Northumbria
University
NEWCASTLE

Running Head: Warnings are more than negative tips.

Threats may be negative promises (but warnings are more than negative tips).

Helen Wray[1], Jeffrey S. Wood[1], Matthew Haigh[2], Andrew J. Stewart[1]

[1]School of Psychological Sciences, University of Manchester, United Kingdom.

[2]Department of Psychology, Northumbria University, United Kingdom.

Address for correspondence:

Andrew J. Stewart,

School of Psychological Sciences,

University of Manchester,

Manchester, M13 9PL,

United Kingdom.

Tel: +44 (0)161 275 7331

andrew.stewart@manchester.ac.uk

Abstract

In everyday situations conditional promises, threats, tips, and warnings are commonplace. Previous research has reported disruption to eye movements during reading when conditional promises are produced by someone who does not have control over the conditional outcome event, but no such disruption for the processing of conditional tips. In the present paper, we examine how readers process conditional threats and warnings. We compare one account which views conditional threats and warnings simply as promises and tips with negative outcomes, with an alternative account which highlights their broader pragmatic differences. In an eye-tracking experiment we find evidence suggesting that, in processing terms, while threats operate like negative promises, warnings are more than negative tips.

Keywords: Conditionals; speech acts; experimental pragmatics; reading; psycholinguistics.

Word Count: 3,969

While the question of how people represent and manipulate conditional information (typically communicated by statements of the form *if… then…*) has received much attention in the literatures on human reasoning and decision-making (e.g., Evans, 2008; Evans & Over, 2004; Johnson-Laird & Byrne, 2002), the question of how conditionals are *comprehended* during language processing remains relatively unexplored (but for some recent exceptions see Ferguson & Sanford, 2008; Haigh, Stewart, Wood & Connell, 2011; Stewart, Haigh & Kidd, 2009). The successful comprehension of conditionals often needs to take into consideration (amongst other things) the speech act communicated by a conditional (e.g., whether it is communicating a promise, a threat, a tip, or a warning; Fillenbaum, 1976; López-Rousseau, & Ketelaar, 2004, 2006), and information about the probability of the event described by a conditional (Haigh, Stewart & Connell, 2013). In the case of determining the specific speech act communicated by a conditional, comprehenders need to be sensitive to pragmatic information relating to whether the speaker has control over the event described in the consequent (*then…*) clause, and whether the outcome associated with the consequent is seen as positive or negative for the recipient (Bonnefon, 2009; Bonnefon, Haigh, & Stewart, 2013; Haigh, Ferguson & Stewart, 2014; Stewart, Haigh, & Ferguson, 2013).

The focus of the present paper is on the processing of conditional speech acts associated with consequents that have negative outcomes for the recipient (i.e., threats and warnings, which both discourage the antecedent action by highlighting the predicted negative consequences that will follow from this action). These speech acts typically omit the performative verb (i.e., "threaten" or "warn") and therefore communicate their meaning implicitly. Indeed, as noted by Searle and Vanderveken (1985), conditional threats that contain the performative verb sound odd (e.g., a manager saying to an employee in a factory "If you don't finish your shift, then I threaten I'll fire you."). The successful comprehension of conditionals lacking the performative verb thus requires the reader to be sensitive to broader pragmatic cues to correctly determine the intended meaning.

For instance, imagine a situation where an individual (e.g., Alice) is working hard to secure a promotion at work. Her company is planning a charity fundraiser to help local schools. However, Alice is not able to attend the fundraiser and so decides to talk to her boss. Her boss says to her "If you do not attend the charity fundraiser, then I will not promote you." In this instance, Alice is likely to interpret this utterance (correctly) as a conditional threat; her boss has the ability to promote or not promote her, and Alice knows this (Evans, 2005). However, the utterance would be considered infelicitous if, rather than being uttered by Alice's boss, it is uttered by a student intern at the company who does not have control over promotions. Conditional threats require the producer to have control of the conditional's consequent event (Evans & Twyman-Musgrove, 1998; López-Rousseau, & Ketelaar, 2004, 2006) while, in contrast, conditional warnings (e.g., "If you do not attend the charity fundraiser, then it may make you look bad.") can be legitimately uttered without the speaker having control over the consequent event.

