

Salesperson effectiveness in customer interaction is evaluated from a script-theoretic perspective. Differences in salesperson performance are traced to differences in knowledge of the actions and events across and within sales situations and the salesperson's ability to abstract from relevant previous experience. Results of two experiments conducted in an insurance context indicate that, as hypothesized, high effective salespeople provided more elaborate, distinctive, contingent, and hypothetical scripts than low effective salespeople. Moreover, these effects were accentuated in less typical sales situations, as suggested by results in the homeowner's insurance but not the life insurance experiment. Theoretical, methodological, and managerial implications of the findings are discussed.

Knowledge Bases and Salesperson Effectiveness: A Script-Theoretic Analysis

Understanding the determinants of salesperson performance has been of enduring interest to marketing managers and scholars. The concern of sales managers has been heightened by the tremendous escalation of personal selling costs. American firms, for example, are spending an estimated \$10 billion annually on sales training (Salerno 1985), with the average cost of training an industrial products salesperson now exceeding \$25,000 (*Sales and Marketing Management* 1987). Similar interest on the part of academic researchers is reflected in a recent meta-analysis that uncovered more than 100 articles yielding 1653 reported associations between sales performance and its determinants (Churchill et al. 1985).

Though a variety of factors have been pursued as possible determinants of sales performance, effective selling has been related most recently to the knowledge base of salespeople (Leigh 1987; Szymanski 1988; Weitz, Sujan, and Sujan 1986). To be effective and adapt well to different sales situations, salespeople need an elaborate

knowledge base that enables them to size up sales situations, classify prospects, and select appropriate sales strategies for clients. Effective selling, more specifically, should be facilitated by at least two types of knowledge structures: category structures and script structures. Category structures contain information needed to describe and classify different types of customers. Knowledge about customer traits, motives, and behaviors is representative of the type of information stored in these structures (Szymanski 1988; Sujan, Sujan, and Bettman 1988). Script structures, in contrast, include information about sequences of events and actions commonly encountered in sales situations, which can be used to guide salesperson behavior in similar situations (see Abelson 1981; Schank and Abelson 1977). Knowledge of typical events and actions occurring in sales situations, central characters involved in selling situations, conditions for initiating a particular sequence of actions, and typical results from performing a sequence of actions is representative of the type of knowledge stored in these structures. Both types of knowledge are needed to attend to important factors in the sales situation and react with the best possible sales approach contingent on the situation (Weitz 1981; Weitz, Sujan, and Sujan 1986).

Despite the interest in knowledge bases as a determinant of salesperson performance, empirical evidence affirming the relationship between sales effectiveness and the knowledge structures of salespeople has been sparse. Only recently have Sujan, Sujan, and Bettman (1988) reported findings that support the connection between sales

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performance and the elaborateness of salespeople's category knowledge. Effective salespeople were found to have a richer base of knowledge about different categories of customers. Specifically, the category structures of more effective salespeople contained more knowledge about customer traits associated with different customer categories and included more general sales strategies that could be used with different customer categories.

As promising as these initial findings appear to be, similar results have not emerged to establish the connection between sales effectiveness and script structures. Focusing attention on scripts, in addition to category structures, appears to be warranted for at least three reasons. First, the notion of scripts, structured around sequences of events and actions, seems particularly well suited as a description of sales encounters. Empirical evidence, in fact, has established that buyer-seller interactions are organized in a scriptlike way and that sales scripts are consistent with previously reported survey and observational models of buyer-seller interactions (Leigh and Rethans 1984a, b). Second, scripts have been identified consistently as important constructs for understanding the nature of buyer-seller interactions (Dwyer, Schurr, and Oh 1987; Leigh and Rethans 1984a; Weitz 1981) and for determining the extent to which salespeople adapt to new or changing sales situations (Weitz 1981; Weitz, Sujan, and Sujan 1986). Finally, psychological literature relating to scripts offers an established body of evidence for predicting how various dimensions of scripts should relate to sales performance. For example, more complex and distinctive scripts have been found among individuals with greater experience and expertise (see Nelson 1981; Schank and Abelson 1977). On the basis of these findings, therefore, one might predict that more effective salespeople have more complex and distinctive scripts than their less effective counterparts.

The purpose of our article is to examine the relationship between sales effectiveness and sales scripts. In particular, we report research investigating how the scripts of effective salespeople differ from those of ineffective salespeople. In addition, differences between effective and ineffective salespeople are examined across two basic types of sales situations: (1) typical situations frequently faced by salespeople and (2) less typical situations encountered by the salesforce. Both types of situations are included in the study to provide additional insight into the magnitude of possible differences between effective and ineffective salespeople in different sales settings.

First we review the literature on knowledge structures characterizing individuals who differ in expertise and how the differences could be affected by the nature of the sales situation. Findings from script literature are the main focus of this review; evidence about other types of knowledge structures is introduced only when needed to amplify findings from the script studies. This review is the basis for hypotheses about how effective and ineffective salespeople differ in terms of their script knowl-

edge. Findings from two studies testing these propositions in an insurance context are reported. We conclude with a discussion of the theoretical, methodological, and managerial implications of our findings.

THEORY

A major stream of psychological research has examined knowledge differences between experts and novices. The emphasis has been on category structures, with investigators finding that experts have more *elaborate* structures than do novices (for an extensive review, see Alba and Hutchinson 1987). Specifically, researchers have uncovered two major dimensions along which the knowledge structures of experts and novices differ: (1) horizontal dimensionality (or articulation) and (2) vertical dimensionality (or hierarchical organization). Horizontal dimensionality pertains to an individual's breadth of knowledge and how particular social situations differ from one another. Further, it relates to the ability to make distinctions among stimuli. In contrast, vertical dimensionality pertains to an individual's depth of knowledge within a particular situation and involves the level of knowledge of particular stimuli.

These findings from the study of category structures appear to be applicable to other types of knowledge structures such as scripts. From the preceding summary, it seems reasonable to suggest that differences in scripts of experts and novices should vary on the same bases of horizontal dimensionality and vertical dimensionality. Horizontal dimensionality would be associated with a salesperson's ability to cope with variations across sales situations, whereas vertical dimensionality would pertain to a salesperson's skill in coping with variations within a sales situation. Empirically, these dimensions should be related to several previously identified aspects of script content: (1) distinctiveness, (2) contingency, and (3) hypotheticality. In the following discussion, we argue that the script knowledge of experts is contained in the form of more different tracks representing variations of a situation, thus resulting in greater event distinctiveness. *Distinctiveness* refers to the extent to which an action is unique to a particular track of a script. Moreover, we hypothesize that the more hierarchical structure of expert scripts will result in greater event *contingency*—a tree-like, branching set of conditional event sequences within the script, in contrast to a "flatter," more linear organization in which each event is linked with the one preceding and the one following it in time. Finally, we propose that the script knowledge of experts is contained in a more hypothetical form. *Hypotheticality* is related to an expert's ability to generalize from previous experiences and refers to the degree of abstractness of script knowledge content.

