How Foreign Language Impacts Moral Decision Making

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Abstract

One or two sentences providing a **basic introduction** to the field, comprehensible to a scientist in any discipline. Two to three sentences of **more detailed background**, comprehensible to scientists in related disciplines. One sentence clearly stating the **general problem** being addressed by this particular study. One sentence summarizing the main result (with the words "**here we show**" or their equivalent). Two or three sentences explaining what the **main result** reveals in direct comparison to what was thought to be the case previously, or how the main result adds to previous knowledge. One or two sentences to put the results into a more **general context**. Two or three sentences to provide a **broader perspective**, readily comprehensible to a scientist in any discipline.

Keywords: keywords

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How Foreign Language Impacts Moral Decision Making

Introduction

Geipel et al. (2015) tested the effects of foreign language on moral decision making, finding that participants were more consequentialist, or willing to take an action that may be unmoral to ultimately save a life, when they are asked in their foreign language. It is also seen that people are in general less consequentialist when presented with the footbridge dilemma compared to the original trolley dilemma. This is likely because of the increased involvement in the footbridge dilemma (having to physically push someone onto the train track) compared to the trolley dilemma (Greene et al., 2009). This involvement in the dilemma is tied to higher levels of emotion as well which has been shown to lead to less consequentialist choices in moral dilemmas (Huebner et al., 2009). Given this information, it is sensical that foreign language would lead to higher consequentialist responses. This is because we know that people are more rational and systematic and less emotional in their decision making in a foreign language(Cipolletti et al., 2016; Costa et al., 2014).

Methods

Participants

One hundred and five students were recruited from "UniTrento" (n.d.). These students are native Italian speakers enrolled in either German or English courses.

Material

This is a replication of Study 1 in the paper by Geipel et al. (2015). The trolley problem originates from Thomson (1985) and is adapted to test moral decision making across language conditions. Exact questions provided were modified from Greene et al. (2001). Participants are presented with three moral dilemmas with different levels of personal involvement with the expectation that the less involved the participant is in the scenario, the easier it will be for them to make the rational, moral decision (Hare, 1981). Translated to the trolley problem, individuals are more likely to push a button to redirect a

train killing one person and saving five, but are less likely to push a person off a bridge to stop the train and save five (Cushman et al., 2006).

Procedure

Data analysis

We used R (Version 4.3.2; R Core Team, 2023) and the R-packages *}shiny* [@}R-shiny], *broom* (Version 1.0.5; Robinson et al., 2023), *car* (Fox et al., 2022; Version 3.1.2; Fox & Weisberg, 2019), *carData* (Version 3.0.5; Fox et al., 2022), *dplyr* (Version 1.1.3; Wickham, François, et al., 2023), *forcats* (Version 1.0.0; Wickham, 2023a), *ggplot2* (Version 3.4.4; Wickham, 2016), *ggsci* (Version 3.0.0; Xiao, 2023), *kableExtra* (Version 1.4.0; Zhu, 2024), *knitr* (Version 1.45; Xie, 2015), *lme4* (Version 1.1.35.1; Bates et al., 2015), *lubridate* (Version 1.9.3; Grolemund & Wickham, 2011), *magick* (Version 2.8.2; Ooms, 2023), *Matrix* (Version 1.6.5; Bates et al., 2024), *papaja* (Version 0.1.2; Aust & Barth, 2023), *psych* (Version 2.3.12; William Revelle, 2023), *purrr* (Version 1.0.2; Wickham & Henry, 2023), *readr* (Version 2.1.4; Wickham, Hester, et al., 2023), *reshape2* (Version 1.4.4; Wickham, 2007), *scales* (Version 1.2.1; Wickham & Seidel, 2022), *stringr* (Version 1.5.1; Wickham, 2023b), *tibble* (Version 3.2.1; Müller & Wickham, 2023), *tidyr* (Version 1.3.0; Wickham, Vaughan, et al., 2023), *tidyverse* (Version 2.0.0; Wickham et al., 2019), and *tinylabels* (Version 0.2.4; Barth, 2023) for all our analyses. All statistical outputs will be interpreted through the framework provided by Cumming (2013).

Table 1

Demographics With Consequentialist Means

Condition	N	Trolley Mean %	Footbridge Mean %	Non-Moral Mean %
Italian	39	54%	13%	87%
German	28	73%	43%	92%
English	36	61%	36%	93%

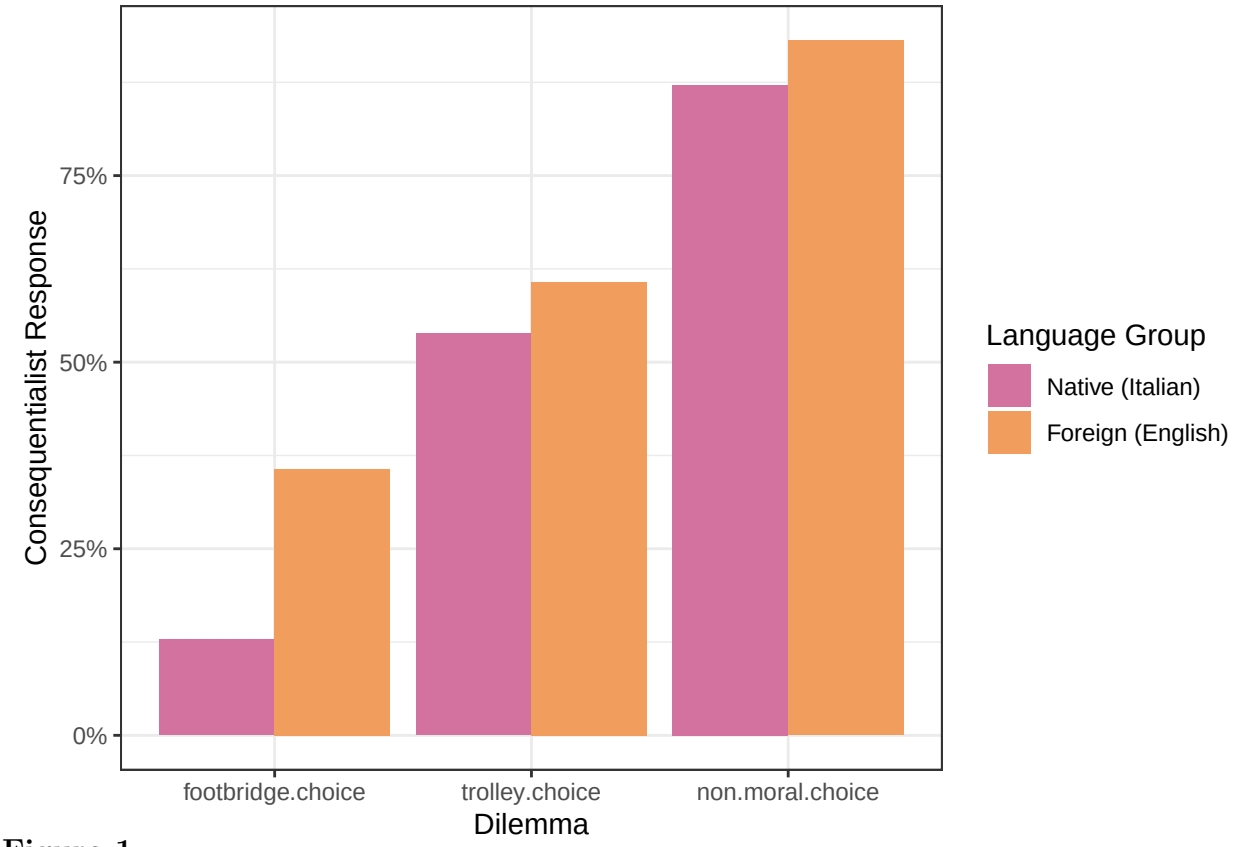

Figure 1

Italian versus English

hypothesis test

ANCOVA for effect of language group on dilemma choice for each dilemma type

Results

A significant effect of dilemma type on consequentialism across language conditions ($p < .001$) is seen showing that any differences in consequentialism are not due to misunderstanding in the foreign language. This is because we expect consequentialism to be highest in the non-moral dilemma ($\mu = 0.90$) and lowest in the footbridge dilemma ($\mu = 0.30$) . This is because there is no moral dilemma in the non-moral dilemma and therefore no reason to not choose the consequentialist response where as the inverse is true for the footbridge dilemma. The trolley dilemma falls in the middle ($\mu = 0.63$). To understand these percentages better, they can be viewed in Figure 1 and Figure 2.

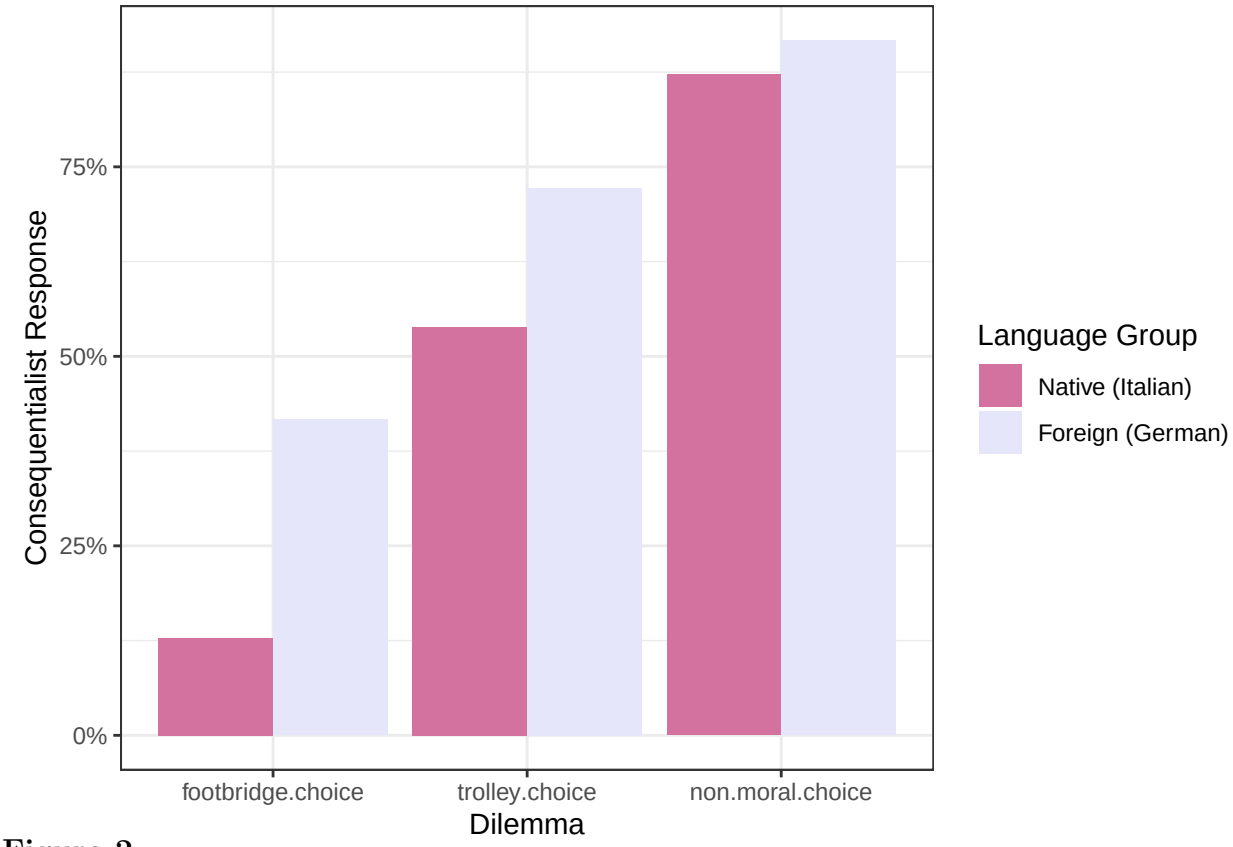

Figure 2

Italian versus German

Table 1 shows the breakdown of the language categories as well as the mean consequentialism participants exhibited for the different dilemmas. There is a significant effect of language condition on consequentialism ($p = .017$).

Discussion

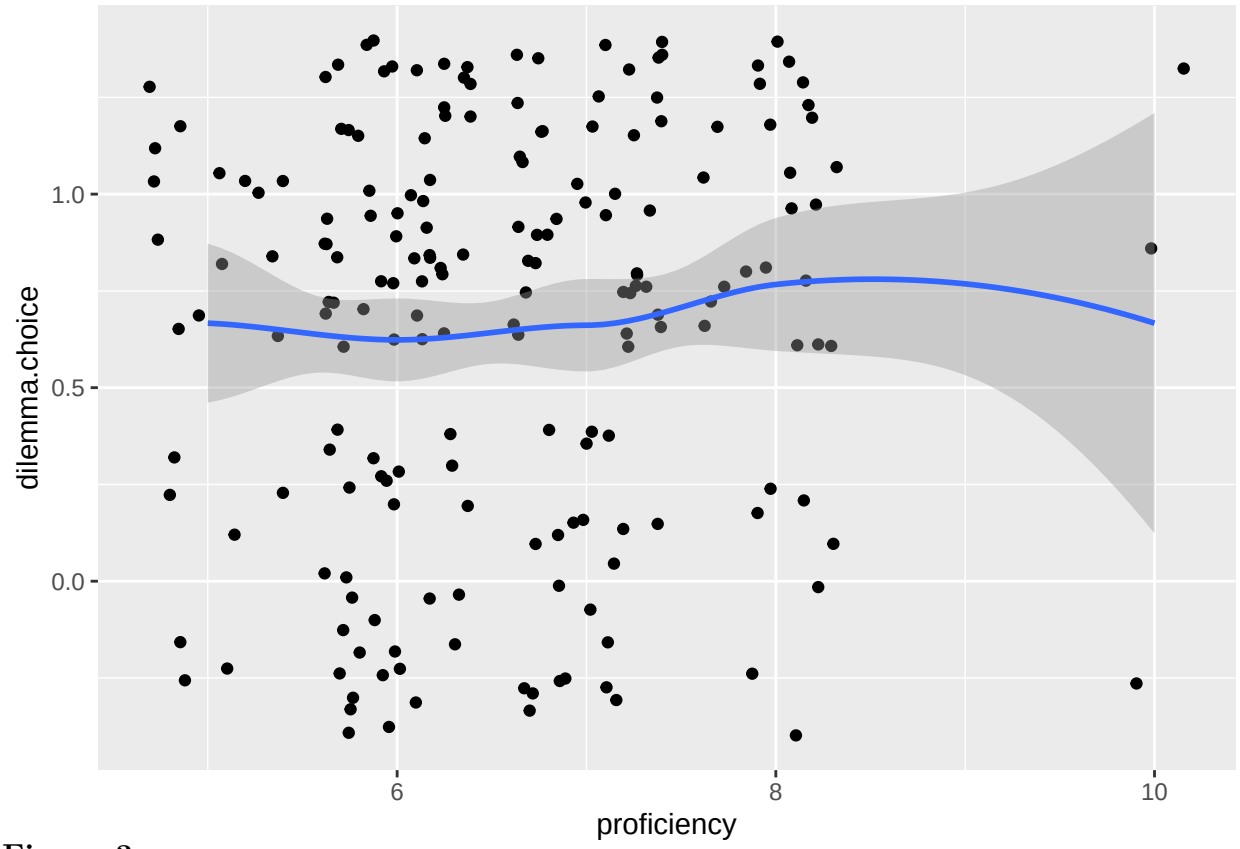

Figure 3

Proficiency of foreign language.

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