To date, the only research on the online processing of conditional speech acts in relation to speaker control has focused on the comprehension of conditional promises and tips. Stewart et al. (2013) investigated how readers process conditional promises and tips when the speaker's direct control over a conditional's consequence was manipulated, i.e., the speaker either had or did not have control over the consequent event. Analysis of the eye movement data showed that disruption to eye-movements occurred during reading of the consequent clause of promises when the speaker did not have control over the outcome of the conditional (e.g., a colleague that does not have control over publishing telling another colleague, "If you submit your paper to the Journal of Physics, then I will publish it in the next issue."). This disruption was reflected in an increase in the number of backwards eye movements (or *regressions*) out of the consequent clause. The same conditional was read relatively easily when uttered by the publisher of the journal (who *does* have control over the conditional consequent event). This pattern of data is consistent with readers

evaluating whether the producer of a conditional promise has control over the outcome event, and so is in a position to utter a promise. When this control is lacking, disruption to reading occurs. In contrast, there was no similar disruption for conditional tips which, unlike conditional promises, do not require the producer to have control over the outcome event.

In the experiment reported below we examine whether the processing of conditional threats behaves like the processing of conditional promises, and whether the processing of conditional warnings behaves like the processing of conditional tips. In processing terms, can threats simply be considered promises with a negative outcome, and warnings tips with a negative outcome? If so, for the processing of conditional threats we would expect readers to be sensitive to whether the speaker has control over the consequent event in the same way that has been demonstrated previously for conditional promises. In other words, we would expect an immediate relative disruption to reading of the consequent clause of a conditional threat when the speaker does not have control over the consequent event which should result in more backwards eye movements and an increase in re-reading previous material. Similarly, following the finding that conditional tips are processed equivalently easily in terms of whether the speaker does or does not have control over the consequent, we would expect processing of conditional warnings to proceed without relative disruption in the eye movement record. There are good theoretical reasons as to why we might expect the processing of conditional promises and threats, and conditional tips and warnings to be largely equivalent. In speech act terms, promises and threats both fall under the general category of "Inducements", while tips and warnings fall under the category of "Advice". In a number of theoretical frameworks (e.g., the Pragmatic Cues Algorithm, López-Rousseau, & Ketelaar, 2004, 2006, and the Utility Grid Framework, Bonnefon, 2009) the only difference between promises and threats, and between tips and warnings, is in terms of the polarity of the utility of the outcome event (i.e., positive for promises and tips, and negative for threats and warnings).

However, there are additional pragmatic differences between promises and threats and between tips and warnings (above and beyond consequent polarity) that could conceivably influence processing. For example, Verbrugge, Dieussaert, Schaeken, and Van Belle (2004) propose that threats have a much weaker obligation to be carried out than promises. Indeed, it is often in the speaker's best interests to not carry out the consequent action. For example, carrying out a threat to kill has negative outcomes for the addressee (death), but also for the speaker (prison). The benefit of a threat is in its 'illocutionary force' (Austin, 1962). The illocutionary force of a threat is to discourage the addressee from taking the action described in the antecedent clause (cf. Bonnefon & Hilton, 2004), without the speaker needing to fulfil their threat. If the addressee (or reader) apprehends the speaker's illocutionary point, then the speaker's literal control over the proposed consequences may become irrelevant. In other words, the proposed consequences of a conditional threat do not need to be taken literally for this type of speech act to achieve its primary pragmatic purpose. While readers are sensitive to speaker control when processing conditional promises (Stewart et al., 2013), illocutionary force may make this factor secondary when processing threats.

Pragmatic factors may also influence the effect of speaker control in the processing of warnings. Stewart et al. (2013) found no effect of speaker control on the processing of tips. For warnings however (which differ from tips only in their polarity), speaker control may have a role to play. This is because warnings need to be differentiated from veiled threats. Veiled threats are often stated as warnings, even though the speaker has control over the outcome event (e.g., "If you go to the police, then you may have a little accident"; Bonnefon, 2009). Therefore, when encountering a warning readers may initially need to evaluate the degree of speaker control to determine whether it is a genuine warning or a thinly veiled threat.

