Slippery slope arguments imply opposition to change

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Published online: 17 February 2016
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Abstract Slippery slope arguments (SSAs) of the form *if A, then C* describe an initial proposal (A) and a predicted, undesirable consequence of this proposal (C) (e.g., “If cannabis is ever legalized, then eventually cocaine will be legalized, too”). Despite SSAs being a common rhetorical device, there has been surprisingly little empirical research into their subjective evaluation and perception. Here, we present evidence that SSAs are interpreted as a form of consequentialist argument, inviting inferences about the speaker’s (or writer’s) attitudes. Study 1 confirmed the common intuition that a SSA is perceived to be an argument *against* the initial proposal (A), whereas Study 2 showed that the subjective strength of this inference relates to the subjective undesirability of the predicted consequences (C). Because arguments are rarely made out of context, in Studies 3 and 4 we examined how one important contextual factor, the speaker’s *known* beliefs, influences the perceived coherence, strength, and persuasiveness of a SSA. Using an unobtrusive dependent variable (eye movements during reading), in Study 3 we showed that readers are sensitive to the internal coherence between a speaker’s beliefs and the implied meaning of the argument. Finally, Study 4 revealed that this degree

of internal coherence influences the perceived strength and persuasiveness of the argument. Together, these data indicate that SSAs are treated as a form of negative consequentialist argument. People infer that the speaker of a SSA opposes the initial proposal; therefore, SSAs are only perceived to be persuasive and conversationally relevant when the speaker’s attitudes match this inference.

Keywords Slippery slope · Argumentation · Inference · Informal reasoning · Experimental pragmatics

People frequently argue against relatively moderate proposals on the basis that their implementation will start a chain of events that ultimately leads to an undesirable outcome. For example, an anti-drug-use campaigner might argue that legalizing cannabis will put lawmakers on a slippery slope toward the legalization of much harder drugs, like cocaine. These so-called *slippery slope arguments* (SSAs) are common in everyday discourse and are frequently used in political, legal, and ethical debates (see Walton, 1992, for various examples). Despite being subjectively persuasive to some, this type of argument is often viewed as a logically fallacy (see, e.g., Tindale, 2007, for a discussion), although there is some evidence that SSAs may have a rational basis in Bayesian decision theory (Corner, Hahn, & Oaksford, 2011; Hahn & Oaksford, 2007).

The prototypical SSA takes the conditional form *if antecedent (A), then consequent (C)*, and may make explicit reference to a “slippery slope” (see Example 1), but often this metaphor is implicit (see Example 2).

1. If we agree to air strikes against the enemy, [then] we will be on a slippery slope toward “boots on the ground.”

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2. If voluntary euthanasia is ever legalized, [then] it will ultimately lead to the legalization of involuntary euthanasia.

These examples are of a form that Walton (2015) refers to as “compressed SSAs” that jump from an initial proposal to the distal consequences, leaving the intermittent steps unstated. The content and subjective strength of these arguments can vary widely, but they share several common features (Rizzo & Whitman, 2003). In an initial effort to provide a definition of the SSA that would be useful from a psychological perspective, Corner et al. (2011) identified four distinct components:

- a. An initial proposal (A)
- b. An undesirable outcome (C)
- c. The belief that allowing (A) will lead to a reevaluation of (C) in the future
- d. The rejection of (A) based on this belief.

The *initial proposal* is typically stated as a conditional antecedent (*if A...*), whereas the *undesirable outcome* is stated in the consequent clause (*... then C*). *Belief* in a SSA is based on the perceived likelihood that allowing (A) will raise the probability of (C) in the future. Therefore, like other types of thematic conditional, the degree of *belief* in a SSA is based on the subjective conditional probability of (C) given (A) (cf. Evans & Over, 2004). Corner et al. (2011) demonstrated that the algorithmic-level mechanism for establishing these degrees of belief relies on a process of category boundary reappraisal, whereby classifying one item (e.g., cannabis) into a new category (e.g., “legal drugs”) increases the likelihood of further items being classified in the same category (e.g., cocaine). A consequence of this mechanism is that the more similar the items at the top (e.g., cannabis) and bottom (e.g., cocaine) of the slippery slope, the stronger the argument is perceived to be. From this perspective, Example 3 (in which the ends of the slope are similar) should be perceived as a subjectively stronger argument than Example 4 (in which the ends of the slope are dissimilar).

3. If Class C drugs are legalized, then Class B drugs will ultimately be legalized too.
4. If Class C drugs are legalized, then automatic weapons will ultimately be legalized too.

The final aspect of the definition by Corner et al. (2011) concerns the ultimate rhetorical purpose of an SSA—that is, to imply that the initial proposal should

be rejected. In this way, SSAs are similar to conditional dissuasions, in which an undesirable consequence is offered as a disincentive to act on the initial proposal (cf. Thompson, Evans, & Handley, 2005). The proposed illocutionary function of SSAs is uncontroversial among theorists, regardless of whether this type of argument is viewed as a fallacy. However, there is currently no direct psychological evidence that people do actually infer the speaker’s or writer’s opposition to the initial proposal. This type of inference requires the recipient of a SSA to simultaneously reason from their own perspective, but also from the perspective of the speaker (Thompson et al. 2005), a process that may be far from trivial in light of evidence demonstrating that even neurotypical adults can be fallible when it comes to mentally representing the basic beliefs, desires, and intentions of others (e.g., Birch & Bloom, 2007).

In this article, we address this gap in the literature by examining what the utterance of a SSA reveals to a recipient about the attitudes of the speaker. We propose that the SSA is treated as a form of consequential, dissuasive argument that implies the speaker’s desire to avoid a proposed action (cf. Bonnefon & Hilton, 2004; Thompson et al. 2005; Walton, 2015). Using a set of 24 novel SSAs, we first present empirical evidence for a common intuition, namely that SSAs imply the speaker’s opposition to the initial proposal (A). In terms defined by Austin (1962), the *illocutionary force* of a SSA is to imply the speaker’s opposition to change, whereas the *perlocutionary act* of a SSA is to persuade the listener (or reader) to feel the same. Establishing empirically the extent to which SSAs achieve their illocutionary and perlocutionary goals will act as a foundation for future research. Although this type of argument has generated much theoretical discussion in the fields of philosophy, ethics, and law, empirical studies of its subjective perception and affect are scarce.

After Study 1 provides the empirical foundation, in Study 2 we examined how readers use the decision-theoretic characteristics of an SSA to evaluate the strength of the speaker’s opposition to change and the extent to which these arguments affect the beliefs of the recipient. Because this type of argument is rarely made out of context, in Studies 3 and 4 we examined how one important contextual factor, the speaker’s *known* beliefs, may influence the perceived coherence, strength, and persuasiveness of a SSA. Using an unobtrusive dependent variable (reading times measured using an eyetracker), in Study 3 we examined whether readers *spontaneously* infer a speaker’s opposition to change during real-time, online processing of a SSA. By varying the speaker’s explicitly stated beliefs (e.g., the

speaker is described as opposing or supporting the initial proposal), this method allows us to assess the perceived degree of internal coherence and conversational relevance of a SSA with respect to the speaker's beliefs and intentions. Finally, since the perlocutionary goal of an SSA is to persuade the recipient, in Study 4 we examined how the degree of coherence between the speaker's intentions and the meaning implied by their argument influences the perceived strength and persuasiveness of a SSA.

