

A New Approach for Teaching Customer Personality Types in the Personal Selling Course

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Knowledge of the "styles" of salespeople and customers has long been associated with effective selling performance. Therefore, numerous sales scholars and trainers have developed ways of classifying salespeople and customers. However, those approaches typically entail much cognitive effort and skill to ensure appropriate categorization of a salesperson's customers (or prospects). Given this dilemma, students in personal selling courses likely require a relatively easy-to-use method to enhance their ability to accurately classify individuals (a la customers in a sales context). Accordingly, we present an alternative—psycho-geometrics—that is potentially easier and more efficient to utilize than extant personal style classification schema. In particular, we develop and psychometrically analyze a scale designed specifically to assess personality types of psycho-geometric "types." Implications for educators teaching personal selling courses and/or interested in undertaking germane research in the area are also provided.

INTRODUCTION

The nature of the professional selling position is dynamic. Accordingly, job knowledge, skills, responsibilities, and tasks that were of import in the past need to be complemented with or supplanted by contemporary ones (Adamson, Dixon, & Toman, 2013; Dixon & Tanner, 2012; Lask, et al., 2012). In other words, the requisite requirements of the erstwhile sales job are different from the current one. In other words, to paraphrase a former advertising tag line, "This ain't your father or mother's kind of selling." If

today's sales position is different from the past, then university personal selling courses need to prepare their charges with skills and abilities that can assist them in dealing with the protean buyer-seller environment.

In their assessment of the state of sales education in the college curriculum, Deeter-Schmelz and Kennedy (2011, p.56) aver that "[i]nterest in sales education has never been stronger." Peradventure this is partially a function of marketing faculty's realizing the need to prepare their sales students for this changing selling environment. Despite keen interest in the sales curriculum, however, research focusing on courses in this area has been minimal (e.g., Anderson, et al., 2005). Indeed, a recent review of the sales education literature found only 107 germane articles (in four especially relevant journals) over a 33-year period, thus ultimately leading the researchers to assert, "...the truth is that the sales education literature is relatively underdeveloped. We thus encourage research across wide-ranging topics..." (Cummins, et al., 2013, p. 75). The purpose of the present study, then, is to heed the foregoing call for additional empirical work in sales education. We do so by exploring a key issue facing sales educators and field sales personnel alike: how to correctly and efficiently classify customers based on their personality types (or styles). Categorizing customers (or prospects) accurately requires students in personal selling courses to learn a specialized, fundamental job skill. In fact, Finch, Nadeau, and O'Reilly (2012) discerned that marketing practitioners perceived foundation skills were especially important when hiring marketing majors.

Knowledge of the "styles" of salespeople and customers has long been associated with effective selling performance (e.g., Anderson, Dubinsky, & Mehta, 2014). Originating in the work of the Wilson Learning Center (Merrill & Reid, 1981; Mok, 1982; Wilson, 1987), salespeople are routinely trained to adapt their selling styles to that of their customers (e.g., Homburg, Müller, & Klarmann, 2011). The underlying theory is that a salesperson will communicate with a customer more effectively if their styles are compatible (e.g., Zimmer & Hugstad, 1981). Salespeople whose styles are incompatible with that of their customers will "flex" away from their own style and assume one that is more appropriate. This process is a form of adaptive selling—à la "selling smarter" rather than "selling harder" (Sujan, Weitz, & Sujan, 1988).

Adapting to customers' personality styles should abet enhancing rapport in the buyer-seller dyad (e.g., Merrill & Reid, 1981; Zimmer & Hugstad, 1981). Augmenting rapport with customers can foster increased trust within the dyad, which ultimately could conduce to improved salesperson performance (e.g., Bowler, 2011; Wood, 2006). Therefore, accurately classifying customers' personality types conceivably would be a boon with which sales personnel can ameliorate their efficiency and effectiveness.

The notion of people differing in their "styles" originated in the work of Jung (1921) who isolated a set of personality types. Jung isolated three dimensions on which personalities vary: introversion(I)-extroversion(E), sensing(S)-intuition(N), and thinking(T)-feeling(F).¹ Based on Jung's analyses, Myers and Briggs developed a multi-item instrument to assess personality types (Myers & McCaulley, 1985). This instrument is the most widely used personality measure for "non-psychiatric" populations (Lloyd, 2012; Myers, 1993; Nasca, 1994). The Myers-Briggs Type Indicator (MBTI) assesses each individual on the three Jungian dimensions and one additional dimension (judging[J]-perceiving[P]).² Individuals are then classified on each dimension, and a composite personality type is developed. For example, an "ESTJ" is a person high on the extraversion, sensing, thinking, and judging dimensions in contrast to an "INFP," who is strong on introversion, intuition, feeling, and perceiving. MBTI results in a total of 16 personality types that are distinctly different from each other.