Experiment

This experiment investigates whether readers are sensitive to speaker control during the processing of conditional threats and warnings. Stewart et al. (2013) showed that readers were sensitive to the speaker's degree of control over the consequent event when a conditional promise was uttered, but not when a conditional tip was uttered. If conditional threats and warnings differ from promises and tips only in their polarity, we would predict an identical pattern of effects (i.e., an increase in the number of backward eye movements from the consequent clause and an increase in re-reading of previous information only when a conditional threat is uttered by someone who does not have control over the consequent event). However, if readers take account of pragmatic factors associated with threats and warnings we may expect to find a more nuanced pattern of results; previously reported effects of speaker control on conditional persuasions (promises and tips) may differ when it is the speaker's intention to dissuade. Specifically, we might expect reduced effects of speaker control for the processing of threats. We may also expect effects of speaker control in the context of conditional warnings as the reader may need to consider this information in order to determine whether a warning is a genuine warning (where speaker control is not needed) or a veiled threat (where it is).

Method

Participants

Twenty-eight native English speakers (with no language impairment) from the University of Manchester were recruited via opportunity sampling. The experiment lasted approximately 45 minutes and each participant was given partial course credit.

Design & Materials

A 2 (Speaker Control) x 2 (Conditional Meaning) repeated measures design, with four conditions: Control/Threat; Control/Warning; No Control/Threat; and No Control/Warning. Experimental items were 32 vignettes describing fictional situations (see Figure 1).

*****

INSERT FIGURE 1 HERE

*****

An example experimental item can be seen in Figure 1. Context prior to the conditional statement was manipulated: the individual producing the conditional either had control over the outcome of the statement or no control, e.g., a council member or Karen's brother. Additionally, the conditional speech act itself was manipulated to be either a threat or a warning.

There were thirty-two experimental vignettes: four versions of each were constructed, resulting in 128 permutations (see Supplementary Material). Each vignette was five sentences. Sentences 1 and 2 introduced the protagonist and some context. Sentence 3 introduced the speaker of the conditional speech act. The manipulation in this sentence varied the speaker's control over the outcome of the conditional speech act: the speaker either had or did not have control. The conditional speech act was presented in Sentence 4. The consequence of the speech act was manipulated, resulting in either a threat or a warning. Sentence 5 provided a neutral continuation.

The items were divided into four presentation lists using a Latin-square repeated measures design. This produced four lists each with 32 experimental items: each list contained eight vignettes from each condition. Sixteen unrelated filler items were also included in each list. The items were randomly ordered for each participant. Seven participants were assigned to each list.

Comprehension questions requiring a Yes/No response followed 25% of the list items and all participants scored at, or above, 87% accuracy.

Procedure

An Eyelink 1000 (desktop mount configuration) was used to record eye movements. Viewing was binocular, with gaze location sampled at 1000 Hz from the right eye. Head position was stabilised using a chin rest. The items were presented on an LCD monitor (60 cm from the participants' eyes) in size 22 Arial font.

At the beginning of the experiment, and repeated as necessary throughout, the eye-tracker was calibrated using nine fixation points. Participants were instructed to read silently for comprehension. Prior to each trial, participants were presented with a gaze trigger. Fixation on the gaze trigger caused the experimental item to appear. After reading the text, participants were instructed to press a button on a handheld controller. This either led to the presentation of the next trial or a comprehension question.

Results

Analysis

Three regions of text were analysed. The first was the antecedent clause of the conditional statement which, across all four conditions, was lexically identical (e.g., *"If you don't increase membership numbers,"*). Secondly, the consequent clause was analyzed. Within an item, this region was lexically identical across the two 'threat' conditions (e.g., *"...I will shut the club down."*), and across the two 'warning' conditions (e.g., *"...it will be a struggle to keep the club open."*). The key statistic we examine below is the interaction between our two experimental factors; this corresponds to an effect of control for each type of conditional. The important comparison thus involves

examining lexically identical regions of text in the consequent region. The final region was the final sentence of the vignette.

