

Personality and work outcomes: A moderated mediation model of self-leadership and gender

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Abstract- *The purpose of this study is to examine the relationship between personality traits (conscientiousness and internal locus of control) and self-leadership. Specifically, we tested a moderated mediation model with self-leadership as the mediator between personality traits and job performance and job satisfaction and with gender as the moderator in influencing the mediations. Data were collected from a variety of organizations from 341 supervisor-subordinate dyads located in China and Hong Kong. Our analyses revealed that: (1) conscientiousness and internal locus of control were positively related to self-leadership in Chinese contexts; (2) self-leadership mediated the relationships of conscientiousness and internal locus of control with both job performance and job satisfaction; and (3) the mediating effects of self-leadership were not moderated by gender.*

Keywords- *Self-leadership; Conscientiousness; Internal Locus of Control; Job Performance and Satisfaction; Gender*

1. INTRODUCTION

Since the 1980s, the relationship between personality and work-related outcomes has received substantial attention in the literature (Ones, Dilchert, Viswesvaran, & Judge, 2007)[51]. Hundreds of primary studies and a dozen meta-analyses indicate a consistent link between personality traits and various outcomes such as performance (Barrick, Mount, & Judge, 2001[3]; Huang, Ryan, Zabel, & Palmer, 2014[29]; Ones et al., 2007)[51], career success (Ng, Sorensen, & Eby, 2006) and job satisfaction (Judge & Bono, 2001[35]; Ng et al., 2006)[50]. Despite these promising results supporting the trait theory of job satisfaction and performance, very few studies to date have examined the process by which personality influences these outcomes (Huang et al., 2014)[29]. This situation results in a poor understanding of how distal traits translate into personal effectiveness (Lee, Sheldon, & Turban, 2003)[39]. Furthermore, management scholars have recommended that such process models be hierarchically organized and reflect how distal dispositional traits influence work outcomes through more proximal motivational constructs (e.g., Barrick et al., 2001[3]; Kanfer & Heggestad, 1997)[36]. One potentially relevant motivational construct to explore is self-leadership, which refers to a set of self-influence strategies through which people control their own actions and thinking to reach personal and organizational goals (Neck & Manz, 2010)[49] and has been shown to influence work outcomes (Ho & Nesbit, 2014[25]; Millikin, Hom, & Manz, 2010)[46]. To date, the

mediating role of self-leadership in linking personality traits and work outcomes has not been explored.

The personality traits of conscientiousness and locus of control were chosen for examination in this study. Research has shown that these two traits have strong conceptual and empirical linkages with self-leadership behaviors (Renn, Allen, & Huning, 2011[53]; Stewart, Carson, & Cardy 1996[56]; Williams, 1997)[61]. Studies have demonstrated that self-leadership dimensions (behavioral focused strategies, natural reward strategies, and constructive thought strategies) and conscientiousness are related yet distinct concepts (Houghton, Bonham, Neck, & Singh, 2004[27]; Furtner & Rauthmann, 2010)[18]. Especially, conscientiousness is significantly associated with all three dimensions of self-leadership. Stewart et al. (1996)[56] also found that conscientiousness correlated significantly with supervisors' ratings of self-direction for employees working in a hotel.

In addition, locus of control has been shown to be related to intrinsic task motivation, psychological empowerment, goal setting and job involvement (Ng et al., 2006)[50], constructs similar to the conceptualization of self-leadership. While a number of researchers has suggested the theoretical importance of locus of control for self-leadership (Williams, 1997; D'Intino, Goldsby, Houghton, & Neck, 2007)[15], only one study explored the relationship of locus of control with self-leadership and found that internal locus of control was unrelated to self-leadership (Marshall, Kiffin-Petersen, & Soutar, 2012)[40]. However, the sample of this study only included college teachers. There is a need of further

research on examining this relationship in business settings. Furthermore, previous research examining the linkages between personality traits and self-leadership were all conducted in Western contexts. Whether such linkages could be generalized to the Eastern context are unknown.

Additionally, this study investigates gender as the boundary condition of the indirect effects linking personality traits, self-leadership, and work outcomes. Researchers in recent years have observed gender differences in a variety of domains relevant to work environments. For example, gender differences have been found for emotional regulation (McRae, Ochsner, Mauss, Gabrieli, & Gross 2008)[44], moral decision-making and ethics (Jaffee & Hyde, 2000)[31], leadership style (Eagly, Johannesen-Schmidt, & Ven Engen, 2003)[16], and self-construal (Guimond, Chatard, Marinot, Crisp, & Redersdorff, 2006)[21]. Other self-regulation studies also have demonstrated that women would set lower goals, have lower expectancies of success and self-evaluations than men (Beyer, 1998)[4]. These findings suggest that gender may have some bearings on a person's self-leadership. However, how gender affects individuals' self-leadership behaviors in a work setting has received little research attention.

