



A multi-level analysis of leader–member exchange and creative performance in research groups

L. Olsson ^{a,c,*}, S. Hemlin ^{a,c}, A. Pousette ^{b,c}

^a Gothenburg Research Institute, University of Gothenburg, P.O. Box 603, 405 30 Göteborg, Sweden

^b Occupational and Environmental Medicine, University of Gothenburg, P.O. Box 414, 405 30 Göteborg, Sweden

^c Department of Psychology, University of Gothenburg, P.O. Box 500, 405 30 Göteborg, Sweden

ARTICLE INFO

Available online 25 January 2012

Keywords:

LMX

R&D

Creative performance

Multi-level analysis

ABSTRACT

We investigated the effects of LMX in leader and member ratings on leader and member creative performance among 137 leader–member dyads in academic and commercial R&D groups. By using the sub-dimensions of LMX-MDM (affect, loyalty, contribution, and professional respect) we wanted to show which dimensions of the leader–member relationship that is beneficial to creative performance. Analyses were conducted with consideration to nesting and dependencies occurring in the data. Findings indicated that certain sub-dimensions of exchanges between leaders and followers are substantive for creative performance in either positive or negative ways, depending on academic and commercial setting. LMX sub-dimensions were also differently related to creative performance depending on leaders' or members' perspective. The mixed results of this study indicate that LMX theory needs further analysis from a multidimensional, multitarget, and multilevel perspective.

© 2011 Elsevier Inc. All rights reserved.

1. Introduction

Leader–member exchange (LMX) research has received a lot of attention in recent decades (Gerstner & Day, 1997). This interest in LMX research is explained by the fact that LMX theory is the only leadership theory that seriously addresses the relational nature of leadership by taking both leaders and followers into consideration. Our particular interest is the relationship between LMX and creative performance in research groups, an area we think merits further analysis. There are several reasons for this interest, which we explain next.

First, the exercise of leadership means that leaders engage in social exchanges with followers in order to accomplish tasks. Most leadership theories other than LMX theory disregard the relational character of leadership and instead view leadership as a process that takes place in a vacuum (Avolio, 2007). Although LMX theory has been empirically tested in a number of studies, nearly all of these studies overlook its basic principle – that leaders and followers develop dyadic relationships. These studies have mostly examined only the followers' relationships with their leaders (and not vice versa) (Cropanzano & Mitchell, 2005). Furthermore, the nesting of individuals and dyads in work groups has also been neglected. Given these deficiencies in LMX research, we conclude that the relational aspect of LMX theory, with its dyads of leaders and followers, requires further analysis. This analysis also involves measurement issues in LMX research since there are contradictory operationalizations of LMX theory (e.g., Schriesheim, Castro, & Cogliser, 1999).

Second, while researchers have associated LMX with successful work performance and with other aspects of leader–follower behavior (Gerstner & Day, 1997), there is a lack of empirical LMX studies on creative work performance in R&D. The few studies in

* Corresponding author. Department of Psychology, University of Gothenburg, P.O. Box 500, 405 30 Göteborg, Sweden. Tel.: +46 737 832040, +46 31 786 6682; fax: +46 31 786 4628.

E-mail addresses: lisa.olsson@gri.gu.se (L. Olsson), sven.hemlin@gri.gu.se (S. Hemlin), anders.pousette@amm.gu.se (A. Pousette).

R&D have produced ambiguous results (Lee, 2008; Scott & Bruce, 1994). Therefore, in our research we hope to bring more clarity to the connection between LMX and creative performance in R&D.

Third, there is an idea that LMX, rather than being a unified exchange of social goods, refers to several, distinct social exchanges. This idea suggests the multi-various nature of the leader–follower relationship as a relationship of more than the one leader–follower exchange in work situations. Early leadership research suggests that there are two main types of leader–follower exchanges: socio-emotional exchanges and task or professional exchanges (Liden & Maslyn, 1998; Mumford, 2010). Nevertheless, most LMX research has taken a uni-dimensional view of such exchanges. Therefore, we lack empirical research on the multi-dimensionality of leader–follower exchanges. For example, it is possible that leader–follower relationships vary as organizational settings and tasks vary. Liden and Maslyn (1998), who claim that the leader–member–relationship consists of multiple dimensions, have developed and verified a multi-dimensional LMX-measure (LMX-MDM). They identify four sub-dimensions of LMX – affect, loyalty, contribution, and professional respect – and suggest these sub-dimensions produce different outcomes.

