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REPORTS

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The Qualifier Kid

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VERRESSLAs (REVERSED REVERSALS)

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Those of you who have read SSW REPORTS since May 1982 may remember an issue dealing with reversals (called "VERRESALS", not even a full reversal, because I must have reversed part of my intended reversal). An unpublished study was mentioned that was never run in SSW REPORTS. Because most things about the SSW seem ageless and because no one else has carried out a bigger or better project in the interim, it would be wasteful not to report our 1981 findings.

In a study by Dave Johnson and his colleagues (Johnson et al., 1981), reversals did not turn out to be a very good discriminator between LD and control children, nor was it correlated highly with their outside criteria. Dave was surprised that some of the 11 year old normals had many reversals (which turned out to be 1324, or engineer's reversals). We puzzled over the data for a long time trying to figure out why. The study seemed to differ from other studies in two ways. They had used the EE list and not the usual EC, and they had given their subjects special instructions that were thought might reduce spurious reversals in normals (JK had not cautioned them otherwise and thus takes some of the credit/ blame for the results). Their subjects, in addition to the regular instructions, were told to "repeat the first word first, the second word second, the third word third and so on".

The reversal pattern shown by these older control subjects was different from the expected ones. They responded with 1324 reversals and not with the more common 3412 etc.

We had no reason to believe that the EE list differed in some way to increase the tendency for older subjects to reverse and therefore suspected the instructions. To check out this possibility 14 university students 19 through 24 years of age were tested. Seven students were given the standard instructions that are provided before the SSW EC list. The mean age for this control group was 21.3 years. It contained 6 females and 1 male. The seven experimental group subjects were given the additional instructions "Please say the first word first, the second word second and so on." The experimental group had a mean age of 20.8 years and was made up of seven females.

Results. Two reversals are considered significant in an adult when all 40 items are administered. Based on this criterion, three of the experimentals and one of the controls had significant reversals. What was more impressive is that the group that was given the additional instructions, to repeat the words in the order that they heard them, tended to have very large numbers of reversals (see table 1).

Table 1 shows that some of those who received the special instructions did indeed have numerous reversals. They had a total of 82 reversals compared with only 7 in the control group. Thus, we had 2 findings to

TABLE 1. Number of reversals for control and experimental Ss.

	<u>CONTROL Ss</u>	<u>EXPER. Ss</u>
1	1	0
2	1	22
3	0	0
4	0	1
5	1	35
6	4	25
7	0	0

suggest that the instructions were instrumental in producing reversals. A third form of support came from the types of reversals. The controls had 6 standard-type reversals (not 1324) and the experimental group had 4 of them. Obviously, typical patterns did not differ for the two groups. However, the 1324 reversals were produced only once in the control group and 78 times in the experimental group.

We were also able to show with some confidence that 1324 reversals were a function of word #3 preceding word #2. Although one subject in the experimental group had 35 reversals (reversing on all but 5 items). It should be noted, that the 5 items that were not reversed were all #2 before #3 (see Rudmin & Katz, 1982). In addition, of the remaining 48 reversals, there were 30 (or 62%) on the 19 items in which #3 preceded #2 and only 18 (or 38%) reversals on the 21 items in which #2 preceded #3.

Based on the present study of 14 presumably normal subjects, we can suggest that:

1. Altering the instructions for subjects to indicate proper ordering of the words may be misinterpreted by some to mean that a very precise onset comparison is needed. This could produce spurious reversals primarily of the 1324 type. That is, analyzing the onset times of the competing words could lead good listeners to correctly (or incorrectly) reorder word #3 before #2.

2. For this reason, a consistent pattern of 1324 reversals by an individual might not indicate a CAP problem per se, but rather a temporal comparison between the competing conditions. We have noted this for many years in certain precise individuals (typically engineers) and Amy Wetherby has noted the pattern in autistic individuals (often noted for their precision and lack of linguistic capabilities).

3. While engineer's reversals are rather uncommon, if noted in a subject in a consistent fashion, one might ask the individual to indicate what he understood the instructions to be. If he believes that there is a need to precisely figure out which word started before which other one then there is a good likelihood that the reversals should be voided and that there might well be some extra errors due to the unreasonable attention paid to this irrelevant aspect.

