thompson, Deeks, & Altman, 2003; Rubenstein et al., 2017). The value of I² between 0-40% means minor heterogeneity, 40-70% is medium heterogeneity, and 70-100% is substantial heterogeneity (Borenstein, Hedges, Higgins, & Rothstein, 2009; Rubenstein et al., 2017).

Table 3.2.

Summary of the Statistical Tests and Index Reported in the Study

Statistical test	Symbol	Purpose
Pearson's correlation coefficient	r : uncorrected correlation z : corrected correlation	To estimate the population correlation between psychological contract and outcomes.
Standard deviation of the population correlation	SDz	To get the variance degree of the sample correlations which is uncorrected/corrected by sampling error and artifact corrections.
Confidence intervals	95% CIs	To estimate variability in the mean effect size.
Q-statistic (Cochrane's Q test)	Q	To assess the existence of potential moderators by measuring the heterogeneity which will be distributed as a chi-square.
I ² Index	I ²	To analyze the percentage of variance attributable to heterogeneity.

Note. This table was compiled by the author for the purpose of this study

Moderation Analysis

Focusing on those psychological processes enable researchers to enhance further understanding regarding how in-role and extra-role behavior are conceptualized by individuals and organizations by specifying the motives underlying observed behaviors (Hui et al., 2004). As such, there may be differences in how psychological contract breach associates with turnover intention and OCB across measures. To consider the possibility of a moderator, first, the I² should be higher than 80% and Q test should be significant. Second, the p-value of regression on the moderator should be lower than .05. This study firstly used the subgroup analysis to find some potential moderators which were coded as text categories, then conducted the moderation analysis on country difference index as indicated in the hypotheses, including power distance, uncertainty avoidance, and percentage of individual using internet.

Publication Bias

Many researchers have indicated a concern that the effect sizes from published data would be greater compared to those from unpublished sources. This situation is considered a significant publication bias, or can be also called “file-drawer problem” (Stanley, 2008). The other risk of publication bias is that results tend to be positive and many are possibly false (Jooper, Schmitz, Annable, & Boksa, 2012). The over representation of published studies or studies with significant findings can affect the accuracy of the meta- analysis results or lead to inflated estimates (Barlow & Zangaro, 2010). Therefore, this meta-analysis tested publication bias by funnel plots.

Study Characteristics

Basic Study Information

For the overall inclusion result, there are 76 articles in total included in this meta-analysis with the publication period from 2010 to 2019. The number of articles’ by year of publication is 8 in 2010, 4 in 2011, 5 in 2012, 10 in 2013, 11 in 2014, 7 in 2015, 12 in 2016, 8 in 2017, 7 in 2018, 4 in 2019.

From the result, the number of articles reported the association between PCB and turnover intention is 38, and for those between PCB and OCB is 38. The overall sample size related to PCB and TI in total is 12,957, and for PCB and OCB is 12,003. On the dimensions of OCB, 15 articles reported the OCBI concept, 2 on the sub-dimension of interpersonal helping behaviors, 2 on courtesy, and 5 on altruism. On the other hand, 18 articles reported the OCBO concept with 2 on the sub-dimension of sportsmanship, 1 on loyalty, and 5 on civil virtue. The data above are shown in Table 3.3.

Table 3.3.

List for the Basic Study Information

Basic study information	Items	Count
Yearly distribution	2010	8
	2011	4
	2012	5
	2013	10
	2014	11
	2015	7
	2016	12
	2017	8
	2018	7
	2019	4
Number of articles	PCB and TI	38
	PCB and OCB	38
Sample size in total	PCB and TI	12957
	PCB and OCB	12003
OCB dimension	OCBI	15
	Interpersonal helping behaviors	2
	Courtesy	2
	Altruism	5
	OCBO	18
	Sportsmanship	2
	Loyalty	1
	Civil virtue	5

Note. This table was compiled by the author for the purpose of this study. The count shows number of articles except for sample size in total

Publication Sources

The articles are mainly from English language journal publication, only one study is a conference paper; 16 are master thesis or doctoral dissertation; the rest of 59 articles are journal articles. The list of all the journal are shown in Table 3.4.

Table 3.4

List for the Sources by SSCI Journal and Non-SSCI Journal

Research Association	Name of Journals for SSCI or Non-SSCI	
PCB and TI	SSCI	Asia Pacific Management Review
		European Journal of Work and Organizational Psychology
		Industrial Marketing Management
		Information Systems Management
		International Journal of Business and Society
		International Journal of Contemporary Hospitality Management
		Irish Journal of Management
		Journal of Business Research
		Journal of Construction Engineering and Management
		Journal of Indian Business Research
		Journal of Nursing Management
		SOCIAL BEHAVIOR AND PERSONALITY
		The Chinese Economy
		International Journal of Human Resource Management
	Journal of Applied Business Research	
PCB and TI	Non-SSCI	Contemporary Management Research
		Global Business and Organizational Excellence
		International Journal of Business and Social Science
		International Journal of Human Rights in Healthcare
		Journal of Asian Business Strategy
		Journal of Managerial Issues
		Journal of Organizational Psychology
		Pakistan Economic and Social Review
		Pakistan Journal of Commerce and Social Sciences
		Procedia - Social and Behavioral Sciences
		Journal of Educational Research and Development
	Journal of Sport, Leisure and Hospitality Research	

(continued)

Table 3.4. (continued)

Research Association	Name of Journals for SSCI or Non-SSCI		
PCB and OCB	SSCI	ASIA PACIFIC JOURNAL OF MANAGEMENT	
		British Journal of Management	
		European Management Journal	
		International Journal of Business and Society	
		Journal of Advanced Nursing	
		Journal of Managerial Psychology	
		Journal of Vocational Behavior	
		Organization Science	
		Personnel Review	
		South Asian Journal of Management	
		The Chinese Economy	
		The International Journal of Human Resource Management	
	Non-SSCI		Alanya Academic Review Journal
			American Journal of Industrial and Business Management
		Contemporary Management Research	
		International Journal of Business and Social Science	
		International Journal of Business Management & Research	
		International Journal of Human Rights in Healthcare	
		International Society for Third Sector Research	
		Journal of Managerial Issues	
		Philippine Journal of Psychology	
		Psychological Studies	
	Journal of Educational Research and Development		
	Journal of Labor Studies		

Note. This table was compiled by the author for the purpose of this study

CHAPTER IV ANALYSES AND RESULTS

This chapter demonstrates the result of the data analysis, which was based on the framework of the meta-analysis study. First, the forest plot, subgroup analysis, moderation analysis, and publication bias analysis are shown in the following sections. This study used Excel Meta-Essentials Workbook to analyze the data.

Forest Plot

The main outcome of meta-analysis is a forest plot, the x-axis forms the effect size scale, plotted on the top of the figure. Each row with short length represents each study's effect size with 95% confidence interval, and the bottom row with long length represents the prediction interval. The smaller or a larger bullet represent the point estimate in the forest plot, which stands for a study's weight in the generation of the meta-analytic result. The bullet in the summary row represents the weighted average effect, to which also refer as "combined effect size". This figure suggests the researcher that there are different effect sizes in different types of populations, which is regarded as the heterogeneous.

Confidence Intervals: Hypothesis Testing

A confidence interval which falls entirely on the positive side of zero indicates a statistically significant positive effect. Conversely, when the confidence interval falls entirely on the negative side of zero, it is evidence of a statistically significant negative effect. If a confidence interval includes zero, it shows an effect that is not statistically significant. If the confidence interval does not include zero, it means the meta-analytic effect is statistically significant with $p < 0.05$.

Psychological contract breach and turnover intention. Hypothesis 1 predicts a positive relationship between PCB and TI. As below figure 4.1., the distribution shows the overall confidence intervals are on the positive side of zero. The combined correlation (r) is equal to .43. The 95 percent CI does not include zero ($CI = .35; .51$), which means there is a

significant positive effect between psychological contract breach and turnover intention among the related articles from 2010 to 2019. The results successfully support this hypothesis.

