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## A Parsimonious Instrument for Predicting Students' Intent to Pursue a Sales Career: Scale Development and Validation


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# Journal of Marketing Education

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Abstract:	Student's desire and intention to pursue a career in sales continue to lag behind industry demand for sales professionals. This paper develops and validates a reliable and parsimonious scale for measuring and predicting student intention to pursue a selling career. The instrument advances previous scales in three ways. The instrument is generalizable across academic settings and is shown to be sensitive to differences across varied course coverage and learning activities. The instrument is parsimonious and offers high reliability coefficient. Finally, the instrument is validated both before and after exposure to a sales module, thus capturing perceptual and attitudinal changes as students become more familiar with this career option.

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## A Parsimonious Instrument for Predicting Students' Intent to Pursue a Sales Career: Scale Development and Validation

### Abstract

Student's desire and intention to pursue a career in sales continue to lag behind industry demand for sales professionals. This paper develops and validates a reliable and parsimonious scale for measuring and predicting student intention to pursue a selling career. The instrument advances previous scales in three ways. The instrument is generalizable across academic settings and is shown to be sensitive to differences across varied course coverage and learning activities. The instrument is parsimonious and offers high reliability coefficient. Finally, the instrument is validated both before and after exposure to a sales module, thus capturing perceptual and attitudinal changes as students become more familiar with this career option.

## Introduction

Although unemployment rates in the U.S. and worldwide remain high relative to the pre-financial crisis levels of 2008, the need for students with sales aspirations continues to grow given the current and projected world-wide shortage of professionally qualified salespeople (ManpowerGroup, 2012; U.S. Bureau of Labor Statistics, 2012). Recognizing this supply-demand chasm, institutions of higher education are increasingly adding sales classes to their curricula. In the U.S. alone, the number of colleges and universities offering at least one sales class reached 101 in 2011, up from 44 three years earlier (DePaul University Center for Sales Leadership, 2012). The growth in sales curricula coincides with the emergence and expansion of specialized university sales centers/institutes (University Sales Center Alliance, 2013). Combined, these trends provide students with an increasing array of classroom and experiential learning activities that prepare them for a career in sales.

However, given this positive job outlook and expanded educational opportunities, business students' intent to pursue a sales career is surprisingly low (Karakaya, Quigley, & Bingham, 2011; Manning, Reece, & Ahearne, 2010). Student reticence is attributed to a number of factors including a negative image of salespeople and the selling profession (Barat & Spillan, 2009; Honeycutt et al., 1999), salesperson ethics (Burnett, Pettijohn, & Keith, 2008; Kavas, 2003; Kerin, Hartley, & Rudelius, 2009; Sparks & Johlke, 1996), and a lack of knowledge of the sales field (Dubinsky, 1980; Swenson et al., 1993). As the boundary spanner between students and employers, marketing educators can play an important role in motivating students to consider a sales career, preparing them for entering the field, and placing students in sales positions (Cummins et al., 2013). Research is thus needed to better understand perceptual and attitudinal constructs that affect student intent to pursue a sales position and what course content

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2  
3 and learning activities that best motivate this intent (Bristow et al., 2011; Gray, Peltier, &  
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6 Schibrowsky, 2012; Deeter-Schmelz & Kennedy, 2011).

7  
8 The Principles of Marketing course is an ideal curricular entry point for improving  
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10 students' perceptions of sales, and in turn, the desire to pursue a sales career. The course  
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12 provides students with their first extensive exposure to the field of marketing, and as such, serves  
13  
14 as a reality check for overcoming wide-ranging preconceptions about the sales discipline  
15  
16 (Swanson & Wald, 2013). The introductory marketing class also acts as the gatekeeper to other  
17  
18 marketing courses. Overcoming negative perceptions of salespeople and selling in this first  
19  
20 marketing course may increase interest in taking other sales classes or pursuing a professional  
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22 selling major, minor, or other curricular option. Research seeking to identify the most effective  
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24 learning objectives, course design, and pedagogical techniques for stimulating student interest in  
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26 sales early in business education programs is thus warranted (Bobit, 2010).

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28  
29 Responding to calls for research that offer comprehensive frameworks for assessing  
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31 student perceptions of professional selling as a career option (Karakaya, Quigley & Bingham,  
32  
33 2011), we develop and validate an instrument for predicting students' Intent to Pursue Sales  
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35 Career scale (ITPSC). Based on the literature, the antecedent constructs used as predictors of  
36  
37 Intent to Pursue are perceptions of (1) selling ethics, (2) sales profession, (3) sales knowledge,  
38  
39 and (4) salespeople. The scale development and validation approach contributes to the sales  
40  
41 education literature in three ways. First, data were collected at three universities, each with  
42  
43 varying degrees of sales curriculum offerings. The scale thus has generalizability beyond a  
44  
45 single academic setting. Second, the scale demonstrated higher reliability coefficients compared  
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47 to previous studies while preserving parsimony. Third, virtually all past studies in this area  
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49 measured perceptions and intent at a single point in time. The present study validates the intent  
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3 to pursue scale before and after exposure to the sales module in Principles of Marketing courses.  
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5 The scale thus captures perceptual and attitudinal changes as students become more familiar with  
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7 this career option, and how these changes differentially affect perceptions of a selling career.  
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10 Further, perceptions and intent to pursue were accessed using two different in-class learning  
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12 scenarios, demonstrating that the ITPSC scale is sensitive to differences across varied course  
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14 coverage and learning activities. Lastly, the ITPSC scale was re-administered in the following  
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16 semester in large Principles of Marketing sections at three universities for final scale validation.  
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## 19 20 **Literature Review**

