

Effect of CEO-Worker Pay Ratio on Workplace Innovative Behavior: A Multipath Perspective

Changzheng Zhang*, Jiao Zhang, Qian Guo, Xi Wei

School of Economics & Management, Xi'an University of Technology, Xi'an, China

Abstract

This article attempts to explore the linkages between the CEO-worker pay ratio (CWPR) and the workplace innovative behavior (WIB), which is still a theoretical research gap in China, by considering the mediating roles of the leader-membership exchange (LMX), the psychological ownership (POS) and the sense of self-efficacy (SSE). A conceptual model is built to investigate the relationships among the five above-mentioned concepts, which concludes several critical new findings of great significance in improving the WIB within a firm. To be specific, the CWPR has the significant negative effects on the WIB which are partially mediated by the LMX, the POS and the SSE. Toward the end, this article offers the suggestions for the future research, and further discusses the practical implications of the study.

Keywords

CEO-Worker Pay Ratio (CWPR), Workplace Innovative Behavior (WIB), Leader-Membership Exchange (LMX), Psychological Ownership (POS), Sense of Self-efficacy (SSE)

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1. Introduction

The CEO-worker pay ratio (CWPR) within the companies has been the hot topic of the academic research for recent decade [1, 2]. The widely-reported survey results suggest that, in America, the pay of the CEOs was about 20 times as much as that of the typical rank-and-file workers in the 1950s, rising to 42-to-1 in 1980 and 120-to-1 in 2000. The CWPR now stands at 204-to-1 for the S&P 500, with the average ratio of the top 100 largest companies at nearly 500-to-1 [3]. Well, China tells similar stories. The CEO-worker ratio in their cash remuneration level of the top 100 largest non-state owned publicly listed companies has rising to the level of 50-to-1 in 2014 from the level that is smaller than 15-to-1 before 2000 [4].

Under this background, the CWPR has triggered a hot academic debate for its refreshing and sparking implication, particularly in recent years with the fact that the CWPR has

been rapidly increasing in an uncontrolled way. Till today, two main competing models on the consequences of the CWPR, i.e., the tournament model and the organizational fairness model, have appeared. The two models predict two opposite effects of the CWPR on the firm's performance, the workers' psychological feelings and their behavioral choice. As the most popular theoretical perspective in Chinese companies, the tournament theory believes that the CWPR improves the firm's performance, because it provides the incentives for the workers to invest efforts to achieve their promotions and enjoy the accompanying increases in their pay level [5].

Its competing view, the organizational fairness theory, however, suggests that an extra CWPR is detrimental to the firm's performance because it would engender the negative feelings of inequity, deprivation and dissatisfaction among the workers. And such feelings can adversely affect the firm's performance via the decreased effort or cooperation, the

* Corresponding author

E-mail address: zc7901@163.com (Changzheng Zhang)

counterproductive behavior, or even the outright sabotage [6, 7]. The existing literature has made the great contributions on explaining the performance consequences of the CWPR [8]. However, the effects of the CWPR on the other important organizational phenomena have been always ignored to a large degree. For instance, the linkages between the CWPR and the workplace innovative behavior (WIB) are still unexplored at present. Not least the Chinese scholars.

The WIB refers to the introduction and application of the new ideas, products, processes, and procedures to a person's work role, work unit, or organization by an individual organizational member [9], and it is an important means for achieving the long-term competitive advantage [10]. In addition, the WIB is a broader concept than the creativity, and it embodies a variety of behaviors involved in the generation, promotion and implementation of the new ideas, which is the micro-basis of the innovative/creative behavior in both the team and firm levels, even in the inter-organizational level. A great amount of research has been focused on identifying the critical factors that may have the potential capability to encourage and enable the workers to show and execute the WIB at their daily work. The frequently studied topics mainly include the worker's characteristics, the motivations, and the affect, as well as the background antecedents such as the organizational culture, the job characteristics, the leadership, the social relationships and so on [11, 12].

For instance, Susanne and Reginald (1994) has integrated a number of streams of research on the antecedents of the innovation to develop and test a model of WIB, which confirms that the leadership, the worker's problem-solving style, and the work group relations influence the WIB directly or indirectly through their effect on the perceptions of the climate for the innovation [13]. Though a number of the WIB's factors have been investigated both theoretically and empirically, the effect of the CWPR on the WIB, a critical organizational phenomenon which is of the ever-increasing importance, is still nearly a "black-box".