Distinctiveness

Bower, Black, and Turner (1979) introduced the notion of distinctiveness as assessing the degree to which an action is unique to a track of a script. "Tip the waiter"

is distinctive of the restaurant script because it occurs when one is dining at a restaurant but rarely elsewhere. In contrast, "eat the meal" is less distinctive because it can occur at home, in a restaurant, at a cafeteria, or elsewhere. Event distinctiveness has been related intimately to the issue of script activation. Black, Galambos, and Read (1984) posit that common events are enacted whenever any track of a script is activated whereas distinctive events are enacted only by the instantiation of a specific track of which the event is a part. Moreover, current theorizing holds that highly stereotypical situations can be handled by activation of a protoscript, which essentially represents generalized knowledge within that domain (Abelson 1981; Gioia and Poole 1984). Knowledge particular to variations of the conventional situation is contained on various tracks of the protoscript.

Experts' greater ability to discriminate between stimuli such as social situations is reflected in a more articulate script structure containing a greater variety of tracks representing differences between the stimuli. Lacking such tracks, novices may be more likely to activate the protoscript despite changes in the sales situation. The tendency of novices to oversimplify a complex problem and reach inappropriate and/or inefficient solutions may be attributable to their lack of highly differentiated knowledge (Alba and Hutchinson 1987). Consequently, experts should report a greater number of distinct events central to a track than do novices, as they are better able to activate specific tracks of a protoscript in response to variations of a conventional situation. The parallel in personal selling is the delivery of a "canned" sales presentation invariant across different sales situations versus the tailoring of the sales presentation in recognition of differences in customer characteristics and requirements. The latter approach is evidence of more adaptive sales behavior that should be associated with higher performance effectiveness.

Contingency

Scripts vary in the degree to which they are hierarchically organized. A linear, "flat" script structure is characterized by a simple sequence of events strictly and successively linked in temporal order whereby one event is preceded by and is followed by another in time. Such structures represent knowledge in a less integrative, more discrete way, with the entire event sequence dominated by a central goal for the script (Abbott, Black, and Smith 1985). In contrast, a more hierarchical script has a tree-like structure containing subsets of actions branching off from preceding ones and multiple subgoals (John and Whitney 1986). The triggering of these sets of actions is contingent on changes within a social situation.

Hierarchical knowledge structures represent a more advanced stage of cognitive skill development (cf. Rosch et al. 1976). Experts tend to be better able to respond to changes within a particular situation than novices, as reflected in their having a greater number of contingen-

cies. These contingencies are equivalent to Newell and Simon's (1972) notion of productions, which are condition-action ("if-then") representations; that is, when an individual recognizes a particular condition, a particular action or set of actions associated with it is performed. For example, *if* the prospect objects to the price, *then* the salesperson offers better financing terms *or* offers to cover freight charges. Hence, effective salespeople seem to be more adaptive and to have more contingencies than their less effective counterparts, who are less responsive to changes within a sales situation.

Hypotheticality

A pervasive finding is that experts are able to generalize from previous experiences whereas novices often fail to apply what they know and tend to form more concrete knowledge representations (e.g., Adelson 1981; Larkin 1981). Conceptual accounts (see John 1985) and empirical findings (John and Whitney 1986) on the development of script knowledge indicate that expert individuals abstract common elements among different experiences whereas novices tend to concentrate on the specifics of each experience, which may contribute to novices' failure to develop a large number of tracks of a protoscript to use in future problem situations. Hence, the ability to generalize is a key element in the process of knowledge development. In particular, generalizations based on multiple experiences of examples are characteristic of more highly developed scripts. Expert salespeople therefore would have more hypothetical scripts and would express the content of those scripts in more abstract terms than would their less successful counterparts.

Typicality of Sales Situations

Several contemporary models of the sales process (e.g., Weitz 1981; Weitz, Sujan, and Sujan 1986) contain provisions for situational characteristics in assessing salesperson effectiveness. We investigate the effects of the typicality of sales situations on knowledge differences between effective and ineffective salespeople. The pervasive impact of typicality in predicting performance over a wide range of tasks such as knowledge acquisition and development has been firmly established (see Barsalou 1985 and Mervis and Rosch 1981 for reviews). More important, typicality effects have been found in diverse contexts, including research on environmental scenes that provide the settings in which human action occurs (Cantor, Mischel, and Schwartz 1982; Tversky and Hemenway 1983). For these reasons, it is instructive to focus inquiry on this important situational characteristic.

Several bases underlying typicality effects have been documented empirically with category structures (cf. Rosch, Simpson, and Miller 1976). Among these, more typical items (e.g., objects and social situations) seem to be learned before less typical items. One reason is that initial exposure to more typical items of a category fa-

facilitates more accurate and easier learning (Mervis and Pani 1980). Further, more typical items are encountered more frequently and thus become more familiar than less typical items (Ashcraft 1978). In the context of personal selling, typical sales situations include those experienced in formal sales training programs (e.g., role playing) and on-the-job training.

If, in fact, experts have greater knowledge than novices, these findings indicate that their more articulate script structures should contain a greater variety of tracks, including those representing less typical situations that are more unfamiliar, less frequently encountered, and acquired in later stages of learning (e.g., in actual selling). In contrast, novices should be restricted to a narrower repertoire of tracks representing more typical situations, because the less typical situations either have yet to be experienced, are encountered less frequently, or are more unfamiliar. Hence, differences in knowledge of typical and less typical situations should be accentuated across levels of expertise. Specifically, in less typical sales situations, expert salespeople should have greater script elaborateness, distinctiveness, contingency, and hypotheticality than do novices.

Hypotheses

On the basis of the literature reviewed, we advance the following hypotheses.

- H₁: The scripts of effective salespeople are more elaborate, more distinctive, more contingent, and more hypothetical than those of ineffective salespeople.
- H₂: Differences between effective and ineffective salespeople in terms of script elaborateness, distinctiveness, contingency, and hypotheticality are greater in less typical than in typical sales situations.

METHOD

Context

Life insurance was selected as one context for the research as it meets several criteria. First, it is an important service industry with purchases exceeding \$1 trillion in 1983 (*Life Insurance Fact Book* 1984). Second, it provides a variety of sales situations that appear to require insurance agents to be knowledgeable and adaptive in order to be effective; there are "dozens of basic policies and a number of riders that may be added . . . possible combinations, therefore approach infinity" (Belth 1973, p. 19). Third, and most important, we needed salespersons who differ in effectiveness in order to analyze possible differences in their script knowledge. This criterion appears to be satisfied in life insurance selling where, despite many highly successful and professionally certified agents, questions about professional competency have arisen (Anderson 1980; Horn 1978).

Additionally, scripts for homeowner's insurance selling were collected to capture the spectrum of agents' activities in the cooperating company and to provide an

internal replication of the results. Selection of homeowner's insurance was based on managers' belief that selling it is less complex than and sufficiently distinct from life insurance selling. Moreover, it was a major line of insurance marketed by the company. The estimated net premiums written in 1984 for the property/casualty line were \$117.1 million and the homeowner's line accounted for an estimated \$13.88 million (Burridge 1985).