An automatic procedure excluded fixations shorter than 40 msec (if they were not within three characters of another fixation), pooled fixations (if they were shorter than 80 msec) with adjacent fixations, and reduced fixations longer than 1,200 msec.

Four processing measures were analysed. The first three measures, First Pass Reading Time, First Pass Regressions Out and Regression Path reading time, provide information about processing a region of text before the eye exits to the right of that region. The first two are measures of early processing, and the latter a measure reflecting intermediate processing (as it reflects both initial reading of a region, but also re-reading of previous regions). The fourth measure, Total Time, reflects total processing within a region. For each region and condition, the mean values and standard errors of each measure are displayed in Table 1.

A series of 2 x 2 (Speech Control x Conditional Meaning) repeated measures ANOVAs with participants (*F1*) and items (*F2*) as random factors were used to analyse effects in each region. The ANOVA results are displayed in Table 2. Interactions are explored using pairwise comparisons with participants (*t1*) and items (*t2*) as random factors.

*****

INSERT TABLE 1 HERE

*****

*****

INSERT TABLE 2 HERE

*****

Antecedent Region

Table 2 shows there were no effects of speaker control or conditional meaning and no interactions between these factors on any of our four processing measures.

Consequent Region

Table 2 shows that on First Pass times, there were no effects of speaker control but there was an effect of conditional meaning. Crucially, there was a significant interaction between these factors. This interaction was driven by consequents describing warnings being read more quickly when the speaker did not have control over the consequent, versus when they did have control over the consequent (1,021ms vs. 1,110ms, $t1(27) = 2.19$, $p = .038$; $t2(31) = 2.40$, $p = .022$). Consequents describing threats were read at the same speed regardless of whether the speaker did or did not have control over the consequent (865ms vs. 915ms, $t1(27) = 1.21$, $p = .236$; $t2(31) = 1.56$, $p = .130$).

On First Pass Regressions Out, there was a main effect of speaker control, a main effect of conditional meaning, and an interaction between these two factors. The interaction was driven by consequents describing threats demonstrating a lower proportion of regressions out of the region when the speaker did have control over the consequent, versus when they did not have control over the consequent (10% vs. 29%, $t1(27) = 5.71$, $p < .001$; $t2(31) = 4.25$, $p < .001$). Consequents describing warnings demonstrated the same proportion of regressions out of the region regardless of whether the speaker did or did not have control over the consequent (10% vs. 16%, $t1(27) = 1.69$, $p = .102$; $t2(31) = 1.54$, $p = .133$).

On Regression Path times, there was a main effect of speaker control, no main effect of conditional meaning and an interaction between these two factors, significant by items only. The interaction was driven by consequents describing threats being read more quickly when the speaker

did have control over the consequent, versus when they did not have control over the consequent (1,004ms vs. 1,300ms, $t1(27) = 2.93$, $p = .007$; (27); $t2(31) = 2.55$, $p = .016$). Consequents describing warnings were read at the same speed regardless of whether the speaker did or did not have control over the consequent (1,201ms vs. 1,266ms, $t1(27) = 0.81$, $p = .426$; $t2(31) = 1.17$, $p = .251$).

On Total Time, there was no effect of speaker control, but there was an effect of conditional meaning that was significant by-participants only and, crucially, an interaction between these factors. This interaction was driven by the suggestion that consequents describing threats were read more quickly when the speaker did have control over the consequent, versus when they did not have control over the consequent (969ms vs. 1,064 ms, $t1(27) = 1.94$, $p = .063$, $t2(31) = 1.70$, $p = .099$). Consequents describing warnings were read at the same speed regardless of whether the speaker did or did not have control over the consequent (1,169ms vs. 1,125ms, $t1(27) = 1.21$, $p = .237$, $t2(31) = 1.33$, $p = .194$).