For the following reasons, the paper tries to explore the link between the CWPR and the WIB: (1) There is a research gap in the relationship between the CWPR and the WIB; (2) The CWPR and the WIB are two critical organizational variables which need the more careful investigations in China; (3) The existing literature has implicitly expressed the potential link between the CWPR and the WIB which indicates that the further investigations on this topic are necessary. Therefore, the exploratory study on the relationship between the two concepts considering the mediating effects of the leader-membership exchange (LMX), the psychological ownership (POS) and the sense of self-efficacy (SSE) can make a contribution to the two critical research fields, respectively the consequences of the CWPR and the

antecedents of the WIB.

The remainders of the paper are arranged as follows. Section 2 is the literature review and model building; Section 3 dissects the model by investigating the linkage between the CWPR and the WIB via the mediating role of the LMX; Section 4 analyzes the model by investigating the linkage between the CWPR and the WIB via the mediating role of the POS; Section 5 analyzes the model by investigating the linkage between the CWPR and the WIB via the mediating role of the SSE; And Section 6 provides the conclusions.

2. Literature Review and Model Building

The two main competing perspectives in the consequences of the CWPR are respectively the tournament theory and the organizational justice theory. According to the tournament theory, a larger CWPR is of an essential help in motivating the workers to work hard and show a much higher enthusiasm for work, the higher organizational commitment or POS in order to get the higher tournament incentives, i.e., the financial rewards, the promotions and some other recognitions. The players in the tournament can increase the likelihood that their performance will be the best, and thus they win the final promotions by taking on the riskier projects and investing in building a better LMX, which would produce the more risk-taking behavior and the more supervisors' supporting behavior within the firms as the size of the promotions' prize increases remarkably [14]. To maintain the incentive mechanism throughout the organizational hierarchy, the size of the rewards must be increasing at each stage in the tournament, and finally with an extra super reward for the overall winner (i.e., the CEOs) [15].

Confirming to the implications of the tournament theory, certain existing evidence has found a positive relationship between the CWPR and the firm's performance [16-19], as well as between the CWPR and the firm's risk-taking behavior [20]. Though most of these studies only use the pay gap among the top executives within the top management teams (TMTs) as a measure of the tournament incentives, some other studies do have shown that the tournament incentives can be extended to the workers lower down the hierarchical corporate ladder [21]. Similarly, Faleye *et al.* (2013) have found that the CWPR is positively associated with the firm's performance by adopting a sample of 450 S&P 1500 firms who have disclosed the data of the total workers' compensation level [22]. The results should be interpreted with caution, however, as the analysis does not judge for the so-called self-selection bias which stems from the compensation disclosure decisions.

In the light of the organizational justice theory, the workers' attitudes and behavior are actually shaped by the comparison results of the rewards and pay for their efforts and

performance with those of the others. When the workers make such comparisons, a too high remuneration of the CEO would naturally run as the salient reference point in assessing the fairness of the compensation practices of the firm, which can in turn determine the workers' reactions to their own remuneration [23]. In contrast to the results of the tournament theory, according to the organizational justice theory, certain literature argues a negative relationship between the CWPR and the performance-related outcomes, such as the product quality and the worker retention [23], etc. In a similar way, Hyun et al. (2012) have proposed a significant negative linkage between the CWPR and the firm's performance in Korea where the disclosure of the average value of the top executives' cash compensation and the average value of the workers' compensation has been required since 1998 [24].

Though the empirical evidence on the consequences of the CWPR in the corporate settings is rather limited and mixed, a slice of valuable mechanisms behind such consequences of the CWPR can still be got from the related literature to a certain degree. The most mentioned functioning mechanisms of the CWPR's effects on the firm's performance (and quite a few other critical variables) are respectively via the mediating effects of the POS, the LMX and the SSE [22, 23]. That is to say, the existing literature have implicitly reminded us that the CWPR usually may indirectly determine the WIB by directly influencing the above three critical variables.

The value of the WIB for the organizational success is widely accepted [25]. As described above, the WIB is a broader concept than the individual creativity, and it embodies a variety of individual behavior which engaged in the generation, the development, the promotion, and the implementation of an individual's new ideas. The innovation has long been embraced by the organizations seeking to remain viable, effective and competitive in a dynamic business environment, while the WIB is the micro basis of the firm's innovation performance [26]. Therefore, to a certain degree, the WIB plays a vital role in the firm's long-term survival [27]. The existing research on the WIB mainly focuses on the human aspects rather than the technical aspects of the innovation activities. With the focus on the human behavior and processes, this school of literature applies the theories from the disciplines such as the psychology, the management, the organizational behavior and the sociology to understand the situations and factors affecting the WIB in the organizational settings. A great amount of literature has been focused on identifying the factors that may motivate or enable the workers to carry out the WIB at their work.