Fourth, most R&D leadership studies have been conducted in industrial and other commercial contexts (Lee, 2008; Scott & Bruce, 1994; Tierney, Farmer, & Graen, 1999). Fewer studies have been conducted in academic and other not-for-profit research contexts (Elkins & Keller, 2003). However, one of the few but well-known studies of academic performance and leadership, although without LMX theory, was conducted by Pelz and Andrews (1966) almost fifty years ago. More recently, Lee (2008) used LMX theory in a study that included academic scientists. Given the big changes in universities since the Pelz and Andrew research and the altered conditions for leaders and followers in academic research, it is important and useful to examine how LMX relates to creative performance by contemporary academic scientific researchers.

The fundamental premise of LMX theory is that a leader and a follower develop a relationship through social and professional exchanges, forming a unique *dyad*. By definition, then, LMX theory is multi-level: individuals are nested in dyads, but also in groups, and organizations. Recognition of this concept means three actions are called for. First, we need to align measurement and analysis to fit theory to the dyadic level of analysis. Surprisingly, dyadic level analyses are missing in research, even if the leader–member dyad is at the core of LMX theory (Gooty & Yammarino, 2011; Schriesheim, Castro, Zhou, & Yammarino, 2001). Second, we need to specify the levels where we expect LMX to have effects (Schriesheim et al., 1999). Third, since the data in the dyadic relationship are nested, we need to explain the dependencies in data that arise from grouping.

1.1. Our study

In this paper we examine LMX-MDM, with particular attention paid to the levels of analysis. Levels of analysis are of great importance since LMX theory is multi-level in nature, but this is rarely tested (Schriesheim et al., 2001). We are interested in learning if the sub-dimensions of LMX-MDM relate to creative performance (i.e., scientific publications and patents) in academic and commercial research groups in the environment of Swedish bioscience (the biomedical and biotechnical research fields). Uni-dimensional LMX has been related to different types of creative performance (Atwater & Carmeli, 2007; Scott & Bruce, 1994; Tierney et al., 1999; Van Dyne, Jehn, & Cummings, 2002), but only Lee (2008) has looked at LMX-MDM in relation to a creative outcome. However, she did not distinguish between the academic and commercial contexts as we do. Furthermore, we measure both leader and follower ratings. Often LMX is measured taking a follower perspective. Despite the theoretically based recommendations in the literature, measurements from the leader perspective rarely accompany the follower perspective measurements. Two rare exceptions, however, are Greguras and Ford (2006) and Markham, Yammarino, Murry, and Palanski (2010). To our knowledge, only Greguras and Ford have used the LMX-MDM scale with corresponding leader ratings before us. However, unlike their study, we related the subjective LMX ratings to independently sourced dependent variables, namely scientific publications and patents. Similar outcomes of creative performance in research have also been used by Feist (2006), Pelz (1963), Pelz and Andrews (1966) and Simonton (2004).

We used scientific articles as a dependent variable since they are published by both academic research groups and commercial research groups (Berends, van der Bij, Debackere, & Weggeman, 2006). However, we also used patents as a dependent variable of creative performance in line with previous research on creative performance in industrial settings (Jung, Wu, & Chow, 2008) and since academic researchers also may patent their ideas/innovations (Van Looy, Callaert, & Debackere, 2006). Moreover, we researched both leaders' and followers' publications and patents, since, according to theory, both leaders' and followers' creative performance should be positively influenced by LMX. The main contribution of our study is then that it investigates both the LMX and the creative performance of both leaders and followers.

To examine the full complexity of leader–follower views and the effects of these views on leader–follower outcomes, we used the Actor–Partner Interdependence Model (Kenny, 1996; Kenny & Cook, 1999; Kenny, Kashy, & Cook, 2006) (see Fig. 1). This model illustrates a dyadic system where both leaders' and members' LMX ratings are expected to influence their own outcome (an actor effect) as well as the outcome of their dyad partner (a partner effect).

Thus, we describe our study as 1) a dyadic level study, 2) a study of the relationship of the four sub-dimensions of the LMX-MDM scale to creative performance, 3) a study in which the levels of analysis are addressed (i.e., there is alignment in theory, measurement, analysis, and inferences; the nested nature of data is modeled for; and the variation stemming from leader and follower ratings is appropriately handled); 4) a study where LMX-MDM and creative performance are

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات