Individual differences in script reports: Implications for language assessment

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WHEN INDIVIDUALS are asked to describe routine events, their descriptions often exhibit characteristics of script reports (Schank & Abelson, 1977). A script has been defined as a set of expectations individuals have about routine events that is organized in a temporal-causal sequence of acts or single actions (Fivush, 1984; Nelson, Fivush, Hudson, & Lucariello, 1983). Individuals use the organization of scripts to describe routine events and to aid in their memory of specific instances of events (Bower, Black, & Turner, 1979). The organization of scripts has also been found to enhance children's use and comprehension of language (Constable, 1986; Furman & Walden, 1989; Lucariello, Kyratzis, & Engel, 1986). As a result of their facilitative organization, scripts have been used in language inter-

vention techniques (Constable, 1986) and in formal and informal assessments of language that involve describing routine events, for example, Detroit Test of Learning Aptitude-2, Communicative Activities in Daily Living (Hammill 1985); making inferences about events, for example, Test of Language Competence (Wiig & Secord, 1985); and remembering script-related stories, for example, Clinical Evaluation of Language Fundamentals-Revised (CELF-R) (Semel, Wiig, & Secord, 1987).

Researchers who have examined children's script reports have suggested that scripts for routine events are very common across individuals, as scripts are based on common experiences (Nelson, 1981, 1986). However, the following script report from a 5-year-old girl who was asked to describe what happens when a person goes on an airplane trip illustrates that some idiosyncracies exist in script reports:

> You get money
> eat breakfast
> take a nap
> get in the plane
> sit down
> get lunch
> sleep all night
> wake up when it gets light out again
> get off the plane
> find a hotel

Although most of this child's description appears to be consistent with what we think of as a script for airplane travel, her comments about sleeping and waking are somewhat less traditional. We might conjecture that the child was confusing her description of what happens on an airplane trip with what ordinarily happens when she goes to sleep, which would account for the inclusion of the acts "sleep

all night" and "wake up [in the morning] when it gets light out again." However, after talking with her about her experiences with airplane travel, another explanation comes to mind. She reported that she had flown on an airplane many times and that all of her experiences flying involved trips from Utah to Argentina, South America, to visit her grandmother. Given this child's experience with international travel, it is reasonable that her script for airplane travel includes the acts "sleep all night" on the plane and "wake up when it gets light out again."

This child's script comes from our own work and illustrates how an individual's description of an event is related to his or her specific, yet typical, experiences. Other children in our study who did not have experience with international airplane travel did not include the act of "sleep all night" in their scripts. A common belief among script researchers is that idiosyncratic acts like "sleep all night" do not exist in well-formed scripts. In fact, such nontraditional acts have been referred to as distortions and deficiencies in script reports (Nelson, 1981). However, idiosyncracies occur frequently in the script reports of both children and adults and may be the norm, rather than the exception. We will argue that nontraditional acts are present in well-formed scripts to the extent that they are consistent with an individual's typical experience with the event.

The primary purpose of the article is to illustrate how individual differences in scripts may be found in verbal reports of everyday activities as well as memory for new events, such as those commonly used in language assessment. We will present the results of two studies that show that

individual differences are extremely prevalent with respect to the number and content of acts included in script reports and that they impact memory for new script-related events. Implications of individual differences in script reports for language assessment will be discussed as script generation and script memory are commonly used in language assessment.

THE SCRIPT MODEL

The script model has been used to describe the way in which individuals come to understand and represent information about many routine events (Fivush, Hudson, & Nelson, 1984; Nelson, 1981). Two major features of scripts are wholeness and temporal-causal order. These two features may underlie the facilitative effect that scripts have in enhancing children's communicative abilities by providing an organized structure through which to communicate.

Wholeness

A script, like other forms of schematic representation, has been described as an "organized body of knowledge such that a part implies the whole and the whole is more than the sum of the parts" (Nelson & Gruendel, 1981, p. 138). In support of the idea that a part implies the whole, Schank and Abelson (1977) found that individuals often falsely recalled and recognized parts of a script that were not presented. For example, an individual presented with a list of actions for going on an airplane trip that includes packing and checking in at the gate is likely to report that other events involved in the airplane script were also presented, for example, getting a boarding pass, waiting for the plane, etc. In support of the idea that the whole is greater than the sum of its parts, researchers have found that the individuals apply what they know about one familiar event (airplane travel) to a novel, yet similar event (travel by train) (Schank & Abelson, 1977). The idea that the whole is greater than the sum of its parts is what Nelson and Gruendel (1981) described as the script's predictive power: Individuals use their experience with various events to understand events that they may never have directly experienced.

