

Imageability & Frequency Repetition: Instructions for Use

This task looks for effects of imageability and frequency (and their interaction) in auditory repetition. The same set of words is also used in auditory lexical decision [5], visual lexical decision [25] and oral reading [31]. As well as using words in this task, we have also included a separate set of nonwords. Nonwords can be repeated by using information about what has been heard that does not involve systems of word recognition and meaning. Since words can also be repeated by this method, nonword repetition should never be superior to word repetition. In some reported neurological cases, the ability to repeat nonwords is severely impaired, while word repetition is relatively well preserved (McCarthy, R. & Warrington, E.K. (1984) *Brain*, 107, 463 - 485). This finding suggests that words can also be repeated using procedures that are specific to word recognition and production. Our model suggests that there are two separate word-specific procedures: one in which meaning mediates word recognition and production and a second which by-passes meaning. An imageability effect in repetition, possibly (though not necessarily) with semantic errors, suggests that repetition is taking place via the semantic system.

Using these materials, word repetition and nonword repetition can be tested separately (Blocked design) or words and nonwords can be intermixed for presentation (Mixed design). Descriptive statistics are given only for Blocked presentation.

Descriptive Statistics (for 21 control subjects):

Blocked Words:			
High Imageability High Frequency	(n = 20)	Mean = 19.81	Std. Dev. = 0.60
High Imageability Low Frequency	(n = 20)	Mean = 19.52	Std. Dev. = 0.93
Low Imageability High Frequency	(n = 20)	Mean = 19.81	Std. Dev. = 0.60
Low Imageability Low Frequency	(n = 20)	Mean = 19.67	Std. Dev. = 0.58
Blocked Nonwords	(n = 80)	Mean = 75.94	Std. Dev. = 6.72

Suggestions for Where to go next: If the patient is unable to repeat nonwords, test nonword discrimination ability [1]. Since repeating nonwords and reading them aloud both involve the phonological output buffer, compare performance on these tasks ([8] is designed for this purpose).

Word repetition can be affected in a variety of ways. A significant effect of imageability indicates that the patient is using the semantic system. In this case, one might expect to find an imageability effect in comprehension (eg. Auditory Synonym Judgements [49]) and possibly also in Auditory Lexical Decision [5]. The imageability effect may or may not be accompanied by semantic errors in repetition.

If the subject shows a significant effect of frequency in Repetition, test performance using the same materials in Auditory Lexical Decision [5]. Frequency effects in both tasks may suggest a common point of breakdown. Compare picture naming and repetition on the Frequency Picture Naming task [54]. A similar pattern of performance in naming and repetition, together with frequency effects in both these tasks, may suggest an output locus for the disorder.

If word repetition is poor, but the patient is not influenced by imageability or frequency, test performance on repeating words of 1-, 2- and 3-syllables [7].

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Auditory Word Repetition: Imageability & Frequency

Presenter's Form 1

Name:	Date:
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Instructions to Subject: I'm going to say a word and I want you to say it after me. Listen carefully. **Prevent lipreading.**

Instructions to Marker: Circle incorrect responses in 'type' column.

Target	Type	Response
1. episode	LI LF	
2. theory	LI HF	
3. elbow	HI LF	
4. hand	HI HF	
5. hotel	HI HF	
6. potato	HI LF	
7. woe	LI LF	
8. character	LI HF	
9. church	HI HF	
10. wheat	HI LF	
11. effort	LI HF	
12. folly	LI LF	
13. fire	HI HF	
14. tribute	LI LF	
15. gravity	LI LF	
16. fact	LI HF	
17. valour	LI LF	
18. irony	LI LF	
19. idea	LI HF	
20. axe	HI LF	
21. funnel	HI LF	
22. tractor	HI LF	
23. crisis	LI HF	
24. length	LI HF	
25. battle	HI LF	
26. clue	LI LF	
27. concept	LI HF	
28. spider	HI LF	
29. village	HI HF	
30. deed	LI LF	
31. gravy	HI LF	
32. plea	LI LF	
33. dogma	LI LF	
34. monkey	HI LF	
35. manner	LI HF	
36. realm	LI LF	
37. slope	HI LF	
38. alcohol	HI LF	
39. member	LI HF	
40. satire	LI LF	

