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Learning apart or together? The relationships of the social interdependence orientation and social competence of owner-managers with their social learning behaviour and firm performance within a Korean small-business context

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ABSTRACT

The present study aims to contribute to the body of knowledge on HRD in small businesses by providing a detailed investigation of the role that owner-managers play in enabling social learning and performance in small firms. The investigation focusses particularly on the specific relationships of the social-interdependence orientation and social competence of owner-managers with their social learning behaviour, as well as with the performance of their small-businesses within the pig-production sector in the Republic of Korea. A survey was conducted amongst nearly 200 Korean owner-managers of pig farms. The results indicate that social interdependence orientations and social competencies have a significant relationship with social learning behaviour. Self-promotion and a cooperative orientation are especially important, with self-promotion taking precedence for social learning behaviour of a more 'internal' nature, and a cooperative attitude being more important social learning behaviour of a more 'external' nature. Social competence and social interdependence did not have a significant relationship with performance, but social learning behaviour did. The results further highlight the importance of individual social characteristics to social learning behaviour occurring outside highly structured educational settings, in addition to demonstrating that the competence and attitudes required are determined by the type of interaction partner.

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Social interdependence orientation; social competence; social learning behaviour; firm performance; SMEs

Introduction

This paper is intended as a response to the call in *Human Resource Development International* (HRDI) for more research on Human Resource Development (HRD) in small and medium-sized enterprises (SMEs) (Coetzer, Wallo, and Kock 2019). As argued by many scholars, SMEs are an important source of employment and innovation (Csillag

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et al. 2019). The typical firm is not a large enterprise, but actually a micro-enterprise (fewer than 10 employees) or a small enterprise (fewer than 50 employees). Although learning and development are of crucial importance to these firms, such learning is often informal, implicit, unstructured and highly dependent on individual owner-managers (Billett, Herson-Tinning, and Ehrich 2003). The dominant role of owner-managers in companies is especially salient in this regard, as it distinguishes small firms from their larger counterparts (Csillag et al. 2019). An emerging stream of HRD literature emphasizes the role of owner-managers as facilitators of informal learning in small businesses (Coetzer, Wallo, and Kock 2019; Lans, Verhees, and Versteegen 2016). In this article, we advance the exploration of the role of owner-managers as a catalyst of informal learning. We direct specific attention to learning from significant others, given that informal learning in the workplace tends to be social in nature, occurring naturally through interactions with colleagues, family, friends, customers and competitors (Eraut 2004). Most of the scholarly work conducted in this field has focussed on success factors for social learning within the context of targeted, often externally facilitated formal learning activities, like capacity-development programmes (Franzel, Kiptot, and Degrande 2019) or governmental programmes for developing networks for training, learning and innovation (Beers and Geerling-Eiff 2014). Much less research has been conducted on the role of learning from significant others within the context of daily, work-related informal learning in small businesses (Coetzer, Wallo, and Kock 2019; Csillag et al. 2019). With the present study, we aim to contribute to filling this scientific gap. More specifically, the study contributes to the literature on HRD in small businesses by investigating the potential role played by the social learning behaviours of owner-managers in what Coetzer, Wallo, and Kock (2019) refer to as one of the 'high-impact ways' that enable workplace learning in small businesses: the owner-manager's task of facilitating the acquisition of knowledge from external sources and the generation of knowledge internally through exploratory processes that yield new insights, therefore supporting learning, experimentation, risk-taking and innovation within the small business.

To study this type of learning behaviour on the part of owner-managers, we depart from the scholarly literature that has been published on cooperative learning (Johnson and Johnson 1999). The primary difference between cooperative learning and 'normal' group membership or 'normal' interpersonal interaction is that it requires additional factors (and associated structures) other than opportunity alone. According to Johnson and Johnson (2009), five variables are related to the effectiveness of cooperative learning: positive social interdependence, individual accountability, promotive interaction, the appropriate level and use of social skills, and group processing. As explained in the 'Theoretical framework' section, it has been posited that the notion of social interdependence – which can be positive, negative or neutral – and the notion of social competence can be regarded as minimal requirements for cooperative learning to occur (Johnson and Johnson 1999).

The second contribution that this study makes to the literature on HRD in small businesses is that it links the social learning behaviour of owner-managers to organizational outcomes, and particularly to business performance. Only a few studies have linked informal learning (e.g. the social learning behaviours of owner-managers) to organizational-level outcomes. Previous studies have identified the agri-food sector as an appropriate context within which to study the connection between learning and

organizational outcomes (Lans et al. 2008; Lans, Verhees, and Verstegen 2016). As in many other countries, the agri-food sector in the Republic of Korea has been confronted with stagnation in production since the 2000s, as well as with rapid industrialization in urban areas, shifts in domestic demand, the increased exposure of producers to international competition and increasing environmental concerns (OECD 2018). Although the Republic of Korea is already investing heavily in agricultural R&D, the long-term competitiveness and sustainability of many small-business activities in the agri-food sector will depend on exploration, experimentation and the acquisition of new knowledge (OECD 2018).