Several valuable reviews of the topic exist. In the age of 1980s, Kanter (1983) is a seminal book that has provided the rich analysis on the innovation processes at work and the related management issues involved [28], while Van (1986)

has offered an overarching literature view of the major issues which are needed to consider when managing and directing the processes of the innovation in the organizational settings [29]. During the period of 1990s, West and James (1990) have provided an overview of the previous research on the innovative behavior and further addressed the issue of the innovative behavior and innovation processes in the group level [30], while Wolfe (1994) has identified three streams of the research on the workplace innovation activities [31]. The author has identified four important issues that have contributed to the underdeveloped state of the innovation research, which are still relevant after more than twenty years [31].

With the continuous advance of the research, in the 21st century, Anderson et al. (2004) [11] and Anderson et al. (2014) [9] appear as the two important reviews to read for the literature on the innovative behavior published from 1997 to 2013. Anderson et al. (2004) [11] provide a comprehensive review of the innovation research published from 1997 to 2002, which has reviewed the key antecedents for the WIB and recommended the future directions including studying the innovation as an independent variable, adopting the cross-cultural approaches and using the meta-analysis. Moreover, Anderson et al. (2014) [9] provide a comprehensive review of the research on the creativity and innovation published from 2002 to 2013, which has proposed an more integrative definition for the creativity and innovation, and also has presented the detailed themes and the unsolved research topics needing to be studied in the future. The above two reviews have provided the insightful and comprehensive guides to the past literature on the innovative behavior across various levels.

As mentioned above, the frequently studied factors of the WIB in the existing literature mainly include the individual characteristics, the motivations and the affect, as well as the contextual antecedents, such as the organizational culture, the job characteristics, the leadership, and the social relationships. Moreover, studying the WIB cross-culturally has provided certain critical knowledge in a global economy and yet, at the same time, presented its own challenges. To be specific, among the identified antecedents of the WIB, the POS [32-34], the LMX [35-37] and the SSE [38, 39] have all been mentioned by the existing literature to a significant degree. It means that the potential effects of the POS, the LMX and the SSE on the WIB have been implicitly pointed out.

According to the above literature review, the paper can reasonably propose a conceptual model (Figure 1), which links the CWPR and the WIB via the mediating effects of the POS, the LMX and the SSE. The rest of the paper will attempt to investigate the relationship between the CWPR and the WIB by exploring the mediating effects of the three variables

in order to facilitate discovering the forming mechanisms of the WIB from the perspective of the CWPR.

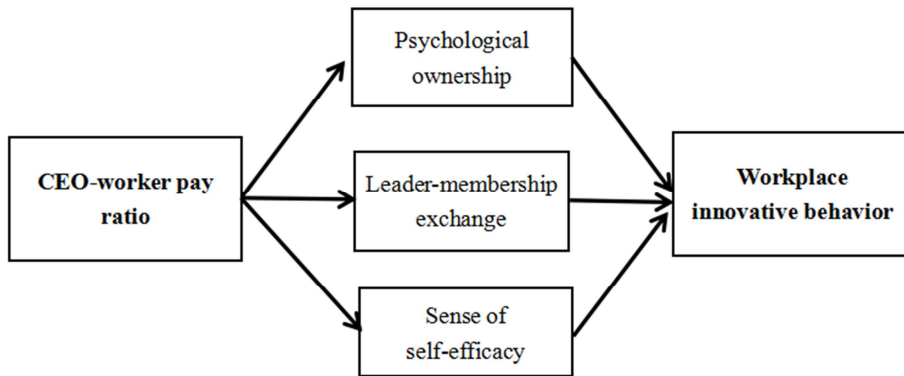


Figure 1. A conceptual model on the relationship between the CWPR and the WIB.

Evidently, some other critical variables also can play the mediating roles of the relationship between the CWPR and the WIB. As an example, the worker autonomy has ever been proved to be separately linked with the workers’ pay [40] and the WIB closely [41]. Therefore, the worker autonomy does have the potential capability in affecting the relationship between the two. However, due to the limitation of the paper length, except for the POS, the LMX and the SSE, the moderating roles of the other possible variables (e.g., the worker autonomy) are omitted in the conceptual model of this paper. The future studies should pay more attention to the other possible mediating variables by systematically investigating their intermediary roles in the relationship between the CWPR and the WIB.

3. The Mediating Effect of the POS on the Link Between the CWPR and the WIB

The POS is the feeling of the possessiveness that ties a worker to a material or immaterial object regardless of the presence of the enforceable property rights [42]. It is widely recognized that a sense of ownership towards an object can be attitudinal or psychological. That is to say, a worker’s feeling of ownership can be present even without the formal ownership [43]. Grounded upon the theory of possessiveness, the POS makes one feel that the object of ownership is an extension of the self [44], and it is the sense of possessiveness that differentiates the POS from the other related constructs such as the organizational identification, the organizational commitment, the internalization, the job involvement and the job satisfaction [45-47]. In general, the CWPR can affect the POS via the following paths.

First, a too high CWPR is usually accompanied by a much smaller residual claim and a much poorer residual manipulation of the workers than those of the top executives. (1) Because a much larger part of the given total compensation

amount taken from the total residual earnings has been allocated to the top executives instead of being sent to the workers under an extra CWPR, it is obviously that the much larger residual claim is held in the hands of the top executives instead of the workers. In this way, the workers’ sense of ownership is deemed to be rather weak; (2) Because the remaining residual earnings except for the part being allocated as the compensation and rewards to the top executives and the non-executive workers are mainly treated as the retained earnings, which are naturally under the control of the top executives instead of the worker’s control, the workers’ sense of control or the sense of impact on the enterprise is poor. As it is known, the sense of control and the sense of ownership are both the critical components of the POS [48, 49]. As such, from this point of view, an extra CWPR can negatively determine the POS.

Second, a large CWPR is the product of the elitism. Under this principle, the front-line staff are always ignored to a large degree in enjoying an army of treatment issues which carry the respect, attention and kindness of the firms, while the top executives always receive too much attention and kindness. The workers would feel that their firms do not care about them at all, which would lead to a lower sense of belonging to their firms. In addition, an extra CWPR usually means that the individual performance deriving from the intense competitions among the individuals is critical for the workers’ promotions, which can win the final winner’s rewards. In this way, the workers’ coordination behavior, especially the knowledge sharing behavior, is hindered adversely, which will exacerbated the personal relationship among the workers [50]. Consequently, the workplace atmosphere will be destroyed and thus the sense of belonging to the organizations would decrease. Since the sense of belonging to the organizations is one of the critical features of the POS, in this sense, an extra CWPR can passively determine the POS.

Third, when the CWPR increases too much, the growing responsibility would be transferred to the top executives from

the workers, which in fact can lead to a less engagement of the workers. What is more, even if the workers make some serious mistakes, there would be rather limited loss for themselves due to their lower compensation. Hence, the workers' accountability gets much poorer. And a high CWPR usually follows with the authoritative manner in the management style. Here the mutual communication in the compensation and other related issues, with an attitude of equality and respect, between the workers and the top executives even is actually in absence. The superior-subordinate communication behavior is usually referred to as a process and interaction that would be practiced by a superior towards a subordinate with an objective to achieve their task objectives and to maintain the relationships [51]. It has the great effects on the workers' perception of the workplace. Hence, the workers will have a poor sense of empowerment. Because the accountability is the critical component of the POS, and what is more, the empowerment is the important antecedent of the POS, therefrom, an extra CWPR can inactively determine the POS.

Moreover, according to the existing literature, in the modern firms, the POS would promote the development of a sense of stewardship toward the organizations [52] and it has been viewed as a source of the entrepreneurial behavior, as it creates the perception of a shared purpose and stimulates the workers' engagement in the value-creating activities [53]. Hence, the analysis of POS as an antecedent of the WIB is important because the entrepreneurial behavior is closely related to the WIB, and there are great similarities between the two concepts.

Therefore, when it comes to how the CWPR affects the WIB via the POS, several points should be addressed as follows. (1) The existing literature shows that the sense of control increases the confidence in carrying out the WIB, while the sense of ownership provokes the motivations of seeking for the WIB. As such, the CWPR can indirectly and negatively link the WIB via weakening the sense of control and the sense of ownership, which are the critical components of the POS. (2) The existing literature claims that the sense of belonging stimulates the motivations of implementing the WIB. Hence, the CWPR can indirectly and negatively affect the WIB via restraining the sense of belonging. (3) The existing literature argues that the accountability improves the motivations of the WIB, and what is more, the sense of empowerment will enhance the motivations of WIB. Therefore, an extra CWPR can indirectly and negatively affect the WIB via lowering the accountability, a critical component of the WIB, and decreasing the sense of empowerment, an important antecedent of the WIB. Because the sense of control, the sense of belonging and the accountability are the three core components of the POS, and moreover, all of them would have the positive effects on the WIB, it can be inferred that the

POS can positively determine the WIB to an essential degree.