Subjects

Subjects were 80 exclusive full-time sales agents of a participating multiline insurance company. Average age and full-time company sales experience were 33.7 and 4.6 years, respectively. Ninety percent of agents were men. Agents were recruited from those attending training seminars held at the company's headquarters during the time the study was conducted and from the local metropolitan area. Therefore, both high effective and low effective agents were recruited from both the training seminars and the metropolitan area; neither group was derived exclusively from either source. The training seminars were for both experienced and new agents of the company. Several criteria were used to qualify the available pool of subjects, including a minimum criterion of effectiveness for low effective agents. Agents who did not sell insurance full time (e.g., school teachers) were excluded as their motivation for participation in the research may have been questionable. The minimum criteria required all agents to have at least six months of full-time sales experience with the company and to have successfully completed at least one sale for the insurance line they were assigned in the research. These criteria prevented arbitrary responses and alleviated the possibility that lack of experience *per se* would furnish an alternative explanation for the results. "Million dollar club" members were included among the high effective agents.

Design

Two 2 × 2 designs, one each for life and homeowner's insurance, were employed. Each contained one between-subjects factor (high and low effectiveness) and one within-subjects factor (typical and less typical sales situation).

Independent Variables

Salesperson effectiveness was a measured variable assessed by multiple criteria. In addition to the initial qualifying criteria, two other criteria based on sales performance were used to classify the available pool of agents into high and low levels of effectiveness. First, actual production records for the most recent period (1985) were used to classify agents according to the number of applications filed by agents in that year. Number of applications was selected because it was a major component of the firm's point system for assessing salespersons,

was more objective than self-report measures of effectiveness, and was believed to be generally consistent over time.¹ Using this measure, we assigned agents who sold at least a half standard deviation above the sample average in the respective insurance line to the high effective condition and those who sold a half standard deviation or more below the average to the low effective condition.² The half standard deviation criterion was used because of its ease of operationalization and objectivity. More severe cutoffs were not pursued as they would have reduced the resulting sample size drastically and may have exaggerated the types of differences most commonly found between low and high sales performers. Comparisons between the top 10% and bottom 10% of a salesforce, for example, may exaggerate the true differences to be found among different levels of effectiveness and may therefore be less generalizable to a broader range of effectiveness levels.

After classifying agents into high and low effectiveness levels for each insurance line, we applied the second criterion. We checked agents' sales performance across insurance lines to make the final assignment to experimental conditions. Agents who were considered high effective on both insurance lines were assigned randomly to one line. Agents who were considered low effective on both insurance lines were assigned randomly to one of the lines, if they were not high performers on any other (nonstudied) insurance lines (e.g., casualty insurance) offered by the company. This precaution was taken to avoid the potential problem of carryover of sales expertise from one insurance line to another, which might confound the results. For the same reason, agents considered low performers on one of the studied insurance lines (e.g., homeowner's insurance) were not selected unless they were also low performers on the second insurance line investigated (e.g., life insurance).

Application of the two criteria resulted in a final sample of 80 agents from the initial pool of 109 sales agents. The final assignment included 21 high and 20 low effective agents for life insurance and 20 high and 19 low effective agents for homeowner's insurance. Agents in the high effectiveness conditions averaged 44.48 and 137.11 life and property applications, respectively, whereas their low effective counterparts averaged 10.50

and 37.30 applications. Both differences are statistically significant at the .01 level ($t = 11.24$ and 13.78 , d.f. = 39 and 37, for life and homeowner's insurance, respectively).

The *sales situation* factor manipulated the typicality of the selling situation in terms of the buyer characteristics involved (Weitz 1981). Several criteria were important in constructing the situations. First, they had to reflect relatively distinct tracks of sales agents' insurance selling scripts. Second, they had to be within the realm of experience of sales agents to enhance experimental realism and external validity. Third, they had to isolate where differences in the script knowledge of agents are likely to occur.

Two focus group sessions were conducted with five sales training executives to construct the situations. Briefly, the executives were asked to describe situations confronting their sales agents in terms of task and buyer characteristics. Next, they characterized differences in these situations in terms of their degree of typicality. For life insurance selling, the major differentiating factors identified were status of the prospect (current clientele being more typical), marital status (married and having children being more typical), and physical condition (normal, healthy prospects being more typical). In contrast, clients who were new prospects, single, and having medical problems were considered less typical. Differentiating factors for homeowner's insurance were status of the prospect and size, value, and location of residence. Typical properties belonged to clients having other forms of insurance with the company and were custom homes with moderate replacement cost in middle-income neighborhoods. Less typical were new prospects owning custom homes with high replacement cost in unusual locations.

On the basis of this information, four scenarios were constructed and presented to pretest subjects for further modifications at a subsequent session. These pretests ensured that the sales situations would be within the realm of experience of the sales agents and perceived to be sufficiently different in terms of typicality. Other details (e.g., ages of the children and wife's occupation) were added to augment the situations. The resultant situations then were pretested with 10 other executives. Results confirmed that the typical conditions were perceived to be more so than the less typical situations (all p 's < .05). Moreover, the information provided was considered sufficient, realistic, relevant, and believable.³

Experimental Procedure

Personal interviews were conducted by a team of eight interviewers. To standardize the interviewing procedure, interviewers were briefed and given a kit containing the interview agenda and a list of general probing instruc-

¹The other components of the production system are mode of payment and dollar amount of premium. Mode of payment measures how quickly the company receives its money—immediately, quarterly, semiannually, or annually. Therefore, it is unrelated to the salesperson's effectiveness. Dollar amount of premiums was not included because it is determined largely by factors beyond the salesperson's control (e.g., value of insured's home, life insurance needs of the client, and underwriting considerations). Consequently, number of applications provided a simple but pure measure of salesperson effectiveness.

²The resultant cutoff points were at least 31 and 100 applications for the high effectiveness life and homeowner's insurance conditions, respectively, and between 1 and 17 and 1 and 56 applications, respectively, for the low effectiveness conditions in life and homeowner's insurance.

³The exact wording of the sales situations can be obtained from the first author.

tions developed from previous work (John and Whitney 1986; Leigh and Rethans 1984a, b) and from experience with preliminary interviews of agents of another insurance company. Probing instructions included not asking leading questions, not interrupting an agent's responses unless he or she was mumbling or hesitating or straying from the task, and encouraging further response where necessary (e.g., "What really happens next?"). Moreover, interviewers were provided a practice run through the entire procedure with one agent. None were told or were aware of the hypotheses tested and they were blind to the agents' levels of effectiveness.

The procedure began with a brief introduction that included obtaining agents' signed consent. Next, agents were given a practice verbalization task about a familiar situation (eating at a fast-food restaurant) to acquaint them with the task and the tape-recording procedure used to elicit the agents' scripts. Clarifications were furnished by interviewers when requested. Agents then were given the main experimental tasks. In a modified version of the role decomposition approach (Leigh and Rethans 1983), agents were asked to provide a list of activities, events, actions, and behaviors for the first sales situation. The complete instructions read:

You are about to meet a client who is thinking of purchasing some life (homeowner's) insurance at his residence. We are interested in the *events, activities, actions, and behaviors* of your client and yourself in discussing the purchase. Please provide a list of your own personal actions and behaviors and those you expect from your client. Try to list as many events, activities, actions, and behaviors as you feel typically occur in this situation. For the activities of your client, please include the typical *objections* he might raise and the *actions* you would take to overcome them. Start the list with "getting prepared for the sales presentation" and end it with "getting back to your car after the sales presentation." Please note that several actions for yourself or your client may occur in a row.