A third contribution that this study makes to the literature on HRD in small businesses has to do with its specific research context. The Korean context is particularly salient, as many studies tend to focus on the well-known multinationals, highlighting that the country has developed into one of the fastest growing economies since the late 1970s. However, like in many countries, the majority (99%) of the Korean companies are actually small (fewer than 50 employees), accounting for the employment of more than half (around 67%) of the entire working population (Korea 2017). The majority of existing studies on the informal, workplace learning of small-business owners have been conducted in more individualistic, Western cultures. From a cultural point of view, the Republic of Korea is regarded as a collectivistic society, valuing group membership and taking responsibility for each other (Hofstede 2019). This profile suggests that the culture could potentially be favourable for cooperative learning. This nevertheless does not justify the assumption that strong relational bonds automatically lead to effective cooperative learning for small-business owners. The Republic of Korea has one of the highest levels of uncertainty avoidance of any country in the world (Hofstede 2019). This characteristic is not particularly amenable to activities involving exploration, search and experimentation, which are needed in order to cross boundaries and acquire new knowledge.

Theoretical framework

The learning behaviour of small-business owners and entrepreneurs has been studied extensively during the past decade, drawing on theories of individual learning (e.g. experiential learning; Corbett 2005) and organizational learning (e.g. the 4I framework; Jones and Macpherson 2006). One characteristic that these theories appear to share in common is that they argue that learning is primarily informal, proactive and experimental in nature (e.g. learning by doing). Learning is often a by-product of working (e.g. through handling new tasks/problems or by experimenting; Eraut 2004), thus emphasizing the role of the work environment as an important learning environment for owner-managers themselves (Fenwick 2003), as well as for the development of their small businesses (Lans et al. 2008).

Whereas there is a substantial body of literature on the entrepreneurial or managerial role of owner-managers in small businesses, studies on the role of owner-managers as facilitators of learning are less prevalent. As suggested by Coetzer, Wallo, and Kock (2019), owner-managers can facilitate workplace learning in two ways: 1) directly, through intervention (e.g. providing training or feedback to employees) and 2) indirectly, by creating a work environment that is conducive to workplace learning in general. With

regard to the latter, studies on the learning potential of small-business work environments distinguish two groups of factors that influence this potential: 1) the nature/organization of the tasks (Arundel et al. 2007) and 2) the social and cultural relationships that characterize the work environment (Koopmans, Doornbos, and Eekelen 2006). The second group of factors has been identified as especially important within the context of exploration and experimentation in small firms (Lans et al. 2008). Examples include the availability of critical co-workers, the possibility of participating in group activities, working alongside others and working with users, customers or clients. These factors enable small-business owners to evaluate existing practices or to obtain new ideas and resources, while providing legitimacy for experiments and new practices. Within the context of small firms, however, social learning experiences are not limited to teams, groups or projects *within* a given firm. The social learning environment of owner-managers includes informal interactions with stakeholders throughout the entire value networks in which they engage. The interaction partners involved extend *beyond* the direct small-firm workplace (Jones and Macpherson 2006). For example, as demonstrated by Hinrichs, Gillespie, and Feenstra (2004), the most commonly employed learning activities for purposes of strategic decision-making entail the involvement of experts and external parties, while the direct sellers/suppliers of services and products are more commonly used for advice with regard to operational or tactical change. According to studies on workplace learning in collectivist countries, however, interaction between the work environment and informal ways of learning is more complex. For example, Jeon and Kim (2012) demonstrate that a culture of innovation in the workplace does not enhance the effectiveness of informal learning in small businesses in the Republic of Korea. One interesting explanation postulated by the authors is the possibility that encouraging new relationships, self-trial and error, along with the occasional failure that typically accompanies exploration and renewal can be a source of tension with regard to the natural preference of Korean people for trust and group values. This line of reasoning could also be applied to the informal learning of small-business owners. Relevant questions in this regard concern whether Korean small-business owners are more likely to stand up for themselves and proactively choose interaction partners *outside* their own firms in order to enhance their potential for learning or to base their choices on the preferences of life-long affiliations with particular groups or organizations.

Cooperative learning: Social interdependence

Depending on the exact focus and theoretical lens, examples of well-known, documented, more or less organized explorative learning from external parties include study groups, mentoring programmes, communities of practice, learning networks, knowledge networks and learning communities (Boud and Middleton 2003). The complexity of learning from significant others in such social learning constellations has been studied and explained theoretically in the literature on cooperative learning, which is rooted in social interdependence theory (Johnson and Johnson 1999). The notion of social interdependence is salient, as it directly points to potentially problematic aspects in small-business learning contexts, in which ‘the stakes are high, potential mutual learning can be low, and relationships with external parties are dominated by lack of legitimacy and suspicion’ (Lans, Verhees, and Verstegen 2016, 17). As explained by Johnson and

Johnson (2009, 366), 'Social interdependence exists when the outcomes of individuals are affected by their own and others' actions'. More specifically, the theory makes a helpful distinction between social interdependence and social helplessness. According to this theory, the situation of social interdependence – and thus of cooperation – leads actors to encourage and facilitate one another's efforts in order to accomplish the goals of individual learners, as well as those of the group. Moreover, it enables reflection on which actions are actually helpful and which are not, thereby facilitating decision-making. In other words, the desire to achieve something collaboratively, rather than individually, has a positive effect on interaction, as well as on the output emerging from that interaction (Johnson and Johnson 1999). A lack of social interdependence may exist in situations that are dominated by individualistic orientations, and in which personal goals are thus attained independently, without any consideration of whether other group members will also attain their goals. In the situation of social helplessness, interaction between learners is competitively unstructured, resulting in negative interdependence, which typically frustrates interaction amongst learners and impedes or even prevents the performance of others.

