Role clarity at work: The roles of employee characteristics and leader-member exchange

Abstract

Although prior research generally holds that role clarity is affected by individual characteristics, current empirical studies have not examined the effects of these antecedents. A more complete understanding of how role clarity emanates from the individual characteristics is necessary to help prevent poor job performance and other harmful consequences of ambiguous role expectations. To address this, I investigate the effects of internal work locus of control, general self-efficacy, and leader-member exchange on role clarity, and the moderating role of employee self-enhancement motives in these relationships. Analyses of a dataset collected from 264 employees in 3 organizations in Finland suggest that work locus of control, general self-efficacy, and leader-member exchange are indeed predicting role clarity. However, results were contradictory when self-enhancement motive and its moderating effects were analyzed. Future research could be conducted in analyzing the moderating role of general self-efficacy to role clarity and between leader-member exchange and role clarity, as they seemed the most promising for theoretical support. Situational factors could be an area of interest in future studies, as moderation was only observed when other relationships were present.

Introduction

In contemporary organizations, where tasks are increasingly abstract and complex, and where employees work in several teams and report to several managers, role clarity can easily be compromised (Wong et al., 2007). This phenomenon is likely to be harmful to organizations because without clear roles, employees are unlikely to identify with their organization and its goals (He et al., 2011), and their behaviors will not be aligned with their organization's strategy (Riel et al., 2009). Therefore, an important part of managerial work is ensuring that all organizational members understand their roles. For individual employees, the absence of role clarity (i.e., role ambiguity) is a stressor that is negatively associated with several relevant organizational outcomes such as in-role performance (Gilboa et al., 2008), organizational citizenship behaviors (Eatough et al., 2011), organizational commitment, and job satisfaction (Ngo et al., 2005; Slattery et al., 2008). Thus, preventing workplace deviance and unwanted turnover are additional motivations for managers to ensure a high level of employee role clarity.

In this study, role clarity is defined as the extent to which individuals clearly understand the duties, tasks, objectives, and expectations of their work roles (Hinkin and Schriesheim, 2008; Katz and Kahn, 1978). Therefore, role ambiguity, which is the opposite of and inversely interchangeable with role clarity (Rizzo et al., 1970), occurs when individuals are uncertain with regard to what is expected of them. Although role ambiguity is inarguably harmful and several comprehensive meta-analyses have urged organizations to develop preventive measures for it (e.g., Gilboa et al., 2008), surprisingly little empirical research has focused on the issues that may either improve role clarity or aggravate role ambiguity. Previous studies have reported that information-seeking behavior (Brown et al., 2001), clarity of work-related interdependencies (Wong et al., 2007), the perception of job control (Elovainio and Kivimäki, 2001), supervisory support (Whitaker et al., 2007), and transformational leadership

(MacKenzie et al., 2001) may improve employee role clarity, whereas laissez-faire leadership aggravates role ambiguity (Skogstad et al., 2007). Moreover, Organ and Greene (1981) showed that employees' perception of the organizational formalization is positively associated with role clarity.

Despite this progress, one important obstacle for multilevel understanding is that researchers have yet to develop an integrated theoretical framework explaining the unique, conceptually justified effects of individual-level antecedents to role clarity (Jackson and Schuler, 1985). To address this issue, the present study delineates and tests a model that incorporates individual-level (i.e., control beliefs and leader-member exchange) antecedents to role clarity. Through its analyses, this study offers contributions to research on role clarity by advancing the understanding of how and why certain characteristics of individuals improve employee role clarity (Jackson and Schuler, 1985). In this order, I draw on core self-evaluations and social cognitive theories (Bandura, 1991; Judge et al., 1999) to argue that high control beliefs in terms of internal work locus of control (WLOC) and general self-efficacy (GSE) influence the extent to which employees perceive that their roles are clear. Moreover, drawing on role-making and leader-member exchange (LMX) theories (Gerstner and Day, 1997; Graen et al., 1973), I seek to clarify how role clarity develops in the relationship between the leader and the subordinate. Finally, I build on the impression management literature to predict that the effects of control beliefs and LMX on role clarity are contingent upon the employees' propensity to enhance their self-image.