The foregoing implies that the MBTI may hold value for classifying a salesperson's customers. Notwithstanding its potential, however, the MBTI is cumbersome to administer (owing to the length of the instrument—over 80 items). Moreover, from the perspective of a salesperson, it is difficult to assess the type of the customer (as there are 16 alternative types). Although in-depth knowledge of their own personalities might be interesting to salespeople, not all the information contained in the test is useful in the sales situation. The difficulties are compounded for those who need to "read" the personality types of their customers so that they can adapt their behavior appropriately.

In an effort to address these difficulties, numerous sales scholars and trainers have developed ways of classifying salespeople and customers, defined by such things as personal styles (Merrill & Reid, 1981), communication styles (Manning & Reece 1992), behavioral styles (Alessandra, Wexler, & Barrera, 1987), sales behaviors (Buzzotta, Lefton, & Sherberg, 1982; Jolson, 1984), orientation to the sale (Blake & Mouton, 1980), sex role identity (Comer & Jolson, 1991), and buyers' behaviors and characteristics (Dubinsky & Ingram, 1981-1982). More recently, Larson and Bone (2012, p. 498) investigated the customer-salesperson interaction from the customer side only. Owing to frequent interaction with salespeople, most customers develop "a multifaceted disposition that guides their behavior in any salesperson interaction" (i.e., a customer's disposition toward salespeople). The disposition is made up of seven dimensions: convincibility, avoidance, empathy, distrust, relationship seeking, self-presentation, and information seeking. Marketing academics see merit in such heuristics or selling aids and are likely to incorporate them into their personal selling courses. Indeed, traditional personal selling texts discuss selling styles (e.g., Anderson, Dubinsky, & Mehta, 2014; Castleberry & Tanner, 2010).

Most of the aforementioned alternatives consist of a matrix that classifies salespeople/customers into quadrants characterized by strong, forceful personal characteristics on the one hand and softer, more intuitive ones on the other. Admittedly, matrices can be valuable. However, they likely entail much cognitive effort to ensure appropriate categorization of a salesperson's customers. Accordingly, we present an alternative—psycho-geometrics—that is (a) potentially easier and (b) more efficient to utilize than extant personal style classification schema. Owing to these two favorable attributes, the proposed categorization scheme should be especially useful when teaching personality styles in personal selling courses. Therefore, the purpose of this paper is to briefly describe key ideas underlying psycho-geometrics and then develop and psychometrically analyze a scale with which to measure the psycho-geometric types—thus facilitating personal selling educators' efforts in teaching students how to become adept at ascertaining others' personality styles.

PSYCHO-GEOMETRICS

Psycho-geometrics (Dellinger, 1989) is an alternative way of classifying personality in general and customers and sales personnel in particular. Dellinger believes that personalities resemble familiar geometric shapes. Derived from the Jungian concepts of personality types, and roughly corresponding to the various classifications commonly used in sales to assess styles, psycho-geometrics differs in that it is not a dimensional model. Rather, it describes people's personalities in holistic terms by evoking images of geometric shapes. Less complex than those defined by the MBTI, the types are easily recognized by others and the underlying concepts easy to acquire and remember (a la classification into groups). According to Dellinger, all people possess aspects of each psycho-geometric type, and the relative dominance of each changes as they move through the life cycle. This is in contrast to the notion of "communication styles," which tend to be relatively stable over time (Manning & Reese, 1992).

Benefits of Psycho-Geometrics

Psycho-geometrics is predicated on the idea "that we tend to be attracted to certain shapes and forms...based on our personalities, our attitudes, our education and experiences, and based on the way in which our individual brains function (Dellinger, 1989, p. 2). She avers that its use can assist one in ascertaining the beliefs, values, and attitudes of others one meets and then "flexing" via communication to get what one desires from the other person. As such, the benefits of psycho-geometric types over the more traditional notions of communication or behavioral styles in the sales situation are as follows:

- The psycho-geometric "types" are holistic, not derived dimensionally. It is easy for students to learn the types by evoking images of shapes, rather than determining the germane quadrant for each customer in a matrix.
- It is easy for students to remember the types by shape association.
- Psycho-geometric types are not immutable. Change is recognized throughout the life cycle and even from day to day.

- Above all, psycho-geometrics can be fun, thus facilitating students' enjoyment of learning.

Psycho-Geometric Types

Four psycho-geometric types resemble those specified by the previous "style" theorists: box, triangle, circle, and squiggle (see Table 1). However, Dellinger (1989) adds an additional type, one that represents an individual in transition, and is labeled a "rectangle." We deviate from Dellinger's terminology here, preferring the irregular shape of the "trapezoid" to the parallelism of the "rectangle." The following description of the psycho-geometric types is paraphrased from Dellinger (1989).