In recent decades, many studies have investigated and compared the effectiveness of cooperative, individualistic and competitive orientations to learning, predominantly in the context of formal education. These studies have consistently demonstrated the impact of cooperative learning methods (on student achievement), as compared to the impact of methods associated with competitive learning and individualistic learning. In studies of work settings, social interdependence theory has been applied within the realm of teamwork in organizations, acknowledging that most work in organizations is team-based. For example, in a study of goal interdependence in more than 80 cases of manager-employee relationships in organizations, Tjosvold (1989) concludes that cooperative interdependence contributes to the exchange of information and ideas, task progress and efficiency, while strengthening relationships. In contrast, competitive interdependence diminishes the exchange of resources and progress, leading to inefficiency and a lack of improvement in terms of relationships. In Tjosvold's study, independence was less correlated with resource exchange and productivity, but was generally perceived as leading to ineffective outcomes, albeit to a lesser extent than competition (Tjosvold 1989).

More recently, scholars have also been addressing goal interdependence within non-Western business contexts, paying explicit attention to the importance of cultural values (Johnson and Johnson 2005). This is important with regard to the country in which our study was conducted. As collectivists, the owner-managers of small businesses in the Republic of Korea might have a natural tendency to avoid individual opportunism, due to the value that they attach to relationships with others and their preference for avoiding competitive aggressiveness. In an investigation of inter-firm collaboration in China, Wong, Tjosvold, and Yu (2005) report that individualistic and competitive orientations do indeed have a significant positive relationship with opportunistic business behaviour (i.e. extreme pursuit of self-interest), whereas cooperative orientations are negatively related to opportunism within the context of organizational partnerships. Their findings support the notion that a cooperative orientation may contribute to the development of strong, useful relationships, thus also supporting the theory in non-Western contexts.

Cooperative learning: Social competence

In addition to positive interdependence, another key factor that has been identified as a driver of cooperative learning is social competence. According to Johnson and Johnson (2009), social competence acts as an enabler (i.e. a lubricant) for the process of cooperative learning. Social competence is conceptualized differently according to discipline. In the field of psychology, it tends to be tied to the notion of traits (e.g. assertiveness, empathy), while being associated with more relational, multi-dimensional and context-specific constructs in the literature on pedagogy and workplace learning (Seeber and Wittmann 2017). From the latter perspectives, social competence is defined as ‘the ability of individuals to interact successfully with each other within a certain position and context’ (Lans, Blok, and Gulikers 2015, 458). It is assumed that social competence is important to the development and formation of lasting relationships, and thus to the building, maintenance and use of social capital. By employing social competence (e.g. requesting advice, listening, observing and discussing issues), people can learn from the experiences of others or create new knowledge when needed. Social skills that have been explicitly mentioned in the cooperative learning literature include communication, the building and maintenance of trust, the provision of leadership and the management of conflict (Johnson and Johnson 2009). More precisely, according to studies conducted with the field of formal education, the social skills that are necessary for cooperative learning can be clustered into categories relating to the formation, functioning, formulation and fermentation of skills (Goodwin 1999). These clusters of social skills seem to overlap largely with the two generic collaborative learning processes defined for team learning in companies: information (e.g. sharing, construction) and facilitation (e.g. reflexivity, constructive conflict) (Decuyper, Dochy, and Bossche 2010). The relevance and use of social competencies might differ, however, depending on factors relating to the context of learning (Seeber and Wittmann 2017), like sector (Baron and Markman 2003) or the nature of the interaction partners (e.g. with employees or with partners in a chain or network) (Lans, Verhees, and Versteegen 2016).

Learning, competence and small-firm performance

Given the limited size and low structural complexity of small firms, their business performance depends to a large extent on the decision-making behaviour of their owner-managers. This direct link between the individual and the firm makes it easier to investigate relationships between individual characteristics (e.g. social learning behaviours, interdependence orientations and social competence) and a variety of measures for the ‘success’ of a given firm. In general, according to the heuristic conceptual model of informal learning in small businesses described by Coetzer, Wallo, and Kock (2019), characteristics of owner-managers can be related with organizational outcomes, either through direct interventions (e.g. through training or coaching, behaviours) or indirect interventions (e.g. through the facilitation of knowledge acquisition). Within the context of the present study, this implies that social competence and social interdependence orientations can be related to the cooperative learning behaviours that are needed in order to acquire new knowledge and, subsequently, the performance of a small business.

The choice of indicators for measuring organizational outcomes can nevertheless be open for debate. Many studies fail to provide justification for the selection of specific dimensions, and only a few studies address multiple dimensions (Murphy, Trailer, and Hill 1996). In addition, when investigating competence at the individual level, it is important to use comparable and meaningful performance constructs at the level of the small firm within a specific context. For the sector addressed in our study, the agri-food sector, this implies that it would be preferable to use more than one performance measure and to ensure that any performance measures that are used represent potential outcomes of learning behaviour of owner-managers on the firm level.

Research questions

In summary, the majority of work-related learning is social in nature. The learning behaviour of small-business owners which focusses on exploration typically goes beyond the physical work-environment including potential interaction partners outside the small firm (e.g. peers, advisors), in addition to direct employees. Cooperative learning, which is rooted in social interdependence theory, can be used as a lens through which to study such arrangements. As suggested by both theoretical and empirical studies on social interdependence, in contrast to individualistic or competitive orientations, cooperative orientations can have a positive relationship with learning behaviours (e.g. the acquisition of new information), learning outcomes (e.g. progress) and relational outcomes (e.g. stronger relationships). In addition, social competence has been identified as being supportive of cooperative learning within the context of small businesses. It includes social competences that support the cooperative learning process including the specific characteristics of the small-firm sector and interaction partners. Finally, given the nature of small firms, cooperative orientations and social competence of owner-managers are likely to have an indirect relationship with their organizational outcomes. Two research questions were formulated for the present study:

- (1) What are the specific relationships of the social interdependence orientation and social competence of owner-managers with their social learning behaviour in small firms in the pig production sector in the Republic of Korea?
- (2) What are the specific relationships of the social interdependence orientation, social competence, and social learning behaviour of owner-managers with their organizational outcomes in small firms in the pig production sector in the Republic of Korea?