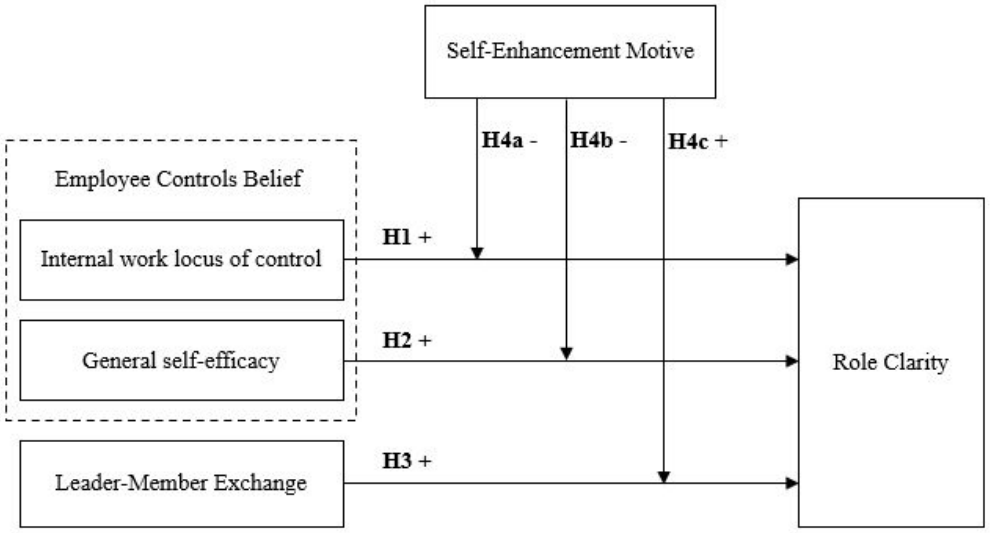


Figure 1. Theoretical model

Hypotheses

Role ambiguity, like other role stressors (namely, role conflict and role overload), is related to several undesirable organizational outcomes (Eatough et al., 2011; Michel et al., 2011). However, role ambiguity may be even more harmful than other role stressors, as it, for example, has a stronger negative relationship with employee work performance (Gilboa et al., 2008; Tubre and Collins, 2000). Moreover, although individuals may view stressful situations either as challenging (i.e., providing opportunities for personal growth) or hindering (i.e., obstructing personal growth) (LePine et al., 2005), role ambiguity is among the role stressors least likely to be viewed as challenging, meaning that it is almost purely a hindrance factor (Gilboa et al., 2008). Even so, role ambiguity is controllable to some extent, which is why this study seeks to improve our understanding of its antecedents.

Employee control beliefs and role clarity

Locus of control (LOC) and GSE can be regarded as the two main components of an overall perception of behavioral control (Ajzen, 2002) and among the most influential factors alleviating role stress (Judge et al., 1999; Meier et al., 2008). In this study, I focus on WLOC in lieu of general LOC because the former measures generalized control beliefs in the work domain (Ng et al., 2006). Compared to general personality measures, work-specific personality measures produce improved validity in work contexts (Wang et al., 2010). Moreover, although both yield similar relationships with work-related criteria (Ng et al., 2006), general LOC is only weakly associated with work-related variables (Spector, 1988) and is not significantly correlated with role clarity (Wang et al., 2010). Then again, I use GSE instead of task-specific self-efficacy because the latter represents malleable motivational states rather than stable traits (Chen et al., 2001) and as such is not consistently associated with role stressors.

WLOC refers to the extent to which one believes work to be controlled either by one's own actions (internal locus of control) or by external forces beyond one's control (external locus of control) (Spector, 1988). Following De Hoogh and Den Hartog (2009), I focus my discussion on the internal control dimension of WLOC. Whereas Wang et al.'s (2010) meta-analysis revealed that internal WLOC and role ambiguity are negatively correlated, primary studies have not examined this relationship. I suggest that internal WLOC improves role clarity for two primary reasons. First, internal WLOC increases employees' motivation to engage in role negotiation processes because internals believe that people may effectively exert control over their work and shape work-related activities (Ng et al., 2006). As a consequence of participating in role negotiation processes, internals develop higher levels of role clarity than externals, who are less eager to engage in role negotiations. Second, internals

are more likely than externals to develop dense social networks with people and activities within and outside the organization (Ng and Feldman, 2011). Connections through social networks are important sources of role-related information, as they provide access to a wide array of actors and information (Brass et al., 2004). Connections may also improve employees' understanding of their roles in the broader organizational context and in relation to the roles of other actors. This understanding is important because employees will exhibit enhanced role clarity when they are clear about whom they are reliant on when performing their work and for what purposes (Wong et al., 2007). Thus:

Hypothesis 1: Internal work locus of control is positively related to employee role clarity.

Whereas internal WLOC indicates an employee's belief that work-related issues are controllable *in general*, GSE indicates one's perception of his or her *own ability* to exert control (Judge et al., 1999). GSE is defined as one's belief about his or her own ability to perform across various situations (Bledow and Frese, 2009; Judge et al., 1998). On the basis of social cognitive theory (e.g., Bandura, 1991), I expect GSE to improve role clarity because individuals with high GSE tend to set high performance objectives for themselves and outline the activities necessary to reach these objectives (Gist and Mitchell, 1992). In particular, because employees high in GSE believe that they possess the skills and capacity required to change the situation, they are more likely to rely on problem-focused coping (Meier et al., 2008). Problem-focused coping means that employees invest a great deal of time and effort into pursuing their tasks and taking necessary risks (Bandura and Locke, 2003). A problem-focused coping strategy is likely to facilitate role clarity because it implies that employees take personal initiative in eliminating the causes of stress and ambiguity (Bledow and Frese, 2009; Wang et al., 2010) and changing their work methods (Wong et al., 2007). In contrast, employees low in GSE may not set any goals for themselves (Wood and Bandura,

1989). Rather, they tend to focus on worrying about inadequacies and dwelling on past failures, which consumes cognitive resources from seeking and integrating information and using this information to improve role clarity (Brown et al., 2001). Therefore:

Hypothesis 2: General self-efficacy is positively related to employee role clarity.