Auditory Word Repetition: Imageability & Frequency
 Presenter's Form 2

Name:	Date:
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Target	Type	Response
41. picture	HI HF	
42. window	HI HF	
43. treason	LI LF	
44. drum	HI LF	
45. thought	LI HF	
46. mercy	LI LF	
47. radio	HI HF	
48. cart	HI LF	
49. pupil	HI LF	
50. miracle	LI LF	
51. onion	HI LF	
52. hospital	HI HF	
53. audience	HI HF	
54. purpose	LI HF	
55. quality	LI HF	
56. school	HI HF	
57. attitude	LI HF	
58. system	LI HF	
59. elephant	HI LF	
60. wrath	LI LF	
61. letter	HI HF	
62. pig	HI LF	
63. tobacco	HI LF	
64. principle	LI HF	
65. session	LI HF	
66. plane	HI HF	
67. student	HI HF	
68. night	HI HF	
69. moment	LI HF	
70. summer	HI HF	
71. marriage	HI HF	
72. feather	HI LF	
73. thing	LI HF	
74. bonus	LI LF	
75. pact	LI LF	
76. mother	HI HF	
77. opinion	LI HF	
78. coffee	HI HF	
79. pill	HI LF	
80. analogy	LI LF	
HI HF	/20	HIGH IMAGEABILITY /40
HI LF	/20	LOW IMAGEABILITY /40
LI HF	/20	HIGH FREQUENCY /40
LI LF	/20	LOW FREQUENCY /40

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Auditory Nonword Repetition: Presenter's Form

Name: _____ Date: _____

Instructions to Subject: I'm going to say some things and I want you to repeat each one after me. They are not words, so listen carefully. **Prevent lipreading.**

Target	Response	Target	Response
1. wembow		41. sprool	
2. reash		42. minner	
3. foaster		43. slape	
4. idia		44. afe	
5. trantor		45. sammer	
6. stadent		46. andience	
7. mimber		47. hend	
8. antitude		48. purpise	
9. voe		49. merly	
10. clee		50. binus	
11. gramy		51. opunion	
12. pisture		52. felly	
13. mirtage		53. slurch	
14. crisis		54. otion	
15. atalogy		55. puct	
16. prought		56. tanacco	
17. sping		57. calt	
18. hetal		58. dalour	
19. grivity		59. dend	
20. sutire		60. itony	
21. clenth		61. pib	
22. dunkey		62. epilent	
23. weast		63. fict	
24. pline		64. hopsitle	
25. mither		65. pupit	
26. baranter		66. shality	
27. vallige		67. boncept	
28. ragio		68. cottee	
29. drister		69. eltow	
30. pell		70. pitaro	
31. trenson		71. plen	
32. miracle		72. prisciple	
33. drim		73. biffle	
34. trabite		74. sogmy	
35. affort		75. spuder	
36. pheory		76. lutter	
37. halocle		77. loment	
38. nirth		78. fannel	
39. settion		79. fide	
40. apisade		80. prath	

Auditory Repetition of Words & Nonwords : Presenter's Form 1

Name: _____

Date: _____

Instructions to Subject: I'm going to say some things and I want you to repeat them. Some will be words. Others are not words. They may sound as if they could be, so listen carefully. **Prevent lipreading.**

Instructions to Marker: Circle incorrect responses in 'type' column.

Target	Type	Response	Target	Type	Response
1. episode	LI LF		41. picture	HI HF	
2. theory	LI HF		42. calt		
3. elbow	HI LF		43. pline		
4. minner			44. drim		
5. hotel	HI HF		45. thought	LI HF	
6. potato	HI LF		46. mercy	LI LF	
7. wembow			47. radio	HI HF	
8. puct			48. prisciple		
9. church	HI HF		49. pupil	HI LF	
10. clenth			50. stadent		
11. plen			51. onion	HI LF	
12. folly	LI LF		52. mimber		
13. reash			53. loment		
14. sutire			54. purpose	LI HF	
15. gravity	LI LF		55. quality	LI HF	
16. slape			56. school	HI HF	
17. trenson			57. sammer		
18. irony	LI LF		58. system	LI HF	
19. dunkey			59. elephant	HI LF	
20. foaster			60. mither		
21. fide			61. hopsitle		
22. tanacco			62. pig	HI LF	
23. crisis	LI HF		63. antitude		
24. prath			64. trabite		
25. battle	HI HF		65. session	LI HF	
26. clue	LI LF		66. dalour		
27. concept	LI HF		67. andience		
28. spider	HI LF		68. night	HI HF	
29. village	HI HF		69. baranter		
30. deed	LI LF		70. voe		
31. gravy	HI LF		71. marriage	HI HF	
32. fict			72. lutter		
33. dogma	LI LF		73. thing	LI HF	
34. idia			74. bonus	LI LF	
35. weast			75. hend		
36. minacle			76. affort		
37. afe			77. opinion	LI HF	
38. alcohol	HI LF		78. coffee	HI HF	
39. fannel			79. pill	HI LF	
40. tranter			80. analogy	LI LF	