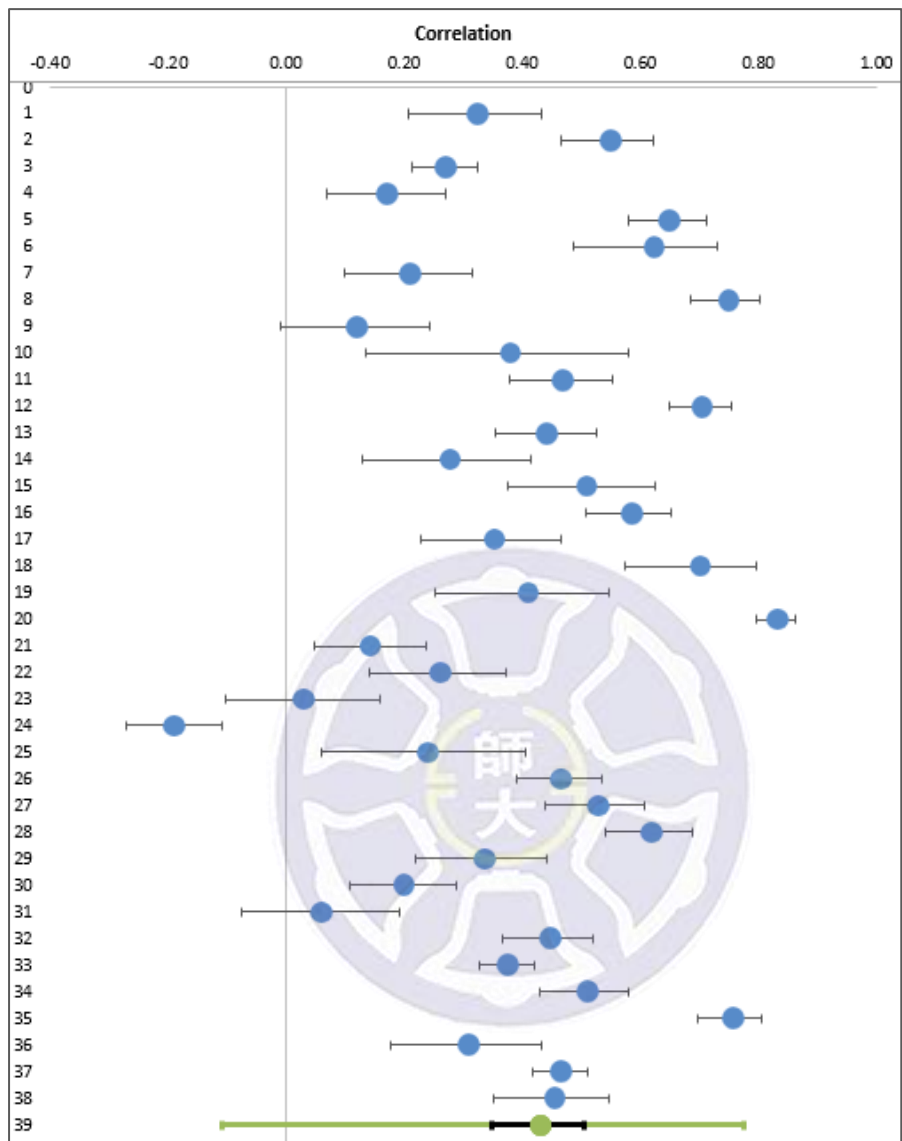


Figure 4.1. Forest plot of articles regarding PCB and TI

Psychological contract breach and OCB. Hypothesis 2 predicts a negative relationship between PCB and OCB. As below figure 4.2., the results strongly support this hypothesis ($r = -.30$, 95% $CI = -.35; -.25$). The 95 percent CI does not include zero and on the negative side of zero. Therefore, there is a significant negative effect between psychological contract breach and OCB among the related articles from 2010 to 2019. Hypothesis 2 is supported. The results can be found in Table 4.1.

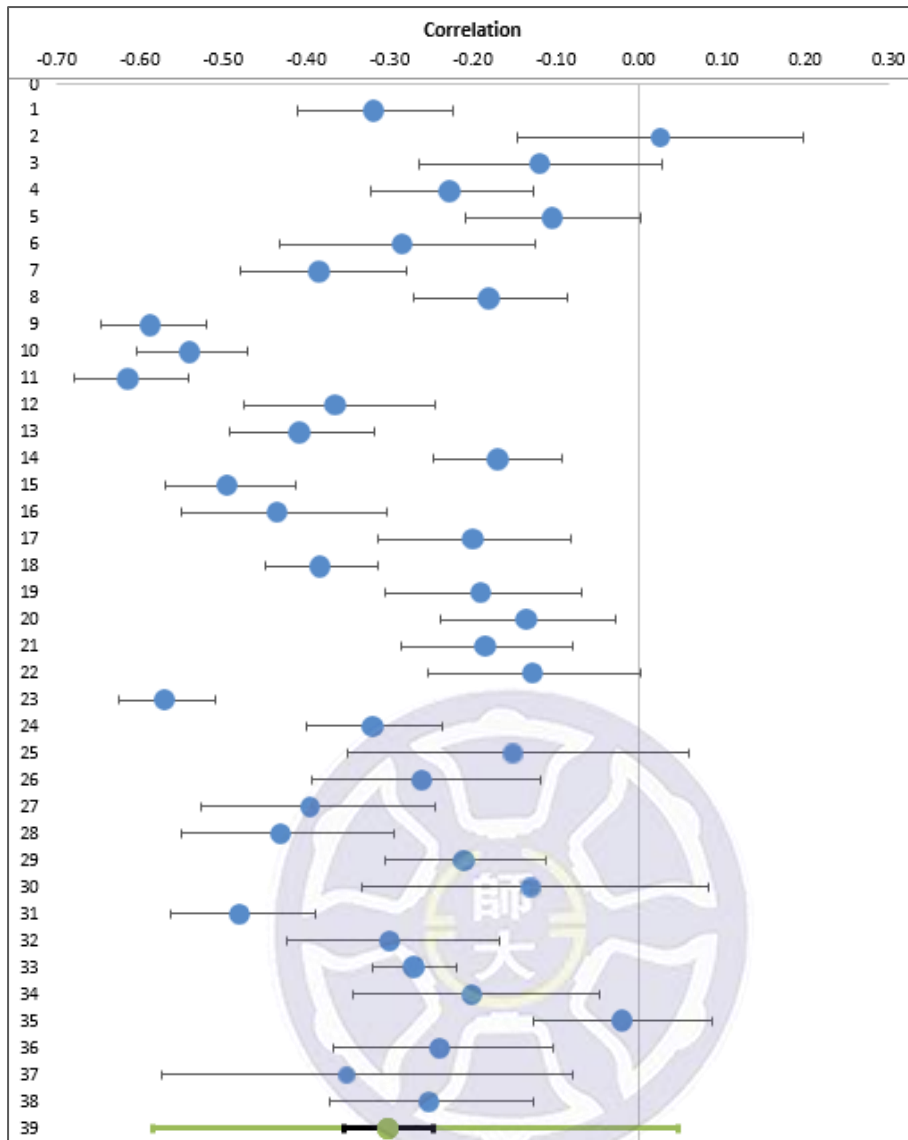


Figure 4.2. Forest plot of articles regarding PCB and OCB

Table 4.1.

Statistics for PCB on TI and PCB on OCB

	r	95% CI	Support or not
Hypothesis 1	.43	[.35; .51]	Supported
Hypothesis 2	-.30	[-.35; .25]	Supported

However, the results with forest plot also indicate there is a need to explore further possible moderators within the two relationship, since it can reduce the variability of the effect size across the studies.

Heterogeneity Estimation

Since the combined effect size and its confidence interval cannot stand for the effective outcome of meta-analysis, the proper domain to analyze is regarded as “heterogeneous”. Four types of heterogeneity data are provided, including Q -statistic with p -value, I^2 , T^2 , and T .

Q -statistic. It is a weighted sum of squared differences between the observed effects and the weighted average effect, which means a measure of variation around the average, not yet the heterogeneity. The p -value 0.000 means there probably is some degree of heterogeneity.

I^2 . It is a relative measure for the proportion of observed variance that reflects real differences in effect size. Hence, it is the main source regarding the extent of heterogeneity. Borenstein et al. (2009) also suggested that I^2 can be seen as a criterion to decide whether a subgroup analysis or moderation analysis is needed. If I^2 is large, it would be worthwhile to conduct those analyses. In the hypothesis one, the result of I^2 shows 96.24%, which means that all the studies in this meta-analysis cannot be grouped as the same population. Similarly, the I^2 for hypothesis 2 is 90.39%, referring to a high variability in the studies about PCB and OCB. Hence, this study will conduct a subgroup analysis and moderation analysis in the following sections.

Subgroup Analysis

Based on the information from the forest plot, the outcome indicates there are at least two subgroups in the domain that have different true effect size. Subgroup analysis can separately present the meta-analytic results for each subgroup when the researcher enters the categories in the input sheet. The tables in outcome sheet can provide the analysis of variance based on the sums of squares (Q). Under the random effects model within the subgroups, Q^* is not used to test the homogeneity of effects, but only partition the total variance in within and between variance (Van Rhee et al., 2015).

Psychological Contract Breach and Turnover Intention

As the conclusion from previous section, hypothesis 1 was supported. Firstly, the researcher calculated the effect size of the correlation between PCB and turnover intention. For the full sample, the overall correlation is positively significant in medium level, $r_c = .46$, $p < .001$, within the confidence interval of (.34; .54). This finding at Table 4.2 also indicates the significant heterogeneity in the distribution of effect sizes across the included samples ($Q = 984.28$, $p < .001$, $I^2 = 96.24\%$, $K = 38$).