Following these instructions was the situation induction printed under the heading "Client Information." After reading this material, agents furnished their scripts by means of tape recorder. After the first script generation exercise and the collection of the manipulation checks associated with it, agents engaged in a five-minute distractor task, answering a set of demographic and psychographic questions, to clear short-term memory. The procedure then was repeated for the second sales situation. The situations were presented in counterbalanced way. The interview concluded with the administration of a short questionnaire, a word of thanks, and a request for confidentiality. Duration of interviews averaged 45 minutes.

Dependent Variables

The four dependent variables were assessed by content analyses of agents' transcripts for elaborateness, distinc-

tiveness, contingency, and hypotheticality. To streamline the coding procedure, two independent judges were given a set of guidelines that included instructions (e.g., ". . . read through the entire transcript before commencing coding"), working definitions and examples of items to be coded on standardized coding forms, and a list of response categories representing the lexicon of actions/events reported by the agents (Appendix A).⁴ Both judges were naïve to the purposes of the research and agents' level of effectiveness.

Several criteria were used to develop the list of response categories representing the lexicon of actions/events. First, the categories had to be sufficiently comprehensive to facilitate classification of actions/events identified from agents' transcripts. Second, they had to be broad enough for meaningful classification and for the finer grained analyses of relevant actions/events following classification. Third, the surface representation of each category had to be consistent in format and length because Mandler and Murphy (1983) found that these factors affected subjective judgments of common event sequences.

To ensure comprehensiveness of category specification, events/actions previously documented in insurance scripts (Leigh and Rethans 1984b; Rittenburg and Mittelstaedt 1985), as well as those identified from a sample of eight transcripts in our research, were used to develop the response categories. In total, 64 categories were established and judges were instructed to classify each event/action identified by matching it to the relevant category. To ensure adequate category breadth, care was taken to prevent unnecessary division of actions/events and, where appropriate, alternative and multiple descriptions of pertinent components of response categories were defined. Finally, to ensure consistency in surface representation, all response categories were stated in phrase form.

Elaborateness was operationalized as the total number of actions and events reported by agents for each situation. Because certain action/event response categories contained alternative/multiple components and because repetition of the same response category was possible at several places in the transcript, we decided to compute two indices of elaboration. One index, overall events, includes counts for both these eventualities whereas the other, net events, includes only the second and treats multiple mentions of the same category as a single mention. Thus, the former incorporates the articulation of relevant detail, uncovering both the breadth and depth of action/event descriptions, whereas the latter provides a "raw" count of actions/events in a transcript and is the measure traditionally used in previous research. A third measure, central events, was computed by subtracting

⁴The detailed coding scheme used can be obtained from the first author. The lexicon was developed from prior research (Leigh and Rethans 1984b; Rittenburg and Mittelstaedt 1985) as well as from a pretest of eight agents in another insurance company (see Appendix A).

the number of incidental events (i.e., events tangential to the completion of the sale) from the overall event count. This measure was intended to determine whether the greater knowledge of high effective agents could be attributable to actions central and relevant to the completion of the sale.

Distinctiveness was measured by the number of unique actions/events mentioned in one situation but not the other. Judges engaged in a comparative analysis of the two protocols provided by each agent. The number of unique actions was operationalized as those mentioned in one protocol but not the other. To arrive at this number, coders were instructed to omit actions previously considered incidental. Next, they deleted events mentioned in both protocols. Finally, they tallied those actions unique in each protocol. Judges were instructed to note that two events coded under the same response category could be considered unique because of differences in their nonincidental particulars (e.g., different objects such as recommended policies may be involved).

Contingency was measured by the number of conditional clauses in each transcript. Conditional clauses such as "depending on" and "if-then" point to knowledge of variations within a sales situation and are associated with Newell and Simon's (1972) notion of productions.

Hypotheticality was assessed by summary totals of the number of (1) general statements made, (2) roles mentioned, and (3) frequency indicators used. General statements were distinguished by attempts to summarize and integrate information from previous experiences in contrast to statements referring to specific incidents. References to persons such as "the buyer" or "the prospect" constituted roles in the script. Mentions of words and phrases such as "usually" and "often" were considered frequency indicators.

The rationale for these indices is provided by Martin, Harrod, and Siehl (1980), who argue that the increased ability for abstraction requires more general statements, frequency indicators, and roles to summarize multiple incidents whereas describing isolated incidents does not. Thus, more abstract scripts should have higher totals for these indices than less abstract ones. This finer grained content analysis of transcripts should furnish additional insights into the concept of hypotheticality beyond the summary measure used in previous consumer behavior research (John and Whitney 1986).

RESULTS

Data analysis was undertaken in three phases. First, preliminary analysis consisted of establishing the psychometric adequacy of the items used as manipulation checks, determining the efficacy of the situational typicality inductions, and assessing the validity of the dependent variables used via principal components analyses and interrater reliability. Second, tests of the substantive hypotheses were conducted. Third, secondary analysis involved grouping the actions/events reported into five phases of the sales process and analyzing

differences in script knowledge between high and low performers across typical and less typical sales situations.

Manipulation Checks

Five items, all measured with 7-point scales, were used as manipulation checks for the typicality induction.⁵ Principal components analyses reveal that an average of 60% of total variance is explained with a mean factor loading of .76 across the four sales situations. Coefficient alpha values average a more than satisfactory .81 and item-to-total correlations average .64.

To examine the efficacy of the situational inductions, an index summing agents' scores on the five typicality items was formed. All analyses indicate success in the manipulations employed. First, paired-samples *t*-tests reveal that both typical situations were considered more typical than the less typical versions (*t*'s > 6.00 and *p*'s < .01). Second, independent-samples *t*-tests suggest no differences between high and low effective agents' perceptions of the inductions (all *t*'s < 1.80 and *p*'s > .05). Third, based on a possible range of 7 to 35, the mean scores of the typical situations are above the index midpoint of 21 (28.07 and 28.54 for life and homeowner's insurance, respectively) and those of the less typical situations are below it (18.22 and 19.28).

Psychometric Assessment of Dependent Variables

Our research is the first attempt to use a multiple-indicator approach to measure script elaborateness, contingency, and hypotheticality. Therefore several steps were taken to enhance the psychometric integrity of the measures. Principal components analyses reveal that percentage of explained variance ranges from 45.3 to 96.6% for the three dependent variables averaged across the four sales situations, with all average factor loadings exceeding the .35 level. Interrater reliability was determined by using a random sample of 24 protocols of 12 agents, seven in life and five in homeowner's insurance (see Appendix B). Pairwise correlation coefficients range from .73 to .94 with an .85 average, which exceeds the .80 level recommended by Kassarian (1977). Next, *t*-tests were conducted to assess possible systematic biases in coding (e.g., leniency). Results of comparisons between the judges on the average scores computed for each of the 10 dependent measures across all 24 protocols, as well as similar comparisons for life and homeowner's insurance protocols separately, reveal no statistically significant differences (all *p*'s > .10). Consequently, individual differences in coding seem unlikely.

