



# Source Monitoring Following Natural-Artificial Category Judgments

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## Background

Retrieving the contextual details of an event has been labeled source monitoring (Johnson, Hashtroudi, & Lindsay, 1993). As currently depicted, source-monitoring processes are a remarkably rich and flexible set of mechanisms used to isolate or to infer many of the details that were experienced when an event was encoded. Sometimes source decisions are made quickly and heuristically whereas other times they are made more deliberately and with greater care. The purpose of the present study was to examine accurate source monitoring that results from natural categories in language.

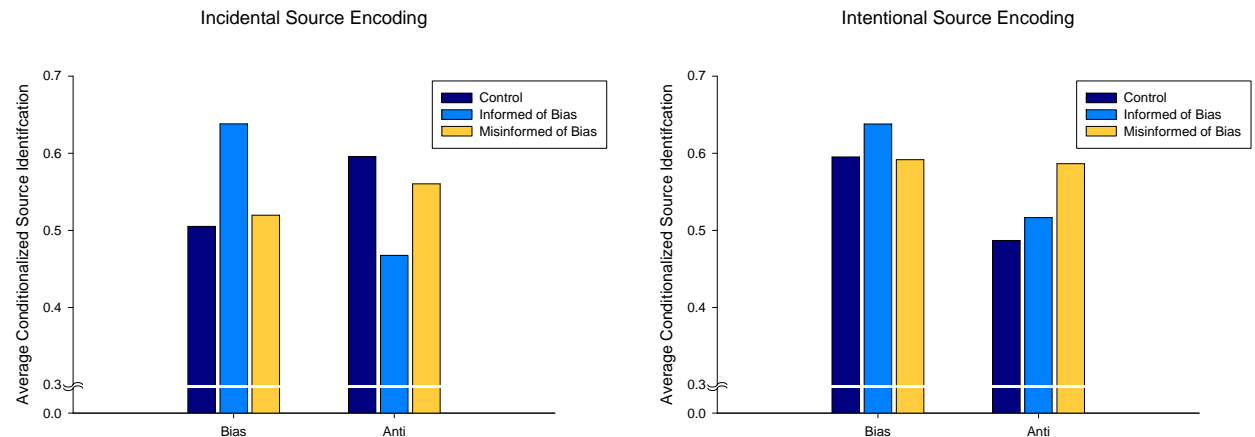
Different languages vary in the degree to which they reference gender. Some languages (e.g., Spanish) have language information in many grammatical categories while others (e.g., English) have very little language information (Sera et al., 2002). Although English is generally considered low in overt references to gender, it is clear that many words suggest a subtle association with particular genders. Second-graders were shown pictures from categories that represented either objects made by humans or objects originating in nature and were asked to categorize them into male and female groups (Mullen, 1990). Objects from natural categories were more often categorized as female. We intend to see if these references to gender will affect encoding of gender-based contextual information.

Across six conditions we asked participants to judge studied words as belonging to either natural (e.g., mountain) or artificial (e.g., building) semantic categories. Three pairs of conditions manipulated participants' awareness of the gender relationship. All participants were asked to make a final gender source decision on all studied items.



## Methods

- A total of 234 participants from the University of Michigan Dearborn participated in partial fulfillment of a course research requirement.
- Participants either were (INTENTIONAL) or were not (INCIDENTAL) informed of the relevance of the gender source for the final test.
- Between subjects, before beginning the study participants were either informed of the correct gender association (i.e., Natural-Female, Artificial-Male), the incorrect gender association (i.e., Natural-Male, Artificial-Female), or were told nothing about the association between these categories and gender.
- Experimental software randomly selected 40 words from a larger 60 word database to be presented during study (equal Natural/Artificial and Male/Female). Which words served as studied vs. distractor was randomized anew for each participant.
- Following the study phase, all participants were asked to make a source judgment (MALE, FEMALE, NEW) for all studied and 20 new words.



## Results & Discussion

For the purposes of the following analyses we created a pooled source monitoring measure that represented correct source memory that was either consistent with a gender-semantic association (BIAS; i.e., artificial words spoken by a male that were correctly remembered as spoken by a male and nature words spoken by a female that were correctly remembered as spoken by a female) or inconsistent with the association (ANTI). The results of an omnibus 3 (Knowledge of Association) x 2 (Bias-Anti) x 2 (Encoding Instructions) revealed a main effect of BIAS-ANTI,  $F(1,221) = 5.08, p = .02$ . That main effect was qualified by multiple two-way and a significant three-way interaction. Reduced ANOVAs looking separately at incidental vs. intentional encoding instructions revealed that when participants knew that source was relevant for a later task, their memory supports the view that people will be better able to learn the gender source of words if the gender is consistent with the semantic association, however this pattern did not obtain under incidental encoding instructions.

It is our belief that only when source was relevant (intentional) did participants attempt to reconcile the gender source with the semantic content of the words themselves. This led to support for a gender association in source memory when participants intentionally learned source and lack of support when source learning was incidental (accidental). It is interesting to note that under intentional encoding instructions and incorrect information about the gender association, we were unable to reverse our effect (i.e., better SM for ANTI). It is possible that when the association is actively shaping source memory as it was under intentional encoding instructions, our misinformation about the association was not powerful enough to reverse the effect (as it did under incidental instructions), only to eliminate it.

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