The Smaart Scale: Measure Development and Validation

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EXTENDED ABSTRACT

Consumers differ widely in their language abilities (or disabilities, see Wallendorf 2000), as they do in terms of most cognitive domains. While individual differences in comprehension exist in a variety of higher order abilities, we propose that basic language “reflexes” of the automatic kind account for and explain a substantial amount of these differences. A computer-based measure of automatic access to meaning (SMAART: Secondary Meaning Access via the Automatic Route Test) is developed by adapting a standard sentence verification procedure (McCloskey and Glucksberg 1979) and evaluating its psychometric properties.

The theme of the rather infrequent consumer research incursions into the impact of figurative communication on advertising effectiveness measures (see McQuarrie and Mick 1999; Toncar and Munch 2001; Roehm and Sternthal 2001) is that moderating variables addressing some sort of consumer proficiency are needed within any apt explanatory account on the topic. The present work proposes that a clear understanding of the cognitive mechanisms involved in metaphor comprehension and the availability of a straightforward measure able to capture them leaves both brands and consumers better off.

There are at least two distinct perspectives on what has been termed the incoherence view of the metaphor (Cacciari and Glucksberg 1994): one drawn from generative semantics, the other from pragmatics and speech act theory. Both views consider metaphors to be akin to a defective statement, either semantically or pragmatically. The present research argues that issues of implicit access to meaning lie at the core of metaphor comprehension processes. It is intuitively apparent that individual differences play an important role in consumers’ ability to understand metaphorical language. A formal demonstration of such claim was presented by Just and Carpenter (1992) when they proposed a particular theory of the way working memory capacity constrains comprehension. The larger capacity of some individuals allows them to cope better in cases of ambiguity, as it apparently permits them to access and maintain multiple interpretations. It is therefore proposed that automatic access to meaning occurs for those individuals that have the benefit of such high capacity, but not for others.

SMAART is a speed test we adapted from a standard categorization task in cognitive psychology (see McCloskey and Glucksberg 1979). This sentence verification procedure is designed to test if the availability of metaphorical meanings interferes with literal false decisions. The test involves three blocks: one for learning the key assignments (e.g. hitting the “Q” key for true and the “P” key for false sentences), one for practice sentences, and one for test sentences. In the procedure, subjects are requested to verify the literal truth of sentences of the type “Some X are Y.” During the test block, response latencies are measured for both random target sentences such as “Some cars are snails” (literally false but figuratively true) and random filler sentences such as “Some flowers are roses” (literally true) and “Some insects are roses” (literally false). The difference between latencies on metaphor and filler sentences is measured and used as a proxy for automatic comprehension. As described above, the SMAART assesses individuals’ ability to automatically access the figurative meaning of a polysemous sentence, as captured by their inability to consciously suppress it. An essential ingredient in the development of a measure consists of “at least several hundred subjects to act as a normative pool for successive versions of the test” (Nunnally and Bernstein 1967, pp.325).

The choice of items originated in previous work by Glucksberg, Gildea, and Bookin (1982) and McElree and Nordlie (1999). The latter reference in particular provided a detailed list of 720 items (i.e. sentences) grouped into three categories: figurative, literal, and nonsense strings—mapping onto our literally false/figuratively true, literally true, and literally false sentences. A subset of 35 items was eventually agreed upon: 7 practice block items and 28 test block items (including 15 target and 13 filler sentences).

The present researchers developed and used a computer-adapted version of Daneman and Carpenter’s (1980) Reading Span Test that requires participants to remember for subsequent recall the last words of a series of 13 to 16-word sentences. Critical for the conceptual account behind the working memory explanation, the Reading Span Test and SMAART indeed correlated, providing convergent validity. The divergent validity requirement looked at the automatic aspect of the measured ability. Here, three alternative measures were looked at: the SAT Verbal score, the Polychronic Attitude Index (Kaufman, Lane, and Lindquist 1991), and the Styles of Processing Scale (Childers, Houston, and Heckler 1985). SMAART correlated with none.

Insights that emerged from this work include the acknowledgment that consumers often access the meaning of polysemous (i.e. metaphorical) marketing communications in the absence of conscious awareness, as well as the demonstration of a working memory capacity explanation for the existence of individual differences in metaphor comprehension. The associated predictive power of SMAART makes it a valuable tool for advertising developers that employ focus groups in ad copy testing or brand slogan choice.

REFERENCES