Materials and methods

Setting and participants

The study was conducted within the context of the pig production sector in the Republic of Korea. Participants were selected from the member list of the nation's largest agricultural cooperation, the National Agricultural Cooperative Federation (NACF), which represents about 2,800 pig producers. To prevent the inclusion of 'hobby farmers' and nearly retired farmers in the sample, and to rule out the effects of geographical factors,

the selection focused on: 1) family businesses deriving more than 50% of their income from pig farming; 2) farmers with at least five years of experience in pig farming; with 3) a bias towards younger farmers, who would presumably be likely to remain in pig farming for the next decade. This procedure yielded 199 participants, representing five different geographical regions, with 81% coming from the three regions of the Republic of Korea that have traditionally had the most pig farms.

Questionnaire

This study is based on data obtained using a structured questionnaire consisting of Likert-scale items about social interdependence orientations (more individual, cooperative or competitive attitudes), social competence and actual social learning behaviours, as reported by the owner-managers. The questionnaire also included quantitative items about two technical business performance indicators: the number of piglets weaned per sow per year (PSY) and the number of finishing pigs marketed per sow per year (MSY). It is common practice to compare farms according to these technical performance indicators, as they reflect zootechnical efficiency and are relatively easy to collect and calculate. Finally, the questionnaire contained items on control variables (e.g. the respondent's membership in the cooperative and managerial experience, age and education).

Social interdependent orientations were measured using the Social Interdependence Scales (SIS) developed by Johnson and Norem-Hebeisen (1979). Given that this instrument was originally developed for the context of American students, the items were adapted to fit the context of Korean pig farmers.

Social competence was measured using the validated scales developed by Lans, Verhees, and Verstegen (2016), based on the work of Baron and colleagues (Baron and Markman 2003; Baron and Tang 2009). Following this work, social competence was treated as a composite of social perception, self-promotion and social learning orientation.

The following question was used to capture learning behaviours: 'To what degree have you undertaken each of the following learning activities during the past three years (2015–2017) to improve your performance as pig farmer?' (Seuneke 2014). The learning activities represented three distinct types of social learning activities: 1) consulting direct peers (e.g. other farmers), 2) consulting experts and 3) consulting family (i.e. the internal work environment).

The control variables addressed were the cooperative of which the owner-manager was a member, work experience and age. The cooperative, which also serves as a proxy for the region, was determined by asking the owner-managers to indicate the NACF cooperative in which they were active: 1) Bookyoung, 2) Dodram, 3) Daejeon-Chungnam, 4) Paju-Yeoncheon or 5) Jeju. An overview of the variables addressed in this study is presented in Table 1.

Given that the items were originally formulated in English, the entire questionnaire was translated into Korean. A double-translation strategy was used in order to ensure that the meanings remained the same. The questionnaire was pre-tested in multiple rounds with local experts and representatives from the sample. Questions were adapted based on

Table 1. Overview of dependent and independent variables.

Variable	Values
Dependent Variables	
Family learning behaviour in the past three years	Five-point Likert-scale ranging from 1 (very low degree) to 5 (very high degree), and 0 (not applicable)
Peer learning behaviour in the past three years	See above
Expert learning behaviour	See above
PSY (Piglets weaned per sow per year)	Dividing the number of piglets that were weaned by the average number of sows on the farm in the past year.
MSY (finishing pigs marketed per sow per year)	Dividing the number of pigs delivered to the slaughterhouse by the average number of sows in one year
Independents Variables	
Social perception	Five-point Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree)
Self-promotion	See above
Social learning orientation	See above
Individualistic	See above
Competitive	See above
Cooperative	See above
Control variables	
Cooperative (representing a region in the Republic of Korea)	A value of 1 indicates that the respondent was a member of a cooperative OTHER THAN the Bookyoung cooperative (i.e. Dodram, Daejeon-Chungnam, Paju-Yeoncheon or Jeju).
Managerial experience	Years of experience as a pig producer (four categories: ≤5, 6–10, 11–15 and ≥16 years)
Age	Age of the owner-manager (seven categories: <20, 20–29, 30–39, 40–49, 50–59, 60–69 and ≥ 70 years)
Education	A value of 0 means that the respondent had not completed any post-secondary education, and a value of 1 indicates that the respondent had completed some post-secondary education.

remarks from these pre-tests. The final questionnaire was subsequently used by local enumerators who sat with each of the farmers to complete the questionnaire. All enumerators were advisors of the NACF, who already had advisory relationships with the farmers.

We used scales that demonstrated good measurement properties in previous studies (Baron and Markman 2003; Baron and Tang 2009; Johnson and Norem-Hebeisen 1979; Lans, Verhees, and Verstegen 2016). Questions were adapted to reflect the local context in order to enhance face (and other forms of) validity. The measurement properties of the scales were assessed using principal component analysis (PCA) and reliability analysis (Cronbach's alpha). For the three social interdependence orientations (individualistic, competitive and cooperative), three items failed to reach a factor loading of 0.4 or had high cross loadings, and they were therefore eliminated. For the three social competencies, five items failed to reach a factor loading of 0.4 or had high cross loadings, and they were therefore eliminated. In the end, social learning orientation did not meet the criterion of a Cronbach's alpha value greater than 0.6 (Table 2). Therefore we decided to eliminate this scale for further analyses.