Study 1

There is currently no direct psychological evidence that SSAs result in inferences about the attitudes of a speaker; however, some evidence has indicated that other forms of conditional statement do imply that the speaker opposes an initial proposal. For example, conditional warnings (e.g., *If you have another drink, you will miss your plane*) and threats (e.g., *If you turn up late again, I will fire you*) are routinely identified as dissuasions against an initial proposal, on the basis of the negative utility of their consequences (López-Rousseau & Ketelaar, 2006; Thompson et al. 2005; see also Evans, Neilens, Handley, & Over, 2008). However, SSAs differ from threats and warnings, because the initial proposal tends to describe the potential action of a third party, rather than an action of the hearer or reader. As a result, Corner et al. (2011) argued that the SSA can be better categorized as a form of negative consequentialist argument (also known as an “appeal to negative consequences”), expressed in the form of a consequential conditional (cf. Bonnefon, 2009; Bonnefon, Haigh, & Stewart, 2013; Bonnefon & Hilton, 2004).

Consequential conditionals are simply conditional statements (*If A, then C*) that describe the controllable action of a third party (A) and its valued consequences (C). When a consequential conditional has undesirable consequences (e.g., “If Didier takes this new job, he will be paid less and be less happy.”), it is rational to infer that the antecedent action will not be taken (i.e., that Didier will not take the job). As the perceived undesirability of the predicted consequence increases, so does the strength of this inference (Bonnefon & Hilton, 2004). Therefore, if somebody utters a conditional argument that outlines the undesirable consequences of an initial proposal, it is rational, from this perspective, to infer that they are arguing *against* the initial proposal. The more undesirable the predicted consequences, the stronger this inference should be.

In Study 1, we present evidence that people treat SSAs as a form of negative consequentialist argument and infer that the speaker is arguing for the initial proposal to be rejected. We constructed 24 SSAs differing in lexical and semantic content, but sharing the same syntactic and pragmatic features (the full list of arguments can be found in Appendix A). A limitation of previous SSA studies was that they relied on data from a limited number of examples, and were therefore at risk of committing the “language-as-fixed-effect fallacy” (Clark, 1973). Participants were presented with the arguments and asked to write down, in their own words, what they could infer about the speakers' attitudes toward the topic described in the antecedent (“if...”) clause (see Fig. 1 for an example of this task).

Method

A total of 23 participants (11 females, 12 males; mean age 28.4 years) were recruited from an online participant pool (www.prolificacademic.co.uk). They completed the task online in their own time and location. All of the participants were native English speakers and did not take part in the other studies presented below. They were each paid £3.50.

Study 1 was conducted online using Qualtrics. Each participant was presented with the 24 SSAs. For each argument, they were asked to write down what they could infer about the speaker's attitude toward the topic described in the antecedent clause (with a limit of 200 characters). If participants felt that nothing could be inferred from an argument, they were instructed to reply by typing “nothing.” These arguments were interspersed with 24 filler arguments that had positive consequences (e.g., “If the minimum wage is raised, then living standards will eventually improve.”). Each participant saw 48 arguments (24 SSAs plus 24 filler items) presented in a unique random order.

Results and discussion

Responses to each item were categorized according to the type of inference that was generated. Specifically, each response was coded into one of the following four categories:

- The participant infers that the speaker *opposes* action A.
- The participant infers that the speaker *supports* action A.
- The participant explicitly states that “nothing” can be inferred from the argument.

Jayne and Carly were discussing their feelings about euthanasia. Carly argued that “*If voluntary euthanasia is ever legalised, it will ultimately lead to the legalisation of involuntary euthanasia*”.

From this statement, what can you infer about Carly’s attitudes towards voluntary euthanasia?

Fig. 1 Example of a SSA and question used in Study 1

- d. The participant provides an invalid response by paraphrasing the argument (without making any inference), or by providing an irrelevant answer.

Responses were categorized by the first author. They were also independently categorized by a second coder who was not otherwise involved with this research. There was a very high level of agreement between the two coders ($\kappa = .85$, $p < .001$). On average, participants inferred that the speaker was arguing against the action described in the antecedent clause for 76.8% of the SSAs. Example verbatim responses to the SSA presented in Fig. 1 are provided below:

Participant 2: “Carly disagrees with voluntary euthanasia.”

Participant 3: “Carly does not think voluntary euthanasia should be legalised, as it could lead to murder.”

Participant 16: “Carly thinks the risks associated with the escalation of the laws is not worth legalising voluntary euthanasia.” [sic]

Participant 19: “Carly opposes voluntary euthanasia.”

The remaining responses were split between the other three categories. Some responses directly stated that nothing could be inferred (6.3%), whereas a minority of responses indicated that the speaker was actually in favor of the antecedent action (0.5%). All other responses (16.3%) were coded as invalid because the participant simply paraphrased the argument without making any inference, or provided an irrelevant answer. These data confirm the common intuition that SSAs imply the speaker’s desire to avoid the initial proposal. Participants treated SSAs as a form of negative consequentialist argument with decision-theoretic features. Given that SSAs, by definition, predict a negative outcome (C), they imply that the speaker is against any action (A) that might see this outcome realized.

Study 2

An individual that produces a SSA could choose to highlight any number of undesirable consequences that

differ in their severity, but they must consciously choose just one. For example, a speaker could choose to argue that the legalization of Class C drugs in the UK could ultimately lead to the legalization of Class B drugs (a moderately undesirable consequence) or to the legalization of Class A drugs (a very undesirable consequence). Therefore the recipient may use the subjective severity of the chosen consequence as a proxy to infer the strength of the speaker’s opposition to the initial proposal. Indeed, if SSAs are treated as a form of negative consequentialist argument, then the extent to which a speaker is seen to oppose the initial proposal (A) should be related to the severity of its predicted undesirable consequences (C) (Bonneton & Hilton, 2004). To test this prediction we presented participants with the same 24 SSAs used in Study 1 and asked them to rate (1) the undesirability of the predicted consequence for each argument, and (2) the degree to which each argument implied that the initial proposal should be rejected. We predict that the more undesirable these predicted consequences, the more that the speaker will be seen to be arguing against the initial proposal.

A secondary aim was to assess the extent to which an SSA influences the perceptions of a reader. A SSA can only be effective if it causes the recipient to believe that the initial proposal will actually raise the probability of the undesirable outcome. We therefore measured the prior subjective probability of the 24 undesirable events described in the consequent clauses of our SSAs (C) and also the subjective conditional probability of these consequences occurring *given that* the initial proposal also occurs. If SSAs successfully raise the subjective probability of an undesirable event, then the subjective conditional probability of (C) given (A) should be higher than the prior subjective probability of (C).

Method

We collected subjective ratings of five variables associated with the same 24 SSAs used in Study 1:

- The prior subjective probability of (A)
- The prior subjective probability of (C)
- The subjective conditional probability of (C) given (A)

- d. The subjective undesirability of (C) (high scores equal greater undesirability)
- e. The extent to which the argument implies that the initial proposal (A) should be rejected (high scores mean that rejection is strongly implied).

Ratings were provided on a 0–100 scale (see [Appendix A](#) for the full list of arguments and their mean ratings). The probability ratings were converted to a 0–1 scale for analysis purposes.

