Sales Role-Plays and Mock Interviews: An Investigation of Student Performance in Sales Competitions

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Abstract

Sales competitions provide students with opportunities to apply their understanding of sales. Despite a long tradition of scholarship on sales role-plays, the answer to what drives student performance in sales competitions remains elusive. In this research we examine how motivation (work engagement) and ability (cognitive aptitude and selling-related knowledge) affect student performance in sales role-play competitions. We also examine how success in sales role-plays engenders job attainment for the students. Using data from a sales competition held at a large public university in the USA, we provide empirical evidence that both motivation and ability affect sales performance. But, contrary to expectation, they have a substitution effect and not a complementary one. We also find evidence that success in sales role-plays translates into improved success in job interviews and that this effect is stronger for students with greater cognitive aptitude, i.e., sales role-play performance complements the cognitive aptitude of the student to improve their mock interview performance.
Introduction

Careerbuilder.com alone lists over 40,000 entry-level sales positions (careerbuilder.com) and the need for professional salespeople is expected to rise to about 2 million by 2020 (Bolander, Bonney, & Satornino, 2014). To meet this increasing demand for sales professionals, companies are increasingly hiring entry-level sales talent directly from universities. For example, Oracle’s CEO announced during a call to investors, “we’ve hired about 500 salespeople and sales consultants directly out of college this year.” (Bort, 2013). In pursuing this objective, companies have begun to add ‘sales competitions’ to their recruiting calendar in addition to traditional job fairs and career days. Organizations such as HP, Ethicon, DHL, ADP, UPS, and Michelin travel to sales competitions around the country to observe top sales students compete. Companies follow this up with campus visits to hire top sales talent.

This shift in hiring practice has been made possible by the evolving maturity of university sales programs. Since the late 1990s many b-schools have developed independent sales programs. Sales, for a long time, had been considered a vocational discipline that relied more on training than formal education within universities. However, the recent spurt in the growth of universities that offer sales classes is impressive and well documented (Loe & Inks, 2014). According to the Sales Education Foundation, the number of universities offering sales education had more than tripled in eight years, to 100 in 2015 (www.salesfoundation.org). And, the earliest record of the first university sales class dates back to 1914 (Weilbaker & Williams, 2006). The perennial dilemma for recruiters is whether to hire students well versed in sales and train them with product/technical knowledge or recruit graduates from product domains (e.g., biology,
engineering, and finance) and train them in sales.¹ Such simplified framing fails to appreciate the distinctiveness of sales education from sales training. Sales education strives to produce sales thinkers as opposed to sales technicians (Chonko, 1990). Universities achieve this pedagogical objective by establishing a comprehensive curriculum rather than short-term behavior modification programs. This is highlighted by Loe and Inks (2014, p. 194) who call for a “comprehensive curriculum” in university sales education that prepares sales professionals and leaders on par with those from other professions such as marketing, accounting, finance, and management.

University sales curricula have become more robust with sales classes that go beyond merely introducing the sales process to advanced aspects of sales careers such as sales management, key account management, and advanced selling. (Scott & Inks, 2014; www.universitysalescenteralliance.org). In doing so, university sales programs recognize the applied nature of sales discipline by deliberately balancing academic rigor with a clinical approach that brings best practice into the classroom through innovative pedagogy. This makes sales distinct from other business school disciplines where traditional lectures dominate pedagogy. The sales curriculum has become increasingly reliant on sales role-plays. Sales role-plays enable students to practice their knowledge and skills; this is similar to the approach adopted by performing and other creative art disciplines in universities.² Sales role-plays are often recorded and critiqued by faculty, students, and corporate executives. Students hone their personal interaction skills in introductory sales classes and refine them with role-plays on mentoring, hiring, and coaching in their sales management classes. Some of the advanced classes

² [http://steinhardt.nyu.edu/courses/music](http://steinhardt.nyu.edu/courses/music) (last accessed on August 5, 2015)
also introduce nuanced concepts relating to customer engagement (e.g., delivering bad news to a customer, responding when customer seeks to discuss competition) and intra-organizational coordination to service key accounts (e.g., leveraging one division’s influence with a customer to cross sell services from another division of the same company). Thus, in university sales curriculum, role-plays are an integral element of the pedagogical tool kit. Given the dominance of role-plays in sales curriculum and its widespread use in job interviews, sales recruiters find it rewarding to identify fresh sales talent based on their evaluations of student role-plays.3 Additionally, executives are inclined to recruit from sales programs as students from sales programs tend to ramp up fast and perform better in their first year of a sales job (Bolander et al., 2014).

In addition to the sales role-plays in sales curriculum, many university sales programs send student teams to participate in national sales competitions for sales students. Baylor University’s Center for Professional Selling website lists as many as 10 inter-university competitions that its students could have attended during the 2013-14 academic year (http://www.baylor.edu/business/selling/). These competitions provide nationally recognized platforms for students to showcase their sales talent to potential recruiters. Some of these competitions attract between 40 and 70 universities and have become a mainstay in sales students’ competition calendars. Similar to the inter-university competitions, many universities also organize intra-university sales competitions in an effort to bridge the gap between industry and sales students (Sojka & Fish, 2008; Widmier, Loe, & Selden, 2007).

Intra-university competitions aspire to serve three goals. First, they provide a platform for students to showcase their sales skills to potential employers. Since corporate judges evaluate their performance, students often leverage these encounters to gain internships and full-time positions. Second, the competitions provide recruiters with opportunities to sample fresh sales talent and look beyond resumés and interviews. Student performance in role-plays provide additional means for assessing sales talent potential. Third, such events provide recruiters and sales students with opportunities to network. Initially conceived as a method to sustain students’ interest and motivate learning in the classroom (Widmier et al., 2007), sales role-play competitions have evolved into intra- and inter-collegiate mechanisms to facilitate hiring of university sales students. In spite of the gains to corporations and students alike, there has been no systematic effort to assess how students can improve performance in such role-play competitions, and are there any subsequent gains from doing so. To the best of our knowledge, this is the first empirical study to examine student participation in a sales role-play competition. In this paper, we seek to understand the factors that contribute to student performance in sales role-play competitions and, assess the impact of sales role-play performance on students’ performance in mock interviews.

We conducted an exhaustive review of sales role-play (see Table 1) research and identified three major gaps in the literature. First, although role-plays are common to most competitions, there has been a marked lack of systematic effort to study role-play competitions (notable exceptions include Loe and Chonko, 2000; Widmier et al., 2007). Accounts relating the drivers of student performance to their attendant benefits are based upon anecdotal evidence. Second, we find that there is no unifying theoretical framework (e.g., in the antecedent-consequence tradition) to guide inquiry into sales role-play performance (Cummins et al., 2013).
Third, the number of empirical studies is small and limited in scope, indicating an urgent imperative to expand research in this genre given the importance of sales role-plays for students’ learning, sales curriculum development, and corporate recruitment.