Box

The "box" is an angular, symmetric shape, composed of equal lines and angles. In the form of a square, it is the most structured of the shapes. Boxes place great emphasis on organization and logical structure. They are hard workers with strong attention to detail, easily seen as perfectionists. They get the job done, but do not function well in situations that are not well defined. Boxes are typically found in positions such as accountants, computer programmers, administrators, secretaries, and government workers. The box type is roughly comparable to the Analytical (Merrill & Reid, 1981), Reflective (Manning & Reese, 1992), Indifferent (Blake & Mouton, 1980), Submissive-Hostile (Jolson, 1984), and Undifferentiated (Comer & Jolson, 1991).

Triangle

The "triangle" represents leadership. A linear shape, its focus is on the top. The triangle is the shape of the pyramids of Egypt—burial places for the pharaohs (those at the apex). Thus, it is associated with royalty. Triangles are very decisive people, strong leaders and decision makers. Highly competitive, they are found in leadership positions in major corporations. They are "to the point." Their directness leads others to respect and fear them, but they are probably not loved. Triangles are typically found in positions such as executives, politicians, business owners, and military officers. The triangle type is roughly comparable to the Driver (Merrill & Reid, 1991), Director (Manning & Reese, 1992), Domineering (Blake & Mouton, 1980), Aggressive (Jolson, 1984), and Masculine (Comer & Jolson, 1991).

Circle

The "circle" is the mythical symbol for harmony. The shape is round and smoothly symmetrical. Circles are sensitive people and sincerely care about others. They excel in communication because they are good listeners and are generally empathetic. They tend to be team players who constantly strive to please others by accommodating them. They love working with people. Circles tend to be found in positions such as secretaries, nurses, teachers, and human resource specialists. The circle type is roughly comparable to the Amiable (Merrill & Reid, 1981), Supportive (Manning & Reese, 1992), Eager-to-Please (Blake & Mouton, 1980), Submissive-Warm (Jolson 1984), and Feminine (Comer & Jolson, 1991).

Squiggle

The "squiggle" represents creativity. The shape is the only one that is open-ended. Squiggles are conceptual and intuitive, not linear, thinkers and jump to conclusions, skipping deductive processes. They are constantly looking for new ways of doing things. Their friendly behavior leads them to be the life of the party. They are future oriented, more interested in possibilities than reality. They dislike highly structured environments, desiring variety and stimulation instead. Typically, squiggles are artists, musicians, professors, researchers, entrepreneurs, inventors, and interior decorators. The squiggle type is roughly comparable to the Expressive (Merrill & Reid, 1981), Emotive (Manning & Reese, 1992), Solution Seeker (Blake & Mouton, 1980), Assertive (Jolson, 1984), and Androgenous (Comer & Jolson, 1991).

TABLE 1
EXTANT STYLE THEORIES VIS-À-VIS PSYCHO-GEOMETRIC SHAPES

Authors	Focus	Box	Triangle	Circle	Squiggle
Merrill and Reid (1981)	Personal Styles	Analytical	Driver	Amiable	Expressive
Manning and Reece (2001)	Communication Styles	Reflective	Director	Supportive	Emotive
Alessandra, Wexler & Berrera (1987)	Behavioral Styles	Thinker	Director	Relator	Socializer
Blake and Mouton (1980)	Orientation to the Sale	Indifferent	Domineering	Eager-to-Please	Solution Seeking
Buzzotta, Lefton & Sherberg (1982) Jolson (1984)	Sales Behaviors	Submissive-Hostile	Aggressive	Submissive-Warm	Assertive
Comer and Jolson (1991)	Sex Role Identity	Undifferentiated	Masculine	Feminine	Androgynous

SOURCE: Manning and Reece (2001)

Trapezoid

The "trapezoid" is a shape in transition. Trapezoids are "growing out of the box," experiencing changes on a daily basis. This leads to their need for excitement and variety as well as provides an explanation for their short attention span and compulsive, erratic behavior. Trapezoids are dissatisfied with their lives and are searching for better situations. They are unpredictable and may appear to be different people from day to day. Trapezoids are typically adolescents, recent college/high school graduates, new employees, or new retirees.

Research Questions

The primary purpose of this paper is to present a paper and pencil self-report instrument that can be used to assess psycho-geometric types. A secondary purpose is to determine the degree to which individuals (e.g., students qua salespeople in personal selling courses) can accurately assess the types of others (e.g., customers). Essentially, this study is an empirical investigation of a construct (Mowen & Voss, 2008). The following research questions were formulated to guide the analysis:

- RQ-1: Can five dimensions (corresponding to the five psycho-geometric types), be identified from the data? Do the items have acceptable internal consistency so that they can be combined into scales? Do the same dimensions appear in self-ratings and in ratings by others?
- RQ-2: Do Raters and Targets agree about the ratings? In particular, do they agree about (a) the overall ratings and (b) the individual items within the scales? Do the evaluations of Raters and Targets correlate within dyads?