A group of 45 psychology students from the University of Manchester (42 females, 3 males; mean age 19.2 years) provided five ratings for each of the 24 arguments. The task was administered online using Qualtrics. Participants completed the task in their own time and location. Each participant received partial course credit. All were native English speakers, and none took part in the other three studies. The five questions were presented concurrently, immediately below each argument. Each participant saw the 24 arguments in a different random order.

Results and discussion

The *t* tests reported below treat subjects (t_1) and items (t_2) as random factors. In Studies 2, 3, and 4 the by-subjects analysis allows us to assess whether our results can be generalized beyond the specific sample of participants recruited for this study, whereas the by-items analysis allows us to assess whether our results can be generalized beyond the specific arguments used in this study (cf. Clark, 1973).

The ratings indicated that the arguments were perceived to have highly undesirable outcomes (mean = 81.6) and strongly implied that the argument was against the initial proposal (mean = 77.6). There was a strong positive relationship between these two variables ($r = .847$, $p < .001$). The more undesirable the predicted outcome, the more the argument implied that the antecedent action should be rejected. The conditional probability of (C) given (A) was greater than the prior probability of (C) (.25 vs. .18; $t_1(44) = 7.7$, $p < .001$, $d = 1.2$; $t_2(23) = 4.3$, $p < .001$, $d = 0.92$), indicating that the arguments successfully raised the perceived probability of the consequent event (C). However, even though the argument raised the subjective probability of C from .18 to .25, the perceived likelihood of this event was still low in absolute terms (.25). In contrast, the message implied by the argument was strongly accepted. This pattern of results may be explained by the balance of utilities between the initial proposal of a SSA and its predicted consequences. The formulation of a SSA applied by

Corner et al. (2011; see also Evans et al., 2008) treats the evaluation of a SSA as a cost–benefit analysis, weighing up the benefit of the proposed action against the cost of the predicted consequences. For most SSAs, the benefits of the initial proposal are relatively less than the costs of the predicted consequence. If taking the antecedent action leads to even a small increase in the likelihood of C, then the benefit of taking this action may not be worth raising the probability of its possible consequences. This could explain why the speaker's implied opposition to action A was perceived so clearly by our participants.

These data suggest that SSAs are an effective rhetorical device; they increase the perceived likelihood of an undesirable event and strongly imply that the speaker wants the initial proposal to be rejected. The more undesirable the predicted consequence of the initial proposal, the more the speaker was seen to be arguing for the rejection of this proposal. This is consistent with the notion that SSAs are a form of negative consequentialist argument. These characteristics were shared by a variety of SSAs that differed in semantic content; therefore, our results can be generalized beyond the specific arguments used in this study (cf. Clark, 1973; Judd, Westfall, & Kenny, 2012).

Study 3

Thompson et al. (2005) argued that the evaluation of a conditional persuasion or dissuasion requires the recipient to reason from two independent perspectives. Specifically, an argument can be evaluated from the speaker's perspective (i.e., to decode their implied message) but also from the recipient's own perspective (i.e., to evaluate how convinced they are). The purpose of Study 3 was to determine whether people *spontaneously* track the beliefs and intentions of the speaker. As was shown by Studies 1 and 2, the default interpretation of an SSA is that the speaker opposes the initial proposal; therefore, if people spontaneously adopt this perspective, SSAs should only be perceived to be congruent when the speaker's attitudes permit this interpretation.

To test this prediction, we tracked eye movements as participants read SSAs embedded in vignettes. This method has been employed previously to examine how readers make rational inferences about the motivations and intentions of others (e.g., Haigh & Bonnefon, 2015a, b; Haigh, Ferguson, & Stewart, 2014; Stewart, Haigh, & Ferguson, 2013). Indeed, a large literature in discourse psychology has explored the extent to which readers monitor and evaluate the goals (Huitema, Dopkins, Klin, & Myers, 1993), beliefs (Albrecht &

O'Brien, 1993), emotions (Gernsbacher, Goldsmith, & Robertson, 1992), and abilities (Stewart, Kidd, & Haigh, 2009) of a protagonist. This type of study commonly employs the contradiction paradigm, whereby participants read vignettes describing characters that act or speak in a way that contradicts their stated (or inferred) beliefs, desires, or abilities. The effect that this contradiction has on the processing is typically measured using an unobtrusive dependent variable, such as reading time to a critical region of text. For example, Albrecht and O'Brien (1993) found a reading time penalty when a vegetarian character ordered a hamburger; Huitema et al. (1993) found a similar penalty when a character who wanted to swim and sunbathe subsequently booked a flight to Alaska; and Haigh and Bonnefon (2015a) reported a penalty when a character avoided ordering the oysters that would make her happy.

In Study 3, we employed the contradiction paradigm and used eyetracking to record fixation times to the antecedent and consequent clauses of a SSA. This paradigm allowed us to examine the mental representation, or situation model (Zwaan & Radvansky, 1998), that readers build as they process an SSA (e.g., that the speaker opposes action A). If this mental representation matches what is already known about the beliefs and attitudes of the speaker, then the SSA should be read quickly and fluently. In contrast, if the representation of an SSA mismatches the beliefs and attitudes of the speaker, then the SSA should result in relative disruption to normal, fluent reading. Such an effect would tell us two things: (a) that readers make a spontaneous inference from an SSA about the speaker's attitudes, and (b) that this inference is rapidly cross-referenced with the speaker's known beliefs, to assess its conversational relevance and the speaker's internal coherence.

Participants were presented with vignettes that described fictional characters uttering the 24 SSAs used in Studies 1 and 2. The prior context of each vignette was manipulated so that the stated beliefs of the character asserting the SSA were either consistent with an argument against the initial proposal (A), inconsistent with an argument against the initial proposal (A), or neutral (unknown attitude toward the initial proposal; see Fig. 2 for an example of the three conditions, and Appendix B for a full list of the experimental items).

We predicted that the assertion of a SSA would only be perceived as conversationally relevant when the speaker's attitudes permitted the default interpretation of a SSA (i.e., opposition to the initial proposal). As a result, the assertion of a SSA should be pragmatically

acceptable to readers when the speaker is known to oppose or has unknown attitudes toward the initial proposal (consistent and neutral conditions), since neither of these attitudes contradicts the implied opposition to this proposal. However, the SSA should not be pragmatically acceptable when the speaker is known to support the initial proposal (inconsistent condition), since this supportive attitude contradicts the default interpretation of a SSA. This context manipulation should result in the same arguments being read quickly and fluently in the consistent and neutral conditions, but with relative disruption in the inconsistent condition, as readers perceive an apparent contradiction.

We examined how each of these contexts influenced the processing of SSAs. Specifically, we measured how fluently readers were able to process the antecedent (*if A ...*) and consequent (*... then C*) clauses in each of the three experimental conditions. We expected any effects of context to first emerge as the consequent clause was read, since this region of text is the earliest point at which the utterance can be identified as an SSA.

Method

Participants In all, 24 native English speakers with normal or corrected-to-normal vision completed the experiment (21 females, 3 males; mean age 19 years). Three additional participants did not complete the experiment, and their data were excluded. The participants were students from Northumbria University and did not take part in the other three studies. Each received £5 cash.

Design and materials The experimental items were vignettes describing a discussion between two fictional characters. In each item, a character was described as being either against an initial proposal (consistent condition) or in favor of this proposal (inconsistent condition). A third, neutral condition provided no information about the character's attitudes (see Fig. 2). In the following sentence, the character uttered a SSA of the form *if A, then C*. Participants were exposed to each of the three conditions in a Latin-square repeated measures design.