Temporal-causal structure

The temporal-causal structure of scripts is a feature that distinguishes scripts from other forms of schematic representation (e.g., scenes) (Nelson & Gruendel, 1986). Temporal-causal structure means that the order in which certain events occur in a script is constrained by other events in the script that precede and follow events either temporally (e.g., getting airplane tickets precedes getting on the airplane) or causally (e.g., picking up one's luggage follows only if you have checked in your baggage at the airport) (Nelson, 1984; Nelson et al., 1983). Research demonstrates that individuals of all ages, even very young children, have scripts that have temporal-causal organization. For

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example, when individuals are presented with scripted stories containing acts that do not conform to the typical temporal-causal structure of an event, children and adults reorder or exclude acts such that their recall corresponds with the typical temporal-causal structure of the events (Bower et al., 1979; Nelson et al., 1983).

The script characteristics that have been discussed, wholeness and temporal-causal structure, play an important role in how individuals understand and remember various activities. Although these characteristics seem to be present even in the script reports of young children, differences in script reports have been found across the life span.

SCRIPT DEVELOPMENT

Script generation

In contrast to research that characterizes children's memory as unorganized and fragmented, studies of children's scripts have found that even very young children remember routine events in a highly organized fashion (Nelson et al., 1983). The pervasive use of scripts even in early child development is illustrated by actions that Piaget (1967) characterized as examples of deferred imitation. Deferred imitations tend to be organized much like the events themselves, in a specified temporal-causal order. For example, young children who pretend to drive a car or shave their faces often proceed in a highly organized and accurate fashion consistent with the organization of scripts (Nelson, 1978). Research on script development has indicated that the scripts of young children are very similar to those of adults in

terms of their general structure and content, particularly when examining acts related to the primary goals of the script (e.g., flying for the event of airplane travel). Although there are data to suggest that even very young children have relatively well-organized scripts, there are some differences between the scripts of younger children and older children.

The scripts of younger children (ages 4 to 6 years) are characterized as being less detailed (Fivush & Slackman, 1986; Nelson, 1986; Slackman, Hudson, & Fivush, 1986) and shorter than those of older children and adults (McCartney & Nelson, 1981; Nelson & Gruendel, 1981). For example, Slackman et al. (1986) described three types of variable acts that elaborate and differentiate scripts that are rarely included in the scripts of young children but are present in the scripts of older children: (a) optional acts (e.g., "Sometimes you sleep on a plane"), (b) alternative acts (e.g., "You either look out the window or play cards"), and (c) conditional acts (e.g., "If the stewardess asks, you can go visit the pilot").

Even though script reports differ in their detail and elaboration as children develop, script reports are quite common across development and do not appear to contain idiosyncratic information (Fivush & Slackman, 1986; Nelson & Gruendel, 1981). For example, Nelson (1978) examined several script reports for three different scripted activities and found that only 4% of the acts were idiosyncratic (i.e., mentioned by only one child). Nelson and Gruendel (1986) also found extremely high consistency in the acts that were mentioned by 4-, 6-, and 8-year-old children. Although act consistency increased with

age, even 4-year-olds mentioned the same acts on average 55% of the time.

Few studies have examined differences in script knowledge between late childhood and adulthood. However, some researchers have examined scripts during the adult life course. Light and Anderson (1983) found no age-related differences between younger and older adults in the general content and structure of scripts. They also found no age-related differences in the detail used to describe everyday activities or in the interindividual variability of scripts. Thus, research with adults indicates that scripts are also highly common across adulthood (Light & Anderson, 1983).

In summary, the literature on script development during childhood and adulthood points out many commonalities in the general structure and content of scripts throughout development. Although development in scripts occurs from early childhood to later childhood, research suggests that once developed, scripts are essentially the same for all individuals (Light & Anderson, 1983; Nelson, 1986). As scripts are considered to be well-developed by late childhood, idiosyncracies in script reports may be viewed as more deviant for older children than younger children and particularly abnormal for adults. However, the research that indicates that scripts are common across individuals uses methodological techniques that may account for much of the reported similarity in script reports.