Based on social role theory, we suggest that gender differences in self-leadership may be more salient in Chinese society where the present study was conducted. Confucian heritage in Chinese cultures distinctively put forth different roles for men and women, thus traditionally, gender role expectations are strong (Tang & Tang, 2001)[59]. Furthermore, "Chinese society continues to attribute different and well-defined roles and spheres of influence to men and women" (Attané, 2012, p.9)[1]. Chinese males are expected to display "agentive" characteristics, including assertion, self-reliance, competence and striving for achievement, whereas Chinese females are expected to demonstrate "communal"

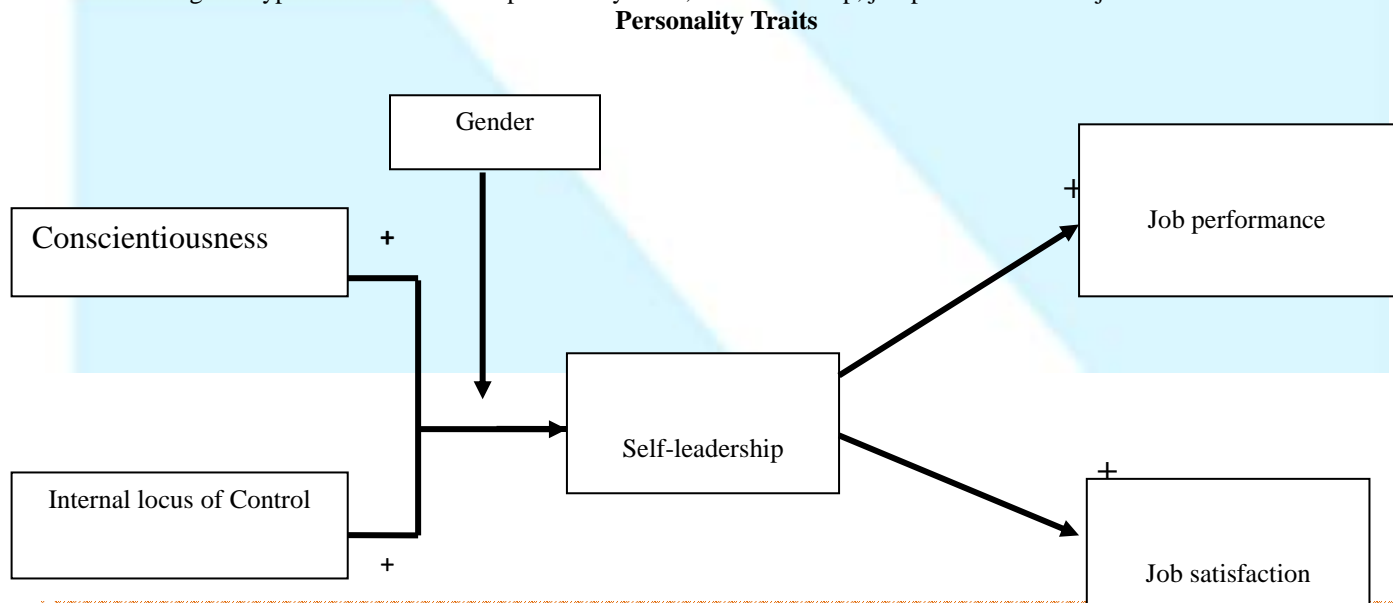
characteristics, such as individualized concern and nurturing (Ramusack & Sievers, 1999)[52]. Thus, gender differences of role expectation may influence the mediating effects of self-leadership on the linkages between personality traits and work outcomes. Therefore, we explore whether the indirect effects of personality traits on work outcomes through self-leadership differ across male and female.

The objectives of the current study were: (1) to study the relationship between personality traits (conscientiousness and internal locus of control) and self-leadership in Chinese contexts; (2) to examine the mediating effects of self-leadership on the relationship between personality traits and the work outcomes of job satisfaction and performance; and (3) to investigate whether gender moderates the mediating effects of self-leadership.

The present study contributes to the literature on personality, self-leadership and organizational behaviors in three main ways. First, we explore the relationship between personality traits and self-leadership which has never been examined in the Chinese work settings. Second, findings of this study help to advance our theoretical understanding of how distal personality traits translate into personal effectiveness by highlighting the role of individuals' self-leadership skills. Third, our study is the first to explore gender as the boundary condition of the indirect effects linking personality, self-leadership and work outcomes which contributes to social role theory. Such investigation broadens our understanding of how gender enhances the mediating role of self-leadership on the relationship between personality and work outcomes. Our research model is presented in Figure 1.

In the remainder of this paper, we first review the relevant literature and develop our hypotheses. Next, we discuss our methodology in detail and present the results of our hypotheses. In the discussion section, we discuss the theoretical and practical implications of our study

Fig 1. Hypothesized model for personality traits, self-leadership, job performance and job satisfaction.



2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1 Personality and Self-leadership

Self-leadership is a self-influence process involving three distinct but complimentary categories of strategies—behavior-focused, natural reward, and constructive thought pattern—through which individuals control their cognitions and actions to reach their desired goals (Manz & Sims, 2001)[43]. Behavior-focused strategies are designed to heighten one's self-awareness in the pursuit of one's tasks, including those that are less attractive but necessary for goal achievement (Neck & Manz, 2010)[49]. Behavior-focused strategies include self-generated short or long-term goals, self-evaluation used for tracking goal progress, self-administer motivational rewards for goal achievement, self-criticism for the elimination of undesirable behaviors and constructing environmental cues for facilitating desired behaviors (Neck & Manz, 2010)[49]. Natural reward strategies involve building more pleasant and enjoyable features into the tasks and focusing one's attention on the rewarding aspect rather than the unpleasant features of the tasks (Neck & Manz, 2010[49]; Manz & Sims, 2001)[43]. Constructive thought strategies are designed to help people shape their thinking including evaluating beliefs and assumptions, using mental imagery, and engaging in positive self-talk.