METHOD

A convenience sample of paired dyads participated in the study. Each dyad consisted of a Rater and a Target. Raters described Targets on a series of items designed to measure psycho-geometric types. Targets described themselves on the same items.

Sample

The Raters were students from three U.S. universities. All were students of sales management who intended to embark on careers in sales. Although in general students are not considered to be desirable respondents in sales research, we felt that they were indeed appropriate in this study for three reasons. First, a student sample is appropriate when testing theory (Calder, Philips, & Tybout, 1981; Peterson, 2001); in this case, we were interested primarily in assessing the validity of the item sets. Second, there was a good fit between the research questions asked and the research method used (Cooper & Pullig, 2013; Henry, 2008). More specifically, students participating in the study were professionally-oriented, budding salespeople, some with sales experience. As such, these students are, in essence, salespeople in training. Third, we were not making inferences about the impact of the "types" on selling effectiveness or business relationships. Interest was chiefly on scale item pertinence vis-à-vis reliability, validity, and context.

Data were obtained from 161 dyads. Most of the Targets were friends of the Raters (55.3%). The rest had a variety of relationships with the Rater, including spouses (3.7%), parents (8.7%), other relatives (11.2%), and business associates (9.9%). Targets were approximately evenly divided between males (54.7%) and females (42.2%). Raters were also approximately evenly divided between the sexes. Also, both sets were relatively young, with 63.4% between 18 and 25 years old, although there were some older individuals in the sample of Raters.

Procedure

Each Rater was instructed to enlist the cooperation of another individual (Target), whom the Rater felt he/she knew well, and invite the individual to complete a self-report measure of his/her own personality characteristics (self-rated questionnaire). The questionnaire was returned in a sealed envelope to the researchers. Raters described Targets on the same series of items (other-rated questionnaire). The

questionnaires were matched but analyzed as two separate data sets, referred to subsequently as "self-rated" and "other-rated" data.

Items

The items on the questionnaires were developed to assess each of the five psycho-geometric types. These items were worded so that they would tap into the way the types would be perceived in a selling context. They were measured on a 7-point Likert scale, where "1" indicated strongly disagree and "7" indicated strongly agree. Fifteen items were included to measure box; 19, triangle; 19, circle; 15, squiggle; and 15, trapezoid. Items corresponding to the five types were alternated on the questionnaire.

A global rating of the psycho-geometric types was completed only by the Rater and consisted of a single-item evaluation on a scale from 0 to 100, where "0 to 29" indicated low, "30-59" indicated moderate, "60-79" indicated high, and "80-100" indicated very high. Raters were given descriptions of the five types and the following instructions:

*The makeup of the person you are describing can be defined by the characteristics of five geometric shapes...the box, triangle, trapezoid, circle, and squiggle. Read each of the following shape descriptions carefully. Identify the shape that is **most** suggestive of the person you are analyzing. Then assign a number from 1 to 100 to measure the degree to which the person conforms to that shape. For example, if you feel the person is predominantly a box and rates "very high" on box characteristics, you will assign a score from 80 to 100. Then select the next most dominant shape describing that person (perhaps the circle) and assign a score attesting to his/her characteristics. Then assign ratings to the person for the other three shapes. Place the ratings in the appropriate spaces on page one.*

In summary, the person will be assigned 5 scores, one for each shape. A person may be rated high for some shapes, low on others, high on all, or low on all. The scores, high or low, are not in any way predictive of the person's character, success patterns, or goodness or badness. They do nothing more than identify the person and differentiate him/her from other people.

This process resulted in a single "other-rated" global evaluation of each psycho-geometric type for each Target.

ANALYSIS

As a preliminary check, the internal consistency of the full set of items for each of the five psycho-geometric types was examined within each data set. For the *self-rated* scales they were as follows: box ($\alpha = .668$), triangle ($\alpha = .815$), circle ($\alpha = .809$), squiggle ($\alpha = .771$), and trapezoid ($\alpha = .833$). For the *other-rated* scales they were as follows: box ($\alpha = .674$), triangle ($\alpha = .796$), circle ($\alpha = .843$), squiggle ($\alpha = .762$), and trapezoid ($\alpha = .808$). These were acceptable with the exception of the box scale; it was lower than the recommended value of $\alpha = .70$ (Nunnally, 1978). This was true in both evaluation sets.

Dimensionality

Next, dimensionality was assessed. For each data set separately, the complete set of items was independently subjected to a principal components analysis with varimax rotation to determine whether five discrete dimensions corresponding to the five types would emerge. In both data-sets, the same five orthogonal dimensions emerged (Tables 2 and 3); the same items cross-loaded and were eliminated. This reduced the data set to 4 box items, 4 triangle items, 8 circle items, 5 squiggle items, and 5 trapezoid items. Internal consistencies were examined for each scale within each data set (Tables 2 and 3), and all were within the range of acceptable values (ranging from $\alpha = .72$ to $.88$). Therefore, we concluded that each subset could be combined into a measurement scale. The items were summed and averaged to use as "summed" scores in the analysis.

TABLE 2
PRINCIPLE COMPONENTS ANALYSIS OF SELF-RATING SCALES

Items	Box	Tri- angle	Circle	Squiggle	Trapezoid
<u>Box scale</u>					
Is often overly cautious and conservative	.50	-	-	-	-
Prefers structured situations	.81	-	-	-	-
Prefers established routines	.77	-	-	-	-
Enjoys a controlled work environment	.67	-	-	-	-
<u>Triangle scale</u>					
Is highly competitive	-	.83	-	-	-
Has a "must win" attitude	-	.83	-	-	-
Craves prestige, authority, and position	-	.70	-	-	-
Likes to be in control of others	-	.66	-	-	-
<u>Circle scale</u>					
Finds it important to know others are happy	-	-	.79	-	-
Tries to soothe ruffled features	-	-	.65	-	-
Tries to maintain harmony at all costs	-	-	.72	-	-
Is a caring person	-	-	.77	-	-
Influences others through friendliness & openness	-	-	.69	-	-
Creates an atmosphere of well-being	-	-	.62	-	-
Will go to great lengths to avoid hurting people's feelings	-	-	.75	-	-
Tends to respond with the heart rather than with the head	-	-	.64	-	-
<u>Squiggle Scale</u>					
May want to do something wild and weird that was never done before	-	-	-	.64	-
Won't hesitate to try something new and/or unknown	-	-	-	.74	-
Thrives on opportunities to be creative	-	-	-	.54	-
Is attracted to new or unique things, ideas, or people	-	-	-	.78	-
Loves change for its own sake	-	-	-	.54	-
<u>Trapezoid scale</u>					
Is going through a period of transition	-	-	-	-	.67
Is attempting to establish his/her identity	-	-	-	-	.77
Behavior is somewhat inconsistent at this time	-	-	-	-	.72
Is trying to get his/her feet on the ground	-	-	-	-	.74
Is attempting to establish his/her identity	-	-	-	-	.86
Cronbach alpha	.73	.80	.86	.78	.83

TABLE 3
PRINCIPLE COMPONENTS ANALYSIS OF OTHER-RATING SCALES

Items	Box	Tri- angle	Circle	Squiggle	Trapezoid
<u>Box scale</u>					
Is often overly cautious and conservative	.73	-	-	-	-
Prefers structured situations	.67	-	-	-	-
Prefers established routines	.70	-	-	-	-
Enjoys a controlled work environment	.58	-	-	-	-
<u>Triangle scale</u>					
Is highly competitive	-	.81	-	-	-
Has a "must win" attitude	-	.83	-	-	-
Craves prestige, authority, and position	-	.57	-	-	-
Likes to be in control of others	-	.62	-	-	-
<u>Circle scale</u>					
Finds it important to know others are happy	-	-	.80	-	-
Tries to soothe ruffled features	-	-	.72	-	-
Tries to maintain harmony at all costs	-	-	.78	-	-
Is a caring person	-	-	.79	-	-
Influences others through friendliness & openness	-	-	.62	-	-
Creates an atmosphere of well-being	-	-	.74	-	-
Will go to great lengths to avoid hurting people's feelings	-	-	.82	-	-
Tends to respond with the heart rather than with the head	-	-	.57	-	-
<u>Squiggle Scale</u>					
May want to do something wild and weird that was never done before	-	-	-	.66	-
Won't hesitate to try something new and/or unknown	-	-	-	.54	-
Thrives on opportunities to be creative	-	-	-	.57	-
Is attracted to new or unique things, ideas, or people	-	-	-	.62	-
Loves change for its own sake	-	-	-	.73	-
<u>Trapezoid scale</u>					
Is going through a period of transition	-	-	-	-	.64
Is attempting to establish his/her identity	-	-	-	-	.81
Behavior is somewhat inconsistent at this time	-	-	-	-	.50
Is trying to get his/her feet on the ground	-	-	-	-	.81
Is attempting to establish his/her identity	-	-	-	-	.85
Cronbach alpha	.70	.73	.88	.72	.83

When items are eliminated from a set, a concern in scale development is whether the underlying meaning of the measure might be altered. In order to assess whether the elimination of items had altered the meaning, correlations between the summated scores and corresponding sets of original items were examined within the two sets. All were large and significant for both data sets. The findings for the *self-rated* data set were as follows: box ($r = .778, p < .001$), triangle ($r = .804, p < .001$), circle ($r = .913, p < .001$), squiggle ($r = .852, p < .001$), and trapezoid ($r = .894, p < .001$). For the *other-rated* data set, the results were as follows: box ($r = .799, p < .001$), triangle ($r = .736, p < .001$), circle ($r = .950, p < .001$), squiggle ($r = .867, p < .001$), and trapezoid ($r = .848, p < .001$). The results suggest that little substantive information had been lost in the item reduction process.

Construct Validity

In order to assess the construct validity of the scales, we evoked the concept of the "multitrait-multimethod matrix" (Cambell & Fiske, 1959). Initially, the cross-method correlations (between the combined self-rated scales and the other-rated scales) were examined and found all of them to be large, positive, and statistically significant: box ($r = .536, p < .001$), triangle ($r = .587, p < .001$), circle ($r = .617, p < .001$), squiggle ($r = .626, p < .001$), trapezoid ($r = .588, p < .001$)—thus indicating convergent validity. The cross-trait correlations were all very small and were not statistically significant, thus demonstrating discriminant validity.

We then examined the correlations between the summated *self-rated* scales and the single global measure of psycho-geometric types. The correlations were smaller, but four of the five were statistically significant: triangle ($r = .225, p < .004$), circle ($r = .399, p < .001$), squiggle ($r = .253, p < .001$), and trapezoid ($r = .344, p < .001$). Only the correlation with the box was not significant ($r = .093, p > .238$). A similar pattern emerged in the correlations between the *other-rated* scores and the global measures. Four were statistically significant: triangle ($r = .154, p < .05$), circle ($r = .341, p < .001$), squiggle ($r = .201, p < .01$), trapezoid ($r = .328, p < .001$)—and one was not (box [$r = .071, p > .368$]). Therefore, the box did not correlate significantly in either the self-rating or other-rating case.

Agreement Between Raters and Targets

The next concern was whether Raters and Targets agreed about the ratings. As a first step, we compared the mean values of the summated scores (Table 4). We found significant differences between the mean values for self- and other-ratings for the circle scale, and differences at the .10 level for the squiggle scale. No significant differences were found between self- and other-ratings for the box, triangle, or trapezoid scales. In each case, the mean values for the self-rated scores were higher than those of the other-rated scores.

TABLE 4
A COMPARISON OF MEAN VALUES OF SELF-RATINGS AND OTHER-RATINGS ON THE SUMMATED SCALES

	Self-Rating	Other's Rating	Significance
Box	4.266	4.174	.289
Triangle	4.705	4.554	.110
Circle	5.329	5.136	.009
Squiggle	4.892	4.752	.055
Trapezoid	4.148	4.124	.833

TABLE 5
ITEM MEAN VALUES

Items	Self	Other
<u>Box scale</u>		
Is often overly cautious and conservative	3.71	3.49
Prefers structured situations	4.69	4.57
Prefers established routines	4.31	4.39
Enjoys a controlled work environment	4.35	4.25
<u>Triangle scale</u>		
Is highly competitive	5.30	5.02*
Has a "must win" attitude	5.01	4.68*
Craves prestige, authority, and position	4.53	4.51
Likes to be in control of others	3.98	4.00
<u>Circle scale</u>		
Finds it important to know others are happy	5.72	5.32*
Tries to soothe ruffled features	5.20	4.91*
Tries to maintain harmony at all costs	4.79	4.66
Is a caring person	6.09	5.85*
Influences others through friendliness & openness	5.46	5.37
Creates an atmosphere of well-being	5.43	5.36
Will go to great lengths to avoid hurting people's feelings	5.25	5.17
Tends to respond with the heart rather than with the head	4.68	4.45
<u>Squiggle Scale</u>		
May want to do something wild and weird that was never done before	4.98	4.78
Won't hesitate to try something new and/or unknown	5.16	5.02
Thrives on opportunities to be creative	5.12	4.96
Is attracted to new or unique things, ideas, or people	5.29	5.19
Loves change for its own sake	3.91	3.82
<u>Trapezoid scale</u>		
Is going through a period of transaction	4.83	4.77
Is attempting to establish his/her identity	4.27	4.24
Behavior is somewhat inconsistent at this time	3.40	3.55
Is trying to get his/her feet on the ground	4.16	4.04
Is attempting to establish his/her identity	4.07	4.02

Next, we compared the mean values of the individual items (Table 5). We found two items in the triangle scale and three in the circle scale that were significantly different from each other (suggesting some lack of agreement about the intensity of the trait). As with the summated scales, the means of the individual self-rated items were higher than those of the other-rated items. No items were significantly different in the box, trapezoid, or squiggle scales.