Methodological issues in script generation

The assertion of commonality in script reports is so predominant that some defini-

tions even include the premise that scripts must be common because they are based on common experiences (Nelson, 1981). By positing that scripts are common across individuals, methodologies have been used that result in little variability in script reports. A brief consideration of methodological issues in script research will be presented to illustrate how the techniques used to elicit scripts may impact the degree to which idiosyncratic information is included in script reports. These methodological issues may be relevant for clinicians as the methods they use to elicit verbal reports may result in varying degrees of idiosyncracies in individuals' descriptions of events.

The methodological techniques used in script research that may have resulted in little variability in script reports involve the way in which scripts have been elicited from individuals and the selective use of certain types of script reports. These methodological techniques include selectively probing participants to elicit only common acts, explicitly instructing participants to report only common acts, and excluding acts or entire reports that are idiosyncratic. In a study of intersubject commonality in scripts, Nelson (1978) used extensive probing to elicit specific acts present in events, which she acknowledged may have ensured that many acts would be produced by most of the participants. Light and Anderson (1983) posed instructions to their participants emphasizing that "the task was to produce a list of common actions or events . . . that should not include idiosyncratic actions based on their own behavior but should list actions that would be typically performed by most people" (p. 437). In addition, each

subject was instructed to produce approximately 20 actions, which undoubtedly constrained the number of acts that individuals reported, artificially shortening some reports and lengthening others. Furthermore, script reports were discarded that differed markedly from other reports in perspective. For instance, reports of a doctor's appointment that were given from the perspective of the doctor as opposed to the patient were not used in the study. As these methodological techniques may have inhibited the reporting of idiosyncratic information, it may be premature to conclude that there are no individual differences in script reports within any developmental level and few age differences in script organization between developmental levels. Our research (Ross & Berg, 1989) suggests that different methodological techniques for eliciting script reports may result in less commonality among the reports than has previously been found.

INDIVIDUAL DIFFERENCES IN SCRIPT REPORTS

The goal of our work with both children and adults has been to examine script reports using methods that do not discourage the reporting of idiosyncratic information. In two different studies, we asked individuals to describe commonly occurring events in sufficient detail so that another person would know exactly what the individual did during the event. As individuals related their scripts, they were probed to complete their descriptions with questions like "Does anything else happen?" until they responded "No." Individual differences in scripts were evaluated using two different measures: (a) an act consistency score and (b) the proportion of unique acts in a script. The act consistency score, previously used by Nelson (1986), is the percentage of individuals that mentioned a particular act. The proportion of unique acts, previously used by Light and Anderson (1983), is the proportion of acts mentioned by an individual that are idiosyncratic, that is, only mentioned by that one individual.

Preliminary work with children revealed that individual differences are prevalent in children's script reports. Ten 4-year-olds were asked to describe their scripts for airplane travel. The children were asked to describe what happens between the time they decide to go on an airplane trip and the time they leave the airport at their destination to a Mickey Mouse puppet who needed to follow their instructions. The children produced an average of 9.4 acts, with the number of acts ranging from 4 to 23. Only 6% of the acts were mentioned by more than half of the children in our study. Sixty-one percent of the acts were mentioned by only one child, a percentage much larger than the 4% found in the Nelson (1978) study described above. The proportion of unique acts mentioned by each individual ranged from 17% to 43%, with an average of 31%. These results suggest that individual differences are very prevalent in the script reports of young children.

A study was then conducted to examine the prevalence of individual differences in the script reports of adults (Ross, 1989; Ross & Berg, 1989). Thirty young adults (mean age = 22.9 years) and 30 older adults (mean age = 66.7 years) were asked to describe their scripts for airplane travel and doctor's appointments without limita-

tions regarding the kinds or number of acts to produce. Each participant was asked to describe the events in two parts, to ensure that all participants had a similar understanding of the task. For the airplane script, participants were asked to describe what happens between the time they (a) decide to take an airplane trip and the time they are called to board the plane, and (b) between the time they are called to enter the plane and the time they leave the airport at their destination. For the doctor script, participants were asked to describe what happens between the time they (a) decide to see a doctor and the time they are called into the examination room, and (b) between the time they are called into the examination room and the time they leave the doctor's office. This division of events into two parts was the same for each individual and was based on pilot work that indicated that approximately half of the acts generated for these two events were included in each part.

Great variability in the number and kinds of acts that participants produced was found. The average number of acts generated for the airplane script was 28.1 and for the doctor script was 24.8. More importantly, the range of acts generated for both scripts indicated enormous variability in the number and kinds of acts produced (range = 12 to 62 for the airplane script; range = 12 to 78 for the doctor script). Several hundred different acts were generated to describe each half of the airplane and doctor script reports.

Act consistency scores were used to examine the degree of commonality in scripts. Mean act consistency scores were low for both the airplane script (an average of 1.7 and 2.0 people mentioned each act for the first half and second half of the script, respectively) and the doctor script (an average of 1.8 and 1.2 people mentioned each act for the first half and second half of the script, respectively). Although great variability existed in the kinds of acts reported, some acts (e.g., packing, getting luggage) were mentioned by a majority of the participants.

The proportion of unique acts was used to examine the degree to which individuals included idiosyncratic acts in their script reports. Idiosyncratic information in the script reports ranged from 0% to 88% of the entire report, with an average of 30% for the airplane scripts and an average of 40% for the doctor scripts. Means, standard deviations, and ranges of proportion of unique acts by age and script type are presented in Table 1. These proportions indicate that a large percentage of the acts an individual generated in a script were mentioned by only one individual. There were significant age differences in the proportion of unique acts; older individuals had a higher proportion of unique acts than younger individuals. In addition, a higher proportion of unique acts was found for doctor scripts than for airplane scripts.

Table 1. Mean proportion of unique acts by age and story

	N	Mean	SD	Range
Airplane				
Young	30	.27	.14	.04–.56
Old	30	.33	.16	0–.62
Doctor				
Young	30	.35	.17	.10–.69
Old	30	.46	.20	.06–.88

Previous work has been based on the assumption that script reports do not contain idiosyncratic information; therefore, it may be suggested that the reports received from participants were not actually scripts. However, many of the characteristics used to describe and define scripts were found. For example, the reports describing airplane travel and doctor's appointments were consistently given in an appropriate temporal-causal sequence, preserving the temporal-causal order of the actual events. In addition, the majority of acts mentioned were given in the general, timeless form characteristic of script reports (Fivush et al., 1984) (e.g., "You board the plane" vs. "I boarded the plane"). The participants also indicated that their reports were based on their own experience with the scripted events, which is a characteristic of scripts first described by Schank and Abelson (1977). Therefore, we interpreted these reports to be script reports.

In summary, it appears that without methodological constraints, individual differences exist in the script reports of children and adults. Regardless of whether one looks at variability between acts or variability between individuals, our studies suggest that individuals do differ in the number and kind of acts included in script reports. The prevalence of individual differences in scripts appears to depend on the age of the individual generating the script and on the event being described. As script reports are often used in language assessments, it is important to acknowledge the extent of individual differences in typical script reports and when individual differences may be especially preva-

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lent (e.g., for a particular scripted event or for a particular age group).

Given that individual differences do occur in the script reports of both children and adults, it is necessary to begin to understand the origin of these differences. Examining the loci of individual differences in script reports will be particularly important as clinicians attempt to determine whether idiosyncracies in verbal reports used to assess language are due to variations in experience, mental maturity, or language ability. The original work of Schank and Abelson (1977) and the results of our work suggest that individual differences in script reports may result from variations in experience.

THE ROLE OF EXPERIENCE IN PRODUCING INDIVIDUAL DIFFERENCES IN SCRIPTS

Schank and Abelson (1977) suggested that individuals differ in their perception and interpretation of events and that these perceptions may significantly affect their script representation for various events. One element of perspective that Schank and Abelson offer to account for individual differences in script development involves the individual's role in the event.

For example, a pilot and a passenger, due to their different roles in airplane travel, are likely to have very different perspectives of the event that may contribute to differences in their script for this event. A pilot might mention acts such as "Check flight instruments" and "Clear for take-off," whereas a passenger would not. Other aspects of personal perspective mentioned by Schank and Abelson include differences in goals (flying to save time vs. to acquire frequent flyer mileage), habits (doing paperwork on the plane vs. playing games), motivation (flying out of necessity vs. flying for pleasure), affectivity (being anxious about flying vs. being very comfortable), and involvement (directly experiencing airplane travel vs. reading about it).