Final Sentence Region

There were no effects of speaker control (except for a by items effect on First Pass Regressions Out), no effects of conditional meaning, and no interaction between these factors on any of our four measures.

Discussion

This experiment set out to examine whether, in processing terms during reading, conditional threats are perceived like conditional promises, and conditional warnings like conditional tips. Conditional threats require the producer to have control over the consequent event, while conditional warnings do not. In previous research, Stewart et al. (2013) found a disruption to eye-movements (reflected

in an increase in backward eye movements and re-reading of previous text) when conditional promises were read in contexts where the speaker did not have control over the action described by the consequent; for conditional tips processing was equivalent for contexts both in which the speaker did and did not have control over the consequent. This is what was predicted given that promises (but not tips) have the requirement that the speaker is in a position to act on the outcome described by the conditional consequent. The focus of the present experiment is on whether conditional threats behave like conditional promises, and conditional warnings like conditional tips. In other words, will there be a processing cost for reading a conditional threat in a context where the speaker does not have control over the consequent event (as has been found for promises), and will conditional warnings be read equivalently easily regardless of speaker control (as has been found for tips)? As summarised above, there is evidence that threats do not have an obligation to be carried out in the same way that promises do (e.g., Verbrugge et al., 2004). This weaker obligation for threats may thus lead to readers not fully determining whether the speaker is indeed in a position to actually carry out the threat (as oftentimes they may be uttered idly with no means or intention to carry them out). This would result in conditional threats being easy to process regardless of speaker control. Just as there are differences (above and beyond utility) between promises and threats, there are also important differences between tips and warnings (above and beyond utility). For example, warnings can often be uttered so as to function as veiled threats. In order for a reader to determine whether a warning is a genuine warning, or a veiled threat, they need to be sensitive to the extent to which the speaker has control over the consequent event. The speaker having such control would mean that when they utter what appears to be a warning, it is actually a veiled threat. Under this account we would expect to find processing difficulties for conditional warnings when they are uttered by someone who has control over the consequent event (and so would be making a veiled threat).

For conditional threats, the pattern we report in the present experiment is similar to that associated with conditional promises reported in Stewart et al., (2013). In the experiment above, we found an increase in backwards eye movements from the consequent clause when a conditional threat was uttered by someone who did not have control over the consequent event. This effect also emerged in the regression path data (reflecting both initial reading of the consequent clause and re-reading of previous text) and is comparable to the effect reported in Stewart et al. (2013) for conditional promises in contexts where the speaker did (or did not) have control over the consequent event.

For conditional warnings, first pass reading times to the consequent region revealed they were processed more *quickly* when uttered by someone who did not have control over the consequent event (relative to when uttered by someone who did). This effect stands *in contrast* to the results reported by Stewart et al., (2013) for conditional tips as Stewart et al. found no disruption in first pass reading times as a function of speaker control. However, because warnings can sometimes be veiled threats (where speaker control is important), readers need to make an inference that a warning is likely to be a veiled threat when uttered by someone with control over the consequent event. Our data suggest this inference process takes time. On the regression path measure (and in contrast to the first pass reading time effect), conditional warnings were read at the same speed regardless of whether the speaker did or did not have control over the action described by the consequent. This is compatible with the view that by this point readers had determined whether the warning was a genuine warning, or a veiled threat. On total reading times to the consequent clause, a similar pattern emerged for both conditional threats and warnings as was found in the regression path data (albeit with less statistical robustness).

Overall, then, the data suggest that when conditional warnings are first read, there is a disruption to eye movements when the speaker has control over the consequent action and thus may

