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Asymmetrical Change of Implicit Causality by Passivization for Action and State Verbs

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Background

[Implicit Causality]
Some interpersonal verbs (e.g., apologize) lead to attribute causes of interactions to first person in the sentence (Noun Phrase 1: NP1), whereas others (e.g., blame) do it to second person in the sentence (Noun Phrase 2). Thess tyeps of causal biases are called *implicit causality* (Garvey & Caramazza, 1974).

[Revised Action-State Distinction]
Some theorists proposed that *action-state distinction (ASD)* of verb types explains the effects of implicit causality (Au, 1986; Brown & Fish, 1983; Rudolph & Försterling, 1997). According to the theory, action verbs assign characters in the sentence to agent, patient, or evocator roles; State verbs assign characters to either stimulus or experiencer roles. These roles determine the cause of the interaction described in the sentence. However, this distinction dose not account for the direcitons of verb causality (i.e., NP1- or NP2-biasings), so the distinction was suspected for its psychological reality (e.g., Malle, 2002).

Table 1 Classification of verbs in revised ASD

Verb	NP1-bias	NP2-bias
Action	AP(Agent-Patient)	AE(Agent-Evocator)
State	SE(Stimulus-Experiencer)	ES(Experiencer-Stimulus)

[Purpose of the Study]
In order to clarify the difference of action and state verbs, we compare *the effects of passivization* on implicit causality in the two types of verbs.

Method

Participants: Fourty Japanese undergraduates and graduates students participated this experiment.
Design: 2(voice: active vs. passive) x 2(verb type: action vs. state) x 2(direction of bias: NP1-bias vs. NP2-bias) within participants design was used.
Material: As a preliminary research, 120 Japanese verbs were subjected to sentence-completion task. Independent 91 undergraduates participated the preliminal survey. Based on the the survey, 6 verbs with predicted biases were selected for each subcategory of revised ASD (i.e., AP, AE, SE, and ES verbs). These verbs were used to create sentence forms (see example below). Both active and passive voices versions were constructed for each verb. Each participant saw a verb in either voice.
Procedure: Sentence forms were printed in booklets. Participants received the booklet and were required to complete the sentences. After the completion, they circled the name of characters who were referred by the pronouns in their constructed sentences.

e.g.,) Takeshi forgave Toshiyuki because he...
(健が俊之を許したのは，彼が＿＿＿＿＿＿からだ。)
he = {Takeshi, Toshiyuki, the ohters (　　)}
(彼＝｛　健　・　俊之　・　その他（　　）｝)

Scoring: The responses were scored as 1 for semantic subjects selections (e.g., Takeshi) and as 2 for semantic objects selections (e.g., Toshiyuki).

Results and Discussion

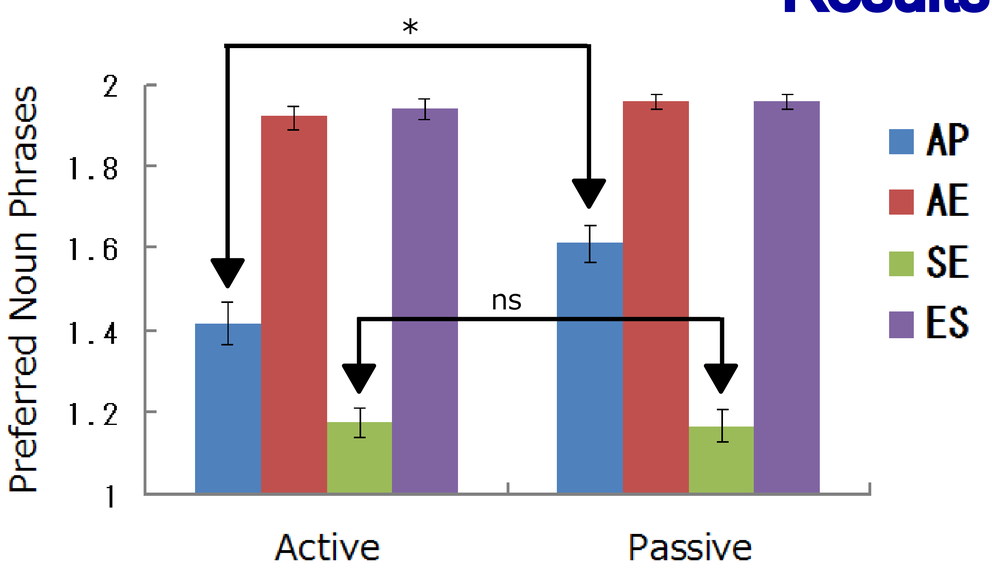

Figure 1 The preferred noun phrases in active and passive voices for each type of verbs. (1 = semantic subject, 2 = semantic object)

[Asymmetry in the implicit causality]
Passivization leads participants to focus on NP2 in the sentences. So, NP2 might be seen more responsible in the passive sentences than in the active sentences because action verbs are ambiguous for the assignment of the semantic roles concerning NP2. By contrast, the semantic roles are determined by the combination of NP1 and NP2 in state verbs. Thus, state verbs would be tolerant to the change of focus.
- Action verbs: NP1 = agent, NP2 = patient or evocator
- State verbs: NP1 = stimulus, NP2 = experiencer
NP1 = experiencer, NP2 = stimulus

[Overall Pattern]
The pattern of voices x verb type x direction of biases interaction was suggested, $F_1(1, 39) = 4.44$, $p = .04$; $F_2(1, 20) = 2.98$, $p = .10$.

[NP1-biased verbs]
The voices x verb type interaction was approached to significance, $F_1(1, 39) = 6.28$, $p = .02$; $F_2(1, 10) = 3.81$, $p = .08$.
------> Asymmetrical change of implicit causality: The manipulation of voice has reliable effects for action verbs (AP verbs), but not for state verbs (SE verbs).

[NP2-biased verbs]
There were no significant differences among any conditions.
------> Is there asymmetry for implicit causality? Ceiling effects were possible.

References

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