Twenty-four SSAs were constructed, and each was embedded in vignettes corresponding to the consistent, inconsistent, and neutral conditions. The resulting 72 vignettes were four sentences in length (see Appendix B for the full list of items). Sentence 1 introduced two characters. Sentence 2 was manipulated, with the protagonist being described as either *for* or *against* a given proposal (A). In the neutral condition, no information was given about the speaker's attitude toward

Introduction	Jayne and Carly were discussing their feelings about euthanasia.
a) Consistent context	<i>Carly was strongly against it becoming legal in the UK.</i>
b) Inconsistent context	<i>Carly was strongly in favour of it becoming legal in the UK.</i>
c) Neutral context	<i>Carly had recently heard that it could become legal in the UK.</i>
Antecedent (A)	She argued that “If voluntary euthanasia is ever legalised,
Consequent (C)	 it will ultimately lead to the legalisation of involuntary euthanasia”.
Final sentence	They were both engrossed by a live television debate on the subject.

Fig. 2 Example vignette used in Study 3. Each vignette was presented in one of three contexts. The SSA is highlighted in bold, and the two analysis regions are separated by vertical bars

the proposal. In Sentence 3, the protagonist uttered a SSA of the form *if A, then C*. Sentence 4 provided a continuation of the narrative. Within each scenario, Sentences 1, 3, and 4 were identical across conditions.

One version of each scenario was placed into one of three Latin-square presentation lists. Eight participants were assigned to each list. Each participant read the 24 experimental items plus an additional 24 filler items from an unrelated experiment. None of the filler items contained conditionals or arguments. The 48 items were presented in a different random order to each participant. Comprehension questions followed half of the items and were responded to with a mean accuracy of 87%.

Procedure Participants read the vignettes silently for comprehension. Eye movements were recorded using an EyeLink 1000 in a desktop-mounted configuration. Viewing was binocular, and the recordings were sampled from the right eye at 1000 Hz. Vignettes were presented in size 20 Arial font on a CRT monitor 80 cm from the participants' eyes. The head was stabilized using a chin rest.

The eyetracker was calibrated using nine fixation points. Each trial began with a gaze trigger. Fixation on the gaze trigger caused the vignette to appear. After reading a vignette, participants pressed a button on a handheld controller to advance either to a question or the next trial.

Analysis We analyzed reading times to the antecedent clause of the argument (*if A...*) and to the consequent clause of the argument (*then C...*) (see Fig. 2). These analysis regions were lexically identical within items across the three conditions. Fixations <80 ms were pooled with adjacent fixations, whereas fixations <40 ms were excluded if they were not within three characters of another fixation. Fixations >1,200 ms were truncated to 1,200 ms.

The measure chosen to index the speed and fluency of reading was the regression path reading time. This measure records the summed duration of fixations (in milliseconds), from when the eyes first enter a region of text to when the eyes first exit that region to the right. This measure is commonly described as the time taken to *go past* a region of text.

Analyses were conducted using one-way repeated measures analyses of variance (ANOVAs) with subjects (F_1) and items (F_2) as random factors. Significant effects were further analyzed using planned comparisons. Because three planned comparisons followed each ANOVA, the Bonferroni-corrected α was adjusted from .05 to .017.

Results and discussion

Figure 3 shows the mean reading times (in milliseconds) averaged across participants for each analysis region and condition. The ANOVA revealed no effect of context on regression path reading times to the antecedent region (both F s < 1). However, an effect did emerge as the consequent clause was first encountered [$F_1(2, 46) = 7.3$, $p = .002$, $\eta_p^2 = .242$; $F_2(2, 46) = 4.8$, $p = .013$, $\eta_p^2 = .172$]. Planned comparisons revealed that it took more time to initially *go past* the consequent region following the inconsistent context than following the consistent context [2,243 ms vs. 1,888 ms; $F_1(1, 23) = 8.5$, $p = .008$; $F_2(1, 23) = 5.8$, $p = .025$] or the neutral context [2,243 ms vs. 1,857 ms; $F_1(1, 23) = 10.1$, $p = .004$; $F_2(1, 23) = 5.9$, $p = .023$]. We observed no difference in regression path times to this region between the consistent and neutral contexts (1,888 ms. vs. 1,857 ms; both F s < 1).

The earliest point at which an argument can be identified as a SSA is as the consequent clause is processed (because a negative consequence is a fundamental characteristic of SSAs). This region of text is where the effects of our manipulation first emerged. Regression

Fig. 3 Mean regression path reading times, in milliseconds, to the antecedent and consequent clauses of our SSAs (means averaged over participants; error bars represent standard errors of the means). The prior

context was manipulated to be either consistent, neutral, or inconsistent with the assertion of an SSA

path reading times reveal how long it takes a reader to move past a region of text after first entering it. This measure revealed that initial processing of the consequent clause progressed equally quickly in contexts where the speaker was portrayed as being against the initial proposal (consistent condition) and in contexts where nothing was known about the speaker's attitudes (neutral condition). Because these conditions did not contain information that contradicted the default interpretation of an SSA, the arguments were seemingly perceived to be congruent. However, when the speaker's stated attitudes were in contradiction to this default SSA inference (inconsistent condition), there was relative disruption to normal, fluent reading. These results indicated that readers spontaneously adopted the speaker's perspective and inferred that their SSA opposed action A. As a result, the assertion of a SSA was only perceived to be conversationally relevant when the speaker's attitudes did not contradict this inference.

Study 4

The reading time data in Study 3 provided evidence that the processing of a SSA is influenced by what the reader knows about the attitudes and beliefs of the speaker (i.e., a SSA is relatively difficult to process when the speaker is known to support the initial proposal).

Finding that a processing cost arises when a character behaves inconsistently with his or her beliefs and desires is not new (e.g., Albrecht & O'Brien, 1993; Huitema et al. 1993). However, finding such a cost during the processing of SSAs is revealing, because it suggests that readers are sensitive to the internal coherence between a speaker's beliefs and the meaning implied by a SSA.

The eyetracking data in Study 3 show that readers found it easy to process a SSA when the argument did not contradict the speaker's belief states, but relatively difficult when the inferred meaning of the argument contradicted these beliefs. The purpose of Study 4 was threefold. First, we wished to confirm that differences in the eye movement record were indeed due to the perceived degree of coherence between the speaker's beliefs and the assertion of an SSA. Second, we aimed to confirm that any such differences arose due to participants inferring that the SSA implies opposition to the initial proposal (A). Finally, we examined the extent to which our congruency manipulation influenced the overall persuasiveness of the argument from the recipient's perspective. This final aim was crucial. Although Study 3 showed that people spontaneously infer the message communicated by the speaker (the illocutionary force), it told us nothing about how the message was evaluated from the reader's own perspective (the perlocutionary act). Investigating how people understand the intentions

behind the meanings of utterances is a central issue in the field of experimental pragmatics (Noveck & Reboul, 2008).

We asked participants to rate each of our 24 SSAs in each of the three contexts used in Study 3 (i.e., consistent, inconsistent, and neutral). These ratings measured (a) the extent to which the argument was consistent with the speaker's beliefs, (b) the extent to which the producer opposed the initial proposal, and (c) the extent to which the producer made a *persuasive* argument. If our eyetracking results arose from the fact that readers are sensitive to incoherence between what the producers believe and what is implied through their SSAs, then we would expect to find a difference across the contexts for the measures of perceived coherence and perceived opposition to action (A). The third measure would give an insight into the extent to which a SSA is more (or less) persuasive as a function of its congruence with the speaker's beliefs. Given that the rhetorical function of SSAs is to persuade, this is a key issue. Objectively, a SSA should have the same level of persuasiveness, regardless of the belief states of the person producing it. However, it is possible that the congruence between a speaker's beliefs and the argument being made may influence how persuasive the argument is perceived to be (i.e., an argument may be more persuasive when the speaker is known to believe what the argument implies).

Method

Participants A total of 45 psychology students from Northumbria University completed the experiment (36 females, 9 males; mean age 19.6 years). All were fluent English speakers and did not take part in the other three studies. Each participant received partial course credit.

Design and materials Participants were presented with the same materials used in Study 3 (see Fig. 2). The 24 SSAs were embedded in vignettes and presented in one of three contexts (consistent, inconsistent, and neutral). The dependent variables for this experiment were subjective agreement ratings to three statements:

- a. The argument is consistent with the speaker's beliefs.
- b. The speaker opposes [action A].
- c. The speaker makes a persuasive argument.

For each item, the three statements were rated on an 11-point Likert scale anchored at -5 (*Strongly Disagree*), 0 (*Neither Agree nor Disagree*), and $+5$ (*Strongly Agree*).

Procedure The study was administered online using Qualtrics, and participants completed the task in their own time and location. One version of each scenario was placed into one of three Latin-square presentation lists. Fifteen participants were randomly assigned to each list. The 24 items were presented in a different random order to each participant. Each vignette was presented on a separate page, with the three questions presented concurrently, immediately below each vignette.

Results and discussion

Two sets of analyses were conducted for each question. We first conducted one-sample *t* tests to determine whether the agreement ratings in each condition differed from 0 (because this value was labeled as *Neither Agree nor Disagree* on the Likert scale). To examine the relative differences in agreement between the three conditions, we then conducted one-way repeated measures ANOVAs, followed up by planned comparisons. The mean level of agreement in each condition to each of the three questions can be seen in Fig. 4, whereas the relevant inferential statistics can be found in Table 1.

In Study 4, we examined the extent to which participants were sensitive to (a) the extent to which a SSA was consistent with the producer's beliefs, (b) the extent to which the producer opposed the initial proposal, and (c) the extent to which the producer made a persuasive argument. The final question was key, since the goal of an SSA is to persuade.

For the first statement rated by participants (i.e., *The argument is consistent with the speaker's beliefs*), the data revealed a high degree of perceived internal cohesion in the consistent condition. Participants also agreed (but to a lesser extent) that there was internal cohesion in the neutral condition. In other words, neither of these contexts was inconsistent with assertion of the SSA. In the inconsistent condition, participants did *not* perceive any internal cohesion between the argument and the speaker's beliefs. These data help us to explain the eyetracking results from Study 3. The SSAs in the consistent and neutral conditions were read quickly and fluently, because readers perceived no inconsistency between the speaker's attitudes and the subsequent argument. In contrast, the relative slowdown to reading times in the inconsistent condition can be explained by a perceived incoherence between the speaker's attitudes and the meaning implied by the SSA.

The second statement rated by participants (i.e., *The speaker opposes [action A]*) allowed us to determine whether the perceived degree of internal cohesion

Fig. 4 Mean agreement ratings to each of the three statements used in Study 4. Means are averaged over participants, and error bars represent standard errors of the means

between the context and the SSA resulted from an inference about the speaker's opposition to the initial proposal. In the consistent condition, participants agreed that the speaker opposed the antecedent action (A). This was because the context explicitly stated that this was the case (and because the SSA separately implied that it was so). Agreement was also strong in the neutral condition (but to a slightly lesser extent); this was because participants had to base their rating only on what could be inferred from the SSA. In the

inconsistent condition, participants neither agreed nor disagreed that the speaker opposed action (A). This was because the prior context stated that the speaker supported action (A), whereas the SSA implied that the speaker opposed action (A). These conflicting pieces of information made the speaker's beliefs unclear to participants. The pattern of data suggests that perceived cohesion between a speaker's beliefs and the subsequent argument occurred because SSAs trigger people to infer that the speaker is against the antecedent action (A).

Table 1 Inferential statistics for Study 4

	One-Sample <i>t</i> Test			ANOVA	Planned Comparisons ¹		
	Consistent	Inconsistent	Neutral		Consistent vs. Neutral	Consistent vs. Inconsistent	Neutral vs. Inconsistent
1) <i>The argument is consistent with the speaker's beliefs</i>	$t(44) = 12.67, p < .001$	$t(44) = 2.21, p = .032$	$t(44) = 7.88, p < .001$	$F_1(2, 88) = 63.7, p < .001, \eta_p^2 = .591; F_2(2, 46) = 86.2, p < .001, \eta_p^2 = .789$	$F_1(1, 44) = 38.96, p < .001; F_2(1, 23) = 67.6, p < .001$	$F_1(1, 44) = 81.6, p < .001; F_2(1, 23) = 121.59, p < .001$	$F_1(1, 44) = 47.7, p < .001; F_2(1, 23) = 52.98, p < .001$
2) <i>The speaker opposes [action A]</i>	$t(44) = 17.93, p < .001$	$t(44) = .806, p = .425$	$t(44) = 13.82, p < .001$	$F_1(2, 88) = 76.3, p < .001, \eta_p^2 = .634; F_2(2, 46) = 95.1, p < .001, \eta_p^2 = .805$	$F_1(1, 44) = 30.1, p < .001; F_2(1, 23) = 15.4, p = .001$	$F_1(1, 44) = 90.8, p < .001; F_2(1, 23) = 134.6, p < .001$	$F_1(1, 44) = 68.6, p < .001; F_2(1, 23) = 100.1, p < .001$
3) <i>The speaker makes a persuasive argument</i>	$t(44) = .023, p = .982$	$t(44) = 4.42, p < .001$	$t(44) = 1.61, p = .115$	$F_1(2, 88) = 21.3, p < .001, \eta_p^2 = .326; F_2(2, 46) = 13.7, p < .001, \eta_p^2 = .374$	$F_1(1, 44) = 6.2, p = .017; F_2(1, 23) = 4.1, p = .056$	$F_1(1, 44) = 35.1, p < .001; F_2(1, 23) = 24.6, p < .001$	$F_1(1, 44) = 17.7, p < .001; F_2(1, 23) = 10.4, p = .004$

One-sample *t* tests determined whether the agreement ratings in each condition differed from 0. ANOVAs and planned comparisons tested for relative differences in agreement between the three conditions, by subjects (F_1) and by items (F_2). ¹ The Bonferroni-corrected α for the planned comparisons was .017

In their ratings of the third statement, participants measured the extent to which the speaker made a persuasive argument. Since the ultimate rhetorical purpose of a SSA is to persuade other people, the response to this question allowed us to determine whether the perceived internal coherence between the speaker's attitudes and the meaning implied by a SSA influences how persuasive the argument is seen to be. The first finding of note was that, on average, participants did not find the SSAs used in our study to be particularly persuasive (i.e., there was no consistent agreement that arguments were persuasive in any of the three conditions). This may have been because people were generally indifferent to the arguments, or because the arguments split opinion (with positive ratings cancelling out negative ratings). However, there were interesting differences *between* the three conditions. The SSAs were seen as being relatively less persuasive when their implied meaning was inconsistent with the speaker's attitudes (relative to when the speaker's beliefs were consistent or unknown). This suggests that SSAs are perceived to be less persuasive when the meaning implied by the argument is contradicted by the speaker's stated beliefs; as the degree of coherence decreased, so did the degree of persuasiveness.