*** Insert Table 1 here***

The intent of this study is to bridge these gaps by examining the following research questions: What drives students’ performance in sales role-play competitions? How does students’ performance in sales role-play competitions affect their chances of being hired? In doing so, we make several contributions to the sales role-play literature. First, to the best of our knowledge, this is the first study that examines both the antecedents and consequences of student performance in sales role-play competitions. Second, we develop a conceptual framework utilizing motivation-ability theory (MacInnis, Moorman, & Jaworski, 1991; Boulding & Staelin, 1995; Nicholls, 1984) and the extant sales literature to explain differences in performance and the interplay of our focal constructs. Third, we minimize survey data-related concerns of non-response and social desirability bias by utilizing objective data from a census of students and judges that participated in a sales role-play and mock interview in a sales competition at a large public university. Drawing upon over 90 years of research on the drivers of sales performance, we assess how motivation (work engagement) and ability (cognitive aptitude and selling-related knowledge) affect students’ performance in a sales role-play competition and in turn, how performance affects the chances of being hired.

Next, we discuss the sales role-play literature and provide an overview of our theoretical framework. We then propose hypotheses about the drivers of students’ performance in sales role-play competitions. A description of our research method and the corresponding results follow. We conclude with a discussion of the implications of our study.
Literature Review

In our pursuit to develop a framework to investigate drivers of student performance in sales role-play competitions, we reviewed the literature on sales role-plays that encompassed sales education tools, techniques, and pedagogical processes, including the use of sales role-play competitions. Role-play scenarios typically involve the student receiving a one-page write-up about a real or fictitious sales situation. A peer, faculty member, or business practitioner typically plays the role of a buyer. Students act out the call and practice various skills, such as probing to uncover needs, handling objections, finessing non-verbal communication, obtaining commitment, and building trust in a simulated meeting room. Role-play experiences provide students with opportunities to broaden and deepen their knowledge of selling scenarios, interpret a variety of signals, and increase mental resolve and confidence in uncertain contexts.

In the last 41 years, 21 articles were published on sales role-plays (see Table 1). However, research on understanding the antecedents to student performance in role-plays is limited to three studies. These studies examined the effects of computer-assisted grading (Anglin et al., 2008), computerized time management tools (Shaw & Keller, 2011), and multiple scenarios (Pettijohn, 2000).

Attempts to understand consequences of role-play use in sales education have been just as sparse, with only four studies addressing the consequences of role-plays (see Houlihan, 2000 for a notable exception). In an empirical study on call center hiring practices, Houlihan (2000) found that role-plays facilitated hiring decisions for employers. Utilizing case studies, the remaining researchers discussed a variety of consequences such as higher performance in sales jobs and reduced need for training (Miller, 1973), and improved performance under pressure (Forbes et al., 2014). In another recent case study, Schaefer and Haytko (2014) report that use of
corporate judges in sales role-plays in advanced sales classes resulted in higher student confidence in dealing with sales situations, leading to better job opportunities. In summary, there is little guidance from previous research about the antecedents and consequences of student performance in role-play competitions. Therefore, we developed a conceptual framework by drawing upon motivation-ability theory.

Empirically, 76% of the studies were either case studies or other descriptive endeavors. A limited number of previous studies attempt to provide generalizable understanding of sales role-plays. In Figure 1 we provide a graphical summary of the methods (survey, experimental design, etc.) used in these studies.

*** Insert Figure 1 here ***

Research Framework - Drivers of performance in student role-play competitions

Beginning with Vroom (1964), (expectancy, which was operationalized as) motivation and ability have traditionally been the primary determinants of individual performance (that is, performance = motivation x ability). Over the years, researchers in marketing, psychology, and education complemented these antecedents with constructs such as experience (Anderson & Butzin, 1974; Nicholls, 1984), knowledge (Weitz, Sujan, & Sujan, 1986), opportunity (MacInnis et al., 1991), and goals (Ames, 1992; Elliott & Dweck, 1988) to enrich and contextualize conceptual development and better explain differences in behavior. In a similar vein, our framework operationalizes motivation and ability in the context of sales role-play performance.

We draw on a recent meta-analysis on sales performance research to identify motivation and ability constructs in the context of sales (Verbeke, Dietz, & Verwaal, 2011). According to
this study, five sub-factors drive sales performance: work engagement, cognitive aptitude, selling-related knowledge, degree of adaptiveness, and role ambiguity. Work engagement represents salesperson motivation, cognitive aptitude and selling-related knowledge represent salesperson ability (see Figure 2). These sub-factors are substantively aligned with the pedagogical needs of sales academics who strongly believe that sales knowledge and skills can be imparted to students. In our study, ability is the student’s skills or proficiency while motivation is the student’s initiative to participate in the sales competition.

*** Insert Figure 2 here ***

**Hypotheses**

**Motivation**

*Work engagement.* “Work engagement includes such concepts as enthusiasm, job involvement, dedication to work harder, but also the willingness to do something extra for the firm” (Verbeke et al., 2011, p. 411). Work engagement is revealed when salespeople put in more work; it includes working harder, willingness to do something extra (*ibid.*). Rigorous corporate sales programs publicly track such demonstration of ‘above and beyond’ professional sales-related activities through leaderboards and recognition awards (Chonko, Tanner, & Weeks, 1992).

While classroom learning may be mandated (e.g., if a student misses three classes in a row, they will be awarded an ‘F’ grade), a portion of the activity-based learning takes place outside the classroom and may require students to make a deliberate choice about participation.

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4 We exclude role ambiguity since the students who participated in the role-play competition were enrolled in sales classes and understood the expectations of the sales role-play through instruction by the same faculty members. We also exclude degree of adaptiveness as we are examining the performance of the students in one role-play and thus could not capture adaptiveness across varied sales situations.
Under such circumstances, motivated students actively seek professional development opportunities, by participating in student clubs, attending networking events, lunch-and-learn sessions, and joining role-play competitions to go the extra mile. Thus, engagement and participation is expected to improve student performance in sales role-play competitions, accordingly:

\[ H_1: \text{The higher a student’s work engagement, the greater his/her performance in sales role-play competitions.} \]

**Ability**

*Cognitive aptitude.* Cognitive aptitude refers to the mental, verbal, and quantitative ability of an individual (Vinchur et al., 1998). Salespeople with greater cognitive aptitude are better able to collect, assimilate, and act on information provided by buyers in selling situations (Verbeke et al., 2011). Salespeople deploy reasoning, logic, intelligence, and clever application of their knowledge to tackle challenges in their immediate selling environment. Such mental abilities also enable salespeople to excel, as those with higher cognitive aptitude are willing to “seek out new and unfamiliar” personnel and garner resources within their organization (Plouffe, Sridharan, & Barclay, 2010, p. 540). As cognitive aptitude improves, salesperson performance increases (Hunter & Hunter, 1984; Sujan, 1999).