Besides, from the perspective of the WIB process, the POS has an essential impact on each phase of the WIB. In simple terms, the WIB can be divided into the new idea-generation phase, the innovation team building phase, the innovation implementation phase and the innovation application phase. A higher POS motivates the workers' engagement in all the four phases of the WIB. The idea-generation phase needs the strong sense of responsibility of the workers, which can be produced by the sense of belonging; The innovation team building phase requires the superior cooperative environment, which can be ensured by the sense of control [54]; The innovation implementation phase needs the higher capability to carry out the innovative behavior, which can be promoted by the accountability; Finally, as for the innovation application phase, all the three components of the POS, i.e., the sense of control, the sense of belonging and the accountability, would be of the great significance.

Accordingly, the paper can put forward the following proposition as the summary of the above discussion:

P1: The CWPR can indirectly affect the WIB negatively by directly determining the POS negatively.

4. The Mediating Effect of the LMX on the Linkage Between the CWPR and the WIB

First, the paper examines the direct effect of the CWPR on the LMX. Since its inception over 40 years ago, the conceptualization of the LMX theory has undergone an army of refinements [55]. What began as an alternative to the average leadership style (Vertical Dyad Linage) has progressed to a critical prescription for generating the more effective leadership through the development and maintenance of the more mature leadership relationships [56]. According to the recent literature, the shared interests, the mutual support, the frank communication and the growth improvement between the leaders and the members are the four critical features and components of an acceptable LMX [57, 58].

From the perspective of the shared interests, an extra CWPR leads to the highly intense conflict of interest between the workers and the top executives. The reason is that, from the minds of the workers, the benefits co-created by the hands of the workers and the hands of top executives are allocated unequally to the latter [59]. Here the two groups are not aligned in interests, which would possibly mitigate the possibility of establishing a better LMX.

From the perspective of the mutual support, an outstanding

LMX partly gets the mutual support from the leaders and the workers, while the mutual support needs the mutual trust and mutual respect. An extra CWPR generally expresses at least two simple signals: One is that the top executives are important and respectful, while the workers are replaceable with a lower cost; The other is that the top executives, treated as the core capital of their firms, are worthy of being trusted, while the workers, treated as the cost of their firms, are not worthy of being trusted. Here the poor mutual trust and the mutual respect due to an extra CWPR can hinder the building of an excellent LMX.

From the perspective of the communication, as mentioned before, an extra CWPR arouses the unfriendly emotions of the workers which would damage the communication willingness of the workers. In addition, an extra CWPR can lead to the top executives' disrespectful and distrusting attitudes towards the workers, and even the abusive supervision against the workers, which, in turn, would decrease the communication intentions of the top executives. Here both the top executives and the workers have no strong motivations to communicate well with each other, and accordingly, an extra CWPR impedes the establishment of an outstanding LMX.

From the perspective of the growth improvement, an extra CWPR can stimulate most of the supervisors and the subordinates to compete with each other violently, and the former will have no high intentions to foster the latter. The reason is that the subordinates would possibly replace the supervisors even before the latter are promoted to a higher position. Therefore, an extra CWPR would weaken the top executives' willingness of improving the growth and development of the workers and further lead to an awful LMX.

Second, when it comes to the effect of the LMX on the WIB, on the whole, the WIB in the workplace begins by the worker's identifying a work-based problem, which is usually followed by the development of the new ideas and solutions for the problem. The final step in the innovative process is to develop the support for the new ideas and solutions, and in this case, they would become embedded within the organization and then applied in the daily work [60]. Additionally, Scott and Bruce (1994) [61] have suggested that an innovative organizational climate, which supports the WIB and provides the necessary resources, also needs to be created. Moreover, the ideas generated within the WIB processes also need to make a positive change in a product or service for the innovation cycle to be completed and sustainable. In this way, none of this can happen without the perfect supervisor support, which is perceived by the workers as being fair and which can develop overtime a supportive climate facilitating and fostering the innovative behavior [62, 63]. Specifically, two vital points on the linkage between the LMX and the WIB

should be addressed further as follows.

The LMX can improve and enhance the rank-and-file workers' motivations of taking part in the WIB. The features of the workers' direct supervisors/leaders are the most critical factors which can determine the behavior of the workers to a large degree. Take one point for example, too much existing literature shows that the worker engagement, the organizational commitment and the job satisfaction are all positively related to the workers' feelings on their direct bosses, and what is more, the first critical factor of determining the turnover intention of the workers is also their positive or negative impressions on their direct supervisors [64, 65].