General discussion

The four studies presented above indicate that SSAs of the form *if A, then C* are treated as a form of negative consequentialist argument, resulting in inferences about the speaker's (or writer's) attitudes. Using a set of 24 novel SSAs, we first confirmed the common intuition

that an individual who utters a SSA is seen to be arguing *against* the initial proposal (Study 1). We then found that the subjective strength of this inference is strongly related to the undesirability of the predicted consequences (Study 2). In Studies 3 and 4, we then looked at the impact of an important contextual variable on the perception of an SSA—namely, the speaker's known beliefs. Eye movement data indicated that readers spontaneously adopted the speaker's perspective, with the arguments only being perceived as congruent when the speaker's personal beliefs permitted opposition to the initial proposal (Study 3). Finally, Study 4 showed that the degree of internal coherence between what the speaker believes and what is implied influences the perceived strength of the argument.

Despite SSAs being a common rhetorical device in everyday discourse, there has been surprisingly little empirical research into their subjective evaluation and perception. As we outlined in the introduction, it has been argued that SSAs have four distinct components (Corner et al. 2011). Previous research has identified an algorithmic mechanism for establishing degrees of belief in an argument (Corner et al., 2011; Hahn & Oaksford, 2007), thus advancing our understanding of the third defining characteristic (“The belief that allowing (A) will lead to a reevaluation of (C) in the future”). In this article, we focused on the pragmatic implications of the fourth defining characteristic (“The rejection of (A) based on this belief”).

Since SSAs imply that the initial proposal should be rejected, we predicted that the assertion of such an argument would lead to inferences about the attitudes of the person making the argument. Because SSAs fit the definition of a

consequentialist argument, these inferences should be informed by the subjective utility of the consequent clause (Bonneton & Hilton, 2004). When the predicted consequence of a consequentialist argument is negative, it is rational, in a decision-theoretic sense, to assume that the speaker is against the initial proposal. This is what we found in Studies 1 and 2. Participants strongly inferred that the speaker opposed the initial action, and the strength of this inference correlated with the subjective undesirability of the predicted consequences.

Inferring the speaker's opposition to a given action requires the recipient of a SSA to attribute motivations and intentions to the speaker. A growing body of evidence is indicating that even neurotypical adults are susceptible to making errors when attributing mental states to other people (e.g., Birch & Bloom, 2007). The data presented above indicate that SSAs communicate a very clear message about the speaker's mental states. The extent to which this message was conveyed correlated very strongly with the subjective undesirability of the proposed consequence. The more undesirable the proposed outcome, the more the argument implied that the initial proposal should be rejected. The recipient of a SSA can therefore infer much about the speaker's attitudes from just two simple cues: consequent valence and severity. A negatively valenced consequent leads the recipient to infer that the speaker opposes the initial proposal, whereas the severity of this consequent indicates the speaker's *degree* of opposition. These subjective cues may allow a recipient to attribute mental states to the speaker using folk understandings of human motivation, rather than reasoning about the speaker's more specific beliefs and desires. For example, if the recipient of an SSA holds the general assumption that others will act in their own best interest (cf. Miller, 1999) and perceives the consequent of the argument to be unambiguously negative, then it can be quickly inferred that the speaker wants to avoid any action that might lead to these consequences (Bonneton, 2009; Thompson et al., 2005).

The eye movement data presented in Study 3 show that this inference is made quickly and spontaneously. Evaluation of an argument requires the recipient to look at the argument from their own perspective, but also from the perspective of the speaker (or writer; Thompson et al., 2005). The eye movement data showed that readers readily adopted the speaker's perspective. Readers found SSAs difficult to process when the speaker had no desire to oppose the initial proposal. These data suggest that the attitudes of a character constrain expectations about what he or she will

subsequently say or do. A context in which the speaker supports the initial proposal ruled out the expectation of a SSA, whereas the other two experimental contexts did not rule out this type of argument. The consistent and inconsistent conditions built clear expectations about the likely utterances of the speaker. The former made it likely that the speaker would argue against a given proposal, whereas the latter ruled out such an expectation. Interestingly, the mean regression path time to the neutral condition was indistinguishable from that in the consistent condition, suggesting that the comprehension of a SSA may occur with minimal cognitive effort even when the context does not constrain expectations. This suggests that SSAs may be treated as a form of generalized implicature that can be easily interpreted, even out of context.

One of the primary rhetorical functions of a SSA is to convince the recipient that taking a seemingly moderate action will raise the probability of an undesirable outcome (and therefore convincing them that the initial action should not be taken). One consequence is that for an SSA to be effective, the subjective conditional probability of (C) given (A) must be greater than the prior probability of (C). This is what we found in Study 2. However, despite being statistically significant, this finding must be interpreted with some caution. The mean prior probability of (C) was very low (.18), and although the mean probability of (C) given (A) was relatively higher (.25), it was still low in absolute terms. In other words, the arguments were effective at slightly increasing the perceived probability of an unlikely event, but even then, the probability of the outcome was perceived to be low. Indeed, when participants were asked in Study 4 how persuasive they found the arguments, there was no consistent evidence that the arguments were perceived to be persuasive at all. Perceived degrees of persuasiveness did differ as a function of the internal coherence between what the speaker believed and what they implied, but even when internal coherence was high, there was no consistent agreement that the arguments were persuasive (with the mean response corresponding to *neither agree nor disagree*). However, probability and persuasiveness may be irrelevant if individuals who assert SSAs are more concerned with asserting their position (i.e., that they oppose an action) than they are with convincing others that the argument is actually true. If a SSA is simply used for this purpose, then the more extreme the predicted consequence, the more rhetorically useful the argument should be (regardless of its probability or persuasiveness).

The limited empirical research on SSAs to date has mainly focused on the mechanism of the slippery slope. Most notably, Corner et al. (2011) found that the more similar the ends of the slope, the more convincing an SSA was perceived to be. Because the focus of this article was primarily on the rhetorical effect of SSAs, we did not collect any data on the similarity of the ends of the slope, whereas Studies 1–3 only measured the strength of the speaker's implied message, rather than the actual strength of the argument. However, our findings do provide a useful insight that should be considered in future studies on the mechanism of the slippery slope. In Study 4, we did measure the perceived strength of the argument (by asking how "persuasive" each argument was) and found that one important contextual factor (the speaker's known beliefs) influences the perceived strength of a SSA. This finding shows that to fully understand the mechanism of the SSA, researchers must consider the broad social context of an argument (such as who is making the argument, why they are making the argument, and who the recipient is) alongside factors such probability, utility, and similarity.

An important point to consider is whether the findings reported above are unique to SSAs, or whether the same findings would be expected from any negative consequential, such as the conditional persuasions and dissuasions that have been studied in previous work. Both Bonnefon and Hilton (2004) and Thompson et al. (2005) showed that people expect an antecedent action to be avoided when its predicted consequences are negative. So far as the studies reported in this article are concerned, it is likely that a similar pattern of results would be found with other types of conditional speech act, such as threats and warnings. Conditional threats, warnings, and SSAs are all uttered with the intention of discouraging an initial proposal. Indeed, threats, like SSAs, often describe severe but unlikely consequences (e.g., "if you touch my stuff, then I'll kill you"). The important thing is not necessarily the likelihood of the consequence being true, but the implied meaning (e.g., don't touch my stuff; Wray, Wood, Haigh, & Stewart, 2016). In this sense, SSAs have much in common with threats, warnings, and other consequential conditionals with negative consequences.

The unique contribution of the studies reported above is (a) to confirm that SSAs are a form of consequential argument resulting in inferences about the speaker's attitudes to the initial proposal, (b) to show that people spontaneously infer this perspective, and (c) to show

that the attitudes of the speaker influence the perceived coherence, strength, and persuasiveness of their argument. These findings provide a foundation for future research exploring the situations in which SSAs and other types of consequentialist argument can be more or less effective. We have demonstrated that SSAs strongly imply opposition to change, but the persuasive effect on the recipient may differ due to various individual factors, such as the recipient's own prior perspective (e.g., whether the recipient already agrees or disagrees with the speaker, or has no prior opinion) and the specific way in which the recipient combines the relative costs and benefits of the proposed action and its predicted consequences.

The four studies presented above indicate that SSAs imply opposition to change. Orthogonal to the debate on whether SSAs are logically valid or invalid arguments, our data reveal that they achieve their rhetorical purpose: They strongly imply opposition to a possible action, and they raise the perceived probability of an undesirable outcome. Regardless of their reputation, SSAs are an effective rhetorical device that can be asserted with high conversational relevance in situations in which the speaker's attitudes permit opposition to the proposed action.

Author note Study 1 was supported by an Experimental Psychology Society Small Grant awarded to the first author; Study 3 was supported by a University of Manchester postgraduate bursary awarded to the second author. We thank Paul Warren for independently coding the participant responses in Study 1.

Appendix A

Questions asked in Study 1

In the questions seen by participants, (A) and (C) were replaced with the content of the relevant antecedent and consequent clauses, respectively.

- i) $P(A)$ = *What is the likelihood that (A)?*
- ii) $P(C)$ = *What is the likelihood that (C)?*
- iii) $P(C|A)$ = *Assuming (A), what is the likelihood that (C)?*
- iv) Undesirability of C = *How undesirable is (C)?*
- v) Implies not-A = *To what extent does this argument imply that [voluntary euthanasia] should not be [legalised]?*

Note: Ratings were provided on a 0–100 scale. Questions i, ii, and iii were anchored at 0 (*Very unlikely*) and 100 (*Very*

likely). Questions iv and v were anchored at 0 (*Not at all*) and 100 (*Very much so*)

Mean probability and utility ratings for each decontextualised argument

Slippery Slope Argument	P(A)	P(C)	P(C A)	Undesirability of C*	Implies not-A**
"If voluntary euthanasia is ever legalised in the UK, it will ultimately lead to the legalisation of involuntary euthanasia."	43.9	14.8	18.4	82.2	80.1
"If cannabis is ever legalised in the UK, then eventually heroin will be legalised too."	41.2	5.8	11.4	86.6	82.8
"If scientists continue to clone animals, then they'll eventually begin cloning humans too."	70.5	31.6	36.5	73.9	70.0
"If some UK troops are sent to Syria, then eventually thousands will be sent over there."	69.4	42.2	49.7	80.8	76.6
"If government continues allowing gay marriage, eventually they'll allow people to marry their siblings."	91.7	4.4	4.3	91.4	78.5
"If abortion is ever legalised in Ireland, then sooner or later they'll legalise infanticide."	52.2	3.4	8.9	90.0	89.2
"If homeowners are allowed to kill intruders, then eventually they'll be allowed to legally kill their guests."	33.1	1.8	5.4	88.9	84.4
"If content ever starts being censored, sooner or later all online information will be censored."	54.3	33.0	37.1	70.5	71.2
"If government ever starts banning extreme parties, they will eventually begin banning moderate parties too."	47.6	23.1	26.7	66.5	72.6
"If UK gun control laws are ever relaxed, we'll eventually have as many gun related deaths as the USA."	15.9	22.2	59.8	89.7	89.4
"If the government ever bans smoking, then sooner or later they'll take away our liberty."	33.8	10.7	12.8	91.0	79.6
"If immigration levels to Britain continue to rise, then eventually British born people will become a minority."	72.4	36.7	46.9	75.9	76.6
"If scientists ever clone monkeys for medical testing, then sooner or later they'll also clone humans for medical testing."	53.2	21.3	27.3	75.1	73.4
"If alcopops are ever banned, then ultimately alcohol will be banned completely."	23.7	10.0	18.1	58.8	69.7
"If the USA ever goes to war with Iran, it will eventually be at war with the whole Middle East."	62.4	45.3	42.0	85.1	82.6
"If the government ever bans inefficient cars, sooner or later people will have no choice over what car they drive."	45.3	19.6	27.9	71.4	67.6
"If cannabis is ever legalised for medical use in the UK, then sooner or later the UK will become a nation of drug addicts."	48.9	15.4	23.2	92.7	82.3
"If the UK legal driving age is ever lowered to 16, then eventually we will see children driving legally at 14."	40.9	11.6	20.6	85.3	74.4
"If 17 year olds are ever allowed to vote in an election, then sooner or later 13 year olds will be allowed to vote too."	61.8	13.0	17.7	77.9	72.3
"If UK prisoners are ever allowed to vote, then eventually the whole prison system will be abolished."	37.0	3.9	11.6	92.7	79.5
"If fully-automatic guns are ever banned, then sooner or later Americans will have no civil liberties."	43.0	5.0	11.7	84.2	77.2
"If smoking in cars is ever banned, then eventually eating in cars will be banned too."	66.6	25.3	24.5	62.1	62.8
"If the government begin monitoring all phone calls, then eventually they'll try to put CCTV in our homes."	35.0	9.9	20.5	95.3	86.8
"If the government continues selling NHS records, then eventually they'll start selling our identities."	59.3	20.0	24.2	91.0	84.8

All ratings on a 0–100 scale. *High scores equal greater undesirability; **High scores mean that not-A is strongly implied

Appendix B

The 24 experimental items used in Study 3

Each was presented in three different contexts (a = consistent context; b = inconsistent context; c = neutral context)

1. Jayne and Carly were discussing their feelings about euthanasia.

- a) Carly was strongly against it becoming legal in the UK.
- b) Carly was strongly in favour of it becoming legal in the UK.
- c) Carly had recently heard that it could become legal in the UK.

She argued that “If voluntary euthanasia is ever legalised, it will ultimately lead to the legalisation of involuntary euthanasia.”

They were both engrossed by a live television debate on the subject.

2. Paul and Graham were discussing the law on cannabis use.

- a) Paul strongly believed that cannabis should never be legalised.
- b) Paul strongly believed that cannabis should now be legalised.
- c) Paul had been thinking about this issue for some time.

He argued that “If cannabis is ever legalised in the UK, then eventually heroin will be legalised too.”

They spent many hours in the pub debating such topical issues.

3. Brian and Alice had just watched a documentary on cloning.

- a) Alice was completely against this practice.
- b) Alice was completely in favour of this practice.
- c) Alice had been thinking about this issue a lot.

She argued that “If scientists continue to clone animals, then they’ll eventually begin cloning humans too.”
The issue was making headline news in all the papers.