As a check for common method variance, Harman's single-factor test was performed by including all the items of the main variables in our model. A principle component analysis without rotation was conducted on all items, including the three social interdependence orientations, social perception, self-promotion, social learning behaviours and the two technical performance variables. The total variance extracted by one factor was 23%, which is less than the 50% threshold.

Table 2. Measurement properties of the final social scales used in the study.

Scale	Items	α
Social perception	4	0.70
Self-promotion	3	0.70
Social learning orientation*	3	0.41
Individualistic orientation	5	0.78
Competitive orientation	8	0.82
Cooperative orientation	5	0.63

Note: * left out in further analyses

Analyses

An analysis of variance (ANOVA) was conducted to identify differences between respondents from different cooperatives and different educational backgrounds with regard to the dependent variables. This was followed by stepwise hierarchical regression analyses, in order to measure the impact of social competence and social interdependence on learning behaviour and business performance. Each of the learning behaviours and performance indicators was used as a dependent variable in separate regressions, whereas age, previous experience, region and the social variables were treated as independent variables in each regression. With regard to learning behaviours as dependent variables, the background demographic variables were entered into the model in the first step (Model 1), with the social competence and social interdependence variables being added in the second step (Model 2). With regard to the technical performance indicators as dependent variables, a third step was added (Model 3). In this step, the learning behaviours were added as well, given that they may also be predictors of organizational outcomes. Because the dataset contained some missing values for the dependent and independent variables, the exact sample size (reported as 'n' in the results) differs slightly between the analyses, so that as many cases as possible could be included for each analysis.

Results

Descriptive statistics for respondents

The respondents came from five different geographical regions, as represented by the various cooperatives: Dodram (10%), Daejeon-Chungnam (30%), Paju-Yeoncheon (9%), Bookyoung (35%) and Jeju (16%). The majority of the respondents were male (92%). In terms of education, almost half (46%) listed secondary school as the highest level of education completed, with nearly the same share (44%) having completed some form of post-secondary education (21% junior college and 23% university).

Social interdependence, competence and learning

In terms of education, the figures reported in Table 3 suggest that owner-managers with post-secondary education scored somewhat higher on the dependent learning and performance variables, with the exception of learning from family. The only significant differences, however, were for learning from peers and experts.

Table 3. Mean (M) and standard deviation (SD) of the respondents' scores on the various dependent variables for owner-managers with and without post-secondary education.

	Family learning behaviour		Peer learning behaviour		Expert learning behaviour		Piglets weaned per sow per year		Finishing pigs marketed per sow per year	
	M	SD	M	SD	M	SD	M	SD	M	SD
Post-secondary education (n = 64)	2.83 ^a	0.88	3.42 ^b	0.73	3.78 ^b	0.75	4.27 ^a	1.07	3.05 ^a	1.03
Primary/secondary education (n = 82)	3.01 ^a	0.97	3.13 ^a	0.91	3.43 ^a	0.92	4.05 ^a	1.33	2.95 ^a	1.22

Note: Mean values with different letters indicate significant differences ($p < 0.05$) between owner-managers with and without post-secondary education for each column (dependent variable).

Table 4 provides an overview of differences in the performance of pig farmers from different regions, as represented by cooperative membership. Significant differences between regions were identified for consulting experts and technical performance. With regard to experts, the owner-managers from the Daejeon-Chungnam cooperative consulted experts significantly less frequently than did those from the other cooperatives, with the exception of the Paju- Yeoncheon cooperative ($p < 0.05$). In terms of technical performance, the results clearly suggest that the farmers in the Dodram cooperative outperformed those in the Jeju cooperative, whose scores were significantly lower for both technical performance measures ($p < 0.05$).

Significant correlations were identified amongst the dependent variables, and specifically amongst the various learning behaviours (e.g. 0.46 between learning from experts and learning from peers) and amongst the technical performance measures (e.g. 0.72 between PSY and MSY) (see Table 5). Furthermore, the low to medium correlations between the dependent variables and the various independent variables provide initial evidence to suggest that multicollinearity is not a problem for the regression analysis.

As shown in Table 6, the addition of the social competence and social interdependence variables has a significant positive relationship with socially mediated learning behaviour. In general, these additions improved all three models for family, peers and experts (see changes, Δ). Interestingly, for the externally oriented dependent variables (e.g. peer and expert), membership in a specific cooperative is significantly related to specific learning behaviours in Model 1. Whereas

Table 4. Means (M) and Standard deviation (SD) of scores on the various dependent variables for the different cooperatives.

	Family learning behaviour		Peer learning behaviour		Expert learning behaviour		Piglets weaned per sow per year		Finishing pigs marketed per sow per year	
	M	SD	M	SD	M	SD	M	SD	M	SD
Dodram (n = 16)	3.19 ^a	1.05	3.69 ^a	0.60	3.94 ^b	0.68	4.38 ^b	0.96	3.44 ^b	0.89
Daejeon-Chungnam (n = 32)	2.69 ^a	1.03	3.06 ^a	0.76	3.03 ^a	0.89	3.97 ^{ab}	1.03	2.84 ^{ab}	0.98
Bookyoung (n = 60)	2.83 ^a	0.99	3.28 ^a	0.85	3.77 ^b	0.67	4.77 ^b	1.03	3.23 ^{ab}	1.33
Jeju (n = 23)	3.17 ^a	0.49	3.17 ^a	0.88	3.70 ^b	1.02	3.26 ^a	1.21	2.39 ^a	0.84
Paju-Yeoncheon (n = 17)	2.88 ^a	0.86	3.24 ^a	1.03	3.47 ^{ab}	0.87	3.18 ^a	1.07	2.71 ^{ab}	0.77

Note: Mean values with different letters indicate significant differences ($p < 0.05$) between cooperatives for each column (dependent variable).