In the same logic, the LMX can negatively affect the motivations of the workers' WIB. As we all known, the WIB is basically the extra effort exceeding the daily job requirements and such effort usually cannot be monitored and observed effectively by their leaders in the formal performance management system. Hence, only when there are certain inspiring and well-accepted relationships between the workers and their direct leaders, and then you can nurture a favorable LMX, can the workers possibly have the higher motivations to implement their innovative behavior. To a certain extent, the WIB is the workers' extra contribution to the organization partly deriving from the gratitude to their kind supervisors. In other words, a better LMX is helpful to the workers' motivations of initiating the WIB.

Moreover, the LMX can improve or even optimize the environmental support of the workers' WIB. When the workers execute the WIB, they need to overcome an army of obstacles from the environment, and use more resources and time to smooth the way and complete the details. Consequently, the support from the environment, especially from the direct bosses, is absolutely necessary [66]. Since a better LMX in large part means the mutual support and growth improvement between the leaders and the workers [67], the LMX can provide the necessary environmental preconditions for an effective performance of the WIB.

The last but not the least, a poorer LMX would make most of the workers be isolated from the close links with their leaders. Such isolated workers not only would have no clear motivations to take participation in any innovative behavior by themselves, but would have no willingness to help the implementation of the others' WIB. As such, since the success of the WIB needs an atmosphere of the cooperation and sacrifice, an atmosphere derived from a poor LMX hinders the successful implementation of the workers' WIB.

Besides the above analysis on the links between the LMX and the WIB, four typical studies respectively completed by Carsten *et al.* (2013) [33], Seçil and Seyed (2015) [37], Wang

et al. (2015) [68] and Raja and Stephenon (1997) [36] on such a topic can prove our views more firmly.

(1) Carsten et al. (2013) [33] have mainly investigated the process underlying the relationship between the LMX and the non-supervisory workers' WIB in the workplace. By combining the findings both from the LMX theory and the psychological empowerment theory, they claim that the psychological empowerment can mediate the impact of the LMX on the WIB. They have tested the proposed process model with the method of the structural equation model based on a time-lagged questionnaire study, by adopting a sample of 225 rank-and-file workers. Such a model allows them to examine the proposed effects under the control of the temporal stability of the WIB. The model reveals a full mediation of the LMX on the subsequent WIB via the psychological empowerment. Moreover, the effect is significant even when controlling for the stability of the WIB over time.

(2) Seçil and Seyed (2015) [37] have attempted to examine the influence of the LMX from the perspectives of the subordinates on the WIB and to test the role of the perceived trust in the leaders as the moderator variable. A structured survey is adopted and the data are collected from a sample of 327 workers in Turkey. The confirmatory factor analysis has been used to test the construction of the questionnaire, and the relationship among the LMX, the WIB and the trust in the leaders are dissected by applying the method of the structural equation model. The results indicate that the trust in the leaders has a positive influence on the WIB and significantly moderates the relationship between the perceived LMX's quality and the WIB.

(3) Wang et al. (2015) [68] have tried to delve the effects of three types of social relationships on the WIB: the weak ties outside the group, the LMX, and the strong ties within the group by adopting the social network theory. The results based on a sample from a high-tech firm demonstrate that the LMX fully mediates the positive relationship between the out-group weak ties and the WIB. Furthermore, the within-group strong ties negatively moderate the second stage of this indirect relationship, such that the LMX is positively and significantly related to the WIB only when the number of the within-group strong ties is rather low. To be simple, the LMX actually has certain direct effect on the WIB.

(4) Raja and Stephen (1997) [36] have ever adopted the LMX and the transformational leadership theories to explain the WIB in the leader-member dyads. The data collected from 225 leader-member dyads in a Fortune 500 manufacturing plant have proved that the LMX quality is positively related to the followers' autonomy and discretion, the leader's support of the followers and the followers' commitment to the organization. Further, the followers who are supported by their leaders and

who are committed to the organizations are more likely to take part in the WIB. Hence, the LMX quality is directly related to the WIB. Besides, contrary to the theoretical expectations, the transformational leadership is negatively related to the WIB. From this point of view, the transformational leadership may be unsuitable for fostering the high-quality LMX.

Accordingly, an extra CWPR can directly and negatively affect the LMX, while the LMX can directly and positively affect the WIB. The paper can get the following preliminary proposition as P2.