Correspondence Within Dyads

Although this analysis shows the degree of agreement between the mean scores of the *groups* of raters, it does not show the degree of actual agreement within *individual dyads* of Target and Rater. In order to assess this, we looked at the dyads individually. In the manner of Jolson and Comer (1997), we collapsed the responses into two categories: those that thought that the Target had the trait and those that did not. We recoded the responses "strongly agree" "agree" and "somewhat agree" as positives (the perception that the Target possessed the characteristic, coded as 1). Those that responded "strongly disagree," "disagree," and "somewhat disagree" were recoded as negatives (the perception that the Target did *not* possess the characteristic, coded as 0). The response "neither agree nor disagree" was considered as a negative (coded as 0), because being unable to determine whether the pairs of items had the characteristic would seem to be an indication of the absence of the characteristic. For each item, the self-rated score was subtracted from the other-rated score to determine whether the Rater and Target agreed: zero indicated Rater and Target agreed about the characteristic; +1 indicated that the Rater believed the Target had the characteristic, but the Target did not; -1 indicated that the Target believed he/she had the characteristic, but the Rater did not. As shown in Table 6, Target and Rater were in agreement between 60% and 85% of the time. Thus, there was moderate agreement within the dyads. These findings infer that there is some degree of variance in the ability of Raters to evaluate Targets.

TABLE 6
AGREEMENT BETWEEN SELF-RATINGS AND OTHER-RATINGS (PERCENTAGE)

Items	Difference		
	-1	0	1
<u>Box scale</u>			
Is often overly cautious and conservative	17.4	68.3	14.3
Prefers structured situations	18.6	68.3	13.0
Prefers established routines	16.1	67.7	16.1
Enjoys a controlled work environment	18.0	64.6	17.4
<u>Triangle scale</u>			
Is highly competitive	16.8	75.8	7.5
Has a "must win" attitude	16.1	74.5	9.3
Craves prestige, authority, and position	18.6	67.7	13.7
Likes to be in control of others	17.4	66.5	16.1
<u>Circle scale</u>			
Finds it important to know others are happy	13.7	84.5	1.9
Tries to soothe ruffled features	19.9	69.6	10.6
Tries to maintain harmony at all costs	20.5	65.8	13.7
Is a caring person	11.2	84.5	4.3
Influences others through friendliness & openness	10.6	80.7	8.7
Creates an atmosphere of well-being	11.2	75.8	12.4
Will go to great lengths to avoid hurting people's feelings	16.1	73.3	10.6
Tends to respond with the heart rather than with the head	19.3	67.7	13.0
<u>Squiggle Scale</u>			
May want to do something wild and weird that was never done before	15.5	72.7	11.8
Won't hesitate to try something new and/or unknown	11.8	80.1	7.5
Thrives on opportunities to be creative	14.9	75.8	9.3
Is attracted to new or unique things, ideas, or people	13.7	77.6	8.7
Loves change for its own sake	19.9	67.7	12.4
<u>Trapezoid scale</u>			
Is going through a period of transition	15.5	77.6	6.8
Is attempting to establish his/her identity	20.5	64.0	14.9
Behavior is somewhat inconsistent at this time	13.0	72.7	14.3
Is trying to get his/her feet on the ground	12.4	73.9	13.7
Is attempting to establish his/her identity	19.3	67.7	13.0

DISCUSSION

The primary objective of this paper was to present an instrument that could be used to measure the five psycho-geometric types on order to assist students in personal selling courses in learning how to categorize customer types. The measures developed appear to offer the potential of doing so in the following ways:

- They are dimensional. Five clear dimensions were isolated by principal components analysis corresponding to the five psycho-geometric types.
- They are reliable. Internal consistencies for each scale were greater than Nunnally's (1978) criterion of $\alpha = .70$.
- They exhibit construct validity. Convergent validity was demonstrated by examining (1) the correlations between the summated self-rated scales and the corresponding other-rated scales and (2) the correlations between each summated scale and each global measure. Discriminant validity was demonstrated by the successful principal component's analysis and the insignificant cross-trait correlations. By this analysis, all except for the box scale appear to have construct validity.

The secondary objective of this paper was to determine whether individuals can accurately "read" the psycho-geometric types of other people. Although the agreement between Target and Rater was not perfect, it was substantial. Accordingly, there is reason to believe that it is possible for one individual to assess the psycho-geometric type of another with some accuracy. The agreement seems strongest in the case of the circle and weakest in the case of the box. In addition, the agreement was better on the specific item sets than on the global measure. This suggests that the raters either did not completely understand the specific types holistically or that the set of items, themselves, did not reflect the global types.

Traditionally, with personality measures, only moderate agreement has been found among raters (e.g., Berr, Church, & Waclawski, 2000). In the case of psycho-geometrics, the researchers presupposed that the holistic concepts of the psycho-geometric shapes would make recognition of these types easier. Given this presupposition, the key indicator of accuracy should be the global measure. Respondents seemed less able to assess psycho-geometric traits accurately on the global measure than on the more specific characteristics, which was disappointing.

The failure of the box scale to correlate with its global measure was also disappointing. In examining the items of the box scale, we thought it was possible that some of the key box characteristics were lost in the item reduction process. The box is a meticulous worker who exhibits a strong attention to detail. The items that tapped this may have been eliminated. However, the strong correlation between the original items and the reduced set of box items suggests this was not the case. The items of the box scale clearly need more work so that they more accurately reflect the box type.