ON THE (QT): AN SSW QUALIFIER

Jack Katz

Here and there you have heard about SSW qualifiers. Because you are reading SSW Reports at this moment, there is a good chance that you have actually used some of the qualifiers. For example, quick responses (Q) and delayed responses (X) become obvious to the tester after you've given your first 20 SSW's. That is, we get used to a reasonable cadence and are alerted when the response comes too quickly or too slowly. Another qualifier you may have noted is the tongue twister (TTW). It is shown when an individual has trouble saying the words (e.g., "shun shine" or "chee chain"). There are others which are less frequently used that we should mention in Re-ports. This article will deal with a qualifier with which you may not be familiar -- (QT) or Quiet rehearsal.

As you may already know, qualifiers represent a means of gathering useful information without additional testing time. It may help to support one or more of the signs you noted on the test (e.g., a quick response is usually an indication of fading memory difficulty). It would provide further confidence if there was an Order Effect H/L or an Ear Effect L/H which point to the same problem.

Qualifiers may be especially helpful when testing individuals over 10 years of age. Older children are more likely to "beat" CAP tests (not just the SSW). For one thing they are more logical and work better with minimal cues than younger folks and therefore are test-wise. Thus, they may figure out how to deal with the test successfully. Although they may get the item right, or miss fewer words overall than they otherwise would, there is often a telltale sign. In many cases this indication that you get is due to their effort to compensate for their difficulties. It often takes extra time to figure out a word, therefore, there may be a delay in responding. Or if the person needed to respond very quickly in order not to forget some of the words, there would likely be a quick response. In this case the qualifiers might point to a problem even in the face of fairly good performance.

Sometimes a single observation can be a powerful indication. A good example of this is when there is an inordinate delay. Not just a few seconds, but perhaps a minute. If the response is correct after all that and especially if there was no apparent struggle, then we would show "(XX)" to designate an extreme delay. Having found an extreme delay (even one) would suggest what we have been referring to as an Integration problem. If this case had a LC peak, even in the absence of a Type A, this might encourage you to give the CES test to see if there is a crossed pattern as we often find in integration cases.

Another qualifier is the quiet rehearsal. Unfortunately, I'm not very confident of my knowledge about it, but, perhaps with your help we can gather the necessary information.

A quiet rehearsal refers to a situation in which the person says the response quietly to himself before actually giving the answer. It could be said "under his breath" or in a whisper before giving it formally to you.

I'd like to apologize at this point. Formerly I suggested the symbol (QR) but that was not a clear one because it became confused with "quick response" or "questionable reversal" (a very old term). The best thing is to propose a new symbol that will be unequivocal. I think "(QT)" will serve as a better symbol for "Quiet rehearsal".

If you have already begun using the quiet rehearsal qualifier try to shift over to the (QT). If you haven't yet, then you won't have anything to unlearn.

Right now, it's not clear if (QT) supports one or more CAP dysfunction categories or if it is associated with any CAP problem at all. It seems clear that a (QT) is a strategy that a person uses to help with the answer. If the person was completely satisfied with his knowledge of the item he would not say it an extra time to himself on certain items. The question is why would the person say it quietly first before actually giving you the answer? We are hoping that the collaborative study (that was outlined in the May '89 Reports) will shed further light on this qualifier.

So far we are using two lines of reasoning. On the Phonemic Synthesis test we see many more quiet rehearsals than on the SSW. On that test it is associated with poor decoding skills. The person pieces the sounds together but doesn't know what it makes. So he

says it under his breath to hear what comes out. The person might say quietly "go - st" (Oh! I know that one) "GHOST".

Perhaps the (QT) serves the same function in the SSW if the person needs to rehear the words to arrive at the final answer. So poor decoding ability might be one good possibility. Sometimes a poor decoder will take so much time that he's about to lose the words. So he repeats them in order to buy the extra time with a fresh short term memory trace. So poor decoding is the likely explanation, but the (QT) may be enhanced by an overlapping Tolerance-Fading Memory (TFM) problem.

A second possibility is that the person has a memory problem as we often see in those with TFM difficulties. The person's decoding skills may be quite normal but with such a short memory the person needs extra time to finish processing. By repeating the first words to himself he can work on the last word without losing the rest. By the time he's up to saying the final word he has identified it. The item is now in short term memory and ready for the louder answer.

It may very well be that it requires both a short term memory problem and poor decoding to produce a (QT) response pattern. We shall see. If you have a case that gives you (QT)'s I'd appreciate a peek at the results. Hopefully you will start to see many applications for this and other SSW qualifiers.

THE QUINTESSENTIAL QUALIFIER: A CASE

Jack Katz

I'm a lucky guy. I haven't tested a soul in the longest time, but as part of an SSW Workshop I tested the only kid I could get. He is now known as the Qualifier Kid. His 25 quali-

fiers were divided among 6 different types. Unfortunately, because it was an SSW demonstration case, we did not administer other CAP tests. However, you will see that we did get quite a bit of information that we think will be useful to the family and school.

We had almost no history information about "Mat" (age 8-6). I did ask a few questions of his mother in the three minutes that I could afford (while the participants waited patiently at the other end of the clinic). He had O.M. "essentially from birth" and had tubes two times in each ear. He is right handed. We are told that Mat has pretty good reading ability at the second grade level primarily because of his excellent sight recognition ability. His phonic ability is poor. Spelling is not too bad, but that is because his mother works with him for two hours before each quiz. He works very hard to get his spelling words right but often forgets them by the time he takes the exam. Math was good at first because he remembered his math facts [no doubt overlearned them]. Mat's handwriting is very poor and he reverses the direction of some letters (e.g., d/b).

Figure 1 shows the early portion of the test. On the practice item d he responded to the "Are you ready" with a "Yes" so he got his first qualifier (Y). In item 4 he had a delay. With 2 errors I generally don't bother with the (X) because it is obvious that he is having trouble and perhaps thinking it over (not just poor decoding), but in this case I must have thought the delay a significant one despite the errors. Item 6 was a bonanza with three types of qualifiers. The smush (sm) was classical. It was the error that gave this "blending" error its name (spread + mush becomes "smush"). There is also a (P) for perseveration. It looks like he took bread from the previous item and thought it was such a good answer that he used it again for #10. One might argue my (sm) in #7. If it was a perfect blend it

would be glash and not grash. My best guess is that the r/l is a discrimination confusion on top of the smush. Finally, in #9 we have a Quiet rehearsal. There was 1 or 2 errors on the 4 items in which he had (QT)s. Perhaps he hoped to figure it out if he could hear what he had.

it a second time I would have counted it as significant.

Figure 2 provides the combined totals and the response bias information. Given this and his WDS of 88 and 96% (RE/LE) you can figure out the rest, if you wish. It's a pretty interesting curve for an 8-yr old.

Figure 3 enumerates the abnormal findings. The (Y), usually indicative of TFM problems was not included because he did it only one time and then stopped. Surely if he had done

% ERROR	ABNORMALITIES
	COMMENTS: (A) CONDITIONALS
	RC+LAK = DECODING
	LC = INTEGRATION/TFM
	(B) VERY POOR SSW, BUT NEITHER ANT. or POST. BIAS
	∴ BOTA PRESENT (cancel)
	(C) 5 REV. = ORGANIZATION
	(D) 5 (SM) = Tol-Fad. Mem.
	(E) 4 (QT) = DECODE/TFM
	(F) 4 (P) = DECODING
	(G) MANY (X) or (XX) = DECODING or INTEGRATION

Figure 3

Figure 1

Child's speech very deliberate & long pauses.
PRACTICE ITEMS

a.	air	plane	wash	paint	
b.	cow	boy	white	bread	
c.	north	west	stair	way	
(Y)d.	oat	meal	flash	light	

Left First	L-NC	L-C	R-C	R-NC	Rev	WRONG
Right First	(A)	(B)	(C)	(D)		
Right First	R-NC	R-C	L-C	L-NC		
1.	up	stairs	down	town	R	
3.	day	light	lunch	time	R	
5.	(X) corn	bread	eat	meal	(R)	
(SM) (X) flood	grash	rain	wash	light	R	
(QT)	meat	sauce	base	ball	R	