be uttering a veiled threat. We suspect that this disruption reflects the reader generating the inference that a conditional warning may effectively be a veiled threat when it is uttered by someone with control over the consequent event. Indeed, in our materials conditional threats typically started with the personal pronoun 'I' in the consequent, while conditional warnings did not. This difference in the explicitness of the assertion of control may mean that it takes a little longer for a warning to be understood as a veiled threat when it is uttered by someone with control over the consequent event; in other words, because control is not asserted explicitly readers need to make the inference. This pattern contrasts with that reported by Stewart et al. for tips and suggests that extra pragmatic factors influence how conditional warnings are processed when first encountered. In processing terms, while conditional threats appear to operate in a manner similar to conditional promises, conditional warnings do not appear to act simply as conditional tips with negative polarity. An additional level of analyses may be required for conditional warnings in order to determine the extent to which they are genuine warnings, or are actually veiled threats. The broader question of how conditional speech acts differ from each other is an important one not just in the context of research on conditionals, but also in terms of research on the communicative function of persuasions and dissuasions. It is likely that this would benefit from investigations from research perspectives (such as corpus or conceptual analysis) that build on the above processing findings.

References

Austin, J.L. (1962). *How to do things with words.* Oxford University Press

Bonnefon, J.-F. (2009). A theory of utility conditionals: Paralogical reasoning from decision-theoretic leakage. *Psychological Review, 116,* 888-907.

Bonnefon, J. -F., Haigh, M., & Stewart, A. J. (2013). Utility templates for the interpretation of conditional statements. *Journal of Memory and Language, 68*, 350-361.

Bonnefon, J. F., & Hilton, D. J. (2004). Consequential conditionals: Invited and suppressed inferences from valued outcomes. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 30*, 28–37.

Evans, J. S. B. (2005). The social and communicative function of conditional statements. *Mind & Society, 4*, 97-113.

Evans, J. S. B. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology, 59*, 255-278.

Evans, J. S. B., & Over, D. E. (2004). *If: Supposition, Pragmatics, and Dual Processes.* Oxford University Press.

Evans, J. S. B., & Twyman-Musgrove, J. (1998). Conditional reasoning with inducements and advice. *Cognition, 69*, B11-B16.

Ferguson, H. J., & Sanford, A. J. (2008). Anomalies in real and counterfactual worlds: An eye-movement investigation. *Journal of Memory and Language, 58*, 609-626.

Fillenbaum, S. (1976). Inducements: On the phrasing and logic of conditional promises, threats, and warnings. *Psychological Research, 38*, 231-250.

Haigh, M., Ferguson, H. J., & Stewart, A. J. (2014). An eye-tracking investigation into readers' sensitivity to actual versus expected utility in the comprehension of conditionals. *The Quarterly Journal of Experimental Psychology, 67*, 166-185.

Haigh, M., Stewart, A. J., & Connell, L. (2013). Reasoning as we read: Establishing the probability of causal conditionals. *Memory & Cognition, 41*, 152-158.

Haigh, M., Stewart, A. J., Wood, J. S., & Connell, L. (2011). Conditional advice and inducements: Are readers sensitive to implicit speech acts during comprehension? *Acta Psychologica, 136*, 419-424.

Johnson-Laird, P. N., & Byrne, R. M. (2002). Conditionals: a theory of meaning, pragmatics, and inference. *Psychological Review, 109*, 646-678.

López-Rousseau, A., & Ketelaar, T. (2004). " If…": Satisficing algorithms for mapping conditional statements onto social domains. *European Journal of Cognitive Psychology, 16*, 807-823.

López-Rousseau, A., & Ketelaar, T. (2006). Juliet: If they do see thee, they will murder thee. A satisficing algorithm for pragmatic conditionals. *Mind & Society, 5*, 71-77.

Searle, J. R., & Vanderveken, D. (1985). *Foundations of illocutionary logic*. Cambridge: Cambridge University Press.

Stewart, A. J., Haigh, M., & Ferguson, H. J. (2013). Sensitivity to speaker control in the online comprehension of conditional tips and promises: an eye-tracking study. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 39*, 1022-1036.

Stewart, A. J., Haigh, M., & Kidd, E. (2009). An investigation into the online processing of counterfactual and indicative conditionals. *The Quarterly Journal of Experimental Psychology, 62*, 2113-2125.

Verbrugge, S., Dieussaert, K., Schaeken, W., & Van Belle, W. (2004). Promise is debt, threat another matter: The effect of credibility on the interpretation of conditional promises and threats. *Canadian Journal of Experimental Psychology, 58*, 106-112.