Sales role-plays simulate sales encounters by immersing participants in realistic sales environments. Sales students are constantly assessed on the logical, quantitative, and language skills that constitute their cognitive aptitude (Vinchur et al., 1998). We thus expect that students with higher cognitive aptitude perform better in sales role-play competitions as they are able to more effectively reason, develop, and communicate innovative and value laden solutions. Therefore, we suggest that:
$H_2$: The higher a student’s cognitive aptitude, the greater his/her performance in sales role-play competitions.

* Selling-related knowledge. Selling-related knowledge includes the salesperson’s ability to negotiate with customers, his/her understanding of the sales process, and overall ‘salesmanship’ including effective communication and presentation skills. The broad range of salesperson expertise is required as they are constantly challenged by new environments, the need to sell new products, build new customer relationships and to adapt their selling tactics to suit the selling situations, also known as adaptive selling (Weitz, 1981).

But, how do students acquire this selling-related knowledge? University sales curricula contribute to students’ selling-related knowledge with the use of sales role-plays. Students constantly update their knowledge and refine their skills by learning to recognize and interpret signs, and listening to critiques of their recorded role-plays. Video recording and instant feedback (Moncrief & Shipp, 1994), use of teams (Widmier et al., 2007), use of corporate executives as judges, and intermixing of sales management students with professional selling class students for sales management topics (Newberry & Collins, 2012) collectively signal the avenues through which students acquire selling-related knowledge in universities. Role-plays now cover a wide variety of topics that mirror real life, some of which include topics such as negotiation, hiring (Newberry & Collins, 2012), multicultural selling, international sales (Weeks, Filion, & Luna, 1997), and key account management. This requires students to apply the knowledge obtained from role-plays to adapt to new situations (e.g., obtaining referrals, selling to not-for-profits), products, and cultures leading to better role-play performance in competitions. The consistent practice and the feedback provided by faculty and corporate executives help students’ improve their performance. Similar to developing expertise in other fields, sales
education provides an opportunity for students to gain selling-related knowledge, through deliberate practice (Ericsson, Krampe, & Tesch-Römer, 1993), which includes activities that are designed to improve performance. When students practice role-plays and receive immediate feedback, they are in a position to improve their performance. The purpose of the recorded role-plays is for the students to receive feedback in an effort to improve their performance.

In addition, sales role-play competitions incorporate sales-related knowledge elements into the judging criteria. For instance, in one of the leading national sales competitions held by the Kennesaw State University, the judges are asked to assess student performance in their role-play competition using a scoring rubric that heavily weighted criteria such as need identification, product/service presentation, objection handling, and closing. Sales students learn these concepts in the classroom and practice them in the role-plays inside and outside the classroom setting. Conceptual learning in sales classes are supplemented with in-class and laboratory role-plays that enable students to move from abstract conceptualization to concrete experience. Thus we hypothesize:

$$H_3:$$ The higher a student’s selling-related knowledge, the greater his/her performance in sales role-play competitions.

**Moderator Hypotheses - sales role-play performance**

We expect work engagement (motivation) to strengthen the positive effect of cognitive aptitude and selling-related knowledge (i.e., ability) on student performance in sales role-play competitions. Prior research in sales suggests that both motivation and ability have a direct impact on sales performance (Román & Iacobucci, 2010). Similarly, in order to do well in role-

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play competitions, we recognize that both motivation and ability are important. Further, we suggest that motivation will enable better able students to perform more successfully.

A motivated student will demonstrate enthusiasm to participate in activities above and beyond what is needed for the courses. However the enthusiasm alone may not be adequate. When the student enters the role-play room, there are subtle but important ‘new situations’ that confront him/her, such as the profile of the buyer, the degree of resistance exhibited by the buyer, the wording of questions, the buyer’s tone, and demeanor. This may constrain his/her ‘working memory’ that must process the new ‘set-up’ even while executing the role-play, as rehearsed. The student may then have to fall back on her ‘abilities’ to store and process information simultaneously. Research on the efficacy of working memory indicates that motivated practice plus basic ability trumps practice alone (Hambrick & Meinz, 2011).

Similarly, the impact of selling-related knowledge on role-play performance will be higher for those who exhibit higher work engagement compared to students with lower work engagement. Students with high work engagement are likely to prepare extensively for the role-plays including reading the role-play carefully, and practicing role-plays with friends. These additional efforts along with prior selling-related knowledge is expected to improve sales role-play performance for students with higher level of motivation.

Extending this reasoning, we expect that work engagement (motivation) plus cognitive aptitude and selling-related knowledge (ability) will lead to higher performance. This is consistent with multi-level studies in marketing that have found a positive interaction between motivation and ability when investigating organizational abilities and motivation to pursue newer opportunities in specific domains (Grewal, Comer, & Mehta, 2001) and individuals’ propensity
to seek a course of action (Sprott, Brumbaugh, & Miyazaki, 2001). Therefore, we hypothesize that:

**H₄a**: Work engagement strengthens the positive relationship between cognitive aptitude and student performance in sales role-play competitions.

**H₄b**: Work engagement strengthens the positive relationship between selling-related knowledge and student performance in sales role-play competitions.

**Role-play and mock interviews**

Salespeople, especially novices, who tend to excel in adaptive selling, possess knowledge structures about customers and selling situations that are more hierarchical than flat (Weitz et al. 1986). Hierarchical structures promote better decision making as they increase ability to prioritize, manage complexity, and reduce the need for trade-offs. Traditionally, “on-the-job” training was used to build such knowledge (Anzai & Simon, 1979). In sales education, role-plays mirror “on-the-job” training and act as knowledge sources (Weitz et al., 1986). Sales role-plays rely on participative methods and instant feedback to build such hierarchical knowledge structures and make students better ‘sales thinkers’ (Chonko, 1990). Consequently, students who do well in role-plays can be expected to employ real-time problem solving and interpersonal communication skills, and adapt their knowledge to execute strategies during job interviews (Weeks et al., 1997). This is important for sales students as companies often deliberately design situational problem solving within the context of job interviews (Chonko, 1990).