Secondly, with the sub-group analysis, this study compares the effect sizes between country's economic development levels, regions, article types, and the publication years as shown in Table 4.3. However, only the publication years was found to be significant. Within the economic development level of sample's located country, there is not any significant differences ($Q = .99$, $p = .32$, $K = 38$) between samples from developed countries ($r_c = .40$, $CI = .29; .50$, $p < .001$, $K = 22$) and developing countries ($r_c = .47$, $CI = .34; .59$, $p < .001$, $K = 16$), meaning that the relationship between an individual's PCB and their TI is constant regardless of their countries' economic development level. For the countries' region, there is not any significant differences ($Q = .85$, $p = .36$, $K = 38$) between samples from non-Asian countries ($r_c = .39$, $CI = .31; .47$, $p < .001$, $K = 13$) and Asian countries ($r_c = .45$, $CI = .33; .56$, $p < .001$, $K = 25$), meaning that the relationship between an individual's PCB and their TI is constant regardless of their countries' region. For the article type, there is no significant differences ($Q = .04$, $p = .84$, $K = 38$) between research from journal ($r_c = .43$, $CI = .32; .52$, $p < .001$, $K = 28$) and those from thesis or dissertation ($r_c = .44$, $CI = .28; .58$, $p < .001$, $K = 10$). For the language of articles, there is no significant differences ($Q = .33$, $p = .57$, $K = 38$) between English journal ($r_c = .44$, $CI = .34; .53$, $p < .001$, $K = 28$) and Chinese journal ($r_c = .40$, $CI = .24; .54$, $p < .001$, $K = 10$). Lastly, for the publication year, this study did find a significant difference ($Q = 9.29$, $p = .02$, $K = 38$) between the period of 2010 to 2014 ($r_c = .31$, $CI = .20; .41$, $p < .001$, $K = 18$) and the period of 2015 to 2019 ($r_c = .53$, $CI = .42; .62$, $p < .001$, $K = 20$),

which means the report relationship between the research published during 2010 to 2014 and those in 2015 to 2019 is significantly different. The subgroups with significant differences can be interpreted as the potential moderators of the supported relationship. See Table 4.3.

Table 4.2.

Subgroup Analysis of Psychological Contract Breach and Turnover Intention

Measures	Estimates (Egger's t-test=.51, no adjusted estimate)							
	<i>K</i>	<i>N</i>	<i>r</i>	<i>z</i> (SE _{<i>z</i>})	95% CI LL	95% CI UL	<i>Q</i>	<i>I</i> ²
Full sample	38	12957	.46**	.46(.05)	.34	.54	984.28**	96.24%
Development level								
Developed	22	7897	.40**	.42(.06)	.29	.50	529.21**	96%
Developing	16	5060	.47**	.51(.08)	.34	.59	380.33**	96%
Region								
Non-Asia	13	4635	.39**	.41(.04)	.31	.47	93.51**	87%
Asia	25	8322	.45**	.49(.07)	.33	.56	883.69**	97%
Article type								
Journal	28	9263	.43**	.46(.06)	.32	.52	811.73**	97%
Thesis/Dissertation	10	3694	.44**	.47(.08)	.28	.58	162.17**	94%
Language								
English	30	9388	.44**	.47(.06)	.34	.53	889.62**	97%
Chinese	8	3569	.40**	.42(.08)	.24	.54	93.64**	93%
Publication Year								
2010-2014	18	6714	.31**	.32(.06)	.20	.41	314.46**	95%
2015-2019	20	6243	.53**	.59(.07)	.42	.62	514.51**	96%

Note. *K*=number of effect sizes, *N*=sample size, *r*=correlation effect sizes, *z*= corrected population correlation, *CI*=confidence interval, *Q*=ratio of variation to within-study error, *I*²= between study variance, ***p* ≤ .001.

Table 4.3

Potential Moderators of the Relationship between Psychological Contract Breach and Turnover Intention

Moderator	Subgroup summary information				Q-test for heterogeneity		
	<i>r</i>	95% <i>CI</i>	<i>p</i>	<i>K</i>	<i>Q</i> *	<i>p</i>	<i>K</i>
Development level					.99	.32	38
Developed	.40**	[.29; .50]	.000	22			
Developing	.47**	[.34; .59]	.000	16			
Region					.85	.36	38
Non-Asia	.39**	[.31; .47]	.000	13			
Asia	.45**	[.33; .56]	.000	25			
Article type					.04	.84	38
Journal	.43**	[.32; .52]	.000	28			
Thesis/Dissertation	.44**	[.28; .58]	.000	10			
Language					.33	.57	38
English	.44**	[.34; .53]	.000	30			
Chinese	.40**	[.24; .54]	.000	8			
Publication Year					9.29	.002	38
2010-2014	.31**	[.20; .41]	.000	18			
2015-2019	.53**	[.42; .62]	.000	20			

Note. *r*=zero-order correlation effect size, *CI*=confidence interval. *p*=level of statistical significance for the aggregated effect size or heterogeneity Q-test, *k*=number of samples in the moderator subgroup, *Q**=the Q-value for the heterogeneity Q-test for between-subgroup differences with *K* – 1 degrees of freedom.

Psychological Contract Breach and Organizational Citizenship Behavior

Hypothesis 2 was also supported in the previous section. With the same procedure, this study calculated the correlation between one's PCB and OCB. For the full sample, result in Table 4.4 shows that the correlation is negatively significant and correlated in medium level, $r_c = -.31, p < .001$, within the confidence interval of $(-.37; -.25)$. This finding also indicated the significant heterogeneity in the distribution of effect sizes across the included samples ($Q = 385.05, p < .001, I^2 = 90.39\%, K=38$).

Furthermore, with the sub-group analysis, this study compared the results by country's

economic development level and region of research sample, article type, language and publication year, and the different dimensions under OCB, which can be found at Table 4.3. For the economic development level of the sample's located country, there is a significant difference ($Q = 4.37, p = .04, K = 38$) between developed countries ($r_c = -.25, CI = -.32; -.18, p < .001, K = 21$) and developing countries ($r_c = -.36, CI = -.45; -.27, p < .001, K = 17$), meaning there is a significant difference in the effect size of PCB on OCB between developed countries and developing countries, with a stronger effect size for studies conducted on samples from developing countries. For the countries' region, there is not any significant differences ($Q = 1.52, p = .22, K = 38$) between samples from Non-Asian countries ($r_c = -.26, CI = -.34; -.18, p < .001, K = 17$) and Asian countries ($r_c = -.33, CI = -.40; -.25, p < .001, K = 21$). For the article type, there is a significant difference ($Q = 5.19, p = .02, K = 37$) between journal paper ($r_c = -.32, CI = -.38; -.25, p < .001, K = 31$) and thesis/ dissertation ($r_c = -.18, CI = -.30; -.07, p < .001, K = 6$), with journal papers reporting much stronger effect size than thesis/dissertation. For the language of articles, there is no significant differences ($Q = .53, p = .47, K = 38$) between English ($r_c = -.30, CI = -.36; -.24, p < .001, K = 36$) and Chinese articles ($r_c = -.27, CI = -.40; -.14, p < .001, K = 2$). Lastly, for the publication year, this study found a significant difference ($Q = 3.34, p = .07, K = 38$) between the period from 2010 to 2014 ($r_c = -.25, CI = -.31; -.19, p < .001, K = 20$) and from 2015 to 2019 ($r_c = -.35, CI = -.44; -.26, p < .001, K = 18$), with studies published between 2015-2019 reporting a much stronger effect size than those published between 2010-2014.

For the dimension under OCB, there is no significant difference ($Q = .14, p = .71, K = 33$) between samples from OCBI ($r_c = -.28, CI = -.40; -.16, p < .001, K = 15$) and OCBO ($r_c = -.31, CI = -.38; -.24, p < .001, K = 18$), which means the relationship between OCBI and OCBO is constant regardless of different dimensions under OCB. The subgroups with significant differences can be interpreted as the potential moderators of the supported relationship. See Table 4.5.

Table 4.4.