P2: The CWPR can indirectly and negatively affect the WIB by directly and negatively determining the LMX.

5. The Mediating Effect of the SSE on the Link Between the CWPR and the WIB

The SSE is defined as the beliefs in one's capabilities to organize, arrange and execute the courses of action required to produce the given attainments [69, 70]. The concept of the SSE is based on a view of the self-regulation where the non-supervisory workers make the decisions and take the actions based on their own self-imposed standards or expectations rather than the others' desires or directives. In the cognitive terms, the activity processes of the thought, speaking and behavior are regulated by the 'self-system' that allows the folks to exert certain control over their actions.

The CWPR can directly determine the SSE to a certain degree for several reasons. Firstly, a too high CWPR usually shows as the worker's subjective perception expressed by such a sentence: "Compared with the average level of the CWPR in the same region, the CWPR in my firm is too high". It expresses the fact that the workers in the firm contribute much less than their peers in the other firms in the same region, which will naturally weaken the SSE of the workers; Secondly, an extra CWPR usually represents itself as the following sentence: "Compared with the average level of the CWPR in the same industry, the CWPR in my firm is too high". It conveys the information that the workers in the firm are less recognized and accepted as the excellent folks than their peers in the other firms in the same industry, which will, out of question, negatively impact the SSE of the workers.

The last but not the least, an extra CWPR generally tells the workers such an expectation: "Compared with the previous level of the CWPR in the same firm, the CWPR in the future would get much higher". The fact would lead to a consequence that the workers in the firm feel they would be less respected and valued by the firm in the future, which of course would do harmful things to preserve the workers' SSE. In general, the CWPR itself conveys the information of how

the firm treats, respects, trusts and values its workers relative to the levels of the other firms in the same industry, the other firms in the same region and the same firms in the past. A too high CWPR will trigger the crisis to the evaluation results on the workers' SSE.

The innovative workers can actually be called as the entrepreneurs who are willing to and good at dealing with the introduction of a new commodity in a market, a new way of completing the task, a new method of production, opening a new market, or the conquest of a new supply's source of the raw materials or half-manufactured goods. Cefis and Marsili (2006) [71] have claimed that innovation, like an ocean of business functions, is a management process that requires the specific tools, rules, disciplines and management, while the success of all these issues are based on a higher level of SSE. The workers with a high level of SSE require themselves to explore and change their environment [72]. Moreover, the workers with a higher level of SSE tend to feel that they have a substantial control over the firms or the jobs [73], which can lead them to believe that they are entitled to have the essential control and autonomy in the decisions that can influence their ownership targets [44].

Certain literature believes that the enhanced perceptions of the control and autonomy can improve the workers' change acceptance [74]. Moreover, the change acceptance can impel the workers to adopt the attempts of changing the activities and processes in a new way, such as producing the new ideas, identifying and exploiting the innovative opportunities, as well as helping the others in such attempts, which are likely to fundamentally improve the key aspects of the firm [75] and to further enhance the perceptions of self-efficacy [76]. Therefore, in order to exercise and demonstrate their control over the firm [77], the non-supervisory workers who are enjoying a higher level of SSE may have the stronger motivations to devotion in the WIB by taking the broader job roles and behaving in the novel and innovative ways.

What is more, from the perspective of enhancing the learning intention with the purpose of acquiring the skills and abilities needed in the WIB, a few studies have indicated why the SSE can play a critical role in this issue. As an example, Felfe and Schyns (2002) [78] have found that the SSE level of the workers is highly and positively correlated with the abilities level of the workers in executing the WIB. In order to keep a higher standard of SSE, the intention to learn and acquire the abilities for the WIB arises. Besides the above analysis on the link between the SSE and the WIB, the three following typical studies respectively by Michael *et al.* (2011), Nadin (2012) [39] and Bouke (2015) [38] on such a topic can prove our views more firmly.

First, Michael *et al.* (2011) have empirically examined the effects of the SSE, a critical positive psychological trait, on the

WIB, considering the moderating effect of the optimism [79]. The longitudinal data across two periods are collected from 120 spa workers of a diet and beauty salon company in Taiwan. Under the condition of controlling for the effects of the job tenure and the Big Five personality traits, the study reveals that the non-supervisory workers with a high level of creative SSE show a high level of WIB at their work, and simultaneously the optimism does play a moderating role in the relationship between the two. To be specific, when the workers' creative SSE is high, the ones with the greater optimism would exhibit a greater level of WIB at work.