	R-NC	R-C	L-C	L-NC	Rev	WRONG
	(E)	(F)	(G)	(H)		
	L-NC	L-C	R-C	R-NC		
2.	out	side	in	law	R	
4.	(X) wash	tug	rub	board	R	2
(SM) (P) (X) bread	smash	spread	wash	room	R	3
(SM) (X) sea	short	short	cut	side	R	2
(P) (X) black	board	ice	bread	meat	R	2

Figure 2

EAR EFFECT		
Total Errors	REF	LEF
<input type="checkbox"/> Sig.	31	29
<input checked="" type="checkbox"/> N. Sig.		

ORDER EFFECT			
1	2	3	4
(A+E)	(B+F)	(C+G)	(D+H)
2	25	26	7
TOTAL	TOTAL		
27	33		
1st SPONDEE	2nd SPONDEE		
<input type="checkbox"/> Sig.	<input checked="" type="checkbox"/> N. Sig.		

COMBINED TOTALS				
	RNC	RC	LC	LNC
(A)-(D)	1	12	13	5
(E)-(H)	2	13	13	1
GRAND TOTALS	3	25	26	6

Portions of our report follow:

"Dear Mrs. Mat's Mother:

We administered the SSW test to your son. This is a measure of central auditory function in which... Rather, it is sensitive to four type of auditory processing difficulties.

Mat...worked [very] slowly in an effort to figure out the words, but often took so long that he tended to forget information. He spoke slowly, deliberately and in a somewhat staccato fashion. When encouraged to respond more quickly [it didn't work] ...He knew there was more, but did not remember the...words. On some items he demonstrated discrimination errors (e.g., tug for tub...). He also had "smush-blending" type errors in which ...(e.g., shore and out became "short"...)...There was also evidence of perseveration (e.g., using the word "bread" twice incorrectly after having used it correctly in a previous item). He also displayed a significant number of reversals for his age. That is, he...(e.g., school boy church bell was repeated as...). In an attempt to remember the words and to have time to process them he often repeated the words to himself quietly.

Even when given credit for [peripheral distortion], Mat had highly abnormal scores on three of the four SSW Conditions (RC...). ...Mat had a score of 50, falling 6 SDs above the mean [for benefit of the school and Committee on Special Education and not for mom]. This particular abnormality is associated with poor phonemic decoding. Similarly the LC Condition... Among the behaviors...the delays, perseveration and others...associated with poor decoding skills. In language this often translates into a receptive language problem (as seen...) and in reading into difficulty in phonics [ordinarily we would have a more direct measure of this using Phonemic Synthesis].

A second important auditory problem is associated with the extremely poor score in the LC Condition. The limit of normal for his age is 18. His score was 61...This clearly supports the GFW results... The smush-blending errors support the presence of of this [S/N] problem as well as his inability to suppress a response to the "Are you ready" phrase...This second problem is referred to as a Tolerance-Fading Memory disorder.

The third type of central auditory difficulty [that was noted] on the SSW involves reversals. It suggests that Mat has difficulty in keeping the proper sequence of material without some [extra] effort. This goes along with the directional reversals (e.g., b/d). Such children are generally disorganized unless they are helped to maintain reasonable order [by use of lists, routines etc.].

The picture that we get [of Mat] is one of a child who has a variety of significant auditory difficulties, who must be highly frustrated in understanding through the auditory channel, up to his cognitive potential. It is likely that without some assistance he will fall further behind his classmates. With help, I believe that he will make rapid gains which will be reflected in his classroom performance and in his scholastic achievement. Because he is already 8 1/2 years of age, it is important to start working on his auditory skills while he is best able to incorporate them in a natural-permanent manner.

The materials that will be most beneficial may already be available at school, ...there are two commercial programs [ADD and Phonemic Synthesis] ...Two programs that would help him to concentrate better when listening in noise are Listening to the World and the Auditory Figure Ground...

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