4. Colin and Chris discussed sending UK troops to Syria.

- a) Chris was completely against the idea.
- b) Chris was completely supportive of the idea.
- c) Chris had recently watched a debate about the matter.

He argued “If some UK troops are sent to Syria, then eventually thousands will be sent over there.”
As an ex-soldier he had strong opinions on the subject.

5. Sarah and Alan were discussing same sex marriage.

- a) Alan was completely against the whole idea.
- b) Alan was completely in favour of the whole idea.
- c) Alan debated this issue with anyone that would listen.

He argued “If government continues allowing gay marriage, eventually they’ll allow people to marry their siblings.”
Sarah composed herself before making a reply.

6. Philip and Andrea were talking about Irish abortion laws.

- a) Philip absolutely opposed the legalisation of abortion.
- b) Philip absolutely supported the legalisation of abortion.
- c) Philip had strong opinions on the legalisation of abortion.

He argued “If abortion is ever legalised in Ireland, then sooner or later they’ll legalise infanticide.”
It was an emotive topic that caused much debate.

7. Adam and Peter were discussing recent changes to the law.

- a) Peter opposed new changes regarding self-defence.
- b) Peter supported new changes regarding self-defence.
- c) Peter had read about new changes regarding self-defence.

He argued “If homeowners are allowed to kill intruders, then eventually they’ll be allowed to legally kill their guests.”
The law had only recently been updated.

8. Sarah and Amelia were discussing internet censorship.

- a) Amelia believed that content should never be censored.
- b) Amelia believed that content should occasionally be censored.
- c) Amelia had recently read an article about this issue.

She argued that “If content ever starts being censored, sooner or later all online information will be censored.”
Sarah composed herself while she thought of a response.

9. Andrew and Holly were discussing extreme political parties.

- a) Holly believed that these parties should not be banned.
- b) Holly believed that some of these parties should be banned.
- c) Holly was considering whether these parties should be banned.

She argued that “If government ever starts banning extreme parties, they will eventually begin banning moderate parties too.” She had strong feelings about democracy in Europe.

10. Gordon and Eric were discussing gun control in the UK.

- a) Eric strongly believed that controls should not be relaxed.
- b) Eric strongly believed that controls should be relaxed.
- c) Eric was considering whether controls should be relaxed.

He argued that “If UK gun control laws are ever relaxed, we’ll eventually have as many gun related deaths as the USA.” The issue was in the news after another high school shooting.

11. Alison was talking to Ron about smoking laws.

- a) She believed that smoking should never be banned.
- b) She believed that smoking should be banned.
- c) She wondered if smoking would ever be banned.

She argued “If the government ever bans smoking, then sooner or later they’ll take away our liberty.” She had very strong opinions on the matter.

12. Peter was talking to Alice about immigration.

- a) He strongly believed that numbers should be reduced.
- b) He believed that current numbers were sustainable.
- c) He had read a lot about the subject recently.

He argued “If immigration levels to Britain continue to rise, then eventually British born people will become a minority.”

The issue was a big talking point among politicians.

13. Jenny and Matilda were discussing medical ethics.

- a) Matilda felt that it was unethical to clone monkeys for research.
- b) Matilda felt that it was ethical to clone monkeys for research.
- c) Matilda brought up the issue of cloning of monkeys for research.

She argued “If scientists ever clone monkeys for medical testing, then sooner or later they’ll also clone humans for medical testing.”

They were both preparing to write an essay on the topic.

14. Darren and Carl were discussing plans to ban alcopops.

- a) Carl was very much against banning alcopops.
- b) Carl was very much in favour of banning alcopops.
- c) Carl had read that some shops may ban alcopops.

He argued that “If alcopops are ever banned, then ultimately alcohol will be banned completely.” The issue had recently been discussed in parliament.

15. Liam and Joe were discussing American foreign policy.

- a) Joe was absolutely against them going to war with Iran.
- b) Joe was strongly in favour of them going to war with Iran.
- c) Joe heard that some politicians were considering war with Iran.

He argued “If the USA ever goes to war with Iran, it will eventually be at war with the whole Middle East.” Political tension had been building for a while.

16. Bob and Simon were discussing plans to ban inefficient cars.

- a) Simon thought this was a crazy idea that should be scrapped.
- b) Simon thought this was a good idea that should be supported.
- c) Simon had heard about this idea on the lunchtime news.

He argued that “If the government ever bans inefficient cars, sooner or later people will have no choice over what car they drive.”

Driving was one of his great passions in life.

17. Paula and Andy were discussing the medical use of cannabis.

- a) Andy had done some research and was completely against the idea.
- b) Andy had done some research and was completely in favour of the idea.
- c) Andy had done some research and had strong opinions on the idea.

He argued “If cannabis is ever legalised for medical use in the UK,
then sooner or later the UK will become a nation of drug addicts.”

The drug had recently been legalised in some parts of America.

18. Martha and Joan were discussing the age limit for driving.

- a) Joan was fundamentally against it being lowered to 16.
- b) Joan was very much in favour of it being lowered to 16.
- c) Joan had recently heard of plans to lower it to 16.

She argued “If the UK legal driving age is ever lowered to 16,
then eventually we will see children driving legally at 14.”
Her grandson was shortly about to sit his test.

19. Hamish and Douglas were discussing the upcoming general election.

- a) Douglas was strongly against 17 year olds being allowed to vote.
- b) Douglas strongly approved of 17 year olds being allowed to vote.
- c) Douglas had heard that 17 year olds may be allowed to vote.

He argued “If 17 year olds are ever allowed to vote in an election,
then sooner or later 13 year olds will be allowed to vote too.”

A change in the law was being considered by government.

20. Laura and Steven were discussing the ban on prisoners voting.

- a) Steven was strongly against voting rights for prisoners.
- b) Steven strongly supported voting rights for prisoners.
- c) Steven was writing an essay on voting rights for prisoners.

He argued “If UK prisoners are ever allowed to vote,
then eventually the whole prison system will be abolished.”

The issue was currently being discussed in parliament.

21. Brad and Joey were discussing gun laws in the USA.

- a) Brad was against the banning of fully-automatic guns.
- b) Brad favoured the banning of fully-automatic guns.
- c) Brad had heard of plans to ban fully-automatic guns.

He argued that “If fully-automatic guns are ever banned,
then sooner or later Americans will have no civil liberties.”
He had recently read the Second Amendment in full.

22. Debbie and Fred talked about a proposed ban on smoking in cars.

- a) Fred thought this was an utterly ridiculous idea.
- b) Fred thought this was a very sensible idea.
- c) Fred had spent some time thinking about this idea.

He argued that “If smoking in cars is ever banned,
then eventually eating in cars will be banned too.”
A law was being considered to protect the health of children.

23. Albert and Graham were talking about government surveillance.

- a) Graham was fundamentally against all forms of surveillance.
- b) Graham was generally supportive about some forms of surveillance.
- c) Graham had a lot of knowledge about government surveillance.

He argued “If the government begin monitoring all phone calls,
then eventually they’ll try to put CCTV in our homes.”
The issue was a hot topic after recent government leaks.

24. Liam and Laura discussed the selling of medical records.

- a) Liam thought this idea was a terrible breach of privacy.
- b) Liam thought this idea would not compromise his privacy.
- c) Liam had done a lot of reading on how this might affect his privacy.

He argued “If the government continues selling NHS records,
then eventually they’ll start selling our identities.”

The decision seemed to have occurred with little consultation.

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