Leader-member exchange and role clarity

LMX is defined as the quality of the relationship between a leader and a member (Walumbwa et al., 2009). In contrast to other leadership theories, LMX is unique in its focus on the dyadic relationship between a leader and a member (Ilies et al., 2007). Whereas low-quality LMX is limited to minimal resource exchanges and contractual-type obligations, high-quality LMX is characterized by trust, open communication, and mutual sharing (Anand et al., 2010). As LMX was originally grounded in role-making theory (Gerstner and Day, 1997), it is intuitively appealing that LMX explains role clarity. Role-making theory posits that work roles are negotiated and developed over time through an ongoing social exchange between the manager, who is the focal role-sender, and the subordinate, who is expected to assume the role (Dienesch and Liden, 1986; Graen et al., 1973). Due to the interaction and mutual sharing with the manager, employees in high-quality LMX tend to develop a clearer understanding of their role than employees in low-quality LMX.

Beyond facilitating role clarity through the role negotiation process, LMX improves role clarity by increasing the availability of knowledge and other resources because leaders are key sources of role-related information and feedback for employees (Whitaker et al., 2007). As a consequence of ongoing communication and social exchanges, subordinates in high-quality LMX receive more information, tangible and intangible resources, and emotional support than employees in low-quality LMX (Wayne et al., 1997). These resources

and knowledge are likely to help employees to develop clear perceptions of their roles because well-defined descriptions of job duties and expectations may be effective means of facilitating role clarity (Eatough et al., 2011).

Hypothesis 3: Leader-member exchange is positively related to employee role clarity.

The moderating roles of employee self-enhancement motive

Self-enhancement motive is "an individual employee's sensitivity to other people's perception of him or her and the employee's level of motivation to adapt his or her behavior in order to project a good self-image to others" (Yun et al., 2007, p. 749). This research proposes that self-enhancement motive is an important boundary condition that moderates the effects of employee control beliefs and LMX on role clarity. Because organizations need and value high performers, employees with high self-enhancement motive are prone to engage in behaviors that are perceived as valuable, desirable, and beneficial to impress their peers and supervisors. High performance and meeting the expectations, in turn, requires that the employee has a clear understanding of his or her work role.

Hypotheses 1 and 2 state that the variables indicating employees' control beliefs (i.e., internal WLOC and GSE) are positively related to perceived role clarity. The main rationale for this argument is that employees' sense of being able to exert control over their work and obtain the desired results increases their motivation to determine their own roles and goals, and dedicate a significant effort to clarifying various aspects of work-related activities. Given that high control beliefs help employees to cope with the lack of external stimuli and guidance, they might be less helpful for employees who are focused on enhancing their self-image by meeting other people's expectations. In fact, employees who are high in both self-enhancement motives and control beliefs are more likely to be puzzled by differences

between meeting the external role expectations that are important for giving a good self-image to others and the roles they would determine on their own. On the basis of Kahn et al.'s (1964) role episode model, this type of incongruence between the external role sender's expectations and the focal person's own judgment is a focal cause of role ambiguity.

Hypothesis 4a: Self-enhancement motive negatively moderates the positive impact of work locus of control on role clarity.

Hypothesis 4b: Self-enhancement motive negatively moderates the positive impact of general efficacy on role clarity.

In the exchanges between a manager and a subordinate, the position of the manager is especially relevant because top-down processes (i.e., managers as the primary role senders) tend to be more influential than bottom-up processes (i.e., roles emerging from the employees) (Zhou et al., 2012). Therefore, when employees are more sensitive to their leader's perceptions of their behavior, and when they are motivated to adapt their behavior to meet these expectations, the relationship between LMX and role clarity should be stronger, as employees assume their positions as focal role-recipients in the manager-subordinate relationship. Employees with high self-enhancement motive are recipients to their leaders acting as role senders who provide their subordinates not only with clear objectives but also detailed plans and formalized methods for pursuing these objectives (Slevin and Covin, 1997). Thus, when LMX is at a high level, these employees are likely to obtain and assume detailed information concerning their duties and work tasks as managers seek to ensure the correct implementation of strategic plans. Then again, the effect of LMX on employee role clarity is not particularly strong when the employee is not attuned to receive and respond to externally given role expectations (i.e. low level of self-enhancement motive). Therefore:

Hypothesis 4c: Self-enhancement motive positively moderates the positive impact of leader-member exchange on role clarity.