Hypothesis Testing

Separate 2 × 2 MANOVAs with one between-subjects factor (high and low effectiveness) and one within-sub-

⁵Positive anchors for the items were routine, usual, common, typical, and standard. Two items were reverse-scored.

Table 1
MEAN AND STANDARD DEVIATION FOR DEPENDENT VARIABLES^a

	<i>Life insurance</i>				<i>Homeowner's insurance</i>			
	<i>Typical situation</i>		<i>Less typical situation</i>		<i>Typical situation</i>		<i>Less typical situation</i>	
	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>
1. Overall events	27.76 (10.28)	16.75 (6.66)	25.48 (10.39)	13.65 (5.42)	23.74 (8.67)	16.95 (7.02)	27.16 (11.83)	16.05 (6.29)
2. Net events	19.38 (7.32)	13.20 (4.75)	18.38 (6.05)	10.65 (3.86)	17.84 (5.38)	13.85 (5.52)	19.79 (6.52)	13.00 (4.86)
3. Central events	25.10 (9.21)	15.00 (6.05)	22.95 (9.42)	12.45 (5.20)	21.42 (7.90)	15.30 (6.46)	24.84 (11.00)	14.70 (5.87)
4. Unique actions	18.71 (7.99)	11.35 (5.44)	16.52 (7.95)	8.70 (4.75)	12.68 (5.20)	7.60 (4.07)	15.63 (7.87)	7.10 (4.23)
5. Conditional clauses	4.81 (2.44)	2.10 (2.02)	4.10 (2.32)	1.10 (1.21)	3.16 (1.95)	1.80 (1.44)	4.37 (3.59)	1.90 (1.62)
6. General statements	21.19 (10.05)	11.55 (7.05)	17.33 (7.07)	8.60 (5.54)	21.95 (8.27)	14.50 (6.57)	23.74 (11.43)	13.20 (5.76)
7. Roles	6.23 (3.30)	3.40 (1.43)	5.00 (2.83)	2.55 (1.15)	3.68 (2.85)	2.35 (1.46)	3.79 (2.32)	2.65 (1.69)
8. Frequency indicators	5.14 (3.93)	1.65 (1.14)	3.95 (3.09)	1.40 (1.23)	4.90 (2.94)	2.95 (3.25)	6.16 (3.69)	1.75 (2.05)

^aStandard deviation is in parentheses.

jects factor (typical and less typical sales situation) were run for life and homeowner's insurance. A two-phase strategy using contrast scores, outlined by LaTour and Miniard (1983, p. 51) and explicated by O'Brien and Kaiser (1985), was applied. Descriptive statistics for the dependent measures used to create the contrast scores are reported in Table 1. Given the adequate psychometric properties of the dependent measures, analyses of each indicant are grouped with related indicants of the same script dimension.

H₁. Support for this hypothesis is strong in that high effective agents are found to have more elaborate, more distinctive, and more hypothetical scripts. All three measures for elaborateness (overall events, net events, and central events) are statistically significant in both the life and homeowner's insurance contexts (all *p*'s < .01). Similarly, the measure for distinctiveness is also statistically significant in both insurance settings (*p*'s < .01). The single measure for contingency (conditional clauses) is statistically significant in both studies (*p*'s < .01). All three measures for hypotheticality (general statements, roles, and frequency indicators) are statistically significant in the life insurance experiment (all *p*'s < .01). In addition, two of the three measures for hypotheticality (general statements and frequency indicators) are statistically significant in the homeowner's insurance study (*p*'s < .01).

H₂. Recall that this hypothesis states that differences in script elaborateness, distinctiveness, contingency, and hypotheticality would be greater in less typical than in typical sales situations across levels of effectiveness. Results in the homeowner's insurance study provide tentative support for *H₂*. Findings are statistically significant for all three elaborateness measures and for the distinctiveness dimension (*p*'s < .05). The frequency

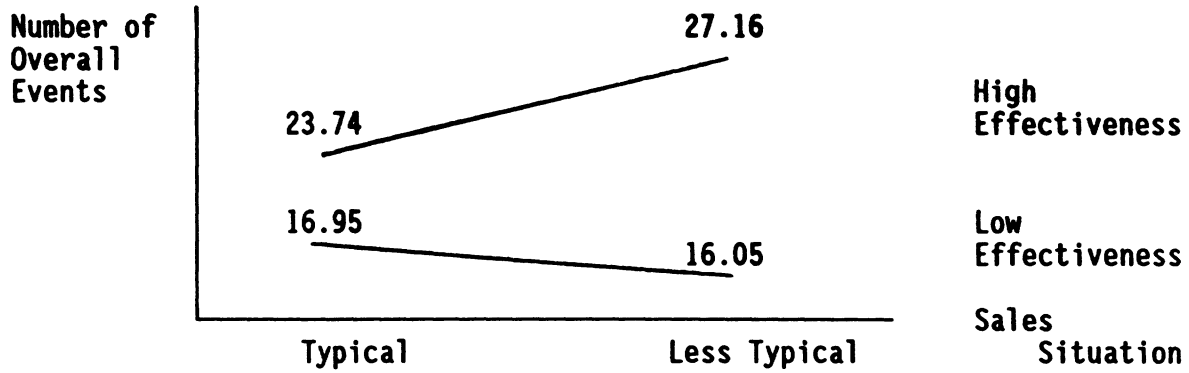
indicator measure for the hypotheticality dimension is likewise significant statistically. Figure 1, A and C depict the pattern of the interaction for three selected dependent measures. As hypothesized, all indicate that differences between effective and ineffective salespeople in script elaborateness, distinctiveness, and to a lesser extent, hypotheticality are greater in less typical than in typical sales situations. However, none of the predicted interactions are statistically significant in the life insurance study (*p*'s > .10).

Typicality apparently does not always moderate the magnitude of differences in script knowledge found between low and high effective agents. Further analysis of the life and homeowner's insurance settings, made possible by the internal replication across sales situations included in the study, suggests a tentative explanation. Consider first the differences between high and low effective agents for typical life and homeowner's insurance situations (Figure 2, A) and for less typical life and homeowner's insurance situations (Figure 2, B). The less typical sales situations in both insurance experiments produced approximately equal differences between high and low sales performers. Figure 2, A, however, shows that differences between high and low effective agents in the typical life insurance situation are much greater than those found in the typical homeowner's insurance situation. In fact, the differences between high and low effective agents in the typical life insurance situation are very similar to those found in the less typical life insurance setting. Data for dependent measures other than those plotted corroborate these findings, with the exception of the contingency measure and one of the measures of hypotheticality.