The ability of a job candidate to respond to scenario-based or situational questions, i.e., describing what he or she will do or actually performing in a hypothetical situation, has been used an indicator of the candidate’s qualification, and is a part of Human Resources (HR) recruitment practices, especially for jobs with high structure and specificity (Campion, Palmer,
& Campion, 1997; Delery et al., 1994; Roth & Campion, 1992). In the leading online career community, www.Glassdoor.com, interviewees mention role-plays as an important component of job interviews for sales positions in a variety of industries. Asking sales job candidates to sell products either from their company lists or something placed on their table (e.g., a pen, or pencil) is a common practice for companies such as Grainger, Verizon, Cisco, and J.P. Morgan. Assessing candidate performance when faced by a real life problem-solving situation is a practice that is also followed in hiring business graduates for other management disciplines. For instance, applicants to McKinsey’s (www.McKinsey.com) consulting jobs are required to go through a real life case-study interview where they are questioned about strategic decisions a targeted company should make based on the scenario presented to the job candidate (http://www.mckinsey.com/careers/join_us/interview_prep/electro-light_practice_case_study). In this case, the candidates play the role of consultants and discuss their advice to clients just as salespeople were asked to ‘sell’ during their interviews. In both instances role-plays are linked to and form an integral part of the job interview process.

University recruiters generally favor graduates of sales programs because “sales graduates are prepared for their roles, having made a conscious decision to pursue a career in sales.” (www.salesfoundation.org). Many recruiters and senior sales executives interact, engage, and mentor students in sales programs to improve their chances of attracting high performing sales students. Research by Chally Group highlights the need for skilled salespeople as “39% of B2B buyers select a vendor according to the skills of the salesperson rather than price, quality, or service features” (Fogel et al., 2012, p. 2).

6 http://www.glassdoor.com/Interview/role-playing-interview-questions-SRCH_KT0,12.htm (last accessed on August 5, 2015)
Candidates with the ability to execute high-quality sales-based scenarios including strong in-person communication skills, and combinations of key signals such as tone of voice, and non-verbal cues (Lengel & Daft, 1988) are more likely to be considered favorable candidates for recruitment. Students performing well in the sales role-play competition are better able to apply the sales skills to ‘sell themselves’. Therefore, we posit that:

\[ H_5: \] The higher a student’s performance in sales role-play competitions, the greater the mock interview performance.

**Moderator Hypotheses – mock interview performance**

In addition to the direct effect of sales role-play performance, we hypothesize that the gains attributed from improved sales role-play performance will be greater for students with higher cognitive aptitude. It is a well-established view that critical thinking is important to perform well in sales jobs (Sujan, Weitz, & Sujan, 1988). Therefore, during mock interviews those who do well in role-plays continue to employ those skills in selling themselves. In the sales curriculum students typically have greater exposure to sales role-play exercises, rather than mock interview exercises. Therefore, unlike the role-play situation where the selling situation is bound by the role-play brief, the recruiter or the interviewer in a mock interview may summon some of the commonly practiced interviewing techniques to assess job preparedness. Such assessment will likely include critical thinking and logical reasoning to infer students’ cognitive aptitude. Thus, cognitive aptitude is generally a crucial factor in mock interviews.

Therefore, students with higher cognitive aptitude would augment their ability to ‘sell themselves’ better during mock interviews. This is similar to the knowledgeable pianists who
were able to sight-read better than novices (Hambrick & Meinz, 2011) as they drew upon their aptitude for playing the piano. Therefore:

\[ H_6: \text{Cognitive aptitude strengthens the positive relationship between student performance in sales role-play competition and mock interview performance.} \]

**Method**

**Context and data**

We tested our hypotheses using data collected in a sales competition event in a large public university in the USA. The sales competition included three events: sales role-play competition, elevator pitch competition, and mock interview. We examined student performance in the sale role-play competition and mock interview. Less than 50 percent of the students participating in the sales role-play competition and mock interview participated in the elevator pitch competition. Thus, we do not include elevator pitch performance in the analysis. The events were independent and the students had an option to participate in any one, two, or all three events.

120 students voluntarily participated in one or more events over three days and 42 corporate judges from 16 different companies evaluated student performance for each of the events. The corporate judges participated in ‘judge training sessions’ prior to their participation as evaluators. During the judge training session, all the judges were shown a role-play video and were asked to score the role-play. The judges were encouraged to think of each dimension of the

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7 We also considered whether *selling-related knowledge* and *work engagement* might moderate the relationship between student performance in sales role-play and mock interview. We excluded this from our analysis since we believe that the effect of selling-related knowledge is already captured by the sales role-play performance. Since the students were coming fresh off the role-plays, additional confidence stemming from motivation (Román & Iacobucci, 2010) is unlikely to impact the effect of role-play performance on mock interviews.
students’ performance independently. Specifically, efforts were made to ensure that judges would not harbor a halo bias based solely on the ‘approach’ of the student. This was intended to reduce inter-judge variance.

The sales role-play for the competition was developed by a leading Fortune 500 company in collaboration with sales faculty and conducted over two days. Students had up to 15 minutes to complete the sales role-play. The role-play was a preliminary meeting between a prospect and the student, who played the role of the sales representative. The student was entrusted with the objective of identifying the prospect’s needs and securing a follow-up appointment to present solutions. A company executive enacted the role of the buyer and also served as a judge while another executive judged the role-play from a single-sided glass window. The sales role-plays were video-recorded and the judges used electronic scoring for the competition.

Students also had an opportunity to participate in mock interviews. Similar to the role-plays, these interviews were for a ‘generic’ sales job and lasted 15 minutes. Student participants had no prior information on the judges and were not expected to have company- or industry-specific knowledge. A similar format was used for judging, where an executive participated as the recruiter and evaluator, while another executive participated as an independent evaluator. Similar to the role-plays, the mock interviews were also evaluated using an electronic format. The competitive nature of this event, and judging by corporate executives, provided an ideal setting to test our hypotheses.

The data comprise students who participated in the role-play competition and were used to assess the student performance. In all, 98 students participated in the sales role-play competition. However, since GPA data were missing for 11 students, we used data on 87 students to assess the student performance in the sales role-play competition. In total, 85 out of
the 87 students participated in the mock interview and these data were used to assess student mock interview performance.

**Measures**

Our unit of analysis is the student $i$ ($i=1,\ldots,87$), who is observed by up to two corporate judges $k$ ($k=1,2$). For the sales role-play each student was evaluated on approach (gains buyer attention and builds rapport), needs identification (understands prospect’s needs to present customized solutions), objection handling (eliminates concerns to prospect’s satisfaction), communication and presentation (communicates clearly, presents product benefits, and has appropriate nonverbal response), and ability to close (moves the sales call to the next level of commitment). Each judge evaluated a student on each of the criteria on a thirteen-point scale, anchored by the endpoints ‘A+’ and ‘F’. We measured student performance in sales role-play competition as the total score obtained by student $i$ as evaluated by judge $k$. In appendix A we provide a copy of the scales used by judges to evaluate the role-play.