21  
22 The abundance of sales positions for new graduates runs counter to recent economic  
23  
24 trends of sustained unemployment and underemployment across wide-ranging economic sectors.  
25  
26 While some of this supply-demand gap can be explained through the historical lack of  
27  
28 comprehensive sales curricula, there is a persistent image problem among students seeking  
29  
30 employment after graduation. The perception that sales is not a desirable career has been  
31  
32 documented by scholars since the late 1950s (Ebey, 1957; Staunton, 1958). This active  
33  
34 avoidance of selling careers has persisted nearly without interruption (Mason, 1965; Ditz, 1967;  
35  
36 Paul & Worthing, 1970; Thompson, 1972). In fact, scholars have shown selling's perception  
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38 problem to be robust across educational exposure (Bristow et al., 2004; 2006; Bristow, Gulati &  
39  
40 Amyx, 2006; Swenson et al., 1993, Pettijohn & Pettijohn, 2009), race (DeVecchio & Honeycutt,  
41  
42 2002), generation (Bristow et al., 2011), and nationality (Karakaya, Quigley & Bingham, 2011;  
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44 Honeycutt et al., 1999; Barat & Spillan, 2009).  
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51 Across more than a half-century of study, the overarching goal of this research stream has  
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53 been to identify what factors drive job seekers into sales careers. Dubbed “intent to pursue,”  
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55 scholars continue to search for the combination of perceptual and attitudinal factors that coalesce  
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3 to overcome the entrenched negative stereotypes of selling as a career. The majority of this  
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5 research, especially of late, has been focused on improving college and MBA students' intent to  
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7 pursue sales careers as graduates are viewed as possessing the professional skills and motivation  
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9 to succeed in the changing sales landscape (Tomkovick, Erffmeyer & Hietpas., 1996; Murray &  
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11 Robinson, 2001; Weilbaker & Williams, 2006; Leasher & Moberg, 2008;).

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15 Overall, the investigations of college students' intent to pursue sales represent a variety of  
16  
17 approaches and results. Within the past two decades, scholars surveyed students to identify  
18  
19 preferences for a variety of sales and marketing careers based on job attributes (Swenson et al.,  
20  
21 1993; Honeycutt et al., 1999). Using conjoint analysis, Swenson and colleagues (1993) showed  
22  
23 that the career attribute of higher salary was most consistently related to a preference for a sales  
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25 career. Honeycutt and colleagues (1999) asked undergraduate students to rate positive and  
26  
27 negative job descriptors, finding that sales jobs were viewed as less appealing than other  
28  
29 business careers. Pettijohn and Pettijohn (2009) confirmed these findings with MBA students.  
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35 Another stream of research focused on key attributes and characteristics thought to  
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37 impact selling's appeal to students. Using step-wise regression (DeVecchio & Honeycutt, 2002)  
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39 and between group analysis of variance tests (Honeycutt et al., 1999), these studies explored the  
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41 impact of personal characteristics (i.e., education, ambition, career desire) and job attributes ( i.e.  
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43 autonomy, salary, international nature) on intent to pursue. Both studies looked for differences  
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45 in intent across groups, and both found much the same situation—students with low intent to  
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47 pursue sales regardless of race (DeVeccio & Honeycutt, 2002) or nationality (Honeycutt et al.,  
48  
49 1999). Donoho, Heinze & Kondo (2012) identified gender differences among students'  
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51 evaluations of personal selling ethics, specifically that students' ethical perceptions of sales and  
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3 salespeople has been a continual topic of investigation as it relates to interest in selling careers  
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5 (e.g. Stevenson & Bodkin, 1996).  
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8 A group of scholars led by Bristow have investigated the impact of educational exposure  
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10 to sales on students' intent to pursue sales careers (Bristow et al., 2004; Bristow, Gulati &  
11  
12 Amyx., 2006; Bristow et al., 2006). These studies utilize the Marketing Lens Model (MLM)  
13  
14 framework as a tool to predict individual differences in sales perceptions and intent. The MLM  
15  
16 framework contends that students will exhibit significantly different cognitive assessments of  
17  
18 various elements of professional selling and sales management, partly due to different  
19  
20 educational exposure to sales. The elements investigated include items related to a sales career,  
21  
22 sales skill set, customer orientation of salespeople, and the perception of sales by others. These  
23  
24 studies found that the educational exposure of students to sales through specific sales courses can  
25  
26 impact intent to pursue selling as a career. Sherwood et al. (2012) found that a lesser educational  
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28 intervention—providing positive facts about sales careers to students via reading material—did  
29  
30 not influence student's intent to pursue. Clearly, additional research into the efficacy of different  
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32 educational interventions is needed.  
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39 Across these studies and others (e.g. Churchill, Ford & Walker, 1974; Bristow et al.,  
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41 2011; Karakaya, Quigley & Bingham, 2011), four selling dimensions have emerged as the  
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43 primary contributors to students' intent to pursue a career in sales. These perceptual and  
44  
45 attitudinal dimensions are sales profession, salespeople, sales knowledge, and sales ethics.  
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47 While other labels have been assigned and a plethora of statements and questions have been  
48  
49 utilized, these four dimensions represent the culmination of 50 years of research in this area.  
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51 Below, we discuss the basis for including each of these dimensions in our investigation.  
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### *Sales Profession*

From an early age, children are presented with idealized portraits of professions. Parents encourage children to pursue noble and well-regarded professions including health, education, and public service. The perception of a profession is formed throughout life and the progression of a group of related jobs into a profession is a cultural artifact years in the making. As discussed by Hawes, Rich & Widmier (2004), the development of selling jobs into a profession that is accepted and admired by society is still in progress. Students' perceptions of the sales profession—the personal satisfaction, value, and worth to society that the sales profession offers—is expected to offer insight into the intention to pursue such a career. Previous research (e.g. Churchill, Ford & Walker, 1974; Bristow et al., 2006) has shown that positive perceptions of the profession influence intent. In summary, the present expectation is that higher regard for the sales profession will result in higher levels of intent to pursue sales.

### *Salespeople*

The perception of salespeople is expected to contribute to the intention to pursue a selling career. Just as doctors and firefighters are portrayed and perceived as altruistic and caring, salespeople are often portrayed negatively in the media (Dubinsky, 1981; Dubinsky & O'Connor, 1983; Jolson, 1972; Thompson, 1972). Common responses to word association tests about salespeople's personal characteristics are greed and selfishness. Karakaya, Quigley & Bingham (2011) investigated three aspects of salesperson perception: positive, degrading, and esteemed. They found that salesperson perception contributed to individual intent to pursue sales. In summary, the expectation is that more positive perceptions of salespeople result in an increased intention to pursue selling careers.

### *Sales Knowledge*

As described, many studies have shown that sales knowledge attained through exposure to sales from educational or work experience can influence a student's intent to pursue a sales career. Similarly, students a lack of awareness of the sales profession has been attributed to low opinions of sales careers (Dubinsky, 1980; Swenson et al., 1993). It is theorized that exposure to the profession counteracts the societal bias against sales as a career and the negative stereotypes of salespeople (e.g. Bristow et al., 2006; Bristow, Gulati and Amyx, 2006; Pettijohn & Pettijohn, 2009). Additionally, improving student understanding of the changing role of professional selling in the marketplace, including increased team work, enhanced use of technology, and a focus on innovation and customer orientation can be expected to improve student intent to pursue a sales career (Oviedo-Garcia, 2007). Thus, the expectation is that student exposure to sales knowledge will positively influence the intent to pursue sales.

### *Sales Ethics*

As studies have shown, a student's ethical perceptions of sales influence their intention to pursue a sales career (e.g. Burnett, Pettijohn, & Keith, 2008; Lysonski & Durvasula, 1998; Sparks & Johlke, 1996; Klein, Laczniak, & Murphy, 2006; Pettijohn, Pettijohn, & Taylor, 2007). While the source of ethical doubt can, and has been, debated (see Kerin, Hartley & Rudelius, 2009; Hawes, Rich & Widmier, 2004), it is clear that ethics play a role in sales career choice, satisfaction, and success. Ethics have also been shown to vary depending on gender (Donoho, Heinze and Kondo, 2012) and education (Nguyen et al., 2008), which suggests that perceptions of sales ethics may systematically vary regardless of the target of the ethical question. Thus, the expectation is that a more positive perception of sales ethics will result in increased intentions to pursue a career in sales.

### *Gaps in the Literature*

Although prior research has advanced the literature on students' intent to pursue a sales career, shortcomings remain. In our review of the available literature, we could find no instrument that met all four of the following criteria: parsimony, construct validity spanning the domain of possible dimensions, validity across samples, and validity across educational interventions. Existing instruments also vary in length. For example, in their comprehensive review of the sales intent literature Karakaya, Quigley, and Bingham (2011) integrated existing instrument items from five previous studies ranging in years from (Churchill, Ford & Walker, 1974) to (Bristow et al., 2006). While factor loadings were generally high, their instrument contained over 50 items. A more parsimonious instrument has the advantage of increasing student's willingness and ability to complete the questionnaire without experiencing survey fatigue or failing to finish (Churchill & Iacobucci, 2010). A more parsimonious instrument also enables the researcher to add other variables that may affect intent to pursue such as psychographics, effectiveness of varied class activities, and instructor characteristics.

A review of the extant literature also shows that studies that examine intent to pursue a selling career vary in the range of selling dimensions investigated. The present research maximizes the domain of constructs used to assess intent to pursue while maintaining parsimony. For example, although Karakaya, Quigley, and Bingham (2011) included items from seven dimensions found in the literature, sales knowledge was omitted. Of significance to scale development, these authors conducted separate factor analyses specific to each of their dimensions and only feelings toward a sales career was regressed against intent to pursue. As the present study shows, there is overlap in these dimensions and each is significantly related to intent to pursue.

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Previous research varies widely regarding sample size. The largest sample size of reviewed studies comes from 1958 when *The American Salesman* surveyed 3,000 college students across 31 universities. More recent studies have ranged from 134 (Honeycutt & Thelen, 2003) to 1203 respondents (Swenson et al., 1993). Averaging the most recent 11 works offering intent to pursue instruments, the average sample size is 457 with a median size of 271. See Table 1 for a review of existing work.

[Insert Table 1 About Here]

## Scale Development and Procedure

The primary goal of the present study was to develop a valid, reliable and parsimonious scale linking antecedent constructs to students' intent to pursue a sales career. The methodology used for developing and testing the ITPSC scale followed the widely accepted guidelines set forth by Churchill (1979), Campbell and Fiske (1959) and Peter (1979). Consideration was also given to overcoming scale development criticisms related to inadequate sample sizes and a lack of replications across samples and interventions (Flynn & Percy, 2001).

### *Initial Questionnaire Development*

Questionnaire items specific to the aforementioned four selling dimensions and intent to pursue a sales career were selected and/or adapted from the relatively small number of published articles in this area, including Bristow, Gulati & Amyx (2006), Bristow et al. (2006), Churchill, Ford & Walker (1974), Pettijohn & Pettijohn (2009) and Karakaya, Quigley & Bingham (2011). This item development process resulted in an initial set of 46 questions related to perceptions of (1) the sales profession, (2) salespeople, (3) sales knowledge, and (4) sales ethics. Four questions were also included to measure intent to pursue a sales career: (1) I am interested in pursuing a sales position when I graduate, (2) Obtaining a position in sales is a priority for me

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3 after graduation, (3) Obtaining a sales support position would interest me, and (4) At some time  
4 during my career, I will probably hold a position in sales. All items utilized a 5-point Likert  
5 scale ranging from 1 = strongly disagree to 5 = strongly agree. Control variables included  
6 gender, year in school, major, and whether the respondent has had a sales internship or job.  
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### 10 *Sample and Procedure*

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12 The questionnaire was distributed in large Principles of Marketing classes at a  
13 midwestern and a western University. The Principles of Marketing class was selected because of  
14 the ability to assess perceptions about and intent to pursue a sales career before and after  
15 exposure to sales-related content, thus allowing for the ability to measure scale sensitivity to  
16 changes in sales knowledge. The midwestern university had recently launched a sales center and  
17 offers four sales-related courses and a sales internship. The western university offers only one  
18 sales class. The questionnaire was distributed online approximately two weeks before  
19 presentation of personal selling and sales management content and one week after exposure. The  
20 profile of respondents pre/post-exposure to sales content by university is presented in Table 2  
21 (n= 752).  
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38 [Insert Table 2 About Here]

### 39 **Scale Validation**

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41 A staged approach was implemented for assessing face, content, predictive, and convergent  
42 validity of the ITPSC scale. The scale validation process is shown in Figure 1. *Face validity*  
43 was achieved through a review of past studies as a means of identifying relevant dimensions and  
44 scale items. *Content validity* was assessed via an exploratory factor analysis (EFA) from the  
45 initial samples. *Predictive validity* was determined via a regression analysis using the four  
46 antecedent constructs as independent variables (plus controls) and the summed intent to pursue  
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3 score as the dependent variable. *Structural consistency* was determined by examining the factor  
4 structures across universities and educational interventions. A confirmative factor analysis  
5 (CFA) from a validation sample using the final set of items from the initial analysis was  
6 conducted, showing high levels of predictive and convergent validity. Lastly, a short form ITPSC  
7 Scale was validated using a subset of questions from each antecedent construct while  
8 maintaining minimum coefficient alpha scores above .80 (Nunally, 1978).  
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17 [Insert Figure 1 About Here]  
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### 19 *Exploratory Factor Analysis*

20 The 46 initial items representing the four theoretical antecedents of intent to pursue were  
21 subjected to an exploratory factor analysis (principal component with Varimax rotation). The  
22 responses from the two universities prior to and after exposure to sales content were aggregated  
23 (n=752). Pursuing the goal of parsimony, items with factor loadings less than .6 or greater than  
24 .4 on other dimensions were dropped from the analysis. This analysis yielded four factors (23  
25 items) with eigenvalues greater than 1 and explained 66% of the variance. Next, an item-to-total  
26 correlation analysis was conducted on the 23 items. The coefficient alpha for each of the  
27 measures was computed to estimate the reliability. Items with low item to total correlations were  
28 eliminated. A total of 22 questions remained after the initial EFA. The items for each of the  
29 ITPSC scale dimensions, means and standard deviations, factor loadings and coefficient alphas  
30 are shown in Table 3. The total variance explained was 66%. Perceptions of sales ethics  
31 explained 21.1%, perceptions of the sales profession explained 18.6%, sales knowledge  
32 explained 18.5%, and perceptions of salespeople explained 7.8%.  
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53 A separate factor analysis was conducted utilizing the four direct measures of the intent  
54 to pursue a sales career (dependent variables). All loaded on a single intent to pursue dimension.  
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3 These four items were summed to create an “Intent to Pursue Score” with a summed scoring  
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5 range of 4-20.  
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8 [Insert Table 3 About Here]  
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### 10 *Predictive Validity*

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12 To assess predictive validity, factor scores for each of the selling dimensions were used  
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14 as independent variables and regressed against the summed Intent to Pursue score. Gender  
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16 (female = 0, male = 1), year in school (interval scale), whether a marketing major (0, 1), whether  
17  
18 a non-business major (0, 1), and whether the respondent had ever had a job/internship in sales (0,  
19  
20 1) were used as control variables. The regression findings are shown in Table 4. The overall  
21  
22 model was highly significant ( $F[1,752] = 71, p = .001, R^2 = .44$ ). Consistent with hypotheses,  
23  
24 Intent to Pursue was positively associated with perceptions of sales as a profession (std beta =  
25  
26 .351,  $t = 12.5, p = .001$ ), sales knowledge (std beta = .327,  $t = 10.9, p = .001$ ), and salespeople  
27  
28 (std beta = .258,  $t = 9.3, p < .001$ ). Intent to Pursue was negatively associated with poor  
29  
30 perceptions of sales ethics (std beta = -.198,  $t = -7.1, p = .001$ ). In terms of the controls, having a  
31  
32 previous sales internship/job (std beta = .075,  $t = 2.5, p = .01$ ), males (Std  $\beta = .079, t = 2.8, p =$   
33  
34 .01) and being a marketing major/minor (std beta = .206,  $t = 7.2, p = .001$ ) were associated with  
35  
36 higher Intent to Pursue. These results provide strong support that the ITPSC scale has predictive  
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38 validity.  
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46 [Insert Table 4 About Here]  
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### 48 *Structural Scale Consistency Across Conditions*

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50 The factor structure shown in Table 3 was then used as the base dimensionality for  
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52 assessing scale consistency across the four conditions. Specifically, an identical principle  
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54 components factor analysis was conducted for each university and for each sales content  
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56 intervention. Establishing cross-sample structural consistency increases confidence that the  
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3 ITPSC scale holds constant across universities. Finding structural consistency across varying  
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5 levels of sales knowledge provides evidence that the ITPSC scale is sensitive to differing levels  
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7 of sales knowledge and different classes. Table 5 summarizes the factor analysis results for each  
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9 of the conditions. High scale consistency is highlighted in a four ways. First, the variance  
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11 explained for each condition varied by only 2.9% (64.5% - 67.4%). Second, individual factor  
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13 loadings remained high across all four conditions, with relative consistency in their absolute  
14  
15 values. Third, the variance explained for each of the selling constructs vary only marginally  
16  
17 from the aggregate structural results (the top three in each condition again have relatively similar  
18  
19 values). Lastly, none of the items switched factors, providing strong evidence of the stability of  
20  
21 the underlying dimensions. These results suggest that structural elements in the ITPSC scale hold  
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23 relatively constant across conditions.  
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29 [Insert Table 5 About Here]  
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32 As a final check for structural consistency, the ITPSC scale was distributed in a large  
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34 Principles of Marketing class at a third university (n=102). While this university does not have a  
35  
36 sales center, it offers multiple sales courses. The instrument was administered only after  
37  
38 exposure to sales content to control for any effects associated with any test-retest demand  
39  
40 artifacts. Although the variance explained for each dimension shifted slightly, the four factor  
41  
42 solution held, with 62.3% of the total variance explained. The variances explained for sales  
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44 knowledge (18.1%), sales ethics (18.0%), sales profession (17.7%), and salespeople (8.5%) were  
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46 in line with the previous structural results. None of the items shifted dimensions, showing  
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48 structural stability for this post-only educational intervention.  
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### *Sensitivity to Educational Interventions*

To determine whether the ITPSC sale was sensitive to potential educational interventions, the midwestern university used three guest speakers (all on the same day) to cover personal selling and sales management content. The western university used a lecture format covering sales content from the assigned textbook chapter. Based on the experiential learning literature, it is expected that the use of guest speakers through their relaying of real world knowledge will have a greater impact on enhancing perceptions of a sales career than the textbook-based presentation (Gray, Peltier & Schibrowsky, 2012). Table 6a shows the pre- and post-exposure results for the Western university and Table 6b does the same for the Midwestern University. For all conditions and across universities, the regression results show that each sales dimension is highly significant and in the hypothesized direction. Analyses were also conducted to determine whether the ITPSC scale was sensitive to educational interventions. The regression results from Tables 6a and 6b provide support through the increased R-squares from the pre- to post-exposure scores for each university. The regression analysis for the validation university, which didn't use a pre-exposure questionnaire, also showed a much higher post-exposure  $R^2$ .

[Insert Table 6a About Here]

[Insert Table 6b About Here]

Table 7 and Table 8 offer additional support for scale sensitivity. It was expected that the use of guest speakers would be more effective than a traditional lecture format for increasing Intent to Pursue and improving sales perceptions/knowledge. Table 7 presents the regression equations aggregated by pre-exposure and post-exposure; each includes university as a control variable. As Table 7 shows, university was not significant in the pre-exposure regression, but it was significant in the post-exposure equation. This finding provides evidence that the guest

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3 speaker educational intervention was superior to the traditional lecture format for driving  
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5 perceptual changes, and that the ITPSC scale captured this effect. The cross-condition mean  
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7 scores for each of the sales dimension items and the Intent to Pursue scores (shown in Table 8)  
8  
9 offer corroborating evidence of scale sensitivity. Specifically, no significant differences existed  
10  
11 for the individual or summed Intent to Pursue scores in the two pre-exposure conditions, setting  
12  
13 base comparison points. In contrast, while there was only one significant increase in the pre- vs.  
14  
15 post-exposure scores using the traditional lecture format, the guest speaker educational  
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17 intervention had significant improvements on 22 of 26 items, including all of the Intent to Pursue  
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19 measures. The post-exposure responses for the guest speaker intervention produced significantly  
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21 more positive perceptions about sales compared to many of those obtained at the Western  
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23 university, including all of the intent measures (Table 8). In combination, the results provide  
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25 strong evidence that the ITPSC scale is sensitive to educational interventions.  
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31 [Insert Table 7 About Here]

32 [Insert Table 8 About Here]

### 33 34 35 36 *Final Scale Validation - - Confirmatory Factor Analysis*

37  
38 The scale validation process to this point used data from an initial set of 50 questions  
39  
40 (four intent to pursue items and 46 perceptual statements). Following Churchill (1979), the  
41  
42 reduced the ITPSC scale (22 antecedent statements and four intent to pursue statements) was  
43  
44 administered in the large Principles of Marketing sections in the following semester at the same  
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46 three universities (n = 859). To confirm the four-factor structure, the remaining 22 items were  
47  
48 subjected to a confirmatory factor analysis to corroborate the unidimensionality of the measures.  
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50 Specifically, a model was estimated in which the items were required to load on their a priori  
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52 specified factors with each factor allowed to correlate with the other factors (Anderson &  
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3 Gerbing, 1988). The measurement model was estimated using AMOS 20. The overall chi  
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5 square statistic for the model was significant ( $\chi^2 = 344, 194$  df,  $p = 0.001$ ). The comparative fit  
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7 index (CFI = 0.99), goodness of fit index (GFI = 0.97), adjusted goodness of fit index  
8  
9 (AGFI=.95), normed fit index (NFI = .98), root mean residual (RMR=.03), and root mean square  
10  
11 error of approximation (RMSEA=.03) all suggested a satisfactory model fit. Following  
12  
13 Mathwick and Rigdon (2004), all of the individual item loadings were significant at  $p < .001$ ,  
14  
15 and the completely standardized solution for all items ranged from .54 - .84. The average  
16  
17 variance extracted value was .54, exceeding Fornell and Larcker's (1981) convergent validity  
18  
19 criterion of .5. The coefficient alpha scores for Sales Knowledge (.91), Sales Profession (.90),  
20  
21 Selling Ethics (.85), and Salespeople (.84) all show high levels of internal reliability (Nunnally,  
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23 1978).

### 24 25 26 27 28 29 *Reduced Scale*

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31 The scale development and validation process resulted in a 26-item scale, including 22  
32  
33 antecedent statements and four intent to pursue measures. Mindful that some researchers may be  
34  
35 willing to sacrifice reliability/variance explained for even greater parsimony, we re-examined our  
36  
37 data and kept the highest factor loading coefficients for each construct (see Table 3) needed to  
38  
39 preserve a coefficient alpha of at least .80. Nine items were thus eliminated. To confirm factor  
40  
41 structure after the removal of nine scale items, the 13 remaining antecedent measures were  
42  
43 subjected to a factor analysis. All items loaded as before. The 13-item scale is shown in Table  
44  
45 9. With this shortened scale, the reliability of selling ethics was .82, sales profession was .83,  
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47 sales knowledge was .83, and salespeople was .83. The overall  $R^2$  for the reduced scale dropped  
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49 from .44 to .40.  
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## Conclusion and Future Research

Responding to gaps in the marketing education literature (Bristow et al., 2011; Deeter-Schmelz & Kennedy, 2011), the primary purpose of the present study was to develop a comprehensive scale for measuring and predicting students' intent to pursue a professional selling career. The findings from the initial and validation studies show that the ITPSC scale is reliable and valid across multiple universities ( $n = 1571$ ), educational interventions, and points in time. The findings also show the structural stability of the scale in that no items shifted dimension across the various schools or educational interventions. The study extends Karakaya, Quigley & Bingham (2011) through scale expansion while greatly increasing parsimony. Because all of the scale items used to predict intent to pursue were combined in a single factor analysis, rather than the separate analyses conducted by Karakaya, Quigley & Bingham (2011), the ITPSC scale provides a clear distinction between intent to pursue dimensions. Moreover, because all of the scale dimensions and control variables were included in the intent to pursue regressions, their direct effects (including perceptions of a sales career) are jointly assessed. A 13- item ITPSC scale was also validated with slightly lower levels of reliability and predictive validity.

Intent to pursue scale development, testing, and validation in Principles of Marketing courses offer value for educators seeking ways to motivate interest in professional selling early in students' educational careers. Doing so may well help reduce the demand-supply chasm for salespeople. However, given that our sample was limited to Principles of Marketing students, future research efforts are needed to determine whether the ITPSC scale may be generalized to other marketing and business courses, including higher level sales courses. Research is also needed that extends scale validation to graduate students and to students in other countries.

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Although the ITPSC scale was sensitive to changes across three pre-post learning interventions, many more educational interventions exist. Research is needed that seeks to identify the effectiveness of other educational activities that may increase student interest in a selling career. A review of the general marketing education literature (Gray, Peltier & Schibrowsky, 2012) and sales education (Cummins et. al., 2013) provide a litany of educational interventions related to course content issues, experiential learning activities, and student learning styles.

Lastly, although the ITPSC scale explains nearly 50% of the variation in students' intent to pursue a selling career, other potential dimensions may also exist beyond perceptions of the selling profession, sales knowledge, salespeople, and sales ethics. Moreover, the study only investigated the direct effects of these dimensions on intent to pursue. Research that investigates interactive and sequential effects is needed. Along these same lines, research that may be used in conjunction with explaining other educational constructs may also have value. Examples include evaluation of sales instructors, learning styles, critical thinking, experiential learning, simulations, and a host of other important marketing education topics. It would be interesting to see if the scale could be modified for other career fields.

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For Peer Review

**Table 1. Summary of Select Recent Studies of Perception and Intent to Pursue Sales**

Researcher(s)/Sample Size	Item Source(s)	Construct(s) Investigated
Donoho, Heinze & Kondo (2012) (n=429)	PSE-2 (Donoho & Heinze 2011)	Ethical Evaluations of sales, Gender
Sherwood et al. (2012) (n=138)		Exposure to positive information
Karakaya, Quigley & Bingham (2011) (n=867)	Bristow et al. (2006); Churchill, Ford & Walker (1974); Dubinsky (1981); Muehling & Weeks (1988); Bristow et al. (2006); Lysonski & Durvasula (1998)	Nationality Sales job attributes Salesperson attributes Feelings toward selling
Bristow, Amyx, Castleberry & Cochran (2011) (n=243)	Castleberry (1990)	Motivational factors to pursue
Pettijohn & Pettijohn (2009) (n=429)		Positive beliefs of MBA students Negative beliefs of MBA students
Bristow et al. (2006); (n=271)	Bristow et al. (2004)	Elements of a sales career
Bristow, Gulati & Amyx (2006) (n=917)		Selling related skill set Customer orientation Others' perceptions of salespeople Customer orientation of
Honeycutt & Thelen (2003) (n=134)	Swenson et al. (1993); Bagozzi (1980)	Desire for an int'l sales career Ambition School major
DelVecchio & Honeycutt (2002) (n=163)	Castleberry (1990); Wortuba, Simpson & Reed-Draznik (1989)	Career appeal, Salary, Autonomy, Education Salary
Sojka, Gupta, Hartman (2000) (n=306)	Amin, Hanyajneh & Nwakanma (1995); Cook & Hartman (1986); Dubinsky (1981); Muehling & Weeks (1988); Tsalikis, DeShields, & LaTour (1991)	Perception of Sales Career Perception of Job-Related Factors Perception of Salespeople
Honeycutt et al. (1999) (n=503)	Swenson et al. (1993); Swinyard (1981)	Appeal of marketing and sales jobs Positive job descriptors Negative job descriptors
Swenson, Swinyard, Langrehr & Smith (1993) (n=1203)	Swinyard (1981)	Appeal of marketing/sales careers Sales education Career attributes

Table 2. Sample Profile Pre-Post Exposure to Sales Content

	Pre-Sales Exposure	Post Sales Exposure
<b>UNIVERSITY</b>	259	249
Midwestern	118	126
Western		
<b>MAJOR</b>		
Marketing Major/Minor	76	72
Business Non-Marketing	262	37
Non-Business	39	266
<b>GENDER</b>		
Male	163	163
Female	214	212
<b>YEAR IN SCHOOL</b>		
Freshmen/Sophomore	32	30
Junior	278	272
Senior	67	73
<b>EVER WORK IN A SELLING JOB</b>		
Yes	181	180
No	196	195
	<b>SAMPLE SIZE</b>	<b>377</b>
		<b>375</b>

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**Figure 1: Scale Validation Process**

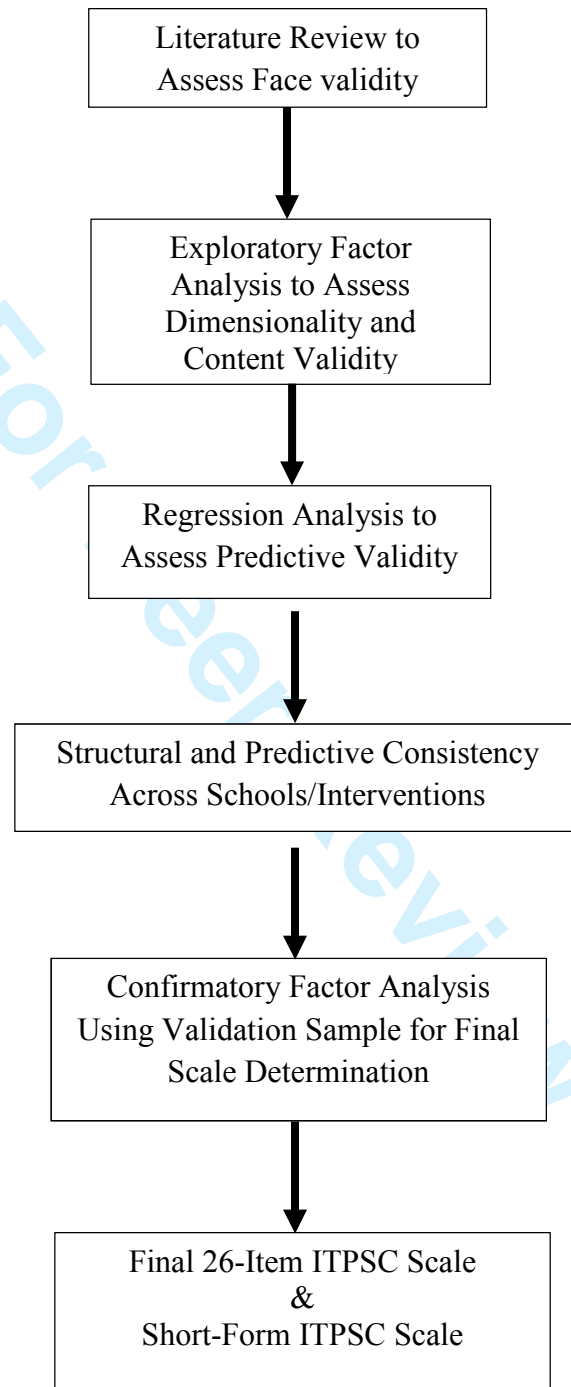




Table 3. Descriptive Statistics, Factor Loadings and Reliability Estimates for ITPSC Scale

	Mean	Std Dev	Factor Loading
<b>SELLING ETHICS     <math>\alpha = .90</math>     Variance Explained = 21.1%</b>			
<b>Salespeople.....</b>			
Stretch the truth to make a sale	3.47	.91	.832
Take advantage of uneducated buyers	3.36	.98	.827
Misrepresent guarantees and/or warranties	3.00	.95	.794
Make something up when they do not know the answer to a question	3.08	.97	.792
Inflate the benefits of the products they sell	3.49	.89	.771
Sell products that people do not need	3.27	.98	.764
Are more unethical than those in other business fields	2.86	.95	.639
<b>SALES PROFESSION     <math>\alpha = .89</math>     Variance Explained = 18.6%</b>			
<b>A Sales Career/Selling.....</b>			
Gives a sense of accomplishment	3.87	.78	.795
Is doing something worthwhile on the job	3.65	.82	.778
Is personally satisfying	3.58	.95	.775
Is interesting	3.62	.90	.769
Is exciting	3.51	.97	.769
Is valuable	3.84	.77	.697
<b>SALES KNOWLEDGE     <math>\alpha = .89</math>     Variance Explained = 18.5%</b>			
I understand sales concepts and how to apply them	3.55	.87	.833
I understand the sales process	3.62	.83	.820
I know how to structure a sales presentation	3.23	.98	.783
I understand what a sales career is all about	3.48	.90	.771
I understand what a salesperson does on a daily basis	3.48	.91	.764
I am confident in my ability to apply sales techniques	3.55	.87	.722
<b>SALESPEOPLE     <math>\alpha = .82</math>     Variance Explained = 7.8%</b>			
<b>Salespeople.....</b>			
Are perceived favorably by others	3.07	.92	.850
Are respected by others	2.86	.97	.760
Are admired by others	2.85	.99	.795
<b>TOTAL VARIANCE EXPLAINED = 66%</b>			
<b>INTENT TO PURSUE SALES CAREER</b>			
<b>Variance Explained = 81%</b>			
I am interested in pursuing a sales position when I graduate	2.63	1.14	.92
Obtaining a position in sales is a priority for me after graduation	2.39	1.11	.90
Obtaining a sales support position would interest me	2.86	1.12	.87
At some time during my career, I will probably hold a position in sales	3.27	1.12	.81
<b>SUMMATED INTENT TO PURSUE SCORE (4-20)</b>	11.15	3.93	

**Table 4. Aggregated Regression Results**

	Std Beta	T-Value	Sig
Selling Profession	.351	12.5	.001
Sales Knowledge	.327	10.9	.001
Salespeople	.258	9.3	.001
Ethics	-.198	-7.1	.001
Gender (Male = 1)	.078	2.8	.01
Year in School	.047	1.6	ns
Sales Job/Internship (Yes = 1)	.075	2.5	.01
Marketing Major/minor (Yes = 1)	.206	7.2	.001

Overall Model,  $F[1, 752] = 71, p = .001, R^2 = .44$

Table 5. Factor Analysis Results by Experimental Condition

	Western University Lecture Format		Midwestern University Guest Speakers	
	Pre Exposure	Post Exposure	Pre Exposure	Post Exposure
<b>SALES ETHICS (Variance Explained)</b>	<b>18.5%</b>	<b>21.3%</b>	<b>18.1%</b>	<b>22.8%</b>
Stretch the truth to make a sale	.767	.861	.818	.826
Take advantage of uneducated buyers	.832	.854	.804	.811
Misrepresent guarantees and/or warranties	.677	.795	.737	.833
Make something up when they do not know the answer to a question	.745	.766	.746	.835
Inflate the benefits of the products they sell	.790	.784	.641	.804
Sell products that people do not need	.744	.759	.670	.821
Are more unethical than those in other business fields	.560	.637	.573	.700
<b>SALES PROFESSION (Variance Explained)</b>	<b>17.8%</b>	<b>17.6%</b>	<b>18.8%</b>	<b>19.6%</b>
Gives a sense of accomplishment	.780	.804	.764	.791
Is doing something worthwhile on the job	.757	.776	.775	.775
Is personally satisfying	.762	.739	.765	.808
Is interesting	.639	.771	.799	.762
Is exciting	.693	.780	.772	.772
Is valuable	.809	.584	.672	.731
<b>SALES KNOWLEDGE (Variance Explained)</b>	<b>20.2%</b>	<b>18.9%</b>	<b>18.2%</b>	<b>17.1%</b>
I understand sales concepts and how to apply them	.854	.826	.826	.803
I understand the sales process	.849	.770	.830	.804
I know how to structure a sales presentation	.793	.772	.774	.782
I understand what a sales career is all about	.812	.817	.783	.699
I understand what a salesperson does on a daily basis	.805	.810	.745	.721
I am confident in my ability to apply sales techniques	.778	.753	.654	.703
<b>SALESPEOPLE (Variance Explained)</b>	<b>9.4%</b>	<b>8.8%</b>	<b>9.4%</b>	<b>7.8%</b>
Are perceived favorably by others	.781	.852	.822	.827
Are respected by others	.691	.830	.717	.705
Are admired by others	.721	.823	.730	.695
<b>Variance Explained</b>	<b>65.9%</b>	<b>66.6%</b>	<b>64.5%</b>	<b>67.4%</b>

**Table 6a. Regression Results, Pre- and Post-Exposure to Traditional Lecture Format**

	Western University Pre-Exposure to Sales Content			Western University Post-Exposure to Sales Content		
	Std Beta	T-Value	Sig	Std Beta	T-Value	Sig
Perceptions of...						
Selling Profession	.245	3.3	.01	.321	4.5	.001
Sales Knowledge	.336	3.9	.001	.369	5.4	.001
Salespeople	.226	3.0	.01	.307	4.6	.001
Ethics	-.210	-2.9	.01	-.176	-2.6	.01
Gender (Male = 1)	-.07	-.09	ns	-.08	-1.1	ns
Year in School	-.104	-1.4	ns	.086	1.1	ns
Sales Job/Internship (Yes = 1)	.049	.574	ns	.024	.346	ns
Marketing Major (yes = 1)	.198	2.5	.01	.281	4.0	.001
Overall Model	F = 9.4, p = .001, R <sup>2</sup> = .407			F = 13.8, p = .001, R <sup>2</sup> = .485		

**Table 6b. Regression Results, Pre- and Post-Exposure to Guest Lecture Format**

	Midwestern University Pre-Exposure to Sales Content n=258			Midwestern University Post-Exposure to Sales Content n=248		
	Std Beta	T-Value	Sig	Std Beta	T-Value	Sig
Perceptions of...						
Selling Profession	.176	3.5	.001	.366	7.5	.000
Sales Knowledge	.404	8.2	.001	.334	6.6	.001
Salespeople	.157	3.2	.01	.259	5.5	.001
Ethics	-.192	-3.87	.001	-.122	-2.5	.01
Gender (Male = 1)	.061	1.2	ns	.179	3.6	.000
Year in School	.062	1.2	ns	.105	2.09	.05
Sales Job/Internship (Yes = 1)	.139	2.6	.01	.055	1.1	ns
Marketing Major (yes = 1)	.176	3.5	.001	.222	4.5	.001
Overall Model	F = 21.7, p = .001, R <sup>2</sup> = .410			F = 25.6, p = .001, R <sup>2</sup> = .460		

**Table 7. Regression Results, Pre- and Post-Exposure to Educational Interventions**

	Pre-Exposure to Sales Content n=258			Post-Exposure to Sales Content n=248		
	Std Beta	T-Value	Sig	Std Beta	T-Value	Sig
Perceptions of...						
Selling Profession	.310	7.5	.001	.279	7.1	.001
Sales Knowledge	.307	6.7	.001	.355	8.8	.001
Salespeople	.253	6.2	.001	.313	7.9	.001
Ethics	-.191	-4.6	.001	-.143	-3.5	.001
Gender (Male = 1)	.037	.90	ns	.095	2.4	.05
Year in School	.018	.42	ns	.122	2.7	.01
Sales Job/Internship (Yes = 1)	.116	2.6	.01	.063	1.5	ns
Marketing Major (yes = 1)	.175	2.9	.01	.275	4.8	.001
University (Midwest/Guest Speakers=1)	.005	.11	ns	.119	2.8	.01
Overall Model	F = 23.9, p = .001, R <sup>2</sup> = .395			F = 32.4, p = .001, R <sup>2</sup> = .471		

Table 8. Mean Responses by Experimental Conditions

	Western University		Midwestern University	
	Pre Exposure	Post Exposure	Pre Exposure	Post Exposure
<b>SALES ETHICS</b>				
Stretch the truth to make a sale	<b>3.83*</b>	<b>3.71</b>	<b>3.67*</b>	<b>3.08</b>
Take advantage of uneducated buyers	<b>3.75</b>	<b>3.58</b>	<b>3.49</b>	<b>2.94</b>
Misrepresent guarantees and/or warranties	<b>3.28</b>	<b>3.22</b>	<b>3.10</b>	<b>2.65</b>
Make something up when they do not know the answer to a question	<b>3.41*</b>	<b>3.33</b>	<b>3.12*</b>	<b>2.75</b>
Inflate the benefits of the products they sell	<b>3.81*</b>	<b>3.75</b>	<b>3.56*</b>	<b>3.12</b>
Sell products that people do not need	<b>3.62*</b>	<b>3.67</b>	<b>3.32*</b>	<b>2.99</b>
Are more unethical than those in other business fields	<b>3.03</b>	<b>2.98</b>	<b>2.93</b>	<b>2.64</b>
<b>SALES PROFESSION</b>				
Gives a sense of accomplishment	3.75	3.18	3.84	3.98
Is doing something worthwhile on the job	<b>3.34*</b>	<b>3.62</b>	<b>3.61*</b>	<b>3.85</b>
Is personally satisfying	<b>3.23</b>	<b>3.57</b>	<b>3.48</b>	<b>3.82</b>
Is interesting	<b>3.46</b>	<b>3.62</b>	<b>3.52</b>	<b>3.78</b>
Is exciting	<b>3.28</b>	3.48	<b>3.44</b>	3.71
Is valuable	<b>3.76</b>	3.81	<b>3.76</b>	3.96
<b>SALES KNOWLEDGE</b>				
I understand sales concepts and how to apply them	3.53	3.62	3.45	3.60
I understand the sales process	3.69	3.71	3.51	3.66
I know how to structure a sales presentation	3.24	3.32	<b>3.10</b>	3.32
I understand what a sales career is all about	3.44	3.56	<b>3.29</b>	3.65
I understand what a salesperson does on a daily basis	3.55	3.59	<b>3.35</b>	3.54
I am confident in my ability to apply sales techniques	3.52	3.61	3.41	3.56
<b>SALESPEOPLE</b>				
Are perceived favorably by others	<b>2.81</b>	<b>2.87</b>	<b>3.01</b>	<b>3.34</b>
Are respected by others	<b>2.72</b>	<b>2.63</b>	<b>2.81</b>	<b>3.09</b>
Are admired by others	<b>2.71</b>	<b>2.61</b>	<b>2.79</b>	<b>3.09</b>
<b>INTENT TO PURSUE</b>				
I am interested in pursuing a sales position when I graduate	<b>2.43</b>	<b>2.40</b>	<b>2.53</b>	<b>2.95</b>
Obtaining a position in sales is a priority for me after graduation	<b>2.17</b>	<b>2.19</b>	<b>2.24</b>	<b>2.74</b>
Obtaining a sales support position would interest me	<b>2.66</b>	<b>2.67</b>	<b>2.71</b>	<b>3.19</b>
At some time during my career, I will probably hold a position in sales	3.22	3.25	<b>3.10</b>	<b>3.49</b>
<b>SUMMATED INTENT TO PURSUE</b>	<b>10.47</b>	<b>10.51</b>	<b>10.58</b>	<b>12.38</b>

(1) **Bolded** denotes where POST-Exposure scores in Midwestern University (Guest Speakers) are significantly more positive compared to other conditions. For Sales Ethics, lower score indicates more ethical.

(2) Only five sig diff were found for PRE-Exposure scores on the Sales Dimensions between universities, denoted by \*.

(3) Only one significant difference was found for Pre-Post Exposure on the Sales Dimensions for Western University.

(4) NO significant differences on PRE-Exposure scores for Intent to Pursue questions between universities.

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3 **Table 9. Final Reduced Antecedent Item Scale**  
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5 **SELLING ETHICS**  $\alpha = .82$

6 **Salespeople.....**

7 Stretch the truth to make a sale

8 Take advantage of uneducated buyers

9 Misrepresent guarantees and/or warranties

10 Make something up when they do not know the answer to a question

11  
12  
13 **SALES PROFESSION**  $\alpha = .83$

14 **A Sales Career/Selling.....**

15 Gives a sense of accomplishment

16 Is doing something worthwhile on the job

17 Is personally satisfying

18  
19  
20 **SALES KNOWLEDGE**  $\alpha = .83$

21 I understand sales concepts and how to apply them

22 I understand the sales process

23 I know how to structure a sales presentation

24  
25  
26 **SALESPEOPLE**  $\alpha = .83$

27 **Salespeople.....**Are perceived favorably by others

28 Are respected by others

29 Are admired by others