Of the Big Five personality factors, Conscientiousness, has been associated with characteristics such as competence, order, dutifulness, self-discipline and deliberation (Costa & Mc-Crae, 1992)[13]. Conscientious individuals tend to plan their work, and be more organized, hardworking and goal-directed (Barrick et al., 2001[3]; Costa & Mc-Crae, 1992)[13]. Meta-analytic evidence has shown that conscientiousness correlates positively with effective coping strategies of problem solving and cognitive restructuring (Connor-Smith & Flachsbart, 2007)[10]. As noted above, the three categories of self-leadership strategies also involve conscious planning of goals, self-observation of goal progress, building more enjoyable features into goal-striving actions and formation of constructive thought patterns. On the basis of meta-analysis findings, we posit that those individuals high in conscientiousness who are more self-disciplined and dutiful are more likely to act upon their intentions of implementing the self-leadership strategies (Conner, Rodgers, & Murray, 2007). Individuals high in conscientiousness are expected to manage themselves to stay on their difficult tasks by focusing their attention on their goal-directed behaviors and the rewarding aspects of their work and by changing their thought patterns to strive for accomplishment. Indeed, previous research has consistently shown a positive relationship between conscientiousness and self-leadership (Furtner & Rauthmann, 2010[18]; Houghton et al., 2004[27]; Stewart et al. 1996)[56]. Hence, we hypothesize the following:

Hypothesis 1a: Conscientiousness is positively related to self-leadership

According to Bandura's (1986)[2] social cognitive theory, a person's self-regulation behavior is a product of interactions between personal cognitions, such as goals and self-efficacy, and external environmental factors that support and reinforce actions. Thus, cognitive factors play an important role in shaping the motivations and behavior of people. One personality factor that is associated with cognitive processes is locus of control, which relates to the extent to which people believe their outcomes are within their control (Spector, 1988)[55]. Individuals with an internal locus of control believe their behaviors could shape their life outcomes. Conversely, those with an external locus of control believe their life events are due mainly to fate or luck and that they have little influence on their environment. Thus, locus of control may play a role in individuals adopting self-leadership strategies. Those high in internal locus of control who perceive that their work and life outcome derive primarily from their own actions are more likely to engage in self-leadership strategies targeted for goal achievement (Williams, 1997)[61]. In contrast, individuals who have external locus of control tend to focus on how external aspects of the environment support or hinder goal actions. They are less likely to regulate their actions nor their internal thoughts and cognitions as they pursue tasks. A number of researchers (D'Intino et al., 2007[15]; Williams, 1997)[61] suggest that internal locus of control is an important personality traits influencing self-leadership and is likely to be positively related with it. Based on the discussion above we hypothesize the following:

Hypothesis 1b: Internal locus of control is positively related to self-leadership

2.2 The mediating role of self-leadership

As noted earlier, while extant research has shown the positive relationships of conscientiousness and internal locus of control with job satisfaction and job performance (Barrick et al. 2001; Huang et al. 2014; Ones et al., 2007; Judge & Bono, 2001; Ng et al. 2006), little is known about the mechanism through which the distal personality traits affect work outcomes. Indeed, the proximal means by which personality affects work outcomes has long been thought to be mainly through motivational constructs (Barrick et al. 2001[3]; Kanfer & Heggstad, 1997)[36]. This study argues the mediating roles of self-leadership on the linkage between personality traits and work outcomes. In the following section, drawing on cybernetic control theory and self-determination theory, we explain why the motivational construct of self-leadership is expected to have positive effects on performance and job satisfaction and the mediating role of self-leadership. Based on cybernetic control theory (Carver & Scheier, 1998)[8], behavior-focused strategies are designed to heighten one's progress in reducing performance deviations from existing standards by goal setting, self-evaluation, self-reinforcement and self-

discipline. Such self-regulation process may energize individuals' efforts for goal attainment (Neck & Manz, 2010)[49]. A number of studies have shown that increased behavioral-focused self-leadership results in reduced absenteeism (Latham & Frayne, 1989)[38], increased organizational citizenship, and innovative work behavior (Carmeli, Mietar, & Weisberg, 2006[7]; Jensen & Raver, 2012)[32].

Natural reward strategies involve building more naturally enjoyable activities and focusing one's attention on the rewarding aspects of the tasks. According to self-determination theory (Deci & Ryan, 1985)[14], the need for competence and self-determination are the primary mechanisms that drive intrinsic motivation. Previous research studies provide evidence that once employees learn to redesign their jobs in ways that increase feelings of competence and self-determination, they are more motivated to perform well and feel more satisfied with their jobs (Fuller & Marler, 2009[17]; Gagné & Deci, 2005[19]; Neck & Manz, 2010)[49]. Finally, individuals who practice constructive-thought self-leadership strategies to eliminate negative thought pattern are more likely to perform well and evaluate their jobs in a positive manner (Houghton & Jinkerson, 2007[28]; Neck & Manz, 1996)[48]. Several research studies further support a positive relationship between a general combination of self-leadership strategies and work outcomes (Ho & Nesbit, 2014; Carmeli et al. 2006; Millikin et al., 2010). As stated earlier, the hypotheses (1a and 1b) predict a positive relationship between personality traits and self-leadership. Taken together, we expect that conscientiousness and internal locus of control may predispose individuals to greater use of self-leadership strategies, which subsequently leads to higher job performance and job satisfaction.