Subgroup Analysis of Psychological Contract Breach and Organizational Citizenship Behavior

Measures	Estimates							
	<i>K</i>	<i>N</i>	<i>r</i>	<i>z</i> (SE _{<i>z</i>})	95% CILL	95% CI UL	<i>Q</i>	<i>I</i> ²
Full sample	38	12003	-.30**	-31(.03)	-.37	-.25	385.05	90.39%
Development level								
Developed	21	7021	-.25**	-.26(.03)	-.32	-.18	173.44	88%
Developing	17	4982	-.36**	-.38(.05)	-.45	-.27	164.67	90%
Region								
Non-Asia	17	5053	-.26**	-.27(.04)	-.34	-.18	166.06	90%
Asia	21	6950	-.33**	-.34(.04)	-.40	-.25	201.96	90%
Article type								
Journal	31	10309	-.32**	-.33(.03)	-.38	-.25	340.83	91%
Thesis	6	1064	-.18**	-.19(.05)	-.30	-.07	12.45	60%
Dissertation								
Language								
English	36	10509	-.30**	-.31(.03)	-.36	-.24	381.42	91%
Chinese	2	1494	-.27**	-.28(.01)	-.40	-.14	0.18	0%
Publication Year								
2010-2014	20	5916	-.25**	-.26(.03)	-.31	-.19	97.49	81%
2015-2019	18	6087	-.35**	-.37(.05)	-.44	-.26	244.97	93%
OCB types								
OCBI	15	3932	-.28**	-.29(.06)	-.40	-.16	196.13	93%
OCBO	18	4623	-.31**	-.32(.04)	-.39	-.23	148.20	89%

Note. *K*=number of effect sizes, *N*=sample size, *r*=correlation effect sizes, *z*= corrected population correlation, *CI*=confidence interval, *Q*=ratio of variation to within-study error, *I*²= between study variance, ***p* ≤ .001.

Full sample (*K*=38): Egger's t-test=.26, exists adjusted estimate

OCB types (*K*=36): Egger's t-test=.84), no adjusted estimate

Table 4.5.

Potential Moderators of the Relationship between Psychological Contract Breach and Organizational Citizenship Behavior

Moderator	Subgroup summary information				Q-test for heterogeneity		
	<i>r</i>	95% <i>CI</i>	<i>p</i>	<i>K</i>	<i>Q</i> *	<i>p</i>	<i>K</i>
Development level					4.37	.037	38
Developed	-.25**	[-.32; -.18]	.000	21			
Developing	-.36**	[-.45; -.27]	.000	17			
Region					1.52	.22	38
Non-Asia	-.26**	[-.34; -.18]	.000	17			
Asia	-.33**	[-.40; -.25]	.000	21			
Article type							
Journal	-.32**	[-.38; -.25]	.000	31	5.19	.023	37
Thesis/Dissertation	-.18**	[-.30; -.07]	.000	6			
Language					.53	.47	38
English	-.30**	[-.36; -.24]	.000	36			
Chinese	-.27**	[-.40; -.14]	.000	2			
Publication Year					3.34	.067	38
2010-2014	-.25**	[-.31; -.19]	.000	20			
2015-2019	-.35**	[-.44; -.26]	.000	18			
OCB types	-.31**	[-.38; -.24]	.000	33	.14	.71	33
OCBI	-.28**	[-.40; -.16]	.000	15			
OCBO	-.31**	[-.39; -.23]	.000	18			

Note. *r*=zero-order correlation effect size, *CI*=confidence interval. *p*=level of statistical significance for the aggregated effect size or heterogeneity *Q*-test, *k*=number of samples in the moderator subgroup, *Q**=the *Q*-value for the heterogeneity *Q*-test for between-subgroup differences with *K* – 1 degrees of freedom.

Moderation Analysis

Although the researcher already found some potential moderators by subgroup analysis, the results with high variability also indicate the need to explore further possible moderators that can reduce the variability of the effect size across the studies. This study explored potential moderators under national difference on these observed relationships. Since the results of subgroup analysis shows that the region of country and the economic development level have high heterogeneity based on the result of Q test and I^2 test, it would be worthwhile to explore whether there are variances from the national difference. Hence, the researcher coded three indexes under national difference and identified them as moderators in all the articles, then regressed the observed effect sizes onto these indexes.

Moderation Effect on the Relationship between PCB and TI

Hypothesis 3 states that country difference would moderate the relationship between psychological contract breach and turnover intention. In regards to samples' culture background, this study tested three different indexes by countries, including power distance (H3a), uncertainty avoidance (H3b), and the percentage of individual using internet of total population (H3c). The sample included 38 independent samples that measured PCB and TI. Unfortunately, the index of country's power distance ($p = .856, K = 38$), uncertainty avoidance ($p = .885, K = 38$), and the percentage of individual using internet ($p = .355, K = 33$) were all found no moderation effect on the positive relationship between PCB and turnover intention. Hence, hypothesis 3 is not supported.

Moderation Effect on the Relationship between PCB and OCB

On the other hand, hypothesis 4 considered that national differences would moderate the relationship between psychological contract breach and organizational citizenship behavior. Similarity, power distance (H4a), uncertainty avoidance (H4b), and the percentage of individual using internet of total population (H4c) were tested as moderators. The sample included 38 independent studies that measured the relationship between PCB and OCB.

First, the results successfully found the index of country's power distance ($\beta = -.37, p = .021, K = 38$) negatively moderated the negative relationship between PCB and OCB. That is, the higher the power distance the more negative is the association of PCB and OCB. For example, as illustrated by the moderation line in Figure 4.3, a study done in a country with 80 degree of power distance has the correlation (z) of $-.40$ while another study done in a country with 60 degree power distance has a correlation (z) of $-.30$. It means in a country with higher power distance the negative association between employees' perceived psychological contract breach and their willingness to perform OCB is strengthened. In other words, in countries with higher power distance, employees would perform relatively less OCB behavior when undergoing PCB than employees in countries with lower power distance. Hence, hypothesis 4a is supported. The moderation effect can be seen at Figure 4.3.

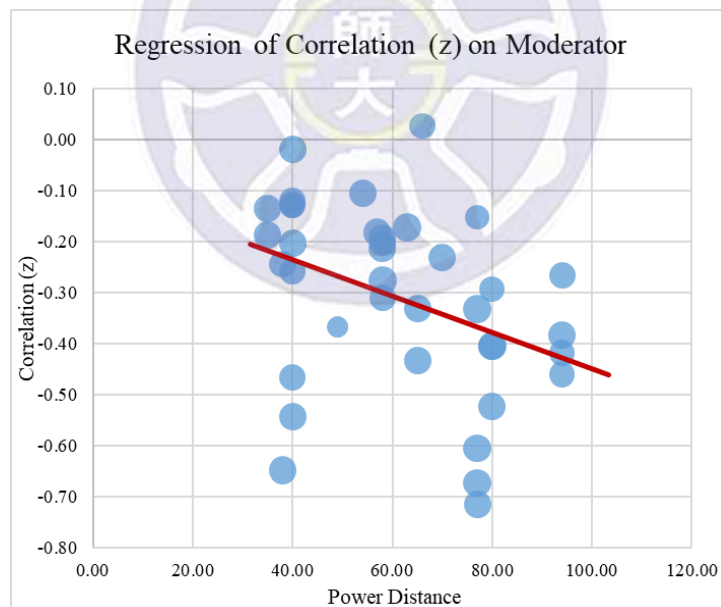


Figure 4.3. The moderation effect of power distance on the relationship between PCB and OCB

Second, the result found the uncertainty avoidance ($\beta = .31, p = .054, K = 38$) can positively moderate the negative relationship between PCB and OCB. Figure 4.4 shows that

the higher the uncertainty avoidance the less negative the correlation (z) is, which means it can weaken the negative association between PCB and OCB. When the individuals have higher tendency to avoid uncertainty, the association between their perceived PCB and their willingness to perform OCB will become less negative. More specifically, if the organizations from the countries with higher uncertainty avoidance index, the employee will perform more OCB when feeling breached by their employer than employees from countries with lower index of uncertainty avoidance. Hence, the hypothesis 4b is supported. The moderation effect can be seen at Figure 4.4.

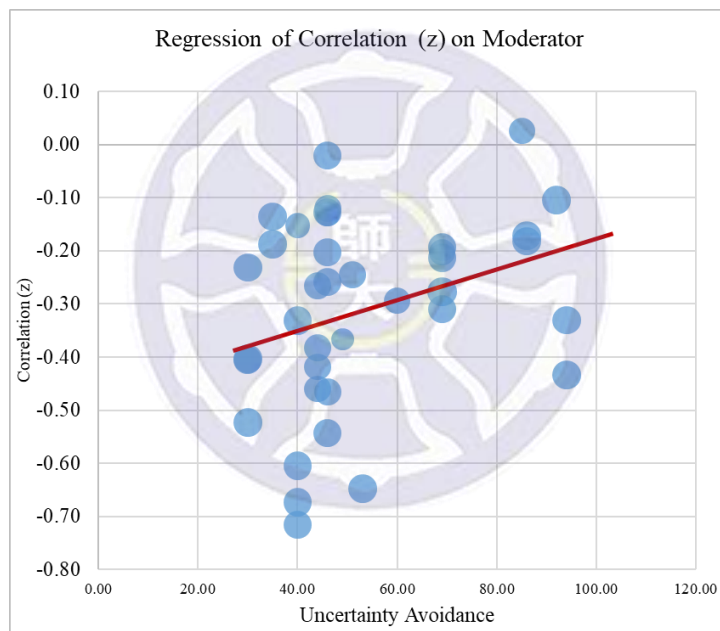


Figure 4.4. The moderation effect of uncertainty avoidance on the relationship between PCB and OCB

Third, the percentage of individual using internet ($\beta = .36, p = .035, K = 33$) is proved to positively moderate the negative relationship between PCB and OCB. Figure 4.5 shows that the higher percentage of internet user in a population, the less negative correlation (z), which means it can weaken the negative association between PCB and OCB. It means when the individuals currently in the countries with higher percentage of internet users, employees may

perform more OCB than those coming from countries with lower internet users when undergo the same level of PCB, Hence, hypothesis 4c is rejected because the explanation is not in the same direction as the research hypothesis. The moderation effect can be seen at Figure 4.5.