Perhaps there may have been some social desirability effects associated with the ratings of box. Although the shapes were conceived in "nonjudgmental" terms (Dellinger, 1989), among students of sales management there may be some stigma to being a box. After all, boxes are not outgoing, but rather hardworking, conscientious people resembling the stereotype of the accountant (possibly evoking the image of a "nerd"). Some of the Raters may have been reluctant to describe their "friends" in these terms. Some of the box-like Targets may have felt the same way and have tried to hide these characteristics from their Rater friends. Such factors would have confounded the evaluations.

Recognition of the types could have been marred by such factors as the inability to control for such factors as lack of training of Raters, individual differences, rater biases, cultural differences, as well as the personality preferences of the individual being rated (enumerated by Berr, Church, & Waclawski, 2000). In addition, the Raters had not received training in psycho-geometric types. They had only an introductory knowledge of the subject. They were also inexperienced in the practice of reading people. With training in what to look for and experience in the field, they might be better able to identify the types. The Raters were students and may not have understood the context in which the items/types were presented. If true, the evaluations would improve as the Raters gain experience as salespeople working with actual customers in the selling situation.

Arguably, the results of this study might lead sales educators to question the value of our proposed typology. Given that this is the *initial* investigation of the efficacy of this typology in a sales setting as well as the generally favorable findings, further investigation is warranted before dismissing the concept. The simplicity of this typology and its easily remembered figures may well present a superior alternative to the extant customer types. Previous researchers have questioned the extent to which salespeople, particularly new and junior sales personnel, are able to identify customer types using the existing taxonomies (e.g., Jolson, 1984). Geometric figures, owing to their simplicity, are likely to be easier with which to categorize customers and then adapt accordingly than mere verbal descriptions. So, professors teaching personality styles in their personal selling courses should give serious consideration to instructing students about psycho-geometrics and the value that they can provide in assisting students to learn how to classify customers. The words of Kimball (2007, p. 68), although stated in a different marketing education context, precisely reflect the present situation:

Educators can begin the process by identifying the key concepts within traditional coursework materials, note those areas that could benefit from additional emphasis, and ...help students discover essential...[knowledge] in the learning laboratory...

Limitations of the Study and Suggestions for Future Research

Given that our preliminary results are promising, further empirical research may well lead to the development of a valid psycho-geometric scale that merits use in personal selling courses. The study has several important limitations, though. They are suggestive of future research avenues.

- Targets had a variety of relationships to the Raters. Raters selected their own Targets on the basis of their prior relationship with them. This may have caused the data to be contaminated with situational factors unrelated to the study at hand. Future research should control the type of relationship between Raters and Targets. Ideally, the relationship should be that between a salesperson and customer.
- The Raters knew the Targets very well. Indeed, the Targets had been selected to participate because of this knowledge. Future research should address the issue of how well the Target could be evaluated on a first meeting (initial selling encounter).
- The Raters were students not practicing salespeople. The lack of experience working with customers in the sales encounter makes it difficult to make inferences about their ability to recognize these types in the field. Further work should be conducted using experienced salespeople as Raters.
- The box items failed to correlate with its corresponding global rating. More work should be done in developing items for the box scale and examining its construct validity.
- The study did not attempt to identify characteristics of Raters who had better ability than others to assess the types. Subsequent empirical efforts should examine the relationship between personal qualities (e.g., empathy) and their ability to do this.
- This investigation did not attempt to make any inferences about the relationship between the ability to recognize these types, selling behaviors and selling effectiveness. A long-term goal for this project should be to determine the manner in which the ability to assess types, ability to adapt selling behavior, and the successfulness of the sales outcomes.

ENDNOTES

1. The sensing-intuitive dimension refers to the degree to which individuals prefer concrete facts (sensing) as opposed to looking beyond the actual to the possible (intuitive). The thinking-feeling dimension refers to the degree to which individuals are logical and left-brain dominated (thinking) as opposed to the emotional, right-brain dominant (feeling). The extroversion-introversion

dimension refers to the degree to which the individual is outgoing and gregarious (extroversion) versus self-contained and content to remain within the self (introversion).

2. The judging-perceiving dimension refers to the degree to which individuals tend to be organized and plan their life environments (judging) versus the degree to which they tend to be flexible and spontaneous in their lives and environments (perceiving).

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*This project originated with Professor Emeritus Marvin A. Jolson (University of Maryland), now deceased, who had keen enthusiasm for the notion of psycho-geometrics and introduced it into his sales training seminars. In essence, he was our muse. In writing this article, the research group has tried to bring Professor Jolson's unfinished work to fruition. This article is dedicated to him for his gracious sagacious guidance, verve, and assistance on the topic.