Table 5. Correlation between the independent and dependent variables.

	Individual	Competitive	Cooperation	Social perception	Self-Promotion	Peer learning behaviour	Family learning behaviour	Expert learning behaviour	PSY
Competitive	-0.11								
Cooperation	-0.39**	0.39**							
Social perception	0.04	0.44**	0.38**						
Self-promotion	-0.01	0.41**	0.28**	0.35**					
Peer learning behaviour	-0.24**	0.30**	0.45**	0.22**	0.31**				
Family learning behaviour	-0.04	0.21**	0.21**	0.11	0.25**	0.14			
Expert learning behaviour	-0.26**	0.25**	0.37**	0.18*	0.19*	0.48**	0.15		
PSY	-0.12	0.09	0.05	0.08	0.04	0.24**	0.09	0.37**	
MSY	-0.03	0.11	0.03	0.04	0.08	0.17*	0.11	0.36**	0.73**

Note: * = $p < 0.05$; ** = $p < 0.01$, PSY = piglets weaned per sow per year, MSY = finishing pigs marketed per sow per year.

Table 6. Background variables, social competence and interdependence orientations as predictors of three types of learning behaviours.

	Family learning behaviour ¹			Peer learning behaviour ²			Expert learning behaviour ¹		
	B	SE B	β	B	SE B	β	B	SE B	β
<i>Model 1</i>									
(Constant)	2.85	0.56		3.42	0.45		3.91	0.46	
Dodram	0.52	0.29	0.16	0.56	0.24	0.20*	0.00	0.24	0.00
Daejeon-Chungnam	0.10	0.19	0.05	0.02	0.15	0.01	-0.60	0.16	-0.31**
Jeju	0.44	0.23	0.17	-0.12	0.19	-0.05	-0.16	0.19	-0.07
Paju-Yeoncheon	0.02	0.26	0.01	0.18	0.21	0.07	-0.11	0.22	-0.04
Experience	-0.05	0.13	-0.04	-0.18	0.10	-0.20	0.01	0.10	0.01
Age	0.05	0.10	0.05	0.09	0.08	0.11	-0.06	0.08	-0.07
Education	-0.30	0.21	-0.16	0.08	0.16	0.05	0.25	0.17	0.14
<i>Model 2</i>									
(Constant)	0.53	1.00		0.94	0.68		1.64	0.73	
Dodram	0.36	0.28	0.11	0.43	0.21	0.16*	-0.12	0.23	-0.04
Daejeon-Chungnam	0.08	0.20	0.04	0.06	0.14	0.03	-0.58	0.15	-0.30**
Jeju	0.35	0.22	0.13	-0.23	0.17	-0.10	-0.24	0.18	-0.10
Paju-Yeoncheon	-0.28	0.27	-0.09	-0.21	0.20	-0.08	-0.41	0.22	-0.14
Experience	-0.05	0.13	-0.05	-0.22	0.09	-0.24*	0.00	0.09	0.00
Age	0.06	0.10	0.07	0.13	0.07	0.16	-0.04	0.08	-0.05
Education	-0.28	0.20	-0.15	0.07	0.14	0.04	0.26	0.16	0.15
Social Perception	-0.07	0.16	-0.04	-0.04	0.12	-0.03	-0.03	0.12	-0.02
Self-promotion	0.30	0.13	0.21*	0.25	0.10	0.20**	0.17	0.10	0.13
Individual	0.04	0.13	0.03	-0.14	0.09	-0.12	-0.08	0.09	-0.06
Competitive	0.09	0.14	0.06	0.13	0.10	0.10	0.14	0.11	0.10
Cooperative	0.33	0.18	0.18	0.49	0.13	0.31**	0.44	0.14	0.26**

Note: The Bookyoung cooperative is taken as the reference for the other four cooperatives. * $p < 0.05$, ** $p < 0.01$, ¹ ΔR from Model 1 to 2 = 0.09 ($p < 0.05$), ² ΔR from Model 1 to 2 = 0.25 ($p < 0.001$), ³ ΔR from Model 1 to 2 = 0.15 ($p < 0.001$)

membership in the Dodram cooperative seems to be favourable for peer learning, as compared membership in the baseline cooperative, membership in the Daejeon-Chungnam cooperative seems to be negatively related to expert learning. As demonstrated by Model 2, the competence of self-promotion has a significant relationship with two of the three social learning behaviour variables. Self-promotion has only a marginally positive ($p = 0.085$) relationship with consulting experts. As indicated by the results from the social interdependence scales, a cooperative orientation has a highly significant relationship with learning from peers and experts.

As shown in Table 7, the addition of the social competence and social interdependence variables has no significant relationship with either performance indicator (based on differences between Models 1 and 3), but the addition of the three learning behaviours does. In Step 3, the models improve significantly (for both PSY and MSY, $p < 0.0001$) when adding the extent to which the owner-managers consult experts. Interestingly, membership in specific cooperatives is related to lower technical performance. The strongest negative relationship is for the Jeju cooperative (which is negatively related to both technical performance indicators).

Discussion

This paper begins by observing a shortage of studies focussing on small businesses in the HRD literature. The present study aims to contribute to the body of knowledge on HRD in small businesses by providing a detailed investigation of the role

Table 7. Background variables, social competence, interdependence orientations and learning behaviours as predictors of two technical performance measures.