Hypothesis 2: Self-leadership mediates the relationship between the personality traits of conscientiousness (H2a), and internal locus of control (H2b) and job performance.

Hypothesis 3: Self-leadership mediates the relationship between the personality traits of conscientiousness (H3a), and internal locus of control (H3b) and job satisfaction.

2.3 The Moderating Role of Gender

While we have argued that distal relationships between employees' personality traits and work outcomes are mediated by self-leadership, it is possible that the strength of these relationships differ across gender. To examine the moderating role of gender in this study, we adopt social role theory, which highlights the importance of context in creating psychological gender differences (Hyde, 2005)[30]. According to social role theory, in preparing people to fulfill their assigned social roles, men are generally socialized from a young age to be task-oriented, independent, masterful, and competent, while women are generally taught to be nurturing, interpersonally oriented with a concern for the welfare of others (Guimond et al., 2006)[21]. Thus

men's sense of worth is closely linked to autonomy and personal achievement, whereas women emphasize connectedness and sensitivity to others (Josephs, Markus, & Tafarodi, 1992)[34]. Recent research on gender and self-concepts continue to show these patterns of self-construal and social stereotypes, where women tend to have a more relational self-concept than men and that men tend to have a more agentic self-concept than women (Meyer-Levy & Loken, 2015)[45].

While these gender typical patterns are evident in Western cultures (Meyer-Levy & Loken, 2015)[45], gender role expectations are especially apparent in Chinese culture where its traditional Confucian heritage highlights distinctively different roles for men and women (Tang & Tang, 2001)[59]. Chinese men are expected to be active, aggressive, and masculine, whereas Chinese women who traditionally tend to bear more domestic responsibilities are expected to be passive, compliant and dependent (Zhou, 2006)[62].

The theory of self-leadership is heavily rooted in the concept of self-contained individualism with a strong focus on task achievement, self-reliance and autonomy (Neck & Houghton, 2006).). Thus, while self-leadership strategies are designed to help all individuals strive for personal achievement, self-reliance and competence, we posit that individual's practice of self-leadership strategies is more consistent with Chinese men's gender roles that emphasize agency and competition (Meyers-Levy & Loken, 2015)[45]. In contrast, female employees are typically socialized to be nurturing and communal, and they traditionally tend to bear more domestic responsibilities (Bianchi., Robinson, & Milkie, 2007)[5]. Women may be less likely to engage in self-leadership behaviors, because it goes against culturally held expectations for women's behavior. Thus, we expect that in Chinese context, men with high levels of conscientiousness and internal locus of control are more likely to engage in using self-leadership strategies than are women with the same level of these two traits which in turn influence them to perform better and enjoy higher job satisfaction.

Hypothesis 4: Gender moderates the indirect effects of conscientiousness (H4a), and internal locus of control (H4b), on work outcomes (job performance and job satisfaction) via self-leadership, such that the indirect effects are stronger for men than for women.

3. METHOD

3.1 Participants

The data reported in this study were part of a larger dataset related to ongoing research exploring self-leadership. For this study, participants were recruited from the industries of insurance, engineering, and manufacturing in Hong Kong and mainland China. Our sample also included employees from a variety of

organizations and job positions. Participants completed a “subordinate” questionnaire package which contained questions regarding their personality traits, self-leadership behaviors, and job satisfaction. Additionally, we informed the participants by email that we would approach their supervisors to get their job performance ratings. The immediate supervisors of these respondents received a “supervisor” questionnaire package containing questions regarding the general job performance of the subordinate. Both “subordinate” and “supervisor” questionnaire packages included a cover letter clearly explaining the purpose of the research and stating that participation was voluntary and that results were confidential. In total, 490 matched surveys were distributed to employees and supervisors. We received 347 completed and usable matching pairs. Deletion of responses with missing data (six forms were incomplete) reduced the final usable sample to 341. For the whole sample, 57% of the employees were male, the average age range of employee respondents was 26 – 35 years and the average job tenure was 4 years (SD = 5.29).

3.2 Measures

In order to use pre-validated measures, the questionnaire items of each measure were translated into Chinese using Brislin’s (1980) translation/back-translation procedure. The items of conscientiousness, internal locus of control and job satisfaction were rated on a 6-point scale (1 = strongly disagree to 6 = strongly agree.), whereas a 5-point Likert-type scale (1 = not all accurate; 2 = somewhat accurate; 3 = a little accurate; 4 = mostly accurate; 5 = completely accurate) was used for self-leadership.

Conscientiousness

Conscientiousness was measured by a 9-item subscale within the Big Five Inventory developed by John, Donahue, & Kentle (1991). This subscale consists of nine items. A sample item is, “I make plans and follow through with them.” The alpha coefficient was .81.

Internal locus of control.

Internal locus of control was assessed by an 8-item scale developed by Spector (1988). A sample item is, “most people are capable of doing their jobs well if they make the effort.” The alpha coefficient was .74.

Self-leadership.

In this study, self-leadership was assessed using the modified Self-leadership Questionnaire (MSLQ) developed by Ho and Nesbit (2009). The MSLQ consists of 38 items describing various behaviors associated with self-leadership and participants. The dimension of behavior-focused strategy consists of five subscales which include self-goal setting (4 items, e.g., “I consciously have goals in mind for my work efforts”; $\alpha = .79$), task and relation-based self-observation (4 items, e.g., “I usually examine how well I’m doing at work”; $\alpha = .70$), self-reward (3 items, e.g., “When I have successfully completed a task, I often reward myself with something I like”; $\alpha = .89$), self-punishment (4 items, e.g., “I feel

guilty when I perform a task poorly”; $\alpha = .80$), and self-cueing (2 items, e.g., “I use written notes to remind myself of what I need to accomplish”; $\alpha = .81$). The dimension of natural reward strategy involves two subscales: the first relates to Task-based Natural Reward (4 items, e.g., “I think that the enjoyment gained from work is more important than external rewards”; $\alpha = .76$) and the second subscale relates to Relation-based Natural Reward (3 items, e.g., “I pay attention to the enjoyment I gain from working in harmony with my colleagues/team members”; $\alpha = .68$). The dimension of constructive thought strategy includes four subscales which are: Self-talk (3 items, e.g., “When I’m in difficult situations I will sometimes talk to myself (out loud or in my head) to help me get through it”; $\alpha = .84$); Individual-oriented Evaluation of Beliefs and Assumptions (5 items, e.g., “I try to evaluate the consequences of my negative thinking”; $\alpha = .79$); Social-oriented Evaluation of Beliefs and Assumptions (3 items, e.g., “I examine whether my thinking can fit in with the opinions of my colleagues and team members”; $\alpha = .50$); and Visualizing Successful Performance (3 items, e.g., “I visualize myself successfully performing a task before I do it”; $\alpha = .70$). The mean scores of each subscale were averaged to create an overall measure of self-leadership. The reliability was .82.

Job satisfaction.

Four items developed by Manz (1981) were used to measure job satisfaction.

Job performance.

Five items developed by Goodale and Burke (1975)[20] were used to measure five performance dimensions related to organizing and planning, reliability, adaptability, productivity, and quality of work. A sample item is, “This subordinate produces a quantity of work that meets the established standards.” Furthermore, we developed an additional item to measure the dimension of initiative, “This subordinate is willing to accept extra assignments and originates action without constant supervision.” The supervisor was asked to rate his or her subordinates on each of these six performance dimensions on a scale from 1 (*poor performance*) to 4 (*average performance*) to 7 (*excellent performance*). The alpha coefficient was .92.

3.3 Control Variables

Previous research has shown that self-leadership, work performance and job satisfaction may be affected by organizational tenure, educational level, and age (D’Intino et al. 2007[15]; Hom & Griffeth, 1995[26]; Sturman, 2003)[58]. We included these variables as controls in our analyses. Since our respondents worked in three different industries in Hong Kong and mainland China, industry categories and location were also considered as control variables. Furthermore, all respondents from the manufacturing industry only worked in mainland China, thus location was omitted as control variables in our study.

3.4 Data Analysis

We used hierarchical regression analysis to test whether conscientiousness and internal locus of control is positively related to self-leadership (H1a, H1b). We entered the control variables (e.g. age, tenure, education and industries) into the first block of the regression equation. In the second step, the predictor variable (conscientiousness and internal locus of control) were entered.

We also tested our mediation hypotheses (H2a, H2b, H3a, H3b) and the respective moderated mediation hypotheses (H4a, H4b) using the PROCESS tool developed by Hayes (2013). PROCESS provides a direct test of moderated mediation effects by providing an index of moderated mediation (Hayes, 2015). In testing our hypotheses, we chose Model 4 (for mediation model) and Model 7 (for first-stage moderated mediation model, see Hayes 2013) of the PROCESS tool. The number of bootstrap samples used to determine bias-corrected bootstrap confidence intervals of 95% was 10,000 for estimating the respective effects. We also included the control variables at the stage of the mediator and the outcome model. The variables in the proposed model were mean centered to minimize multicollinearity.

4. RESULTS

4.1 Construct Validity

As the scales of conscientiousness, internal locus of control, self-leadership and job satisfaction are self-reported measures, common method bias may exist in this study. To address this concern, it is important to demonstrate the construct validity of the measures used (Conway & Lance, 2010)[12]. For example, if a potential relation between the personality traits, self-leadership and job satisfaction can be accounted for by a single, method-

related factor, results of confirmatory factor analyses may support models in which these four factors were combined as one factor. We conducted a series of confirmatory factor analyses (CFAs) to test the construct distinctiveness of the five major variables of conscientiousness, internal locus of control, self-leadership, job performance and job satisfaction. To reduce the number of parameters in the structural equation modeling (Bogozzi & Edwards, 1998), three parcels for conscientiousness and four parcels for internal locus of control were created. Furthermore, the mean scores of each subscale were averaged to create three dimension scores for self-leadership (e.g. behavior-focused strategy, natural reward strategy and constructive thought strategy). These three dimension scores were used as indicators for self-leadership. Next, the five-factor model with the items or parcels assigned to the five corresponding variables was used as the baseline model. Five alternative models were examined against the baseline five-factor model. As shown in Table 1, this baseline five-factor model fit provide a superior fit to the data, whereas the other five alternative models all exhibited significantly worse fit than the baseline model. Such evidences indicated that the respondents can distinguish the constructs clearly and did not provide evidence for common method bias (Conway & Lance, 2010)[12].

Mean, standard deviation and inter-correlations between all variables are presented in Table 2. Consistent with our expectation, conscientiousness ($r = .29, p < .01$) and internal locus of control ($r = .33, p < .01$) were positively and significantly related to self-leadership. Self-leadership was also positively and significantly related to the outcome variables of job performance ($r = .20, p < .01$) and job satisfaction ($r = .31, p < .01$).

Table 1 Comparison of Measurement Models for Study Variables

Model	Description	χ^2	df	$\Delta \chi^2$	CFI	GFI	SRMR	RMSEA
The baseline five-factor model	Conscientiousness, internal locus of control, self-leadership, job performance and job satisfaction	399.68	176	-	.95	.92	.06	.06
Four-factor model	Performance ratings and job satisfaction were combined into one factor	1525.19	180	1125.51	.70	.68	.15	.14
Four-factor model	Conscientiousness, and internal locus of control were combined as one factor	710.58	180	310.9	.88	.84	.11	.09
Two-factor model	Self-leadership, conscientiousness, and internal locus of control were combined as one factor and performance ratings and job satisfaction as another	2124.82	185	1725.14	.57	.60	.16	.16
Two-factor model	Self-leadership, conscientiousness, internal locus of control and job satisfaction were	1417.15	185	1017.47	.72	.72	.12	.13

model	combined as one factor and performance ratings as another												
One factor model	All parcels and items were loaded on a single factor	2514.79	186	2115.11	.48	.56	.17	.18					

Note. CFI = comparative fit index; GFI = goodness of fit index; SRMR = standardized root mean squared residual ; RMSEA = root mean square error of approximation.
** $p < .01$, two-tailed.

Table 2 Means, Standard Deviations, Correlations and Reliabilities

Variable	Means	SD.	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	1.42	.49	-											
2. Age	2.29	.98	-.04	-										
3. Tenure	3.98	5.29	-.18**	.53**	-									
4. Education	3.63	1.64	-.09	-.06	-.08	-								
5. Insurance Industry	.52	.50	.22**	.06	-	.06	-							
6. Engineering Industry	.23	.42	-	.04	.27**	.44**	-	-						
7. Manufacturing Industry	.25	.43	-.03	-.10	.04	-.50**	-	-.32	-					
8. Conscientiousness	4.12	.68	-.07	.12*	.09	-.12*	-.32**	-.12	.48**	(.81)				
9. Internal locus of control	3.92	.30	.06	-.11*	-.08	-.05	.09	-.10	.00	.21**	(.74)			
10. Self-leadership	3.47	.44	.01	-.03	.02	.10	.07	-.11*	.02	.29**	.33**	(.82)		
11. Job performance	4.53	1.11	-.01	.06		.11	-.28**		.11	.23**	.02	.20**	(.92)	
12. Job satisfaction	4.37	.91	-.05	.07	.07	-.08	.17**	-	-.04	.24**	.45**	.31**	.17**	(.90)

N = 341. Reliability estimates in parentheses. * $p < .05$; ** $p < .1$

^a Gender was coded “0” for male and “1” for female; ^b Age was coded 1 - “18-25” to 5 - “56 or above”.

^c Education was coded as follows: “Junior high school or below” – 1; “senior high school” – 2; “vocational or technical college” – 3; “associate degree” – 4; “undergraduate degree” – 5; “graduate degree or above” – 6.

^d Insurance, Engineering, and Manufacturing industry are dummy variables.

Hypothesis 1a and 1b predicted that conscientiousness and internal locus of control is positively associated with self-leadership. As shown in step 2 in Table 3, after controlling for demographics, conscientiousness ($\beta = .28$,

$p < .01$) and internal locus of control ($\beta = .26$, $p < .01$) was positively related to self-leadership. Hypothesis 1a and 1b were supported.

In Hypotheses 2a, 2b, 3a, 3b, we predicted that the positive relationships between personality traits and work outcomes are mediated by self-leadership. As shown in Table 4, the bootstrap analyses indicated that the indirect effects of conscientiousness on job performance ($\beta = .11$, 95% CI [.05, .19]) and job satisfaction ($\beta = .11$, 95% CI [.06, .19]) were positive and significant (the bootstrapped 95% CI did not include zero). In addition, the indirect effects of internal locus of control on job performance ($\beta = .28$, 95% CI [.14, .44]) and job satisfaction ($\beta = .17$, 95% CI [.07, .31]) were also positive and significant Thus Hypotheses 2a, 2b, 3a, 3b were supported.

Table 3. Results of hierarchical regression analysis for predicting self-leadership

	Self-leadership
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Steps and Variables		1	2	
1. Control variables				
	Age	-.07	-.10	
	Tenure	.14*	.14*	
	Education	.23**	.19**	
	Manufacturing Industry	.28**	.10	
	Insurance Industry	.26**	.23**	
2. Main effects				
	Conscientiousness		.28**	
	Internal Locus of Control		.26**	
	Adjusted R2	.05	.21	
	ΔR2		.16**	

Note: The coefficients are standardized β weights. * $p < .05$; ** $p < .01$

^a Manufacturing, Insurance, and Transportation industry are dummy variables with Engineering the omitted category which is the comparison category. As all

respondents from the manufacturing industry only worked in mainland China, a dummy variable created for location is exactly the same as that of manufacturing industry. Thus, location was omitted as control variables in our study to avoid redundancy.