Our second dependent variable is the student’s performance in the mock interview and our unit of analysis is at the student level. Similar to the sales role-play performance, the mock interviews were evaluated by up to two independent judges. For the mock interview, each student was evaluated on introduction (approach), appearance (dressed professionally), job skills (possesses sales related skills and experience), verbal and nonverbal communication (communicates clearly and has appropriate nonverbal response), and ability to close (asks meaningful questions and seeks information to follow-up). Each judge evaluated a student on each of the criteria on a thirteen-point scale, anchored by the endpoints ‘A+’ and ‘F’. We measured the student’s performance in the mock interview as the average score obtained by

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8. 2 of the 87 students were observed by a judge each.
student $i$ as evaluated by $K$ (total number of) judges. The scales used by corporate judges to evaluate student mock interview performance is noted in Appendix B.

**Independent variables**

We measured *work engagement* as the number of events each student voluntarily participated in during the sales competition. Work engagement was a minimum of one, as each student participated in the sales role-play, and a maximum of three, if the students participated in the mock interview and elevator pitch as well. We measured the *cognitive aptitude* of the student using their GPA$^9$ up to the semester prior to the sales competition. Studies in other areas such as psychology have used GPA as a measure of cognitive ability (Benjamin, Brown, & Shapiro, 2013). We measured *selling-related knowledge* using the total of all recorded role-plays, prior to the competition. Since the role-plays were performed as part of sales classes, the prior role-plays provided students with an opportunity to learn adaptive selling skills and appropriate verbal and nonverbal communication techniques and also receive feedback from faculty and/or corporate executives.

**Control variables**

For the model that predicts sales role-play performance we controlled for the gender of the student, $1$=male and $0$=female. We also controlled for judge-specific factors, specifically, gender of the judge and prior experience of the judge. We measured judge gender as a dummy variable that takes a value of $1$=male and $0$=female. We measured judge experience as a dummy variable that takes a value 1 for judges with prior experience in judging such competitions and 0

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$^9$ We scale the GPA by a constant to get maximum GPA of 4.0. This is to protect the confidential GPA information of the students. Because a constant is added to GPA, it has no effect on the correlations or parameter estimates (Aiken & West, 1991).
for no experience. We also considered any potential bias that may arise due to the gender matching or mismatching scenarios. Accordingly, we include an interaction term to account for student’s gender and judge’s gender. We also controlled for judge expertise, specifically if s/he was an HR or sales professional, where judge expertise takes the value 1, if the judge is an HR professional and 0 for sales professionals. For the model that predicts mock interview performance, we controlled for student gender, 1=male and 0= female. In Table 2, we provide the relevant summary statistics, along with the correlations.

--- Insert Table 2 here ---

**Model Estimation**

*Student performance in sales role-play.* Our data exhibited an unbalanced panel data structure, whereby each student \(i\) is observed by up to \(K\) judges, making the i.i.d assumption invalid, where \(K\) (\(K=1, 2\)). The unit of analysis was at the judge-student level, where the judges are nested within the students. We estimate a random effects model using the *xtreg* command in STATA to account for the intra-student correlation. We test hypotheses 1 to 4 using Equation (1).

\[
SP_{ik} = \beta S0 + \beta S1WEi + \beta S2CAi + \beta S3SRKi + \beta S4WEi.CAi + \beta S5WEi.SRKi + \\
\beta S6Student Genderi + \beta S7Judge Genderk + \beta S8Judge Experiencek + \beta S9Student Genderi.Judge Genderk + \beta S10Judge expertisek + \mu_{ik}
\]

Where: \(SP\) = student performance in sales role-play; \(WE\) = work engagement; \(CA\) = cognitive aptitude; \(SRK\) = selling-related knowledge; \(WE.CA\) and \(WE.SRK\) = the multiplicative interaction terms between work engagement and cognitive aptitude and selling-related knowledge, respectively. The subscripts \(i\) and \(k\) indicate the student and judge, respectively. To create the
interaction terms, we used the cross-product of the mean-centered work engagement, cognitive aptitude, and selling-related knowledge.

Mock interview performance. We test hypotheses 5 and 6 using Equation (2). We estimate the model using ordinary least squares (OLS).

\[
MIP_i = \beta_{M0} + \beta_{M1}MSP_i + \beta_{M2}WE_i + \beta_{M3}CA_i + \beta_{M4}SRK_i + \beta_{M5}MSP_i.CA_i + \\
\beta_{M6}\text{Student Gender}_i + e
\]

Where: \(MIP = \) mock interview performance; \(MSP = \) average sales role-play performance; \(MSP.CA = \) the multiplicative interaction term between average sales role-play performance and cognitive aptitude with all other notations as noted for Equation (1). We checked the variance inflation factor for each of the models and found values well below the standard cut-off of 10 (Mani & Luo, 2014). Thus, multicollinearity does not appear to be a concern for our results.

Results

We first estimated a variance-components model and found evidence of significant judge-specific variance (\(p < .01\)) and judge-specific variance accounted for 15.7% of the variance explained. In column 5, Table 3 we present the results for the drivers of student performance in sales role-play. We predicted that the higher the student’s work engagement, the greater the sales role-play performance (H1). The results demonstrate this positive association (\(\beta_{S1} = 4.01, p < .05\)), supporting H1. Consistent with H2, we find a significant positive association between cognitive aptitude and sales role-play performance (\(\beta_{S2} = 3.49, p < .05\)). As hypothesized in H3, we find a positive association between selling-related knowledge and sales role-play performance (\(\beta_{S3} = 0.45, p < .05\)). H4 predicted that work engagement will strengthen the positive association between cognitive aptitude and sales role-play performance, whereas we find a significant negative association (\(\beta_{S4} = -10.33, p < .01\)); thus H4a is not supported. We
discuss this finding in greater detail in the simple slopes analysis section of the manuscript. Specifically, we assess if work engagement is a substitute for cognitive aptitude. The positive association between selling-related knowledge and sales role-play performance is not strengthened with work engagement ($\beta_{S5} = 0.32$) indicating no support for H4b.

Further, student gender ($\beta_{S6} = 0.09$), judge gender ($\beta_{S7} = -1.23$), judge experience ($\beta_{S8} = 0.57$), and the interaction between student gender and judge gender ($\beta_{S9} = 1.15$), and judge expertise ($\beta_{S10} = -1.24$) have no effect on sales role-play performance. Thus, none of the control variables are significant.

In column 7, Table 3 we present the results for mock interview performance. As predicted in H5 the results demonstrate a positive association between sales role-play performance and mock interview performance ($\beta_{M1} = 0.28, p < .01$). In H6 we predict that the positive association between sales role-play performance and mock interview performance will be strengthened by cognitive aptitude ($\beta_{M5} = 0.31, p < .05$). We also find that work engagement has a significant positive impact on mock interview performance ($\beta_{M2} = 3.04, p < .05$). Cognitive aptitude ($\beta_{M3} = -0.85$), selling-related knowledge ($\beta_{M4} = -0.04$), and student gender ($\beta_{M6} = 0.87$) have no effect on mock interview performance.

--- Insert Table 3 here ---

*Simple Slopes Analysis*

For ease of interpretation, in Figure 3 we provide a graphical representation of the significant interaction between cognitive aptitude and work engagement. Following Aiken and West (1991), we conducted a simple slopes analysis to assess the significant effects in the interaction between cognitive aptitude and work engagement. Is work engagement (motivation) a substitute for cognitive aptitude (ability)? To assess the substitution effect, we examine whether work
engagement will have a greater effect on student performance in sales role-plays under condition of low cognitive aptitude than when cognitive aptitude is high. We examined the effects of cognitive aptitude (GPA) at the mean +/-1 standard deviation to represent high and low levels of cognitive aptitude. When cognitive aptitude is high, work engagement (-0.43, n.s.) was not a significant predictor of student performance in sales role-plays. However, in the low cognitive aptitude condition, work engagement (8.45, \(p < .01\)) had a positive and significant effect on student performance in sales role-plays. We present the interaction between cognitive aptitude and work engagement in Figure 3.

--- Insert Figure 3 ---

We conducted a similar analysis to examine the interaction between sales role-play performance and cognitive aptitude. When cognitive aptitude is high, does sales role-play performance have a greater positive effect on sales role-play performance than in a situation with low cognitive aptitude, i.e., do sales role-play performance and cognitive aptitude complement each other? We examined the effects of cognitive aptitude at the mean +/-1 standard deviation to represent high and low cognitive aptitude. We find that under conditions of low cognitive aptitude, sales role-play performance had no significant effect on mock interview performance (.14, n.s.). However, under conditions of high cognitive aptitude, sales role-play performance was positively associated with mock interview performance (.27, \(p < .01\)). We present this relationship in Figure 4.

--- Insert Figure 4 ---

**Discussion and Implications**

In this study we empirically test the drivers of student performance in a sales role-play competition. We also test hypotheses to show how success in the role-play competition affects
job attainment prospects. We test our hypotheses using objective data collected from a sales competition held at a large public university. In doing so, we build and extend our understanding of student performance in sales role-plays in particular and role-play competitions in general. We also gain insights on sales recruitment with an assessment of student performance in mock interviews.

To the best of our knowledge, this is the first empirical study that assesses the drivers of student performance in sales role-play. The significant positive effect of ability (cognitive aptitude and selling-related knowledge) emphasizes the need for students to improve both cognitive aptitude (better GPA) and gain benefits from the selling-related knowledge imparted through sales role-plays. Further, motivation (work engagement) has a significant positive impact on student performance in sales role-plays. The significant independent effect of work engagement highlights the role motivation has on improving student performance. This finding is consistent with prior work in the sales performance literature on how both ability and motivation drive salesperson performance (Verbeke et al., 2011). The findings from this research extend the stream of work using the motivation-ability framework, as it tests the “theory in diverse contexts” and “helps gauge the strength of the theory and aids in empirical generalizations” (Grewal et al., 2001, p. 18).

Contrary to our hypothesis we find that work engagement weakens the positive effect cognitive aptitude has on student performance in sales role-plays. We find that students use motivation as a substitute for ability rather than as a complement. These findings are important for students and recruiters. Motivated sales students can expect to perform well in sales jobs as evidenced with a positive effect on sales role-play performance and mock interview. Especially, since O’Connell et al. (2002) finds that scores in sales role-plays of Mexican retail sales
representatives predicted their sales performance in the field. Recruiters looking for top sales talent should recognize the importance of motivation as it has the potential to substitute for ability (low GPA). In university settings where recruiters do not have many opportunities to observe students in a co-curricular setting, GPA was considered a crucial indicator of job aptitude. We emphasize that in many university sales programs motivation can now be observed and is a usable recruiting parameter, in addition to cognitive aptitude and selling-related knowledge.

In this study we demonstrate the effectiveness of sales role-play competition as a tool to assess suitability of students for entry-level sales positions. Despite the growing need for sales talent by industry, hiring sales talent is challenging as a candidate “looks great on paper, says all the right things during the interview process, but when it comes to the daily work process, they can’t make sales” (Hameiri, 2012). Further, managers are finding that hiring the top academic achievers out of college, which has generally worked for technical disciplines such as accounting and engineering (Koeppel, 2006), may not always work for sales (Bersin, 2013). While not surprising to sales academics, this has forced recruiters to look for signs of career preparedness in sales students in addition to academic performance. The significant positive effect of sales role-play performance helps recruiters go beyond the resumé and assists in recruiting decisions. The findings from this study addresses calls for research using data “obtained from sales competitions linking student performance in role-plays to their rankings of what firms look for in new hires” (Weeks et al., 2014, p. 117).

Cognitive aptitude, measured as GPA, affects both student performance in sales role-play competition and the likelihood of being hired. The findings from our study indicate that increase in cognitive aptitude improves the students’ sales role-play performance. That is, students in
sales cannot rely on sales role-plays alone as a ‘path to success’. Our findings suggest that students who perform better in sales role-play competitions are more likely to be hired if they have greater cognitive aptitude. Even though cognitive aptitude alone has no significant effect on being hired, the significant interaction term sheds light on the important role of cognitive aptitude in improving the chances of being hired for students who perform well in sales role-play competitions.

Our study also contributes to the emerging literature on sales role-play competition and practice. A lack of significance of judge-related control variables minimizes the concerns attributed to performance because of any judge-specific bias. This finding is critical as it relieves the anxiety of students who participate in such sales competitions and faculty mentors who guide student efforts. We believe the lack of significant effects of judge attributes on sales role-play performance advocates the importance of the training that is provided to the judges during the competition.