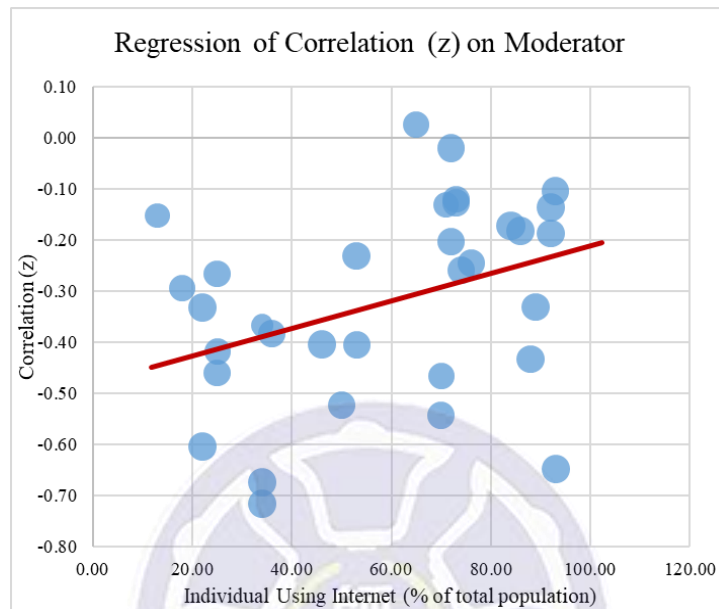


Figure 4.5. The moderation effect of individual using internet (% of total population) on the relationship between PCB and OCB

Publication Bias Analysis

In this meta-analysis study, the researcher used both funnel plots and Egger’s test to investigate the publication bias. This analysis is conducted to evaluate whether the current findings has potential concern about publication bias. A funnel plot is a graphical representation to examine the existence of publication bias. Egger’s test is statistical test of symmetry in a funnel plot. It used the Fisher Z-transformation of the correlation coefficient corrected for the artifacts and used the standard error of Z-transformation as a measure of precision (Hedges & Olkin, 1985). The null hypothesis for Egger’s test is that symmetry exists in a funnel plot, which means there is not publication concern in the study. Conversely, the alternative suggests the presence of asymmetry, meaning the potential concern of publication bias is detected.

Based on the result of the funnel plot asymmetry with 95% *CI*, the Egger t-test revealed no publication bias concern among the included literatures of PCB and TI, since the funnel plot is symmetry and the *p*-value is .51 (more than .05), which implicates no publication bias. Figure 4.6 shows the plots of the inverse standard error (y-axis) versus the effect size (x-axis). The effect size is the Fisher-Z for the sample-weighted mean correlation corrected for the artifacts.

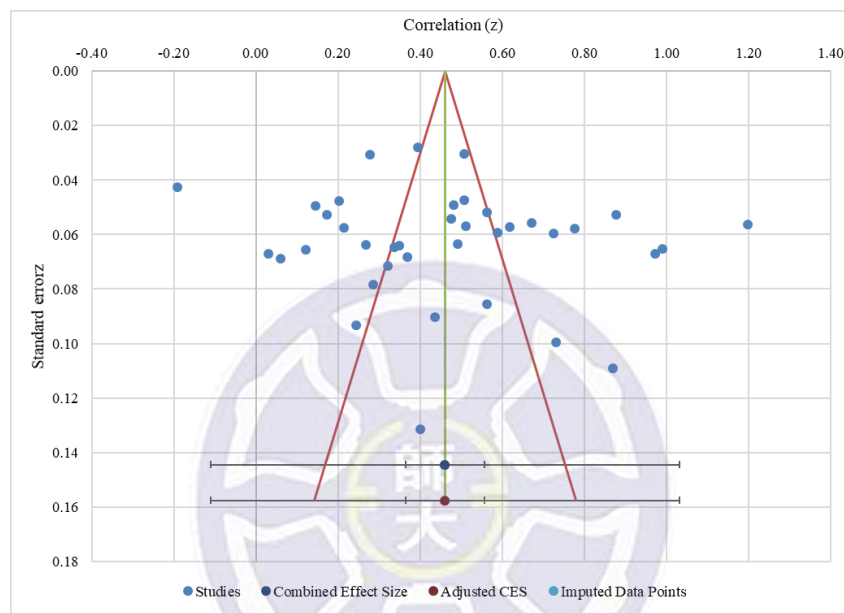


Figure 4.6. Funnel plots with publication bias analysis of PCB and TI literature

Based on the result of the funnel plot asymmetry with 95% *CI*, the Egger t-test revealed no publication bias concern among the included literatures of PCB and OCB, since the funnel plot is symmetry and the *p*-value is .26 (more than .05), which implicates no publication bias. However, the results provided the adjusted estimate with three imputed data points on the right side of the funnel plot, which means even though there is no publication bias, it would be more persuasive to add three more literatures with correlation coefficient closed to the positive area. Figure 4.7 shows the plots of the inverse standard error (y-axis) versus the effect size (x-axis).

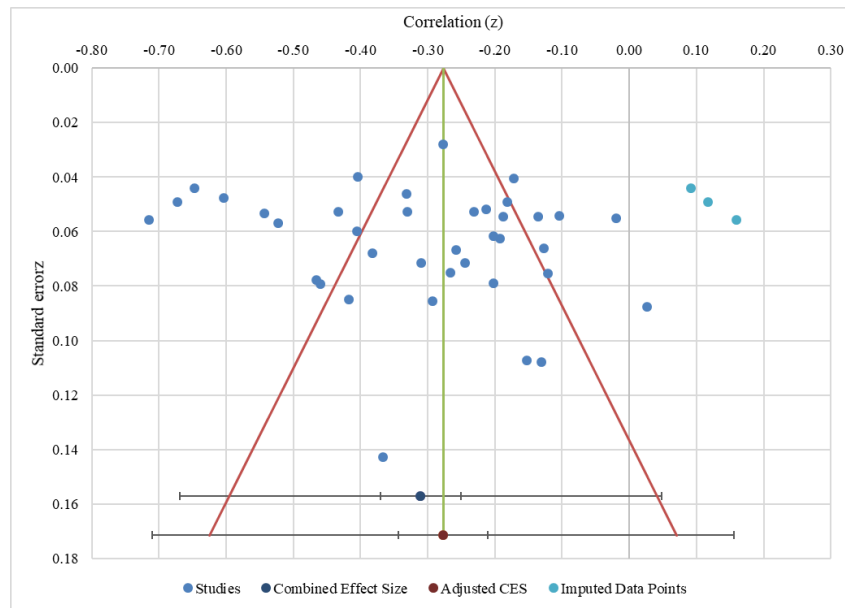


Figure 4.7. Funnel plots with publication bias analysis of PCB and OCB literature

Furthermore, Soeken and Sripusanapan (2003) indicated if the points on the graph approximately shaped as an inverted funnel, then publication bias is not likely existed, and the studies tend to be assumed as a representative sample of studies (Barlow & Zangaro, 2010). In conclusion, the shape of the funnel plot in Figure 4.6 and 4.7 show no publication bias in the current study.

Table 4.6.

Hypothesis Testing Results Summary

Hypothesis	Results
H1: <i>PCB is positively related to TI.</i>	Supported
H2: <i>PCB is negatively related to OCB.</i>	Supported
H3a: <i>Power distance will moderate the relationship between PCB and TI, whereby a higher level of power distance will decrease the effect of PCB on TI.</i>	Rejected
H3b: <i>Uncertainty avoidance will moderate the relationship between PCB and TI, whereby a higher level of uncertainty avoidance will increase the effect of PCB on TI.</i>	Rejected
H3c: <i>The percentage of individuals using internet will moderate the relationship between PCB and TI, whereby a higher percentage will increase the effect of PCB on TI.</i>	Rejected
H4a: <i>Power distance will moderate the relationship between PCB and OCB, whereby a higher level of power distance will increase the effect of PCB on OCB.</i>	Supported
H4b: <i>Uncertainty avoidance will moderate the relationship between PCB and OCB, whereby a higher level of uncertainty avoidance will decrease the effect of PCB on OCB.</i>	Supported
H4c: <i>The percentage of individuals using internet will moderate the relationship between PCB and OCB, whereby a higher percentage will increase the effect of PCB on OCB.</i>	Rejected



CHAPTER V CONCLUSIONS AND SUGGESTIONS

Based on the data analysis, this chapter presents the conclusions, research implications, practical implications, research limitation, and suggestions for the future research.