Methods

Sample and procedure

The sample consisted of organizational members working in three firms from the industry of the elderly and disabled care services. The participating firms represent three biggest firms in their industry. In each firm, top management was contacted, and researchers were provided with a name list and email addresses of middle managers. After that, each middle manager was contacted and asked to provide a list of his or her direct reports.

Within the sampled organizations, I sent email invitations to participate in an online-based survey to 725 organizational members at Time 1. Of these employees, 406 responded to the survey. Eight weeks after Time 1, a follow up survey was sent to 406 Time 1 respondents to collect data on dependent variables (Time 2). Of these employees 264 returned the completed Time 2 survey.

The final group of participants were mainly female, only 20 participants (7.6%) are male, with an average age of around 49 years *(SD* = 11.6). Of these participants, 68.2%worked in firm 1; 17.8% in firm 2; 14 percent in firm 3, and they had been employed in the firm on average 5.9 years (*SD* = 5.5). The majority of participants are from the health or social work educational field (87.9%); and most of them currently operate in customer service and support function (86.7%) with the mean task tenure of 5 years (*SD* = 5.0).

Since the sample consisted of organizational members working in three largest firms from one industry of the specific services, the external validity of research could be enhanced if the sample consists of participants from different industries.

Measures

All measures were translated from English to Finnish using a translation-back-translation procedure. Before collecting the data, the reliability and validity of the survey instruments were pretested with a sample of 21 university students and employees. A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used for all survey items.

To depict employees' control beliefs I used internal work locus of control (*WLOC*) and general self-efficacy (*GSE*) as independent variables. Furthermore, relationship between a leader and a member was measured with leader-member exchange (*LMX*) variable. Self-enhancement motive was used as a moderator.

Role clarity

Role clarity (Cronbach's Alpha of 0.898) was measured using a 5-point Likert scale. Participants rated the extent to which they perceive that their roles are clear using five items (Rizzo et al., 1970). One of the items is "I have clear, planned goals and objectives for my job", ranging from 1 = Strongly disagree to 5 = Strongly agree.

Control beliefs

Respondents reported control beliefs in terms of internal work locus of control (WLOC) and general self-efficacy (GSE). WLOC (Cronbach's Alpha of 0.716) was assessed with the work locus of control scale by Spector (1988) (e.g., "A job is what you make of it"; 1 = Strongly disagree; 5 = Strongly agree) and GSE (Cronbach's Alpha of 0.871) was measured by a new validated general self-efficacy scale with five items (Chen et al., 2001) (e.g., "When facing difficult tasks, I am certain that I will accomplish them"; 1 = Strongly disagree; 5 = Strongly agree)

Leader-member exchange

To measure the quality of the relationship between a leader and a member or leader-member exchange – LMX (Cronbach's Alpha of 0.925), I used seven items by Wayne et al. (1997). Example items include "I usually know where I stand with my manager"; and "My manager has enough confidence in me that he/she would defend and justify my decisions if I was not present to do so." (1 = Strongly disagree; 5 = Strongly agree)

Self-enhancement motive

To assess employee's self-enhancement motive – SEM (Cronbach's Alpha of 0.818), I used four items that represent participant's sensitivity about people's impression; and the level of motivation to adapt personal behavior to project good self-image to others (Jun et al., 2007); for example, two items are "I am sensitive to the impression about me that others have"; and "I intend to change my behaviors to create a good impression to others".

Selection of control variables

Based on theory many variables such as sex, educational level, tenure years in the firm, field of education, could have correlations with role clarity, and thus could have been controlled for. After consideration, I decided to control only for **age**, **tenure in the firm** and **tenure in the current task.**

Age

According to Baltes and Baltes(1990), successful personal development throughout a person's life and subsequent mastery of the challenges associated with everyday life are based on components of selection, optimization and compensation. Therefore I decided to choose age as a control variable, as the amount of experience gathered by a certain employee over time can influence his ability to perceive role clarity.

Tenure in the firm

I decided to control for the variable *tenure in the firm*, as employees that work longer in the same company will have time to accumulate knowledge (both explicit and silent) about the practices and culture of the organization.

Tenure in the current task

Finally, we decided to control for tenure in the current task. Indeed, the longer a certain job has been held, through repetition and time, should principally allow for higher role clarity.

Therefore, I assumed that these three variables can have significant correlation with dependent variables.

To make sure I ran skewness analysis, and found out that some variables such as sex, educational level, fields of education, primary function currently operate in the firm, are skewed. Hence, I concluded they could not explain and generalize well with role clarity.

Moreover, I looked at their individual correlations with role clarity with a simple regression, and then saw that these tenure in the firm and tenure in the current task explained role clarity the most when R squared is considered.

Descriptive statistics

Descriptive statistics and correlations among all study variables are available at Table 1. The average role clarity was 3,73 (SD = 0,702). This indicates that on average, employees in our study experienced a good level of role clarity in their work.