Figure 1: Example experimental item. Speaker Control was manipulated in sentence three and Conditional Meaning was manipulated in sentence four.

Karen ran a small badminton club for kids in her area. Over the months, membership numbers began to dwindle rapidly. Karen went to visit a local council member/her brother for their opinion on the matter. The council member/her brother said to her, "If you don't increase membership numbers, I will shut the club down."/"If you don't increase membership numbers, it will be a struggle to keep the club open." Karen deliberated over how she would best attract new members.

Table 1: Mean reading times (averaged over subjects) to each region (standard errors in parenthesis).

Speaker Control	Conditional Meaning	First Pass (ms)	Regressions Out (%)	Regression Path (ms)	Total Time (ms)
Antecedent Region					
Control	Threat	684 (35)	12 (3)	838 (51)	827 (52)
Control	Warning	684 (36)	12 (3)	853 (47)	832 (45)
No-control	Threat	695 (36)	12 (2)	861 (41)	902 (50)
No-control	Warning	714 (47)	14 (2)	873 (53)	861 (48)
Consequent Region					
Control	Threat	865 (42)	10 (2)	1004 (59)	969 (54)
Control	Warning	1110 (56)	10 (2)	1201 (57)	1169 (58)
No-control	Threat	915 (49)	29 (4)	1300 (107)	1064 (62)
No-control	Warning	1021 (54)	16 (2)	1266 (89)	1125 (53)
Final Sentence Region					
Control	Threat	1755 (121)	31 (3)	2183 (189)	1849 (118)
Control	Warning	1608 (92)	27 (4)	1968 (121)	1724 (97)
No-control	Threat	1651 (101)	34 (4)	2120 (133)	1809 (99)
No-control	Warning	1752 (107)	37 (5)	2115 (126)	1865 (103)

Table 2: ANOVA results for each region and measure.

			By participants			By items		
Region	Measure	Factor	$F_1(1,27)$	p	η_p^2	$F_2(1,31)$	p	η_p^2
Antecedent	First Pass	Control	F<1			F<1		
		Meaning	F<1			F<1		
		Interaction	F<1			F<1		
	First Pass Regressions Out	Control	F<1			F<1		
		Meaning	F<1			F<1		
		Interaction	F<1			F<1		
	Regression Path	Control	F<1			F<1		
		Meaning	F<1			F<1		
		Interaction	F<1			F<1		
	Total Time	Control	3.56	.07	.12	3.95	.056	.11
		Meaning	F<1			F<1		
		Interaction	F<1			F<1		
Consequent	First Pass	Control	F<1			F<1		
		Meaning	31.83	<.001*	.54	5.73	.023*	.16
		Interaction	5.61	.025*	.17	7.94	.008*	.20
	First Pass Regressions Out	Control	23.47	<.001*	.47	15.19	<.001*	.33
		Meaning	10.79	.003*	.29	13.73	.001*	.31
		Interaction	10.13	.004*	.27	7.44	.01*	.19
	Regression Path	Control	8.65	.007*	.24	6.33	.017*	.17
		Meaning	1.97	.172	.07	F<1		
		Interaction	2.92	.099	.10	4.50	.042*	.13
	Total Time	Control	F<1			F<1		
		Meaning	17.69	<.001*	.40	2.85	.102	.08
		Interaction	4.55	.042*	.14	4.78	.037*	.13
Final Sentence	First Pass	Control	F<1			F<1		
		Meaning	F<1			F<1		
		Interaction	4.03	.055	.13	3.08	.089	.09
	First Pass Regressions Out	Control	3.52	.072	.12	4.42	.044*	.13
		Meaning	F<1			F<1		
		Interaction	1.24	.275	.04	1.33	.258	.04
	Regression Path	Control	F<1			F<1		
		Meaning	1.42	.244	.05	3.95	.056	.11
		Interaction	1.66	.208	.06	2.62	.116	.08
	Total Time	Control	1.00	.326	.04	F<1		
		Meaning	F<1			F<1		
		Interaction	2.47	.128	.08	1.99	.169	.06

*p<.05