	Piglets weaned per sow per year ¹			Finishing pigs marketed per sow per year ²		
	B	SE B	β	B	SE B	β
<i>Model 1</i>						
(Constant)	4.55	0.67		2.55	0.70	
Dodram	-0.45	0.33	-0.11	0.24	0.35	0.06
Daejeon-Chungnam	-0.87	0.24	-0.30**	-0.40	0.25	-0.14
Jeju	-1.56	0.27	-0.46**	-0.78	0.28	-0.25**
Paju-Yeoncheon	-1.52	0.29	-0.40**	-0.44	0.30	-0.12
Experience	0.07	0.15	0.05	0.13	0.15	0.10
Age	-0.03	0.12	-0.03	0.02	0.13	0.02
Education	0.32	0.24	0.13	0.19	0.25	0.08
<i>Model 2</i>						
(Constant)	3.08	1.21		1.52	1.28	
Dodram	-0.55	0.33	-0.14	0.18	0.36	0.05
Daejeon-Chungnam	-0.88	0.24	-0.30**	-0.42	0.26	-0.15
Jeju	-1.64	0.28	-0.49**	-0.82	0.29	-0.27**
Paju-Yeoncheon	-1.78	0.31	-0.46**	-0.51	0.33	-0.15
Experience	0.07	0.15	0.04	0.14	0.16	0.11
Age	-0.03	0.12	-0.02	0.02	0.13	0.02
Education	0.30	0.24	0.12	0.21	0.26	0.09
Social Perception	-0.09	0.20	-0.04	-0.12	0.21	-0.06
Self-promotion	0.21	0.16	0.11	0.05	0.17	0.03
Individual	-0.03	0.15	-0.01	0.06	0.16	0.04
Competitive	-0.10	0.18	-0.05	0.13	0.19	0.07
Cooperative	0.43	0.22	0.18	0.19	0.24	0.08
<i>Model 3</i>						
(Constant)	2.49	1.14		0.83	1.20	
Dodram	-0.56	0.32	-0.14	0.22	0.34	0.06
Daejeon-Chungnam	-0.52	0.24	-0.18**	0.04	0.26	0.01
Jeju	-1.55	0.26	-0.46**	-0.74	0.27	-0.24**
Paju-Yeoncheon	-1.48	0.30	-0.39**	-0.23	0.31	-0.06
Experience	0.05	0.15	0.04	0.12	0.15	0.09
Age	-0.02	0.12	-0.02	0.02	0.12	0.02
Education	0.16	0.23	0.07	0.02	0.25	0.01
Social Perception	-0.08	0.19	-0.04	-0.11	0.20	-0.05
Self-promotion	0.07	0.16	0.04	-0.09	0.17	-0.05
Individual	0.00	0.14	0.00	0.10	0.15	0.06
Competitive	-0.14	0.17	-0.07	0.09	0.18	0.05
Cooperative	0.07	0.23	0.03	-0.15	0.24	-0.07
Peer learning behaviour	0.09	0.12	0.07	0.00	0.13	0.00
Family learning behaviour	0.13	0.09	0.10	0.11	0.10	0.09
Expert learning behaviour	0.45	0.12	0.32**	0.58	0.13	0.44**

Note: The Bookyoung cooperative is taken as the reference for the other four cooperatives. ** $p < 0.01$, ¹ ΔR^2 from Model 1 to 2 = 0.04 (ns), ΔR^2 from Model 2 to 3 = 0.10 ($p < 0.001$), ² ΔR^2 from Model 1 to 2 = 0.014 (ns), ΔR^2 from Model 2 to 3 = 0.14 ($p < 0.001$).

that owner-managers play in enabling social learning and performance in small firms. Moreover, this study was conducted within a non-Western research context: The Republic of Korea. It was designed to address two research questions: 1) What are the specific relationships of the social interdependence orientation and social competence of owner-managers with their social learning behaviour in small firms in the pig production sector in the Republic of Korea? 2) What are the specific relationships of the social interdependence orientation, social competence, and social learning behaviour of owner-managers with their organizational outcomes in small firms in the pig production sector in the Republic of Korea?

Relationship of social interdependence and competence with social learning

Our results indicate that the social interdependence orientations and social competencies of owner-managers have a significant relationship with their social learning behaviour. These findings confirm the importance of characteristics of owner-managers in facilitating informal learning in small businesses, as indicated by the conceptual framework proposed by Coetzer, Wallo, and Kock (2019). Self-promotion and a cooperative orientation are especially important, although they seem to be related to different types of workplace learning. Self-promotion is less about showing off achievements than it is about making others aware of one's 'potential' as a learning partner, for purposes of bridging social capital (Anderson, Park, and Jack 2007). Interestingly, the role of self-promotion is relevant primarily for interactions with family and peers. It is less important with regard to learning from experts, for which openness to feedback and critique are more important. This could be due to the introduction of hierarchical differences into the interaction, as well as to the crossing of the 'in-group boundary', given that, within the Korean context, owner-managers might tend to regard experts as an out-group.

Another interesting finding has to do with the role of the cooperative, as a proxy for the culture of working and learning in specific regions in the Republic of Korea. There were clear differences between cooperatives, and these differences affected learning behaviours. The Daejeon-Chungnam and Jeju cooperatives were particularly interesting. The Daejeon-Chungnam cooperative stood out because of its consistent negative relationship with consulting experts. This could be due to multiple reasons. One learning-related reason could be that there are simply fewer experts available in the area, due to its lower level of vertical integration (e.g. as compared to Dodram and Bookyoung). This means that owner-managers have less frequent interaction with experts other than those directly associated with the cooperative (e.g. experts from breeding or food companies). This finding also points to a potential weakness of the present study, which treated experts as a homogenous group, with no differentiation between types of experts or specific domains of expertise (e.g. production chain, veterinarians).