The mean age of the group studied was 49 years (SD = 11.56). Average tenure in the firm was 5.9 years (SD = 5.5) and tenure in the current task 5.07 years (SD = 5.0).

When looking at employees' control beliefs, the average internal work locus of control (WLOC) was 3,64 (SD=0.57) and average general self-efficacy (GSE) 4.1 (SD=0,51). In addition, the mean of experienced leader-member exchange (LMX) was 3,48 (SD = 0,76).

Table 1. Descriptive statistics and correlations among all study variables

	Variable	Mean (M)	Std. Deviation	1	2	3	4	5	6	7	8
1	Role clarity	3,732	0,702	-	-	-	-	-	-	-	-
2	WLOC	3,635	0,571	.278**	-	-	-	-	-	-	-
3	GSE	4,095	0,512	.418**	.324**	-	-	-	-	-	-
4	LMX	3,476	0,764	.392**	.208**	.262**	-	-	-	-	-
5	SEM	2,989	0,757	-.039	.089	.016	-.007	-	-	-	-
6	Age	49,019	11,560	.209**	-.085	.077	.147*	-.190**	-	-	-
7	Tenure in Firm	5.90	5.494	.148*	-.126*	-.028	.112	-.019	.521**	-	-
8	Tenure in Task	5.07	4.971	.232**	-.052	.056	.072	.016	.438**	.584**	-

Correlations are two-tailed.
*Significance at the 0.05 level;
**Significance at the 0.01 level.

Linear regression assumptions

Before analyzing collected data from the survey, I checked whether the assumptions of linear regression are violated or not. As a result, none of linear regression's assumptions is severely violated. Initially, I could find the linear relationship between each independent variable and dependent variable (WLOC - Role clarity; GSE - Role clarity; LMX - Role clarity) via visual inspection with scatterplot. About the sample's outlier, there are two observations having low role clarity under 2.00; these observations were included in analysis as their cook's distance values measuring overall influence on the model are smaller than one; and outliers were not caused by mistake. Role clarity, WLOC, and LMX are approaching normal distribution as their skewness and kurtosis values are in acceptable range. Meanwhile, GSE's kurtosis is

higher than other variables' kurtosis values; and GSE's mean statistic is around 4.1. The variables' skewness and kurtosis values are represented in the table below.

Table 2. Distribution of variables

	Skewness (SE)	Kurtosis (SE)
Role clarity	-.406 (.150)	.121 (.299)
Work locus of control	-.003 (.150)	.160 (.299)
General self-efficacy	-.656 (.150)	4.280 (.299)
Leader-member exchange	-.519 (.150)	.705 (.299)
Self-enhancement motive	-.046 (.150)	.263 (.299)
Age	.094 (.150)	-1.049 (.299)
Tenure in Firm	.923 (.150)	-.716 (.299)
Tenure in Task	1.227 (.150)	.186 (.299)

Additionally, the normality and homoscedasticity assumptions of error term are not violated. Examples of the plots are shown in Figure 2 and 3 respectively.

Figure 2. Homoscedasticity assumption of error term

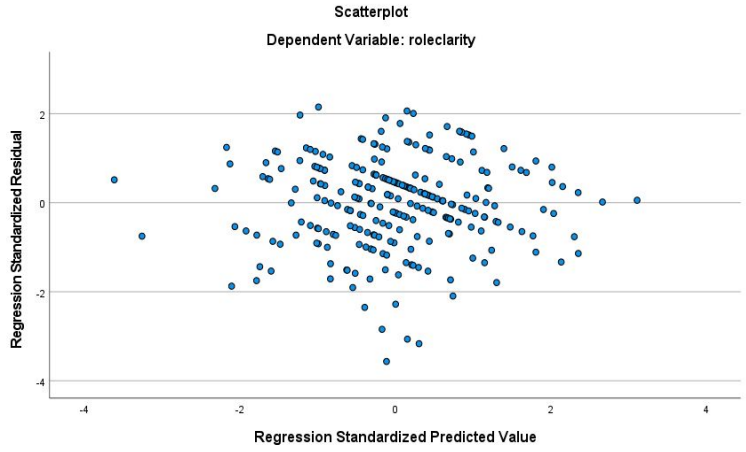
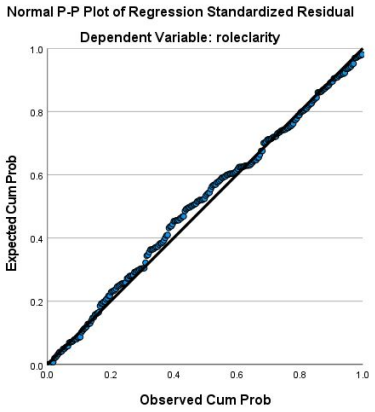


Figure 3. Probability-probability (P-P) plot



The collinearity statistics, recorded in table 3 with VIF (< 5) and tolerance (> .1) values also indicate no multicollinearity issue between independent variables.