Second, Nadin (2012) [39] has ever constructed a conceptual research model which investigates the roles that the workers' expectations would play in the WIB by exploring the effects of the innovative SSE and the outcome expectations on the WIB. The results in view of a survey of 350 workers and their direct supervisors in a Swiss insurance company do reveal how the WIB relates to the workers' task performance, and further the results indicate that the WIB would positively determine the task performance. Last but not least, the innovative SSE is actually a strong predictor for the WIB.

Third, Bouke (2015) [38] provides a cross-sectional study which investigates the relationship between the transformational leadership and the WIB mediated by the workers' SSE. The digital questionnaires are distributed among various Dutch organizations, which have produced 267 acceptable participants. The direct effect of the transformational leadership on the WIB is also found in this study. The social cognitive theory is used to theoretically investigate the mediating effect of the SSE. The results of the empirical analysis believe that the transformational leadership is positively related to the workers' SSE and that the SSE, in turn, would enhance the front-line workers' WIB. The process bootstrap method does confirm a positive and significant mediating effect of the SSE.

Accordingly, an extra CWPR can directly and negatively affect the SSE, while the SSE can directly and positively affect the WIB. As a result, the paper can get the following preliminary proposition as P3.

P3: The CWPR can indirectly and negatively affect the WIB by directly and negatively determining the SSE.

6. Conclusions

With the emergence and rapid development of the knowledge-driven economy today, the continuous success of the companies' innovation has been proved to be of certain ever-increasing impacts not only on building the companies' competitive advantage in the micro-level, but on improving the economic development in the macro-level. Though the

performance of the companies' innovation is determined by multiple antecedents, the technological innovation itself, to some extent, is effectively rooted in the individual workers who are full of higher creativity. In practice, as the critical responsible body of the technological and management innovation, the companies mainly internalize or embody their innovation capabilities in their knowledge workers. And generally the innovation activities are put into the execution by the individual workers who can show the excellent WIB.

Though the existing studies provide the researchers with the advances in understanding the effects of the individual characteristics on the WIB, it is really a pity that very little attention has been paid to the indirect effect of the CWPR on the WIB via the mediating effects of the psychological variables. For the first time, this paper attempts to link the CWPR and the WIB by introducing the POS, the LMX and the SSE as the mediating variables with the view to (1) identifying the negative effects of the CWPR within a firm to a deeper degree; (2) clarifying the forming mechanism of the WIB by a new perspective compared with those in the existing literature; and (3) finding the potential routes to mitigate the negative effects of the CWPR on the WIB.

Based on the literature review and logic reasoning, the paper finds an all-round conceptual model on the relationship between the CWPR and the WIB considering the mediating role of the POS, the LMX and the SSE. Drawing on the results of the model analysis, three preliminary propositions can be obtained: (1) The CWPR can indirectly and negatively affect the WIB by directly and negatively determining the POS; (2) The CWPR can indirectly and negatively affect the WIB by directly and negatively determining the LMX; and (3) The CWPR can indirectly and negatively affect the WIB by directly and negatively determining the SSE. The three mediating routes convey more than half of the CWPR's effects on the WIB, and the CWPR does have certain essential effects on the WIB through the three mediating variables.

According to the conclusions, at least three implications can be clarified to the practitioners. (1) An extra CWPR should be eliminated, or at least weakened to a certain degree, in order to develop the WIB within a firm, which can lay a solid foundation for improving the firm's competitive edge; (2) Under a certain level of the CWPR, in order to keep a good level of WIB, a slice of special measures should be adopted to prevent the negative effects of the CWPR on the POS, the LMX and the SSE. As an example, the recognition and rewards on the workers should be emphasized and enhanced, the compensation communication with the respect and honesty should be executed timely and periodically, and the hiring standards of the new workers should include a higher level of SSE, and so on; (3) Under a certain level of CWPR, in

order to keep a good level of WIB, several other effective ways should be applied aiming to enhance or establish a better POS, a better LMX or a better SSE directly from the other antecedents of the three variables. As an example, to optimize the training system of the workers is a good choice for improving the workers' POS, LMX and SSE. For another example, to select the grateful workers is another potential good choice to make sure that the selected workers would possess a higher POS, LMX and SSE, since the trait of gratitude is closely associated with the three mediators.

Though the conclusions are deduced based on the systematic logic reasoning and literature review, the empirical evidence of the relationship between the CWPR and the WIB of the non-supervisory workers is still in absence. Further studies should focus on the empirical test of the theoretical conclusions in this paper, and above all, the comparative studies between the workers with different attributes in this topic should be paid more attention to.

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