This study highlights the benefits of university-corporate partnerships as evidenced in the development and execution of the sales role-play competitions. Organizing sales role-play competitions are a severe drain on department and university resources. They require extensive planning, coordination, and implementation, and close working relationships with industry constituents, students, and other internal stakeholders. However, the strong evidence of positive effect of sales role-play performance on mock interview performance validates the need to organize such events. The study underscores the importance of increasing stakeholder engagement by co-opting the sales community into the design, implementation, and evaluation of activity-based programs. Finally, from a sales program assessment perspective, we demonstrate that we can close the loop of learning → performance → job attainment.
Limitations and Future Research

As with any research, our efforts suffer from some limitations. First, our use of secondary data necessitates the use of proxy measures for the theoretical constructs of interest. Although we took great care to maximize the correspondence between the theorized constructs and their measures, future research should examine other process-related constructs. For example, we measure selling-related knowledge with a count measure of recorded role-plays. It is possible that students may practice role-plays on their own time and get feedback from friends. We however, account for the role-plays where students received formal feedback from either faculty and/or corporate executives and believe the feedback enhanced a student’s selling-related knowledge. A process-related construct would be to assess student effort. It will also be useful to account for the amount of time student spend preparing for the competition. Second, we examine the effects of ability, motivation, and sales role-play performance on mock interview performance. To capture a more direct effect of sales competitions, future research should investigate the effects of role-play performance on actual job offers, instead of mock interview performance.
Appendix A

APPROACH (Effectively gains attention and builds rapport)
- Professional introduction & rapport building
- Salesperson gains prospect’s attention
- Demonstrated enthusiasm and confidence
- Smooth transition into needs identification

NEEDS IDENTIFICATION (Obtain a clear understanding of customer’s situation in order to prepare a customized presentation)
- Uncovered decision process (decision criteria, people involved in decision process)
- Effectively determined relevant facts about company and/or buyer
- Asked effective questions, uncovered/qualified buyers’ needs (convert implied needs to explicit needs)
- Effectively clarified needs of the buyer (discovered current problems, goals, etc.)

OBJECTION HANDLING (Eliminate concerns to prospect’s satisfaction)
- Initially gained better understanding of objection (clarifies or allows buyer to clarify the objection)
- Effectively answered the objection
- Confirmed that the objection is no longer a concern of the buyer

COMMUNICATION & PRESENTATION (Communicates well, product knowledge, presents product benefits, visual aids, clear, concise, appropriate non-verbals)
- Effective verbal communication (active listening, restated, rephrased, clarified, probed for understanding)
- Product knowledge
- Used appropriate/professional visual aids
- Effectively involved the buyer in the conversation

CLOSE FOR NEXT APPOINTMENT (Takes initiative to move the sales process to the next step in a smooth fashion filled with mutual commitment)
- Persuasive in presenting a reason to continue to a “solutions meeting”
- Asked for a commitment for a solutions meeting
Appendix B

INTRODUCTIONS AND PREPAREDNESS
· Firm handshake
· Enthusiastic/positive attitude
· Brought resumé

APPEARANCE
· Men: Suit, appropriate shoes, hair and accessories
· Women: Suit or pant suit, appropriate shoes, hair and accessories

JOB SKILLS
· Does the candidate have the necessary skills to handle a sales position?
· Does the candidate possess the work/school/extracurricular experience to perform a sales job?

VERBAL COMMUNICATION
· Did the candidate communicate easily? Was he/she articulate? Confident?
· Did the candidate offer complete answers to your questions?
· Did the candidate understand and answer questions to your satisfaction?

NON-VERBAL COMMUNICATION
· Did the candidate make appropriate eye contact?
· Did the candidate display appropriate posture?
· Did the candidate smile?

CLOSURE
· Did the candidate ask meaningful questions?
· Did the candidate attempt to close and move the interviewer to the next logical step?
References


<table>
<thead>
<tr>
<th>Study</th>
<th>Methodology</th>
<th>Summary or Major Findings</th>
<th>Examines antecedents to role-play performance</th>
<th>Examines consequences of role-play performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglin et al., 2008</td>
<td>Experimental</td>
<td>• Using computer-assisted grading rubrics in sales role-play proved effective and efficient.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Ball, 1999</td>
<td>Case Study</td>
<td>• The role-play exercise is demonstrated as an effective technique to discuss Pareto efficiency in business and an introduction to bargaining and integrative agreements in negotiation.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Beck &amp; Adler, 1997</td>
<td>Survey</td>
<td>• Students want industry people involved in role-playing exercises and industry people enjoy being involved.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Dwyer et al., 2001</td>
<td>Descriptive</td>
<td>• A summary description of several teaching techniques including role-plays.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>East, 2007</td>
<td>Mixed Method</td>
<td>• Role-plays are used as a method of researching word of mouth, in addition to retrospective surveys.</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Forbes et al., 2014</td>
<td>Case Study</td>
<td>• The study delineates a set of eight guidelines and instructions for sales programs. • Sales education is probably the most role-play intensive field of study at most universities. • At sales role-play competitions students are provided with valuable feedback, while the partners and corporate sponsors develop more meaningful relationship with the students.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Houlihan, 2000</td>
<td>Case Study</td>
<td>• Sales role-plays suggested as an effective tool in call center employee selection.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Inks, Schetzsle, &amp; Avila, 2011</td>
<td>Case Study</td>
<td>• Sales role-play cannot offer students the same learning experience provided by selling a real product in areal market (i.e., not contrived).</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Loe &amp; Chonko, 2000</td>
<td>Descriptive</td>
<td>• Introduction of a sales competition.</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Loe &amp; Weeks, 2000</td>
<td>Experimental</td>
<td>• Training methods that employ sales role-play and sales-specific scenarios that introduce ethical dilemmas provide an opportunity to discuss moral aspects of sales.</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Miller, 1973</td>
<td>Case Study</td>
<td>• Sales role-plays cuts employees’ training time by 25 percent and improves their field performance.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Study</td>
<td>Methodology</td>
<td>Summary or Major Findings</td>
<td>Examines antecedents to role-play performance</td>
<td>Examines consequences of role-play performance</td>
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<tr>
<td>-------------------------------</td>
<td>---------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Moncrief, 1991</td>
<td>Descriptive</td>
<td>• An introduction of the sales role-play importance, procedure, and scenario categories.</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
| Moncrief & Shipp, 1994        | Descriptive         | • Introduces a role-play exercise.  
• It is important to add realism to classroom sales role-play exercises.  
• Adding a specific buyer personality and selling situation makes the role-play exercises more realistic. | No                                            | No                                            |
| Newberry & Collins, 2012      | Descriptive         | • Introduces a 5-week long recruiting and hiring role-play scenario.                     | No                                            | No                                            |
| Pettijohn, 2000               | Descriptive         | • Introduces a role-play exercise.  
• It is important to add realism to classroom sales role-play exercises.  
• Adding a specific buyer personality and selling situation makes the role-play exercises more realistic. | Yes                                           | No                                            |
| Schaefer & Haytko, 2014       | Case Study          | • Benefits of using corporate partnering to students: enhanced confidence and motivation, experience at performing under pressure, and employment opportunities.  
• To partners: enhanced recruitment efforts. | No                                            | Yes                                           |
| Shaw & Keller, 2011           | Case Study          | • Students incorporating some elements of time management realized greater success.        | Yes                                           | No                                            |
| Sojka & Fish, 2008            | Descriptive         | • Introduces and tested brief in-class role-plays as an effective form of role-play for generation Y students. | No                                            | No                                            |
| Toppen & Meznarich, 2011      | Case Study          | • Sales lab simulations are used for activities such as outside sales, inside sales, and city counter sales. | No                                            | No                                            |
| Weeks et al., 2014            | Survey              | • There is a significant difference between students and faculty perceptions for most aspects of job decision factors. | No                                            | No                                            |
| Widmier et al., 2007          | Descriptive         | • Introduces a role-play competition project that combines role-playing, competition, and teaming and provides motivation for self-regulated learning in the sales context. | No                                            | No                                            |
| Current study                 | Archival data       | • Motivation (work engagement) and ability (cognitive aptitude and selling-related knowledge) affect sales role-play performance.  
• Sales role-play performance positively affects student performance in mock interviews and this effect is stronger for students with greater cognitive aptitude. | Yes                                           | Yes                                           |
Table 2 - Summary Statistics and Correlation Matrix