Relationship of social interdependence, competence, and learning with organizational outcomes

A second contribution that this study makes to the literature on HRD in small businesses is that it reveals the relationship between the workplace learning and organizational outcomes of owner-managers (Coetzer, Wallo, and Kock 2019). The relevance of actually learning with and from experts is reflected in the strong relationship between these variables and technical firm performance. Consulting experts was the only learning behaviour that consistently showed a positive relationship to both performance measures. This was thus not the case for peer and family learning behaviour. There are two possible explanations for this finding. First, experts may introduce new information and an outsider perspective, which could possibly have a direct impact on the performance of a firm. Another, more culturally sensitive explanation for this finding might be that experts are highly respected because of their hierarchical status in Korean culture, such that their feedback might be more highly valued than are new (albeit similar) ideas that

come directly from peers, family and/or employees. As also indicated by our results, however, learning from experts requires a highly cooperative learning orientation, and thus a fundamentally positive attitude to learning from others. Such attitudes may not emerge automatically, as farmers may seek to avoid the risk of losing face by sharing their mistakes or admitting that things are off track to external parties.

Differences between cooperatives were found to affect performance. The case of the Jeju cooperative is specifically interesting, because it showed significant lower scores on the performance measures used in our study. The province of Jeju differs from other regions, as its farmers raise a specific, indigenous breed that is both characteristic of and highly valued within the region. This could account for the observed differences.

Limitations and future research

As with any study, this study also comes with specific limitations. The present study is that it relies on a single data source: a questionnaire. It is thus inherently vulnerable to common method variance (CMV). We have attempted to reduce the risk of such variance by using existing scales, applying Harman's one factor test and deploying different scales for the dependent and independent variables (i.e. using different response formats, Podsakoff et al. 2003). The risk of CMV might have been further reduced by the fact that the relationship between the used competencies, orientations and behaviours and technical performance is most likely not part of the respondents' theory-in-use. All in all, we believe that CMV does not pose a serious threat to the results of this study.

The present study is intended to advance understanding with regard to the work-related learning of owner-managers of small companies within a specific context. In line with the model proposed by Coetzer, Wallo, and Kock (2019), the study suggests the existence of a direct relationship between the characteristics of owner-managers (i.e. orientations and competencies) and their learning behaviours (in this case, the acquisition of new knowledge), as well as between their learning behaviours and the technical (or other) performance of small firms. This suggests the existence of an indirect relationship between the social characteristics of owner-managers and their technical (or other) performance. As such, it suggests clear avenues for further research. Firstly, it is still unclear whether learning behaviours actually have a mediating or moderating effect and, conversely, which characteristics might have a recursive relationship with learning behaviours. The focus on social characteristics does not rule out the possibility that other characteristics (e.g. entrepreneurial mindset) might also be related to learning behaviour and firm performance. Moreover, given that the present study was conducted within the context of micro-firms, and particularly family firms, the actual role of employees (in this case, relatives) may be much more specific (e.g. limited in terms of exploration and the acquisition of new knowledge) than it is for small businesses with up to 50 employees. Research on family firms has its own tradition within the field of business studies. Perhaps the literature on HRD in small businesses could benefit from devoting additional attention to family firms and other specific characteristics.

Secondly, given the central role of social interdependence orientations in this study, as well as in cooperative learning theory in general, one avenue could involve investigating whether such orientations (cooperative, individual, competitive) are relatively static, or whether they are subject to change or development over time. A logical follow-up to this

cross-sectional study could involve more longitudinal research, which could determine whether this is actually the case and under which circumstances. Such knowledge could be important for practice as well, as it could enhance the ability to provide support for the development of the sector. In addition, although the present study does recognize a number of characteristics specific to the culture of the Republic of Korea, these factors were not explicitly operationalized or addressed in the questionnaire. Although the Republic of Korea has traditionally been a collectivist society, increasing trend of individualism has been observed in the country. It would therefore be interesting to measure culture at the individual level, given the likelihood heterogeneity will increase at this level.

Implications for HRD practice

With the present study, we address the identified need for more research on HRD in small businesses. We have responded to this need by further developing the notion that social interactions are an important engine for exploration and knowledge acquisition in SMEs and that they therefore rely heavily on the social competence and social learning behaviours of owner-management. Consistent with the findings of previous research, this study on pig production in the Republic of Korea confirms the importance of the social characteristics of owner-managers to learning behaviour and the performance of small firms. Self-promotion, a cooperative orientation and expert-oriented learning behaviour seem to be particularly conducive to the performance of small firms within this context. This relationship is nevertheless related to the type of interaction partner (close-by or further away), as well as by specific contextual and, most likely, cultural factors. From a practical point of view, the results of this study suggest that facilitating interaction with a variety of actors, as suggested by the OECD, can have a positive relationship with the technical performance of companies in the Republic of Korea. From the perspective of HRD, it is important to realize that encouraging such interactions (e.g. through study groups or learning communities) will not work unless participants feel that they are not interacting only with peers, have a high level of social competence and have a sense of social interdependence when starting to learn together. Such skills and attitudes should be fostered even in initial education (e.g. through entrepreneurship education programmes), in order to ensure that the future generation of owner-managers will have a positive social learning orientation, with regard to both experts and their family and peers.

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