Table 3. Collinearity statistics

Variables	Role clarity				
	Coefficients		t	Collinearity Statistics	
				Tolerance	VIF
Intercept	.25	(.49)	.698		
Age	.01	(.16)	1.403	.687	1.456
Tenure in Firm	.00	(.94)	.071	.559	1.787
Tenure in Task	.02**	(.01)	2.521	.631	1.585
Work locus of control	.18**	(.01)	2.645	.856	1.168
General self-efficacy	.39**	(.00)	5.112	.843	1.187
Leader-member exchange	.24**	(.00)	4.778	.887	1.127

In short, even though general self efficacy distribution has tailedness, none of the linear regression assumptions are severely violated, and linear regression can be utilized without variable transformation.

Results

Analytical approach

The analytical approach is that all hypotheses are part of a larger model; and as so, they should be tested together. However, the hypotheses are written in such a verbal format, that they could be interpreted also as stand-alone statements. To not leave any room for speculation, I decided to analyze: firstly, if each hypothesis can be supported alone, and secondly, if the whole model can be supported.

To test Hypotheses 1-3 individually, I analysed data using simple linear regressions. The method was the most suitable, since I wanted to explain how our independent variables predict the dependent variable, which was not categorical. I used the hierarchical method in SPSS software to show and compare how our controls affect role clarity; and more importantly, to compare the model of relationships IVs affect to role clarity. Model fit and improvement were analyzed with R-squared, R square change, F-statistic and their *p*-values. Then, I analysed the "Coefficients" table to measure the potential effect sizes of each individual predictor has on the population (Hair et al, 2014): I analyzed unstandardized betas and their significance with *p*-values. From the confidence intervals, I ensured that the variable is not crossing number zero, and confirmed that the effect existed.

To test moderation and Hypotheses 4a-4c individually, I used simple linear regressions again. The process was different, since I analyzed moderation with the following method: using SPSS hierarchical order of placing controls in the first block, the z-scored independent variable and z-scored moderator on the second block, and the interaction term to the last block. Z-standardization was used to minimize multicollinearity between the independent and moderator variables. Interaction terms were calculated from multiplying the z-standardized

construct of Self Enhancement motive with the independent variable. Rest of the analysis focused on analyzing model fit, model improvement, individual effect sizes and significance levels in detail.

Although I wanted to confirm hypotheses through simple linear regression, I contemplated that I could develop a better model to explain possible antecedents of role clarity through multiple linear regression. The hierarchical model was used heavily, as I utilized four blocks in regression analysis: first adding control variables to the first block, then adding all independent variables to the second block, and the moderator variable separately to the third block. To the last block, I added all interaction terms at once. Model fit, significance and effect sizes were analyzed.

It should be noted that I did not use z-scored variables in the second or third block. I compared the last two steps with and without Z-standardization, and I decided to proceed without it, as it didn't make remarkable differences on the areas which interested me; since I already had the test results from individual testing, I didn't intent to quantify the effect, but to rather confirm if the moderation effects are relevant at all to the model.

Test of hypotheses

First I visited the hypotheses individually, as I tested each separately with a simple linear regression.

Hypothesis 1, which examined whether work locus of control predicts role clarity, was supported ($b = 0.37$, $p < 0.01$). Hypothesis 2, which examined whether general self-efficacy predicts role clarity, was also supported ($b = 0.55$, $p < 0.01$). Furthermore, Hypothesis 3, which assumed leader-member exchange to predict role clarity, was supported as well (b=

0.34, $p < 0.01$). Table 4 demonstrates our findings on possible direct effects of WLOC, GSE and LMX to role clarity.

To test whether the construct of self-enhancement motive has moderation effects to role clarity, I used the method described earlier. I didn't find a significant interaction term for Hypothesis 4a, when I tested the moderation of self-enhancement motive between work-locus of control and role clarity, as the significance was above 0.05. As such, Hypothesis 4a was not supported, indicating that there is no moderation effect between the constructs.

Next, I quantified if a significant moderation effect would appear between general self-efficacy and role clarity. I didn't find evidence, as there was no significant interaction term ($p > 0.05$). Hence, Hypothesis 4b was not supported, and the construct of self-enhancement motive was not moderating the relationship. Furthermore, I got similar results to Hypothesis 4c with no significant interaction term ($p > 0.05$). There was no evidence on a moderation effect of self-enhancement motive, when I tested each hypothesis individually with a simple linear regression.

Table 4. Hypothesis testing individually with simple linear regression

	b	SE B	B	*p*-value	R2 (Adjusted)	Max VIF
WLOC	.37 (.23 - .51)	.07	.30	.000	.157*** (.144)	1.77
GSE	.55 (.40 - .70)	.075	.40	.000	.228*** (.216)	1.77
LMX	.34 (.24 - .44)	.05	.37	.000	.202*** (.190)	1.75

Note. N=262. Confidence intervals are in parenthesis. * = p <0.05; ** = p <0.01; *** = p <0.001. VIF = Variance Inflation Factor.

Next, I scrutinize testing of the whole model. I tested all hypotheses together with a multiple linear regression, including all direct effects, e.g. Hypotheses 1-3, and moderation effects, e.g. Hypotheses 4a-4c, in the same regression analysis. Although I didn't find evidence for Hypothesis 4a-4c before, I included them in the model. Hierarchical regression process helped to examine the collective effects of the model.

First, I included the control variables to the model (Model 1, Table 5) and then I included the independent variables, i.e. work locus of control, general self-efficacy and leader-member exchange to the model (Model 2). So far everything looked good, and the direct effects were still present for WLOC ($b=0.18$, $p < 0.01$), GSE ($b=0.40$, $p < 0.01$) and LMX ($B=0.24$, $p < 0.01$). The collective model explains so far 32.0% of the variance in role clarity when control variables are included; the variance explained by our direct effects of WLOC, GSE and LMX is altogether 25.1% (R square change).

Next, I wanted to test the moderation effects. I entered first the self-enhancement motive to the model (Model 3), and after that, I added all the interaction terms at the same time (Model 4). First, I saw that self-enhancement motive doesn't directly predict role clarity (Model 3), which is aligned with our theory. Model 3 was not significant ($p > 0.01$), and this was what I was looking for.

Surprisingly, the collective testing of Hypotheses 4a-4c (Model 4) gave promising results. When I added the interaction terms at once, the overall model improved and explained 34,3% of the variance on role clarity. More importantly, the model was significant ($p <0.01$). The results on moderation effects can be found in Table 5. It should be noted that the table shows control variables only in Model 1 and Model 4; to find the complete table, see Appendix 1.

If I look at the contribution of each interaction term, the collective testing doesn't give a significant moderation effect between work-locus of control and role clarity ($p >0.05$). Thus,

I have even more evidence that Hypothesis 4a shouldn't be supported. If I look at the two other moderation effects of self-enhancement motive, between GSE and role clarity (b= -0.09), and between LMX and role clarity (b= 0.09), there are significant results with the p-value below 0.05 in both cases. Hence, I have new evidence that the hypothesized theory is not necessarily wrong. The moderation effects can be situational, which I will contemplate further in the discussion section. To conclude, I see that there is evidence on possible moderation, but the support the Hypotheses 4b and 4c in the current format.

Table 5. Hypothesis testing collectively with multiple linear regression

		b	SE B	B	*p*-value	R2 (Adj.)	Max VIF
Model 1	Constant	3.19 (2.81-3.57)	.19		.000		
	Age	.01 (.00 - .02)	.00	.15	.042		
	Firm tenure	-.01 (-.03 - .02)	.01	-.04	.625		
	Task tenure	.03 (.01 - .05)	.01	.19	.012	.069*** (.058)	1.75
Model 2[a]	Constant	.25 (-.46 - .97)	.36		.486		
	WLOC	.18 (.05 - .31)	.07	.15	.009		
	GSE	.40 (.24 - .54)	.08	.29	.000		
	LMX	.24 (.14 - .34)	.05	.26	.000	.320*** (.304)	1.79
Model 3[a]	Constant	.38 (-.40 – 1.17)	.38		.335		
	WLOC	.19 (.05 - .32)	.07	.15	.007		
	GSE	.40 (.24 - .54)	.08	.29	.000		
	LMX	.24 (.14 - .34)	.05	.26	.000		
	SEM	-.04 (-.14 - .06)	.05	-.04	.418	.321*** (.303)	1.79
Model 4[a]	Constant	.38 (-.40 – 1.16)	.39		.339		
	WLOC	.21 (.08 - .35)	.07	.17	.002		
	GSE	.39 (.24 - .54)	.08	.29	.000		
	LMX	.23 (.13 - .33)	.05	.25	.000		
	SEM	-.04 (-.14 - .06)	.05	-.04	.429		
	WLOC*SEM	-.04 (-.11 - .04)	.04	-.05	.348		
	GSE*SEM	-.09 (-.17 – (-.01))	.04	-.12	.035		
	LMX*SEM	.09 (.01 - .16)	.04	.12	.026	.343*** (.317)	1.82

Note. N=262. Confidence intervals are in parenthesis. * = p <.0.05; ** = p <.01; ***p <0.001. VIF= Variance Inflation Factor. a = Results from the control variables hided (age, firm tenure, task tenure).

Summary of results

To summarize, I analyzed the data using hierarchical linear regression modeling with SPSS software. I tested multicollinearity and it did not pose a threat to the results, as the highest VIF statistics was 1.82 in all models. Also other assumptions were approved, and I could continue running a linear regression analysis.

In our simple linear regression model, I first tested each hypothesis individually to confirm the theorized relationships. As predicted by Hypothesis 1 and 2, individual control beliefs influence positively to role clarity, since work locus of control increases role clarity b=0.37, 95% CI [0.23, 0.51], p<0.01, as does general self-efficacy b=0.55, 95% CI [0.40, 0.70], p<0.01. Hypothesis 3 was also supported, as leader-member exchange increases role clarity b=0.34, 95% CI [0.24, 0.44], p<0.01. Moderation effects of self-enhancement motive were tested individually, and the results were not significant. As so, I rejected Hypotheses 4a-4c.

The theory and the model should be looked at as a whole rather than as a sum of its parts, so I decided to conduct the multiple linear regression like I planned in the beginning. When testing collectively all hypotheses with a multiple linear regression, I found new results. First of all, I found further evidence that work-locus of control, general self-efficacy and leader-member exchange affect directly to role clarity. Secondly, I found out that the Hypothesis 4b (b= -0.09, 95% CI [-0.17,-0.01, p <0.05) and Hypothesis 4c (b= 0.09, 95% CI [0.01, 0.16], p <0.05), could potentially have moderation effects, but in order for it to happen, there should be other moderations happening at the same time. We concluded that further investigation should be conducted, before supporting Hypothesis 4b and 4c in the current format.

Discussion and limitations

I have collected strong evidence that work-locus control, general self-efficacy and leader-member exchange are antecedents of role clarity. The theory was backed up by our hypotheses. Also, the results can be generalized to a larger population as the R-squared (0.32) and adjusted R square (0.30) were close to each other, when tested collectively (Table YY, Model 2).

However, the results from moderation are contradictory. It seems that the moderation hypotheses hold true only if other moderations are present. The situational factor was not articulated in the theory, and thus neither in our hypotheses. We suggest that the future research studies these relationships further, and what are the contextual elements when the moderation holds true. The question becomes tricky, as the situational factors can hold true in one environment, but they can't be generalized necessarily to another group.

I want to address a few limitations to be fully transparent on my research. First of all, the sample was from the care services sector with a heavy dominance of female gender and recently hired employees. The future model could be tested in a different context. Secondly, there can be many other reasons to explain the contradictory results on moderation effects: either errors in measurement, in sample, or just by coincidence. All in all, future research on the subject is highly needed.

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Appendixes

Appendix 1. Hypothesis testing collectively with a multiple linear regression; including controls

		b	SE B	B	*p*-value	R2 (Adj.)	Max VIF
Model 1	Constant	3.19 (2.81-3.57)	.19		.000		
	Age	.01 (.00 - .02)	.00	.15	.042		
	Firm tenure	-.01 (-.03 - .02)	.01	-.04	.625		
	Task tenure	.03 (.01 - .05)	.01	.19	.012	.069*** (.058)	1.75
Model 2	Constant	.25 (-.46 - .97)	.36		.486		
	Age	.01 (-.00 - .01)	.00	.09	.162		
	Firm tenure	.00 (-.02 - .02)	.01	.01	.943		
	Task tenure	.02 (.01 - .04)	.01	.16	.012		
	WLOC	.18 (.05 - .31)	.07	.15	.009		
	GSE	.40 (.24 - .54)	.08	.29	.000		
	LMX	.24 (.14 - .34)	.05	.26	.000	.320*** (.304)	1.79
Model 3	Constant	.38 (-.40 – 1.17)	.38		.335		
	Age	.01 (.00 - .01)	.00	.08	.235		
	Firm tenure	.00 (-.02 - .02)	.01	.01	.906		
	Task tenure	.02 (.01 - .04)	.01	.17	.011		
	WLOC	.19 (.05 - .32)	.07	.15	.007		
	GSE	.40 (.24 - .54)	.08	.29	.000		
	LMX	.24 (.14 - .34)	.05	.26	.000		
	SEM	-.04 (-.14 - .06)	.05	-.04	.418	.321*** (.303)	1.79
Model 4	Constant	.38 (-.40 – 1.16)	.39		.339		
	Age	.00 (.00 - .01)	.00	.06	.340		
	Firm tenure	.00 (-0.2 - .02)	.01	.02	.765		
	Task tenure	.02 (.01 - .04)	.01	.16	.012		
	WLOC	.21 (.08 - .35)	.07	.17	.002		
	GSE	.39 (.24 - .54)	.08	.29	.000		
	LMX	.23 (.13 - .33)	.05	.25	.000		
	SEM	-.04 (-.14 - .06)	.05	-.04	.429		
	WLOC*SEM	-.04 (-.11 - .04)	.04	-.05	.348		
	GSE*SEM	-.09 (-.17 – (-.01))	.04	-.12	.035		
	LMX*SEM	.09 (.01 - .16)	.04	.12	.026	.343*** (.317)	1.82

Note. N=262. Confidence intervals are in parenthesis. * = p <.0.05; ** = p <.01; ***p <0.001. VIF= Variance Inflation Factor.