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<td>2.35</td>
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<td>5.98</td>
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<td>3.00</td>
<td>4.00</td>
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<td>1.00</td>
<td>1.00</td>
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<td><strong>Mean</strong></td>
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<td>3.09</td>
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<th>7.</th>
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<td>1. Sales Role-play Performance</td>
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<td>2. Work Engagement</td>
<td>0.18</td>
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<td>3. Cognitive Aptitude</td>
<td>0.15</td>
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<td>1.00</td>
<td>-0.11</td>
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<td>5. Student Gender</td>
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<td>6. Judge Gender</td>
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<td>7. Judge Experience</td>
<td>0.01</td>
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<td>8. Judge Expertise</td>
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<td>-0.24</td>
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<td>9. Average Sales Role-play Performance</td>
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<td></td>
<td></td>
<td></td>
<td>1.00</td>
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<tr>
<td>10. Mock Interview Performance</td>
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<td></td>
<td></td>
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<td></td>
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<td>1.00</td>
</tr>
</tbody>
</table>

Note: Non-shaded text is sales role-play performance data (n=172). Text shaded grey is mock interview data (n=85).

Lower diagonal correlations are for sales role-play performance model (n=172). Upper diagonal (shaded in grey) are for mock interview performance model (n=85).
Table 3 - Results

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Hypotheses</th>
<th>Sales Role-play Performance (n=172)</th>
<th>Mock Interview Performance (n=85)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Controls only</td>
<td>Main effects</td>
</tr>
<tr>
<td>Work Engagement</td>
<td>H1 (supported)</td>
<td>3.17 (1.75)**</td>
<td>4.01 (1.71)**</td>
</tr>
<tr>
<td>Cognitive Aptitude</td>
<td>H2 (supported)</td>
<td>4.07 (2.15)**</td>
<td>3.49 (2.09)**</td>
</tr>
<tr>
<td>Selling-related Knowledge</td>
<td>H3 (supported)</td>
<td>0.40 (0.21)</td>
<td>0.45 (0.20)**</td>
</tr>
<tr>
<td>Work Engagement × Cognitive Aptitude</td>
<td>H4a (not supported)</td>
<td>-10.33 (3.95)** ***</td>
<td>-10.33 (3.95)** ***</td>
</tr>
<tr>
<td>Work Engagement × Selling-related Knowledge</td>
<td>H4b (not supported)</td>
<td>0.32 (0.42)</td>
<td>0.32 (0.42)</td>
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<tr>
<td>Average Sales Role-play Performance</td>
<td>H5 (supported)</td>
<td>0.25 (0.08)** ***</td>
<td>0.25 (0.08)** ***</td>
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<tr>
<td>Average Sales Role-play Performance × Cognitive Aptitude</td>
<td>H6 (supported)</td>
<td>0.31 (0.18)**</td>
<td>0.31 (0.18)**</td>
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<tr>
<td>Student Gender</td>
<td>0.32 (3.02)</td>
<td>0.20 (2.96)</td>
<td>0.09 (2.95)</td>
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<tr>
<td>Judge Gender</td>
<td>-0.81 (2.48)</td>
<td>-1.01 (2.46)</td>
<td>-1.23 (2.44)</td>
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<tr>
<td>Judge Experience</td>
<td>0.50 (1.26)</td>
<td>0.51 (1.25)</td>
<td>0.57 (1.24)</td>
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<tr>
<td>Student Gender × Judge</td>
<td>1.22 (2.97)</td>
<td>1.55 (2.94)</td>
<td>1.15 (2.92)</td>
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<tr>
<td>Gender</td>
<td>-0.57 (1.58)</td>
<td>-0.93 (1.57)</td>
<td>-1.24 (1.56)</td>
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<tr>
<td>Judge Expertise</td>
<td>31.43 (2.58)** ***</td>
<td>31.56 (2.52)** ***</td>
<td>32.23 (2.51)** ***</td>
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<tr>
<td>Constant</td>
<td>31.26 (5.69)** ***</td>
<td>42.36 (1.28)** ***</td>
<td>31.26 (5.69)** ***</td>
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Note: Standard errors are in parentheses. * p < .1. ** p < .05. *** p < .01 (one-tailed).
Figure 1 - A Graphic Summary of the Sales Role-play Literature

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<tr>
<th>CASE STUDY</th>
<th>SURVEY</th>
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<td>Ball, 1999</td>
<td>Beck &amp; Adler, 1997</td>
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<td>Weeks et al., 2014</td>
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<td>Houlihan, 2000</td>
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<td>Inks et al., 2011</td>
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<td>Miller, 1973</td>
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<td>Schaefer &amp; Haytko, 2014</td>
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<td>Siu &amp; Keller, 2011</td>
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<td>Toppen &amp; Mezmarich, 2011</td>
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<td>Dwyer et al., 2001</td>
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<th>MIXED METHOD</th>
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<td>East, 2007</td>
<td>Current study</td>
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Figure 2 - Antecedents and Consequences of Student Performance in Sales Role-play Competitions
Figure 3 - Interaction Effects: Cognitive Aptitude x Work Engagement
Figure 4 - Interaction Effects: Sales Role-play Performance x Cognitive Aptitude