Conclusions

The purpose of this study is mainly to draw the organizations' attention and awareness of how important the situation of psychological contract breach (PCB) will influence employees' turnover intention (TI) and their organizational citizenship behavior (OCB) over the last 10 years by aggregating the correlation coefficients through meta-analysis approach. This study also aimed to probe if country difference with the country's index of power distance, uncertainty avoidance, and the internet popularity can moderate the main associations published within the period of 2010 to 2019. This research collected 38 studies involving the associations of PCB and TI, and 38 studies for PCB and OCB. Most of the studies were searched by google scholar and written in English.

The study used Meta-Essentials to generate the aggregated correlation (r) with confidence interval and the overall forest plot, which illustrated the employees' psychological contract breach indeed has an effect on their turnover intention and the willingness toward organizational citizenship behavior within the last ten years. From the data analysis, the finding supports the psychological contract theory and confirms that PCB is positively associated with turnover intention (H1) and negatively related to OCB (H2). Moreover, the relationship of PCB and OCB can be strengthened or weakened based on the variability of samples' country difference in their located country (H4). After doing the moderation analysis, the result proves that the degree of the country's power distance can strengthen the negative association between PCB and OCB (H4a). On the other hand, the degree of a country's uncertainty avoidance can weaken the negative association between PCB and OCB (H4b). To the researcher's surprise,

percentage of individual using internet weakens the negative association between PCB and OCB (H4c). However, the three moderators above were found to have no the moderation effect in the relationship between PCB and TI.

Furthermore, by testing the subgroup analysis with country's economic level and region of research sample, article type, language, and its publication year, there are some significant differences existed in subgroups. Among the literature of PCB and TI, the studies which were published from 2010 to 2014 reveal significant difference than those from 2015 to 2019, in that the effect size of studies within 2015 to 2019 is significantly stronger than those between 2010 to 2014. For the literature regarding PCB and OCB, there are three significant finding to be discussed. Firstly, the developing countries' effect size between PCB and OCB is significantly stronger than the developed countries. Second, the effect size from journal papers is significantly higher than the ones from thesis/ dissertation. Third, the same finding as the relationship of PCB and TI, effect size for studies in the publication year from 2010 to 2014 has significant difference than those from 2015 to 2019, in that the effect size of 2015 to 2019 is significantly stronger than the ones from 2010 to 2014.

Discussion

This meta-analysis synthesizes the data from thirty-eight studies which targeted PCB and TI, also thirty-eight regarding PCB and OCB. The findings indeed provide the evidence that the negative effects caused by employees' PCB and this problem was more serious in the last five years (2015 to 2019), compared to 2010 to 2014. Most importantly, the correlation between PCB and TI ($r = .43$) is higher than the one between PCB and OCB ($r = -.30$), and it can be interpreted as PCB has stronger effect on turnover intention than OCB performance over the last 10 years. More specifically, once an employee feels breached by the current organization, he or she may have a higher possibility to think about leaving the company, instead of only decreasing the OCB performance. Hence, the organizations should start to pay

more attention to the reasons and outcomes of psychological contract breach. In order to decrease the negative effects led by PCB, in the following section, this study will firstly indicate how the different strength of PCB could affect each working environment based on the countries' cultural factors, and secondly states why PCB issues have stronger associations with TI and OCB than before.

First, according to the findings of moderation analysis, the negative association between PCB and OCB can be strengthened when the company currently in a country with higher level of power distance, lower level of uncertainty avoidance, and lower percentage of internet users. Conversely, the correlation between PCB and OCB will be weakened when a company is currently in a country with lower level of power distance, higher level of uncertainty avoidance, and lower percentage of internet users.

For the power distance, if the employers tend to create more hierarchical working environment, the employees will be more afraid to convey their true emotion, the more secure way for them is to perform less OCB instead of engaging in direct conflict with their employer. Although it does not cause the damage to the organization, the potential concern is they might have more severe behavioral outcome in the future. At the same time, their intention to contribute extra OCB will be weaker, compared to those working at a less hierarchical workplace. Since the employees' emotion, attitude and feedback will be more easily revealed and conveyed to their employer or supervisor as a result of the lower power distance culture. If an employee feels breached by their company it is less likely for the employee to withdraw their contribution to OCB.

For uncertainty avoidance, if the employees' workplace or the social atmosphere is more conservative, their willingness to face the transformation tend to be lower since they will prefer to minimize the risk to change anything. The index of uncertainty avoidance is high. Therefore, employees staying at this kind of organization tend to avoid any negative incident beforehand, so when they feel breached by their employer, they will still probably perform

relatively more OCB than those employees in the same situation but from low uncertainty avoidance countries. Individuals from lower uncertainty avoidance countries are easier to diminish their OCB performance, because they do not prevent in advance, but react more after being breached. More specifically, if employees feel breached by their company with higher degree of uncertainty avoidance, some possible reasons of breach may have been predicted by the employees in the beginning, so the actual degree of feeling breach is lower.

For the percentage of internet users in different countries, the evidence proves that if an employee feels breached by their company which located in the country with higher internet popularity, the relationship between PCB and OCB performance will surprisingly being weaken. The study's original standpoint is associated with the information availability. With the rapid development of technology, people can obtain and receive the new information more conveniently and instantly. However, it not only lead to the positive facts, but also some potential concern in the organization. According to the evidence of subgroup analysis, no matter the association between PCB and TI or PCB and OCB, the results reveal that the aggregated correlation from 2015 to 2019 are significantly higher than the one from 2010 to 2014. The integrated correlation from 2015 to 2019 is reasonably higher due to the well-developed internet technique than before. To combine the new finding with the original statement above, the reason why higher internet popularity can weaken the association of PCB and OCB, may be that people become more nervous and anxious when being breached by the organization and if not being able to get sufficient information. Therefore, they may perform relatively more OCB based on the information they get to be secure. Even though the internet advancement can improve individuals' daily convenience and life quality, the negative concern caused by this improvement should be noticed and solved. Otherwise, the negative behavioral outcomes caused by PCB could occur easily than before.

To sum up, the research questions are answered as follows. Firstly, the individual who experience high PCB also experience high inclination to leave the organization and low

inclination to perform OCB. Second, individual's country difference can significantly moderate the reported relationship between PCB and turnover intention and between PCB and OCB in the literature.

Research Implications

Summarizing the literature review, Zhao et al. (2007) is a key researcher in the meta-analysis of psychological contract. To clarify the overall effect focusing on PCB and the two behavioral outcome variables, turnover intention and organizational citizenship behavior recently, this study conducted a meta-analysis research, collecting the English worldwide and the Chinese research in Taiwan, which provides a new overview of PCB issue and adds the new value to the meta-analysis literature. Based on the research finding, PCB is found to positively associate with TI and negatively associate with OCB during 2010 to 2019. The main effects successfully supported findings from previous studies (Behery et al., 2016; Malik & Khalid, 2016; Moquin et al., 2019). Moreover, this study found that the stated relationships are stronger in studies published 2015 to 2019 than those in 2010 to 2014. Furthermore, there are some interesting finding of the study characteristics. The research sample who located in the developing countries will experience stronger association between PCB and OCB than those in the developed countries. Same in the publication type, the results collected by journal articles show higher associations than the results from thesis/ dissertation.

Moreover, the country's power distance, uncertainty avoidance, and internet popularity index are proved to moderate the association between PCB and OCB, which proves the same direction with the previous research (Chao et al., 2011). Although these three factors did not support as a moderator between PCB and TI like the past research (Zagenczyk et al., 2014), the outcome still contributes to the meta-analysis literature in that the increasing turnover intention by PCB is a strong and direct relationship that is not affected by other moderators except the publication year from 2010 to 2019. The results show that the variability existing in country-

based can to some degree influence and vary the individuals' behavioral outcomes. For instance, when he or she undergoes more breach induced by the employer, the employee's reaction to withdraw from performing OCB can be strengthened or weakened base on the cultural values of their located country.

Practical Implications

The finding of this research provides some useful outcomes for the organizations. First, this study reveal that organization should be aware of the severity of problems caused by psychological contract breach. This phenomenon can be attributed to the fact that there are some promises, expectation, or obligations that were fulfilled by employers. However, how the invisible agreements can impact the company's retention or talent management practices sometimes might be neglected by the managers and HR practitioners. For example, if they do not realize and take care the employees' psychological feeling and emotion, it will leave employees feeling breached and betrayed. Later, they will start thinking if they should resign or not, and may compare with jobs in another company using the online recruitment information. When the individual think the current company cannot fulfill the initial agreement, he or she might start withdrawing the extra contribution beyond their job duty, or even deciding to quit. For a company, it is a loss no matter for potential talents or the organization's reputation. As a conclusion, personnel managers need to be aware of the changing contexts for employees, their diverse needs, and the changing nature of psychological contracts nowadays. In particular, it is important to notice how the impact of job insecurity and the employees' changing expectations can affect their working attitude and behavior, and that this in turn affects the organization development (Smithson & Lewis, 2000).