In addition, Schank and Abelson posit that differences in the amount and kind of experience with an event affect the development of personal scripts. Frequent exposure to obstacles or exceptions with an event may make idiosyncratic events become part of an individual's script for that event. For example, an individual who consistently misses flight connections may include acts such as "Arrange for a new flight" or "Arrange for accommodations near the airport," whereas someone who had never missed flight connections would not be likely to include such acts in his or her airplane script.

Nelson and Gruendel (1986) also proposed that some features of experience (frequency of occurrence, centrality to the child, and affect) have an impact on script development. However, they posited that these factors are the same in degree for children of the same age, thus equating age and experience. For instance, they asserted that the event of going to a birthday party is low in frequency, high in centrality, and high in affectivity for all young children. Although this work addresses how scripts may vary across different events (e.g., birthday party vs. going to a restaurant), it does not address how scripts for a single event may vary across individuals. According to the original work of Schank and Abelson (1977), however, all of these factors are highly dependent on both the specific experiences and personal characteristics of the individual involved in the event. Rather than using these factors to assess the development of scripts for different events in the same children, it may be more useful to use these factors to support the possibility that more personalized scripts develop with varied experience across children.

The confounding of age and experience has created reluctance among researchers to examine differences in experience and knowledge at one particular age. By using age as the sole measure of experience, Nelson and Gruendel (1986) and others have assumed that as children get older, they acquire more knowledge about the world as well as about routine events. Although this assumption may often be true, Chi (1978) and others (Chiesi, Spilich, & Voss, 1979) have found that younger individuals may possess greater knowledge in specific domains than older individuals. Chi's work and others' (see Chi & Ceci, 1987, for a review) support the notion that knowledge or expertise, rather than age, is often the critical factor affecting memory. By equating age and experience, researchers seem to make an additional assumption that amount of experience is the critical factor affecting

script development as opposed to other elements of experience (e.g., specific content). Research has shown (Chi & Ceci, 1987) that experience contains many facets (specific content, structure and organization, amount) and that each of these facets may play a role in script development. Our own research (Ross, 1989; Ross & Berg, 1989) suggests that specific experience is more critical in producing individual differences in scripts than the global amount of experience a person has with an event.

In our study of individual differences in adults' scripts, we examined many features of experience with airplane travel and doctor's appointments. We assessed individuals' experience with these events via a questionnaire that included questions regarding the number of times an individual had participated in the events, the types of different experience they had with the events (types of flights and types of doctors), when they last experienced the events, their attitudes toward the events, etc. Despite great ranges in the amount of experience participants had with airplane travel (range = 2 to 999 trips during lifetime) and doctor's appointments (range = 0 to 600 visits during lifetime), no strong relationships between amount of experience and our measures of individual differences in script reports were found. In other words, there were no strong and consistent relationships between several "amount of experience" factors (e.g., the number of times an individual had participated in an event) and the total number of acts or the proportion of unique acts individuals included in their scripts.

Rather, it appeared that the specific content of a person's experience with an event was the critical factor in producing individual differences in scripts. As stated earlier, there were large variations in the kinds of acts reported by subjects regarding the same scripted event that appeared to result from individuals' specific experience with these events. Evidence for this assertion comes from ratings that individuals provided of their own script report regarding how typical the acts were in their experience. Both younger and older adults rated the acts in their script as typical to very typical (5.3 on a 6-point scale). Even acts that were mentioned by only one participant and seemed quite atypical were rated by that participant as being typical in their own experience: "You find out if there's road construction"; "You see if there are any famous people on the plane"; "You make a trip to the airport the day before the flight to check the timing." Although the results of our study suggest that the specific content of an individual's experience with an event is critical in producing individual differences in script reports, other possibilities exist. As it is difficult for individuals to estimate accurately the amount of experience they have with frequently occurring events such as airplane travel and doctor's appointments, amount of experience should be considered in future research.

Regardless of whether it is the amount or specific content of experience that is critical in producing individual differences in script reports, it appears that some aspect of experience is key. Many studies on the constructive theory of memory (e.g., Bartlett, 1932) have hypothesized that individuals use their own experi-

ences as a basis for remembering new events and stories about such events. A second component of our study involved examining the impact of individual differences in script reports on recall and recognition of new script-related stories, as is required in some forms of language assessment.