Auditory Repetition of Words & Nonwords: Presenter's Form 2

Name: _____

Date: _____

Target	Type	Response	Target	Type	Response
81. biffle			121. halocle		
82. hand	HI HF		122. mirtage		
83. woe	LI LF		123. spuder		
84. character	LI HF		124. boncept		
85. wheat	HI LF		125. miracle	LI LF	
86. clee			126. hospital	HI HF	
87. effort	LI HF		127. nirth		
88. fire	HI HF		128. pell		
89. tribute	LI LF		129. crasis		
90. vallige			130. binus		
91. fact	LI HF		131. pib		
92. dend			132. audience	HI HF	
93. valour	LI LF		133. cottee		
94. idea	LI HF		134. attitude	LI HF	
95. sogmy			135. settion		
96. axe	HI LF		136. atalogy		
97. funnel	HI LF		137. wrath	LI LF	
98. purpise			138. letter	HI HF	
99. gramy			139. opunion		
100. tractor	HI LF		140. tobacco	HI LF	
101. length	LI HF		141. felly		
102. plea	LI LF		142. pitaro		
103. pheory			143. principle	LI HF	
104. monkey	HI LF		144. eltow		
105. ragio			145. prought		
106. manner	LI HF		146. apisade		
107. itony			147. plane	HI HF	
108. pupit			148. student	HI HF	
109. realm	LI LF		149. moment	LI HF	
110. pisture			150. slurch		
111. slope	HI LF		151. epilent		
112. member	LI HF		152. summer	HI HF	
113. merly			153. otion		
114. shality			154. sping		
115. satire	LI LF		155. feather	HI LF	
116. window	HI HF		156. hetal		
117. treason	HI HF		157. pact	LI LF	
118. drister			158. mother	HI HF	
119. drum	HI LF		159. sprool		
120. cart	HI LF		160. grivity		
HIHF	/20		HIGH IMAGEABILITY	/40	
HILF	/20		LOW IMAGEABILITY	/40	
LIHF	/20		HIGH FREQUENCY	/40	
LILF	/20		LOW FREQUENCY	/40	
NONWORDS	/20				

Imageability & Frequency Repetition: Marking Form for Words page 7 (of 8)
 (Indicate whether presentation was Blocked/ Mixed)

Name: Date:

A High I / High Frequency Words		D High I / Low Frequency Words	
audience		alcohol	
battle		axe	
church		cart	
coffee		drum	
fire		elbow	
hand		elephant	
hospital		feather	
hotel		funnel	
letter		gravy	
marriage		monkey	
mother		onion	
night		pig	
picture		pill	
plane		potato	
radio		pupil	
school		slope	
student		spider	
summer		tobacco	
village		tractor	
window		wheat	
C Low I / High Frequency Words		D Low I / Low Frequency Words	
attitude		analogy	
character		bonus	
concept		clue	
crisis		deed	
effort		dogma	
fact		episode	
idea		folly	
length		gravity	
manner		irony	
member		mercy	
moment		miracle	
opinion		pact	
principle		plea	
purpose		realm	
quality		satire	
session		treason	
system		tribute	
theory		valour	
thing		woe	
thought		wrath	
HIGH IMAGEABILITY		/40	
LOW IMAGEABILITY		/40	
HIGH FREQUENCY		/40	
LOW FREQUENCY		/40	

Imageability & Frequency Repetition: Marking Form for Nonwords
(Indicate whether presentation was Blocked/ Mixed)

Name: _____ Date: _____

Nonwords	Response	Nonwords	Response
andience		afe	
biffle		calt	
cottee		drim	
fide		dunkey	
hend		eltow	
hetal		epilent	
hopsitle		fannel	
lutter		foaster	
mirtage		gramy	
mither		halocle	
nirth		otion	
pisture		pell	
pline		pib	
ragio		pitaro	
sammer		pupit	
slurch		slape	
sprool		spuder	
stadent		tanacco	
vallige		trantor	
wembow		weast	
Nonwords	Response	Nonwords	Response
affort		apisade	
antitude		atalogy	
baranter		binus	
boncept		clee	
clenth		dalour	
crasis		dend	
drister		felly	
fict		grivity	
idia		itony	
loment		merly	
mimber		minacle	
minner		plen	
opunion		prath	
pheory		puct	
prisciple		reash	
prought		sogmy	
purpise		sutire	
settion		trabite	
shality		trenson	
sping		voe	
Number Correct			/80