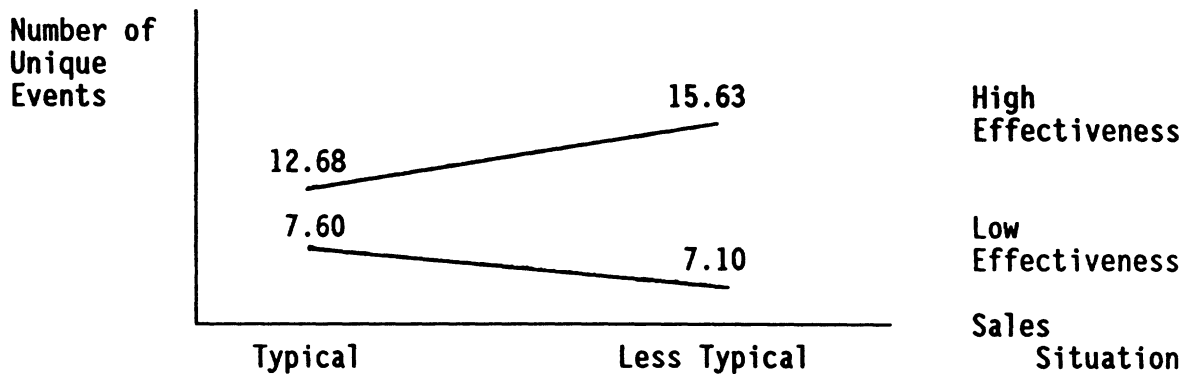
It seems plausible, then, that a second variable, accounting for the variation between life and homeowner's

Figure 1
INTERACTION EFFECTS FOR HOMEOWNER'S INSURANCE EXPERIMENT

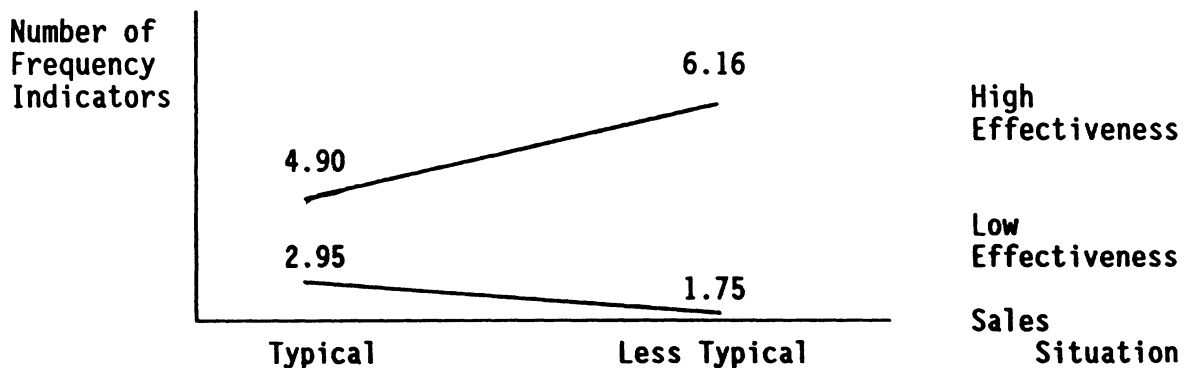
A. Elaborateness^a



B. Distinctiveness



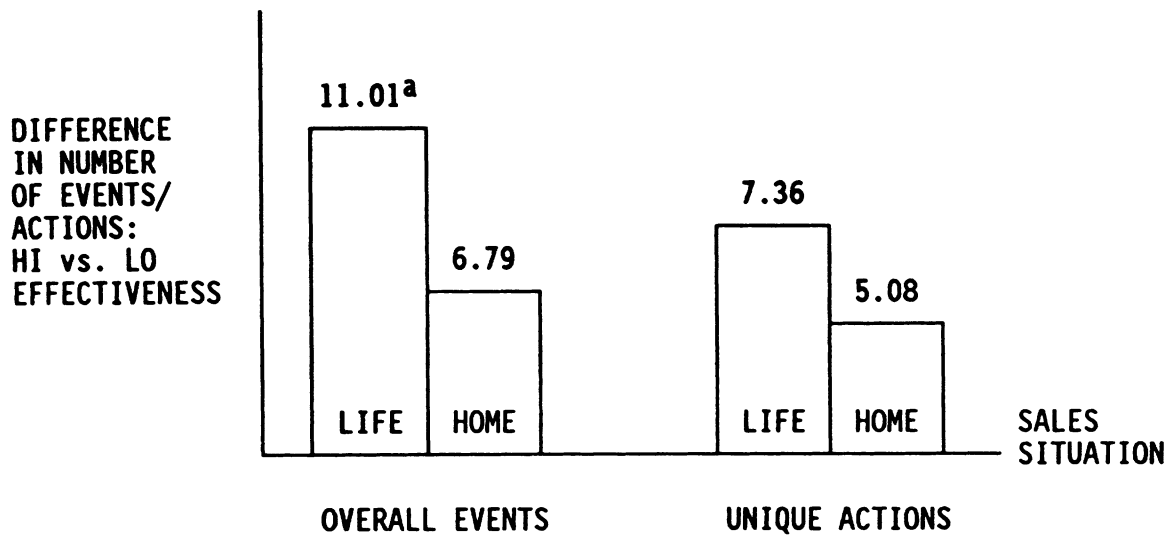
C. Hypotheticality^a



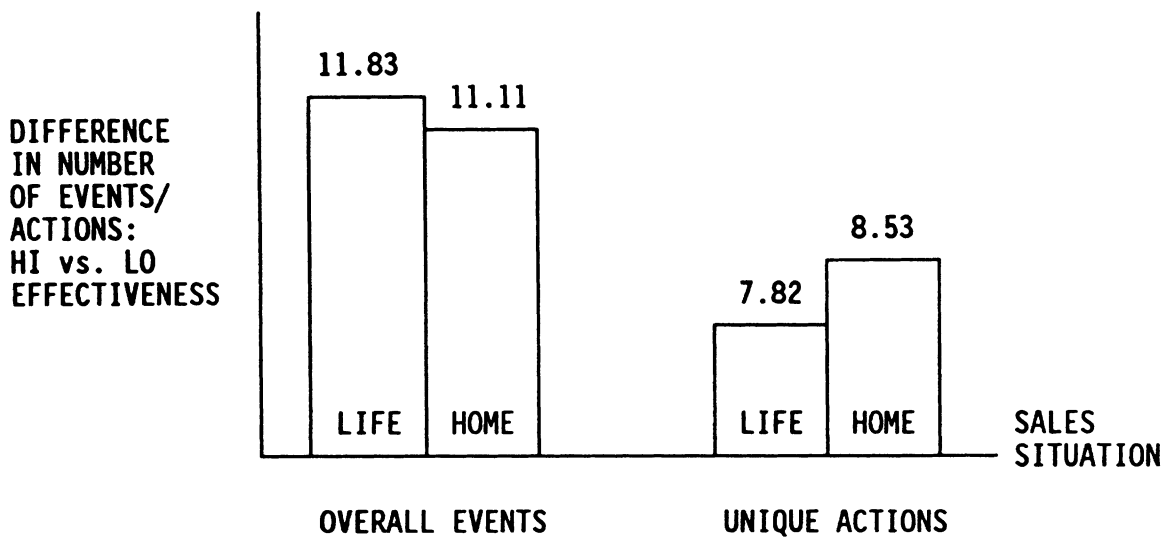
^aOnly one indicant was selected for illustration. The other statistically significant but undepicted indicants are patterned similarly.