Second, this study proposes some suggestions for organizations to improve their internal talent management procedure and enhance the mutual communication between employee and employer. To be aware of the potential concern, the employer and HR

practitioner can focus on how to avoid employees' PCB or solve the problems instantly at the early stage when PCB occurs. Consequently, the internal practices about employee retention and talent management should be regarded as crucial elements.

Third, for the multinational company, the employers need to take the national differences into consideration when setting the global strategy, since national differences including cultural differences will lead to variances in employee outcomes when facing psychological contract breach. Therefore, managers should be careful when interacting with individuals from a different background, and should make effort to understand the features of different culture the company operates in. The practices above can help the company make better decisions, and in turn to effectively decrease PCB and thus the related negative outcomes.

Research Limitations

The researcher notes a couple of potential limitations of this study, as well as some ideas for how future research might address these limitations. The meta-analysis results supported the main hypothesis between psychological contract breach and turnover intention, also between psychological contract breach and organizational citizenship behavior, but failed to find evidence for the moderating effect of psychological contract breach and turnover intention. One possible reason is the strong linkage between PCB and TI, which decrease the power of national difference's moderating effect.

Moreover, the study was conducted with several limitations. Firstly, one of the source of moderator, percentage of individual using internet (The World Bank), did not include the data on Taiwan due to some political issues, which may be the reason why the result of hypothesis 4c is different from the hypothesis. Because 10 collected articles are conducted in Taiwan, but there was no data to conduct the moderation analysis on H4c properly. Hence, it is a limitation when using the database of The World Bank on internet popularity when Taiwanese studies are included. Secondly, this study collected the previous research through different

sources without excluding any database. However, although meta-analysis can synthesize different results to calculate the effect size, any poor quality studies can potentially contaminate the overall results. Third, most of the literature included in this study are from journal articles. Although the statistical evidence of the included studies did not show a problem in publication bias, it still needs to collect the unpublished papers as much as possible. Furthermore, in the process of coding and quantifying study-related variables, some other important aspects of study could be overlooked. Lastly, due to the mix of studies included, the research design and measurement are different across studies and inclusion of poor quality studies can potentially contaminate the overall results.

Future Research Suggestions

This research firstly provides a good insight into meta-analysis regarding PCB, TI, and OCB. For future research, they can extend the concept by examining more different antecedents or consequences of PCB, or comparing psychological contract breach (PCB), psychological contract violation (PCV) and psychological contract fulfillment (PCF) to observe the different effect among them. Also, future meta-analysis should put more effort to collect more unpublished research and take the issue into consideration to avoid the publication bias.

Secondly, the moderators tested in this meta-analysis study were limited and confined to the most common factor in the majority of literatures, the country difference among the samples' located countries. Nevertheless, other moderators could have been used. The heterogeneity of the samples suggests that the associations can be moderated by other variables. Although the researcher investigated some of them, there are still others that can be examined. In other words, there are still some variables that are worth exploring but cannot be coded in most of the research, for example, tenure, family status, and the employment types. Hence, future research can endeavor to explore more moderators to reveal the sample variability.

Third, in the process of coding and quantifying study-related variables, the researcher

is the only one person who performed the coding procedure, which can be an issue of subjective judgement or biases of self-perception. Therefore, in the future, it would be more appropriate for meta-analysis to have other people to cross check coding together.





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APPENDIX A: CODING INFORMATION FOR SAMPLES INCLUDED IN THE META- ANALYSES (PCB & TI)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
1	Heffernan & Rochford (2017)	Journal	English	242	0.325	Ireland	Developed	Non-Asia	28	35	84
2	Hartmann & Rutherford (2015)	Journal	English	308	0.55	United States	Developed	Non-Asia	40	46	75
3	Kraak et al. (2017)	Journal	English	1066	0.27	Netherlands	Developed	Non-Asia	38	53	93
4	Liao (2015)	Journal	English	363	0.171	Taiwan	Developed	Asia	58	69	n/a
5	Malik & Khalid (2016)	Journal	English	302	0.65	Pakistan	Developing	Asia	55	70	12
6	Moquin et al (2019)	Journal	English	104	0.623	United States	Developed	Non-Asia	40	46	87
7	Chih et al. (2016)	Journal	English	305	0.21	China	Developing	Asia	80	30	53
8	Chen & Wu (2017)	Journal	English	226	0.75	Taiwan	Developed	Asia	58	69	n/a
9	Santhanam et al. (2017)	Journal	English	236	0.12	India	Developing	Asia	77	40	34
10	Kodden & Roelofs (2019)	Journal	English	61	0.38	Netherlands	Developed	Non-Asia	38	53	95

(continued)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
11	Lu et al (2015)	Journal	English	312	0.47	China	Developing	Asia	80	30	85
12	Phuong (2016)	Journal	English	364	0.705	Vietnam	Developing	Asia	70	30	53
13	Phuong (2016)	Journal	English	342	0.443	Japan	Developed	Asia	54	92	93
14	Aykan (2014)	Journal	English	166	0.278	Turkey	Developing	Asia	66	85	51
15	Ahmed et al. (2016)	Journal	English	140	0.51	Bangladesh	Developing	Asia	80	60	18
16	Islam et al. (2018)	Journal	English	324	0.586	India	Developing	Asia	77	40	34
17	Trybou et al. (2014)	Journal	English	217	0.353	Belgium	Developed	Non-Asia	65	94	85
18	Khan et al. (2012)	Journal	English	87	0.701	Pakistan	Developing	Asian	55	70	10
19	Stoner et al. (2011)	Journal	English	126	0.41	United States	Developed	Non-Asia	40	46	70
20	Malik et al. (2018)	Journal	English	320	0.833	Pakistan	Developing	Asian	55	70	16
21	Paillé & Dufour (2013)	Journal	English	414	0.143	Canada	Developed	Non-Asia	39	48	86
22	Arain et al. (2012)	Journal	English	250	0.261	Pakistan	Developing	Asian	55	70	10
23	Bhatnagar (2013)	Journal	English	226	0.03	India	Developing	Asian	77	40	15
24	Chin & Hung (2013)	Journal	English	553	-0.19	Taiwan	Developed	Asian	58	69	n/a
25	Gerber et al. (2012)	Journal	English	118	0.24	Switzerland	Developed	Non-Asia	34	58	85

(continued)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
26	Naicker (2013)	Thesis/dissertation	English	449	0.467	South Africa	Developing	Non-Asia	49	49	47
27	Liao (2015)	Thesis/dissertation	Chinese	289	0.529	Taiwan	Developed	Asia	58	69	n/a
28	Chuan (2017)	Thesis/dissertation	Chinese	284	0.62	Taiwan	Developed	Asia	58	69	n/a
29	Chien (2012)	Thesis/dissertation	Chinese	247	0.336	China	Developing	Asia	80	30	42
30	Wei (2014)	Thesis/dissertation	Chinese	444	0.2	Taiwan	Developed	Asia	58	69	n/a
31	Su (2010)	Thesis/dissertation	Chinese	214	0.06	Taiwan	Developed	Asia	58	69	n/a
32	Yeh & Chen (2015)	Journal	Chinese	418	0.447	Taiwan	Developed	Asia	58	69	n/a
33	Lin et al. (2014)	Journal	Chinese	1296	0.375	Taiwan	Developed	Asia	58	69	n/a
34	Wan (2013)	Journal	Chinese	377	0.51	Taiwan	Developed	Asia	58	69	n/a
35	Fung (2018)	Thesis/dissertation	English	237	0.757	Hong Kong	Developed	Asia	68	29	91
36	Kiazad (2010)	Thesis/dissertation	English	198	0.31	Australia	Developed	Non-Asia	38	51	76
37	Naicker (2013)	Thesis/dissertation	English	1081	0.467	South Africa	Developing	Non-Asia	49	49	47
38	Hennicks (2014)	Thesis/dissertation	English	251	0.455	South Africa	Developing	Non-Asia	49	49	49