Table 4 Mediation effect of self-leadership in the relationship between personality traits and work outcomes (PROCESS, Model 4)

Indirect paths	β	SE	Bootstrapped CI (95%)	
			LL	UL
H2a: Conscientiousness → self-leadership → job performance	.11	.04	.05	.19
H2b: Internal locus of control → self-leadership → job performance	.28	.08	.14	.44
H3a: Conscientiousness → self-leadership → job satisfaction	.11	.03	.06	.19
H3b: Internal locus of control → self-leadership → job satisfaction	.17	.06	.07	.31

Note. N = 341; CI = Confidence Interval; SE = Standard Error; LL = Lower Limit; UL = Upper Limit; Bootstrap sample size = 10000

In Hypothesis 4a and 4b, we predicted that the positive indirect effects of personality traits on job performance and job satisfaction via self-leadership are stronger for men than for women. As shown in Table 5, the indirect effects of conscientiousness on job performance and job satisfaction via self-leadership were positive and significant for both men and women (job performance - male: $\beta = .11$, 95% CI [.05, .19]; female: $\beta = .09$, 95% CI [.04, .21]; Job satisfaction - male: $\beta = .11$, [.05, .18]; female: $\beta = .10$, 95% CI [.04, .20]). The index of

moderated mediation as a direct significance test (Hayes, 2015) was not significant for job performance (index = -.00, 95% CI [-.07, .07] and job satisfaction (index = -.00, 95% CI [-.06, .06]) as the bootstrapped 95% CI include zero. In a similar vein, the indirect effects of internal locus of control on job performance and job satisfaction via self-leadership were also positive and significant for both men and women (job performance - male: $\beta = .21$, 95% CI [.09, .39], female: $\beta = .35$, 95% CI [.18, .59]; job satisfaction - male: $\beta = .13$, [.04, .26], female: $\beta = .21$,

95% CI [.07, .39]). The index of moderated mediation was not significant for both job performance (index = .14, 95% CI [-.01, .37]) and job satisfaction (index = .08, 95% CI [-.01, .24]). These results show that the indirect effects of conscientiousness and internal locus of control on work outcomes via self-leadership did not differ across men and women. Thus Hypothesis 4a and 4b were not supported.

5. DISCUSSION

In this study, we investigated the relationship between personality traits and self-leadership. Additionally, we tested a moderated mediation model with self-leadership as the mediator between personality traits and work outcomes and with gender as the moderator in influencing the mediation.

The research findings of this study make several contributions to the literature on personality, self-leadership, and social cognitive theory. First, we found that conscientiousness and internal locus of control were positively related to self-leadership behaviors. These findings are congruent with self-leadership literature (Houghton et al., 2004[27]; Renn et al., 2011[53]; Stewart et al., 1996[56]; Williams, 1997[61] and showed that such relationship found in Western contexts could also be generalized to the Chinese contexts. This study adds to the scant literature on the dispositional source of self-leadership in Asian context.

Second, less is known about the mechanism by which personality influences various work outcomes such as performance, job satisfaction and career success. Results of the current study provide strong support for self-leadership as an important intervening factor in translating the personality effects to job performance and to job satisfaction. These findings confirm prior theoretical assertion that distal personality traits affect work behaviors through proximal motivational constructs (Barrick et al., 2001[3]; Lee et al., 2003)[39]. This study thus provides a new perspective on understanding how personality traits influences employees' self-leadership behaviors which subsequently leads to higher performance and job satisfaction.

Third, this is the first study examining gender as the boundary condition of the indirect effects linking personality traits, self-leadership, and work outcomes. However, contrary to our expectations, we found that the mediating effects of self-leadership in the relationship between personality traits and job performance/job satisfaction were not stronger for men than for women. This may possibly be explained by the significant economic growth and industrialization of both Hong Kong and Mainland China in the last three decades. Such economic changes combined with women's increased educational attainment created more managerial and professional job opportunities for women (Sidani, 2013[54]; Chow, 2005)[9].

Table 5 Conditional indirect effects and index of Moderated mediation (PROCESS, Model 7).

Conditional indirect effects (via self-leadership)	β	SE	Bootstrapped CI (95%)	
			LL	UL
IV: Conscientiousness				
DV: Job Performance				
Male	.11	.04	.05	.19
Female	.09	.04	.04	.21
Index of moderated mediation	-.00	.03	-.07	.07
IV: Internal locus of control				
Male	.21	.07	.09	.39
Female	.35	.10	.18	.59
Index of moderated mediation	.14	.10	-.01	.37
IV: Conscientiousness				
DV: Job Satisfaction				
Male	.11	.03	.05	.18
Female	.10	.04	.04	.20

Index of moderated mediation	-.00	.03	-.06	.06
IV: Internal locus of control				
Male	.13	.05	.04	.26
Female	.21	.08	.07	.39
Index of moderated mediation	.08	.06	-.01	.24

Note. N = 341; CI = Confidence Interval; SE = Standard Error; LL = Lower Limit; UL = Upper Limit; Bootstrap sample size = 10000

Moreover, the one-child-per-family policy of Mainland China created gender equality in the household division of labor (Tsai, Chang, & Peng 2016)[60], whereas the hiring of domestic helpers in Hong Kong further reduce women's burden in household responsibilities (Chow, 2005)[9]. Thus, women become more confident and competitive with greater aspiration to pursue career advancement and significant leadership roles in the workplace. To achieve their career goals and to manage their multiple roles as wife, mother and executive more effectively, working women are as motivated as men to utilize self-leadership strategies to enhance their personal effectiveness. Therefore, women with high level of conscientiousness and internal locus of control are as likely to engage in using self-leadership strategies as their male counterpart which in turn influence them to perform better and enjoy higher job satisfaction.