Figure 2
DIFFERENCES ACROSS EXPERIMENTS BETWEEN HIGH AND LOW EFFECTIVE AGENTS

A. Typical Situation



B. Less Typical Situation



^aThis difference score for number of overall events was calculated as follows (see Table 1): overall events, life: 27.76 (high) - 16.75 (low) = 11.01. Other difference scores were calculated by the same procedure.

insurance settings, actually mediates the effects of typicality on the knowledge differences found between high and low sales performers. In view of the potential differences between sales settings, complexity of the sales situation appears to offer the best explanation of the findings. Sales of life insurance probably are sufficiently

complex that, regardless of the typicality of the sales situation, differences between high and low effective salespeople remain large. In a less complex situation, represented by homeowner's insurance sales, differences between high and low performers become evident only in less typical situations. Support for this complexity

interpretation can be found in supplementary data collected in our study indicating that more customer interviews are required in selling life than in selling property insurance (3.9 and 3.1 interviews, respectively) and that the average annual number of applications filed by agents is smaller for life than for property insurance (23.3 and 71.0 applications, respectively). This evidence clearly indicates that life insurance sales require a longer time to complete and suggests their more involved and complex nature.

Further, it is unlikely that the results are due to the typical life insurance sales situation manipulation being perceived as less typical than the corresponding homeowner's version. No statistically significant differences in agents' perceptions of the situation inductions emerged between the typical sales situation conditions used in the life and homeowner's insurance studies ($t = .09$, d.f. = 78, $p > .10$) or between the less typical versions ($t = .14$, d.f. = 78, $p > .10$).

Supplemental Analysis

A supplemental analysis was conducted to examine in more detail the differences in knowledge found between low and high effective salespeople. In particular, an analysis was performed to look at differences in script knowledge between high and low effective agents across different phases of the selling process. Such an analysis was pursued as a way to enhance the managerial significance of the research in addition to extending the analysis of sales expertise beyond the later stages of the selling process studied by Sujan, Sujan, and Bettman (1988). Their research, though establishing an important relationship between knowledge and sales performance, focused primarily on the closing phase of the personal selling process. It seemed desirable to analyze the role of knowledge as a determinant of sales effectiveness in the initial as well as the later stages of the selling process.

For this analysis, five phases of the selling process were identified: (1) preparation, (2) establishing rapport and credibility, (3) fact-finding, (4) coverage recommendations, and (5) closing. These phases were based on previous script research (e.g., Leigh and Rethans 1984b; Rittenburg and Mittelstaedt 1985) as well as on the extant sales management literature (Churchill, Ford, and Walker 1985). Using these response categories, we developed a classification scheme that grouped action/event response categories to a particular phase in the sales process. The rationale for the classification essentially was to assign activities preceding the actual sales call (e.g., contacting the insured) and those made in anticipation of another (e.g., additional references and appointments) to the preparation phase; activities pertaining to small talk unrelated to the actual sales presentation and those informing the client about the salesperson and/or his company to establishing rapport and credibility; those related to determining the client's needs, background, and present coverage to fact-finding; those pertaining to making, explaining, and discussing alternative plans to coverage recommendations; and those related to

asking for the sale, client commitment, and objection-handling to closing.

Life insurance. The test of the multivariate F -ratio for sales phase is statistically significant. Univariate tests reveal that fact-finding and coverage recommendations are both significant ($p < .01$), whereas closing is marginally so ($p = .10$). Together, these results support previous conjectures that success in selling life insurance depends critically on what Johnston-O'Connor, O'Connor, and Zultowski (1984) term "programming" skills—the ability to uncover client needs systematically from analysis of the client's background and present coverages and then to satisfy them with a variety of recommendations. Low effective agents lacking this ability would perform poorly across typical and less typical situations.

Homeowner's insurance. Overall results for sales phase are significant for the main effect of effectiveness ($p < .05$) and the situation by effectiveness interaction ($p = .05$). The univariate F 's show that high effective agents reported more preparatory activities, engaged in more fact-finding, and made more coverage recommendations than less effective agents (p 's $< .05$). Partial support for closing ($p < .05$) also is found, but no statistically significant difference for actions establishing rapport and credibility ($p < .10$). The only statistically significant overall F -test for sales phase for the interaction effect is for differences in fact-finding activities ($p < .05$).

DISCUSSION

Theoretical Implications

Our findings strongly support a relationship between sales performance and the knowledge bases of salespeople. In our study, effective salespeople exhibit more sophisticated sales scripts than do ineffective salespeople. In particular, the sales scripts of effective salespeople are more elaborate, distinctive, contingent, and hypothetical than those of their less effective counterparts. Evidence in this vein not only establishes an association between script knowledge and sales effectiveness, but also underscores the importance of examining knowledge bases as a major determinant of sales performance.

The mechanism whereby knowledge affects sales performance also is suggested by our findings. Many of the differences between sales scripts of effective and ineffective salespeople appear to be related to adaptability. Effective salespeople have more distinctive scripts for different selling situations and consider more contingencies that might happen within each sales situation. These dimensions of sales scripts appear to be related directly to a salesperson's ability to adapt to different sales situations, thereby enhancing effectiveness. It seems very possible, then, as Weitz, Sujan, and Sujan (1986) have suggested, that knowledge affects sales performance by increasing the ability to adapt to different sales situations. A full accounting of this process might be pursued in future research by measuring the adaptability construct in addition to knowledge and sales performance. In doing so, it may be informative to incorporate addi-

tional levels of sales performance beyond the two examined here (low and high effectiveness) to investigate the possibility of nonlinear relationships between knowledge and adaptiveness. An intriguing possibility, mentioned by Leigh (1987), is that well-developed sales scripts may actually inhibit adaptability to changing situations more than moderately developed but less rigid scripts.

Our findings are an initial step in understanding situational factors that may moderate the relationship between knowledge and sales performance. In our study, the magnitude of differences between effective and less effective salespeople appears to be related to both the typicality and complexity of the sales situation. In a less complex setting (e.g., homeowner's insurance), the differences in scripts between high and low effective agents are greater for less typical than for typical sales situations. In a more complex setting (e.g., life insurance), however, the differences in scripts between high and low effective salespeople appear to be more uniform across typical and less typical sales situations. Though these findings are tentative, based on a between-studies comparison of the two insurance lines, they suggest that situational factors moderate the relationship between knowledge and sales performance and hence warrant further examination.

In examining the factors that either moderate or explain the relationship between knowledge and sales performance, it may be fruitful to compare the extent to which various aspects of script knowledge and category knowledge contribute to sales effectiveness. As a starting point, one might compare the findings on script knowledge obtained here with the findings on category knowledge reported by Sujan, Sujan, and Bettman (1988). Both studies, for example, show a positive relationship between elaborateness and sales effectiveness, but only our study provides support for a positive link between distinctiveness and sales effectiveness. One plausible explanation for this difference in results is purely methodological. In the Sujan, Sujan, and Bettman study, distinctiveness was computed by contrasting the number of unique features with the number of common features of a category. In our study, distinctiveness was examined by considering only the number of unique features (events and actions) mentioned. A more interesting possibility, however, is that the divergent findings suggest distinctiveness has different roles in the contexts of script and category knowledge. Perhaps expert salespeople have more intercategory overlap in sales situation categories and general sales strategies, but demonstrate greater distinctiveness than novices in the specifics of implementation. Examination of both types of knowledge structures, pinpointing common and unique effects, would provide a fuller picture of the role of knowledge in sales performance.