THE IMPACT OF INDIVIDUAL DIFFERENCES ON MEMORY FOR NEW SCRIPT-RELATED STORIES

Previous research on the impact of knowledge and experience on script memory suggests that individuals of all ages remember events in terms of their expectations about an event rather than the actual event (Bower et al., 1979; McCartney & Nelson, 1981; Nelson et al., 1983). Individuals rely so strongly on their expectations or scripts for events that they are virtually unable to recall or describe individual instances of an event independently of their script. As our results suggest that individuals differ in the content of their scripts, individuals may not be using similar scripts for events to guide their memory for new events. Older adults exhibited larger individual differences in their script reports than younger adults, as may be the case for young children and older children, and the impact of this differential heterogeneity on memory was examined.

In our study of individual differences in adults (Ross, 1989; Ross & Berg, 1989), we hypothesized that an individual's personal script for an event is critical for memory of new stories, not some generic script that all individuals hold in common. To test our hypothesis, we tailored script-related stories to be either very similar to or different from each subject's own script for two different events. The high similarity stories contained 12 acts that were generated by the participant and 4 new acts. The low similarity stories contained 4 acts generated by the participant and 12 new acts. We anticipated that when an individual was presented with a script-related story that was substantially different from that individual's script, she or he would make more errors in attempting to remember the story than if that story were similar to her or his script.

We found that individuals recalled significantly more acts from the stories that were highly consistent with their own script than from the stories that were very different from their own script (recalled 46% of the acts for high consistency stories and 32% for low consistency stories). In addition, individuals made more errors in the recall of stories that were less similar to their own personal scripts. These errors made the stories conform more to their own personal script by the addition of acts from their personal script. Subjects correctly recognized acts that were presented in the highly similar stories significantly more often than in the stories that were less similar to their own scripts. In addition, more acts were falsely recognized for stories that were less similar to their own scripts than for stories that were more similar. Overall, the subjects' memory for stories that were very similar to their own scripts was more accurate than for stories that were very different from their own scripts.

In summary, these results suggest that individual differences in script reports have a strong influence on memory for new information. As scripts have also been

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shown to have an impact on the comprehension and use of language (e.g., Constable, 1986), individual differences in scripts may affect these language processes and thus performance on tests of linguistic abilities.

THE IMPACT OF INDIVIDUAL DIFFERENCES IN SCRIPT REPORTS ON LANGUAGE ASSESSMENT

Research on memory and language development suggests that the comprehension of language and quality and quantity of information conveyed through language are strongly influenced by the knowledge individuals possess (Klatzky, 1980; Schank & Abelson, 1977). Recently, the script model has been used to examine this relationship between knowledge and linguistic abilities. Several studies have shown that the temporal-causal organization of scripts enables children to use and comprehend language more effectively than in less organized contexts (Constable, 1986; Furman & Walden, 1989; Lucariello et al., 1986; Shatz, 1983). In script contexts, children use more semantically complex language (e.g., speak significantly more often of past and future events, speak of many different topics in one conversation) and are better able to

answer questions than in other contexts (Furman & Walden, 1989; Lucariello et al., 1986).

One explanation for the facilitative effect of scripts on language use and comprehension is that scripts may lighten the load of other cognitive demands enabling children to use more advanced linguistic skills (Shatz, in Lucariello et al. 1986). Knowledge of familiar situations may allow children to concentrate on language as opposed to being distracted by generating content on an unfamiliar topic. This facilitative effect of scripts is consistent with the research on memory, which shows that children's memory is more organized for script-related events, particularly for familiar events, than for other types of events (Nelson et al., 1983). Although this work illustrates how greater knowledge can aid memory and language, it may also be that knowledge impedes individuals' performance if their previous knowledge is inconsistent with the demands being placed on them (Chi & Ceci, 1987; Ross, 1989). That is, individuals who possess knowledge that is inconsistent with the information surrounding a linguistic task may perform more poorly than individuals who possess more consistent knowledge. This potential detrimental effect of knowledge becomes a concern in the interpretation of some language assessment tests.

The results from our studies indicate that experience and knowledge about events produce great variability in the scripts people generate for routine events. In addition, these individual differences in scripts have an impact on memory for new script-related stories. Our results have direct implications for two different kinds of language assessment techniques: (a) spon-

taneous or elicited language samples that involve describing routine activities, and (b) tests or informal tasks assessing language comprehension that involve memory for events.

Current assessment of language production involves informal and formal evaluations of descriptions of events. Informally, clinicians frequently engage a child in a conversation and elicit information about highly scripted events such as what happened during the child's school day, a holiday, or a family vacation. They may then examine the description for the number and kinds of acts mentioned, sequencing of acts, relations between the acts, specificity of the description, off-topic remarks, and other aspects of the narratives.