Note. This table was compiled by the author for the purpose of this study

APPENDIX B: CODING INFORMATION FOR SAMPLES INCLUDED IN THE META- ANALYSES (PCB & OCB)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
1	Tufan & Wendt (2019)	Journal	English	361	-0.319	Belgium	Developed	Non-Asia	65	94	89
2	Karaca (2017)	Journal	English	133	0.026	Turkey	Developing	Asia	66	85	65
3	Lee et al. (2014)	Journal	English	179	-0.12	US	Developed	Non-Asia	40	46	73
4	Phuong (2016)	Journal	English	364	-0.227	Vietnam	Developing	Asia	70	30	53
5	Phuong (2016)	Journal	English	342	-0.104	Japan	Developed	Asia	54	92	93
6	Ahmed et al. (2016)	Journal	English	140	-0.285	Bangladesh	Developing	Asia	80	60	18
7	Yang & Chao (2016)	Journal	English	283	-0.384	China	Developing	Asia	80	30	53
8	Aranda et al (2018)	Journal	English	419	-0.18	Spain	Developed	Non-Asia	57	86	86
9	Sharma et al (2019)	Journal	English	418	-0.587	India	Developing	Asia	77	40	34
10	Christy & Duraisamy (2016)	Journal	English	442	-0.54	India	Developing	Asia	77	40	22
11	Islam et al (2018)	Journal	English	324	-0.614	India	Developing	Asia	77	40	34
12	Francisco (2015)	Journal	English	220	-0.365	Philippines	Developing	Asia	94	44	36

(continued)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
13	Tufan et al. (2017)	Journal	English	361	-0.408	Belgium	Developed	Non-Asia	65	94	88
14	López Bohle et al. (2016)	Journal	English	615	-0.17	Chile	Developing	Non-Asia	63	86	84
15	Suazo (2011)	Journal	English	356	-0.495	US	Developed	Non-Asia	40	46	70
16	Suazo (2011)	Journal	English	169	-0.435	US	Developed	Non-Asia	40	46	70
17	Matthijs Bal et al. (2010)	Journal	English	266	-0.2	US	Developed	Asia	40	46	72
18	Zhu et al (2013)	Conference	English	630	-0.383	China	Developing	Asia	80	30	46
19	Shih & Chuang (2012)	Journal	English	258	-0.19	Taiwan	Developed	Non-Asia	58	69	n/a
20	Conway et al. (2014)	Journal	English	340	-0.14	UK	Developed	Non-Asia	35	35	92
21	Conway et al. (2014)	Journal	English	340	-0.185	UK	Developed	Non-Asia	35	35	92
22	Dawson et al. (2014)	Journal	English	231	-0.127	US	Developed	Non-Asia	40	46	73
23	Griep & Vantilborgh (2018)	Journal	English	516	-0.57	Netherlands	Developed	Asia	38	53	93
24	Gupta et al. (2016)	Journal	English	475	-0.32	India	Developing	Asia	77	40	22
25	Jafri (2011)	Journal	English	90	-0.151	India	Developing	Non-Asia	77	40	13
26	Restubog et al (2010)	Journal	English	180	-0.26	Philippines	Developing	Asia	94	44	25
27	Restubog et al (2010)	Journal	English	142	-0.395	Philippines	Developing	Asia	94	44	25
28	Restubog et al (2010)	Journal	English	162	-0.43	Philippines	Developing	Asia	94	44	25

(continued)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
29	Wan (2013)	Journal	English	377	-0.21	Taiwan	Developed	Asia	58	69	n/a
30	Ballou (2013)	Thesis/ dissertation	English	89	-0.13	US	Developed	Non-Asia	40	46	71
31	Lu et al. (2015)	Journal	English	312	-0.48	China	Developing	Asia	80	30	50
32	Shih et al. (2017)	Journal	Chinese	198	-0.3	Taiwan	Developed	Asia	58	69	n/a
33	Lin et al. (2014)	Journal	Chinese	1296	-0.27	Taiwan	Developed	Asia	58	69	n/a
34	Chang (2018)	Thesis/ dissertation	English	164	-0.2	Taiwan	Developed	Asia	58	69	n/a
35	Harvey (2010)	Thesis/ dissertation	English	333	-0.02	US	Developed	Non-Asia	40	46	72
26	Kiazad (2010)	Thesis/ dissertation	English	198	-0.24	Australia	Developed	Non-Asia	38	51	76
37	Theron (2011)	Thesis/ dissertation	English	52	-0.351	South Africa	Developing	Non-Asia	49	49	34
38	Kelly (2014)	Thesis/ dissertation	English	228	-0.253	US	Developed	Non-Asia	40	46	74

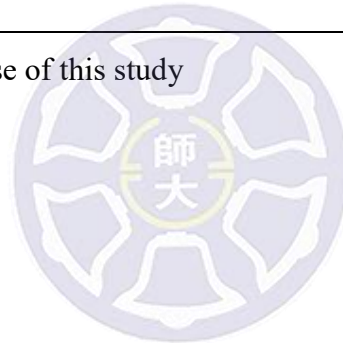
APPENDIX C: CODING INFORMATION FOR SAMPLES INCLUDED IN THE META- ANALYSES (PCB & OCBI)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
1	Karaca (2017)	Journal	English	133	0.0545	Turkey	Developing	Asia	66	85	65
2	Phuong (2016)	Journal	English	364	-0.227	Vietnam	Developing	Asia	70	30	53
3	Phuong (2016)	Journal	English	342	-0.104	Japan	Developed	Asia	54	92	93
4	Ahmed et al. (2016)	Journal	English	140	-0.33	Bangladesh	Developing	Asia	80	60	18
5	Sharma et al. (2019)	Journal	English	418	-0.587	India	Developing	Asia	77	40	34
6	Suazo (2011)	Journal	English	356	-0.49	US	Developed	Non-Asia	40	46	70
7	Suazo (2011)	Journal	English	169	-0.51	US	Developed	Non-Asia	40	46	70
8	Zhu et al. (2013)	Conference	English	630	-0.2	China	Developing	Asia	80	30	46
9	Conway et al. (2014)	Journal	English	340	0.00	UK	Developed	Non-Asia	35	35	92
10	Conway et al. (2014)	Journal	English	340	-0.04	UK	Developed	Non-Asia	35	35	92
11	Restubog et al (2010)	Journal	English	180	-0.21	Philippines	Developing	Asia	94	44	25
12	Restubog et al (2010)	Journal	English	142	-0.55	Philippines	Developing	Asia	94	44	25

(continued)

No	Author & Year	Publication type	Language	n	r	Country Difference of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
13	Restubog et al. (2010)	Journal	English	133	0.0545	Philippines	Developing	Asia	94	44	25
14	Chang (2018)	Thesis/dissertation	English	364	-0.227	Taiwan	Developed	Asia	58	69	n/a
15	Theron (2011)	Thesis/dissertation	English	133	0.0545	South Africa	Developing	Non-Asia	49	49	34

Note. This table was compiled by the author for the purpose of this study



**APPENDIX D: CODING INFORMATION FOR SAMPLES INCLUDED IN THE META-
ANALYSES (PCB & OCBO)**

No	Author & Year	Publication type	Language	n	r	Cultural Background of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
1	Karaca (2017)	Journal	English	133	-0.0025	Turkey	Developing	Asia	66	85	65
2	Lee et al. (2014)	Journal	English	179	-0.12	US	Developed	Non-Asia	40	46	73
3	Ahmed et al. (2016)	Journal	English	140	-0.24	Bangladesh	Developing	Asia	80	60	18
4	Tufan et al. (2017)	Journal	English	361	-0.408	Belgium	Developed	Non-Asia	65	94	88
5	Suazo (2011)	Journal	English	356	-0.5	US	Developed	Non-Asia	40	46	70
6	Suazo (2011)	Journal	English	169	-0.36	US	Developed	Non-Asia	40	46	70
7	Zhu et al (2013)	Journal	English	630	-0.429	China	Developing	Asia	80	30	46
8	Conway et al (2014)	Journal	English	340	-0.27	UK	Developed	Non-Asia	35	35	92
9	Conway et al (2014)	Journal	English	340	-0.33	UK	Developed	Non-Asia	35	35	92
10	Griep & Vantilborgh (2017)	Journal	English	516	-0.57	Netherlands	Developed	Non-Asia	38	53	93
11	Restubog et al (2010)	Journal	English	180	-0.31	Philippines	Developing	Asia	94	44	25
12	Restubog et al (2010)	Journal	English	142	-0.24	Philippines	Developing	Asia	94	44	25

(continued)

No	Author & Year	Publication type	Language	n	r	Cultural Background of Sample					
						Location	Country economic level	Region of country	Power distance	Uncertainty avoidance	Individual using Internet (%)
13	Restubog et al (2010)	Journal	English	162	-0.49	Philippines	Developing	Asia	94	44	25
14	Chang (2018)	Thesis/dissertation	English	164	-0.2	Taiwan	Developed	Asia	58	69	n/a
15	Harvey (2010)	Thesis/dissertation	English	333	-0.02	US	Developed	Non-Asia	40	46	72
16	Kiazad (2010)	Thesis/dissertation	English	198	-0.24	Australia	Developed	Non-Asia	38	51	76
17	Theron (2011)	Thesis/dissertation	English	52	-0.392	South Africa	Developing	Non-Asia	49	49	34
18	Kelly (2014)	Thesis/dissertation	English	228	-0.255	US	Developed	Non-Asia	40	46	74

Note. This table was compiled by the author for the purpose of this study