Methodological Implications

In pursuing the types of research we have suggested, particular care must be taken in collecting and analyzing sales scripts. In collecting sales scripts, researchers must

be cognizant of the time and fatigue factor in eliciting scripts from salespeople. The data we report were collected from salespeople in one session lasting approximately 45 minutes. Our experience is that interviews of significantly longer duration produce poor and incomplete responses. Effective salespeople may be particularly prone to hurry through the elicitation procedure because they tend to have the longest and most detailed scripts. Reducing problems in this area may require a variety of techniques, such as limiting the number of sales situations given to each respondent and adopting the tape recording procedure used in our study rather than the traditional paper-and-pencil methods for eliciting scripts.

In analyzing scripts, particular care must be given to procedures for coding elements of sales scripts and assessing the adequacy of measures derived from sales scripts. Smith and Houston (1985), among others, have voiced concern about the use of verbal elicitations to quantify scripts because of often inadequate specifications of coding procedures and insufficient psychometric assessments usually limited to analyses of interjudge reliability. Several procedures used in our study may prove helpful in addressing these concerns. To standardize coding procedures, a detailed coding scheme designed to cover almost any situation was devised and communicated to the two judges. In addition, judges were required to practice on a small sample of sales scripts before commencing actual coding. To improve the psychometric adequacy of measures derived from the sales scripts, multiple indicators of most measures (elaborateness, contingency, and hypotheticality) were developed and incorporated into the coding scheme. Additionally, whereas previous research has primarily used a single measure of interjudge agreement to assess the adequacy of coding measures, we employed *t*-tests to check for individual differences among judges in using the coding scheme that could result in biases such as leniency. Despite these precautions, other methods and measures for studying sales scripts should be pursued to provide additional evidence of the relationships uncovered here.

Managerial Implications

Considering the connection between sales scripts and sales performance, we believe one of the most direct benefits of this line of research for sales management is its potential application to sales training. With its focus on sales behaviors, rather than attitudes or personality characteristics, the script approach seems particularly well suited for developing the content and emphasis of sales training programs. Content can be identified by comparing sales scripts of effective and ineffective sales personnel *and* by comparing the magnitude of these differences in sales situations encountered by the salesforce. Norms for effectively handling different situations can thereby be developed and transmitted through training exercises.

Areas to be emphasized in sales training programs also can be developed by examining sales scripts. An examination of sales scripts of effective and ineffective

salespeople may be especially helpful in pinpointing which phase(s) of the selling process should be emphasized more than others in training exercises. For example, such an analysis of sales scripts might uncover a need to develop better techniques for fact-finding rather than making product recommendations.

The usefulness of analyzing sales scripts in this way is illustrated by our analysis of sales phases. This analysis indicates that high effective agents engage in a more extensive determination of client needs and attempt to satisfy them with a greater variety of alternative coverage recommendations than do less effective ones. The popular emphasis on closing is only partially supported in both analyses whereas no differences are evident for establishing rapport and credibility. These findings may indicate that high effective agents are truly more customer-oriented than their less effective counterparts and let their actions speak for themselves. The inconsistent results for sales preparation may indicate that both engage equally in such activities for the more involved life insurance sale but, contrary to intuition, high effective agents do more research on clients than less effective ones. Finally, fact-finding seems to be especially required in less typical sales situations, given the homeowner's insurance finding.

APPENDIX A

INSTRUCTIONS FOR CODERS AND THE LEXICON

Overview

1. You will be provided a set of transcribed verbal protocols of insurance agents. There will be two protocols for each agent, one for each of two selling situations for either the sale of life or homeowner's insurance.
2. For each protocol, we need to code the *actions and events* stated by the insurance agents as they occur in the appropriate sequential order.
3. These actions and events are the things that occur or are encountered or are performed by the agent and the client over the course of an insurance sale.
4. You will be provided a listing of action and event response categories to provide you an idea of what event/actions to look for in the protocols and what labels to use in coding them.
5. It is suggested that you read through each entire protocol before commencing coding. This will give you an overview of the set of actions and events reported by an agent in a particular situation.

Items to Be Coded

For each protocol, the following items are to be coded in the coding forms provided. Indicate the agent's number, your name, and the situation on each page of the coding sheet before commencing coding.

1. Identify actions and events by underlining and matching them with their response categories in the list provided.
2. Place each action/event in the sequence they are reportedly performed by ordering their respective response codes on the coding form. Demarcate action/events by commas and indicate the level of detail provided by repeating the response codes involved.
3. Total the number of actions into a gross (overall) score (taking into account the level of detail, i.e., repetitions)

and a net score (excluding the repetition due to detail but considering actions repeated at different places in the transcript). Record these on the coding sheet.

4. Indicate the total number of net actions/events originating from or performed by the agent or the client on the coding sheet.
5. For the actions/events you have recorded, *tally* each of them on the following dimensions (examples are provided hereafter):
 - a. *Form*: Total number of *discrete incidents* and *general statements*:
 - e.g., Discrete Incidents: "One time I remember a case where . . .";
 - General Statement: "Prospects like these generally . . ."
 - b. Number of *Incidental Events*:

These are actions/events that are only tangentially related to the sale of insurance. They include those considered under the response categories 11, 12, 13, 14, 15, and 16; and 62, 63, 64. Those falling in categories 19, 20, and 21 and in 56 and 57 should also be considered if there is more than one mention of these in the transcript.
 - c. Number of *Central Characters*:

—Persons with roles (e.g., prospect, suspect, client, insured, agent, referral, etc.)
 - d. Number of *Frequency Indicators* Used:

—e.g., "usually," "frequently," "some," "most," etc.
6. Number of *Conditional Clauses/Phrases/Sentences* Used:

—These are statements prefaced by such terms as "unless," "in the event of," "if . . . then," "depending on," etc.
7. This part of the coding process requires a *comparative analysis* of the two protocols provided by each agent. For each protocol, count:
 - Number of *Unique Actions/Events* reported as defined by those mentioned in one protocol but not the other. You should first delete from consideration those events/actions previously marked as being incidental. Next, you should delete events mentioned in both transcripts. Finally, tally those that are distinct in each. Note that it is possible for two events coded within the same response category to be considered distinct from each other due to differences in their particulars. For example, recommendation of a particular policy, coded under response category number 38, may be counted as unique when two different policies are being recommended under the two situations.

APPENDIX B

RELIABILITY ASSESSMENT OF DEPENDENT MEASURES

Construct	Measure(s)	Interrater reliability
Elaborateness	Overall events	.89
	Net events	.88
	Central events	.88
Distinctiveness	Unique actions	.82
Contingency	Conditional clauses	.94
Hypotheticality	Discrete incidents	.83
	General statements	.87
	Roles	.81
	Frequency indicators	.73

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