There are several practical implications of these findings. First, the significant relationships for conscientiousness and internal locus of control with self-leadership suggest that organizations could use personality traits as assessment measures for the identification of self-leadership potential in Chinese population. In the past two decades, organizations often adopt decentralized, organic-type organizational structures in response to the dynamic changes of complex business environments. People with high level of self-direction capacity could deal with the rapid changes of organizational structures more effectively (Sturges, Conway, & Liefoghe, 2010)[57]. Human resources managers should pay more attention in hiring new staff with greater self-leadership potential.

Second, our findings highlight the important roles of self-leadership in transmitting the effects of conscientiousness and internal locus of control. In order to enhance the productivity and job satisfaction of individuals high in conscientiousness and internal locus of control, managers should consider giving them more discretion in determining their work schedule and work methods (Langfred & Moye, 2004)[37]. By doing so, these individuals would have more freedom to express their self-leading tendency such as goal-setting and job redesign. Previous research provides evidence that the positive relationships between self-leadership and performance ratings and job satisfaction were strongest for those employees reporting a high level of job autonomy (Ho & Nesbit, 2014)[25].

On the other hand, those employees with low conscientiousness or external locus of control are more likely to experience self-management failure, leading to poor performance and job dissatisfaction. Managers could use training intervention to shape the self-leadership behaviors of these employees. Although personality traits tend to be stable in adulthood, self-leadership skills are amenable to change through training (Manz, 1986[42]; Renn et al., 2011)[53]. Stewart et al. (1996)[56] found that the least conscientious employees showed the greatest improvement in self-leadership behaviors as a result of training. It is suggested that behavior-focused self-leadership training that targets weaknesses in personal goal setting, self-evaluation and self-reinforcement can help those individuals who are weak in self-discipline to monitor their performance standards. Moreover, the thought patterns associated with external locus of control may also be amenable to change. Those who believe their life events are beyond their control may engage in dysfunctional patterns of thinking such as negative self-talk and irrational beliefs and assumptions. Thought self-leadership involves teaching the strategies of positive self-dialogue, visualizing successful goal attainment, and identifying and challenging irrational beliefs and thought patterns, may enhance employees' perceived control of external environment and goal achievement.

Third, our findings indicate that the conditional indirect effects of personality traits on work outcomes were not different between men and women. As noted earlier, Chinese working women high in conscientiousness and internal locus of control are as motivated as their male counterpart to utilize self-leadership strategies to enhance their personal effectiveness. In order to grow and prosper in the highly competitive global economy of the twenty-first century, Hong Kong and PRC (the People's Republic of China) organizations cannot afford to forego a major managerial talent pool represented by women. Preconceived gender stereotyping would be detrimental to organizations that underutilize women with self-leadership potential. This study emphasizes the needs for organizations to eliminate gender role stereotypes and implement policies to achieve gender equity in terms of employment, training and career development. Organizations may consider training managers on the awareness of gender stereotypes and providing women

executives with flexible work schedules (Ruderman, 2004) that prevent the underutilization of women talents in Hong Kong and PRC.

6. LIMITATIONS AND FUTURE RESEARCH DIRECTION

There are several limitations of this study that should be acknowledged. First, we conducted our study in a Chinese cultural context, which may limit the generalizability of our findings to other cultural contexts. To ascertain the generalizability of results obtained in our current study, future research should attempt to replicate our design in other Eastern countries such as Japan, India and Korea, as well as in Western cultures. Second, our mediation model implies causal relationships between personality traits, self-leadership, and work outcomes. However, our cross-sectional research design means that we cannot draw definite conclusions or rule out the possibility of reverse causation. To ascertain causality, future studies could affirm the causal relationship posited in our model by conducting longitudinal research or by manipulating the mediating processes associated with self-leadership in experimental settings. Third, all outcome variables in this study were measures of subjective judgment. Future studies would benefit from including objective measures of job outcomes, such as actual turnover and attendance. Fourth, this study only measured the subordinates' personality and their self-leadership behaviors. Our mediation model could be expanded to examine whether supervisors' self-leadership behaviors mediate the relationship between their personality traits and the subordinates' rating of leadership effectiveness. Fifth, all variables studied except performance were measured from the same source, and therefore common-method bias may have occurred. However, there are several reasons why the effects of common method bias are not likely to be problematic in the present study. First, several measures of this study are most accurately assessed by the respondent him/herself as the content examines individual's internal psychological state (i.e. job satisfaction), unobservable perception (i.e., one's perceived control of life events) and behaviors less likely to be publicly displayed (i.e., deliberate behavior and self-leading orientation). Thus consistent with the recommendations suggested by Conway and Lance (2010)[12], self-reports are more appropriate than observer ratings. Second, according to Conway and Lance (2010), one way to eliminate substantial common method effects is to demonstrate construct validity of the measures used. A comparison of different factor models shown in Table 1 in our study confirms that all constructs are not only theoretically, but also empirically distinguishable.

7. CONCLUSION

This study adds to the body of research that demonstrates that self-leadership is an important motivational construct

in organizational settings. In this study, self-leadership served as a mediator between personality traits and work outcomes of job performance and job satisfaction. The strength of the mediated effects of self-leadership did not differ across men and women. Extending the results of this study to other cultural contexts is therefore encouraged.

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