This kind of analysis is presently used in the Story Construction subtest of the Detroit Test of Learning Aptitude-2 (Hammill, 1985). In this subtest, children are asked to tell a story that describes a picture of an activity that may be highly scripted (e.g., a basketball game). One criterion used for scoring the children's stories involves assessing their ability to sequence acts within a story, a critical aspect of script reports. Depending on the amount and kind of experience children have with such events, their ability to sequence "appropriate" acts with regard to such events may be hampered.

Scripted events are also used to assess the linguistic capabilities of adults. For example, the test of Communicative Activities in Daily Living (CADL) requires individuals to use their knowledge of familiar events in order to role-play and answer questions about a visit to the doctor's office, grocery shopping, and driving a car (Holland, 1980). As our research indicates, individual differences in experience with

such routine events may influence descriptions that are generated for the events in several ways: length of description, kinds of acts mentioned, and ability to describe "appropriate" or "common" acts for the events. Imagine two individuals, one who has no previous experience with going to a doctor's appointment versus an individual with extensive and varied experience. We would expect these two individuals to differ in their descriptions of the event in terms of length, kind, and idiosyncracy of the acts mentioned. Because of the way in which many language assessment tools are evaluated, individuals with shorter, less detailed, and more idiosyncratic descriptions of these events may score lower on these tests. Such performances may not reflect poor language skills, but rather a different perspective of the event (or the task) and varied experiences with the event. Only through further examination of individuals' specific experience with events will clinicians understand the source of some poor language samples.

Individual differences in scripts may also influence language assessments that require making inferences about commonly occurring events. For instance, the Making Inferences Subtest of the Test of Language Competence (Wiig & Secord, 1985) requires children to make inferences about highly scripted events such as going to a restaurant, a birthday party, and a movie. If children make incorrect inferences, they are then asked to relate their experiences with the event in the extension testing section. If the child's experience is "reasonable" or "plausible," then the child is retested on the inferences subtest. The manner in which the retest is scored, however, does not relate the child's experience with the event to his or her

performance. Nevertheless, relating a child's specific experience with events such as going to a restaurant may be critical in accurately assessing whether performance on the inferences subtest is related to the child's experience or to a language deficit. That is, a child's idiosyncratic experience could lead to his or her making an inference that is inaccurate given the elements of the problem, but is accurate based on the child's own experience.

Finally, individual differences in scripts may influence language evaluations that involve assessments requiring individuals to remember a script-related story. One section of the CELF-R (Wiig et al., 1987) requires individuals to listen to stories and answer questions about their content. For example, some of the stories involve events such as preparing for a Halloween party, entering a high school science fair, and working out family differences. If individuals taking this test had experiences with these events that differed in specific content from the stories, their memory of the stories may be impeded in favor of their experiences. For instance, an individual who had entered numerous science fairs might have an extensive script for entering such fairs and might easily impose his or her personal script onto the story he or she was asked to remember. An individual with little or no experience with entering science fairs would not be at such a disadvantage. Again, performance on these tests may reflect differences in knowledge or experience, in addition to differences in linguistic abilities.

In summary, individual differences in script reports may have an impact on performance in many language assessments, particularly those that use descriptions of routine events as the basis for the assessment. Based on our work, certain age groups may be at a particular disadvantage relative to other age groups in their knowledge of routine events and thus may perform poorly in assessments that require knowledge of routine events. In addition, the nature of the events used in language assessments must be considered as certain events may involve more or less variability in the acts comprising them.

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Individual differences in script reports are found when methods are used that do not discourage or eliminate the reporting of idiosyncratic acts. Individual differences in script reports are important, and they may require a reevaluation of much of the work on scripted events including how scripts impact adults' memory for new script-related events.

Clinicians should carefully examine language assessment procedures that require the client to relate a story about a particular event and to remember a new event. Differential experiences with such events may result in impoverished or elaborate scripts of them and may result in the imposition of such scripts on new script-related events. An impoverished language sample may result as much from a lack of experience with the event used to generate the language sample as from a linguistic deficit.

Individual differences in script reports can no longer be neglected. Although individual differences greatly complicate work on scripts such that we can no longer speak of a "generic" script that all individuals possess, such work may better approximate the scripts that individuals follow in their daily lives for routine events.

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