Definitely Islands?

Background. Islands are syntactic environments that resist extraction, and have been the topic of linguistic inquiry for many years [1,2]. Experimental approaches to islands focus on quantifying the islands such as complex NP, subject, adjunct, and wh-islands [3,4,10,11]. This current experiment looks at definite islands, which have not yet been studied. Definite islands are strong (or non-selective) islands, meaning that d-linking does not ameliorate extraction. Using the factorial design [3], we calculate the island effect associated with definites. Sprouse's factorial design independently measures external factors and subtracts the impact of these factors from the total effect, yielding a measure of the true island effect. Definite NPs are argued to be islands [5,6] for many reasons. One possibility is that the definite determiner creates a syntactic barrier to movement [7]; however, it is also possible that definite NPs are islands because of their presuppositional or backgrounded status [8]. In the current study, we test the degree to which definite islands are considered islands by calculating the size of the interaction.

Experiment. The current study was a 2x2 within-subjects factorial design with factors of distance and definiteness. Participants (N=39) were native American English speakers recruited through Prolific Academic. They completed an acceptability task with a 7-point scale, 7 being most acceptable, for 24 experimental and 48 filler items. The four conditions are below.

1. Matrix, {indefinite/definite}: The sculptor learned who requested {an/the} intricate carving of Cleopatra.
2. Embedded, {indefinite/definite}: The sculptor learned who Victor requested {an/the} intricate carving of.

Results. Participant ratings were z-transformed before analysis. Mixed-effect models revealed a significant main effect of distance, a marginal interaction ($p = 0.06$), and an insignificant effect of definiteness (Fig.1). To estimate the size of the island effect, we fit a Bayesian mixed effects model using brms [9]. The mean posterior DD effect from this model was 0.22, 95%CrI = [0,0.46] (Fig. 2); it was 0.23 from simple cell mean calculation. Both of these estimates are smaller than reported island effects' range of 0.75-1.25 (Fig. 3) [4,11], suggesting definite islands behave differently than other reported islands. Following Kush et al. (2019), we also looked at the variability of the ratings (Fig. 4). The embedded context appears to have a bimodal distribution across both the definite and indefinite conditions. Overall, definite islands appear to be smaller in magnitude than other islands. Furthermore, subextraction from inside the NP resulted in a large penalty, but the island condition did not produce worse-than-average z-scores.

Conclusions. When we compare our result to island effects reported in other similar studies (Fig. 3), we see that the definite island effect is smaller; it is also characterized by an apparently bimodal distribution of judgments. This conflicts with predictions under the inviolable syntactic constraint account. One would expect a larger effect size and less variation in the judgment distribution across speakers. The results are also surprising under Goldberg's BCI account (i.e. background constituents are islands), where presupposed clauses are thought to be backgrounded [8]. The presupposition associated with definites [13,14] would then predict clear island effects, which are not observed here. An important feature of the current study is the use of indirect wh-questions. Recent work by Simonenko (2016) suggests definite island effects result as a restriction against trivial question formation in direct questions. Exploring the distinction between indirect and direct questions is an important question for future work.

Selected References. [1]Ross, 1967. [2]Chomsky, 1973. [3]Sprouse et al., 2012a. [4]Sprouse et al., 2016. [5]Szabolcsi, 2002. [6]Fiengo & Higginbotham, 1981. [7]Manzini, 1992. [8]Goldberg, 2006. [9]Bürkner, 2017. [10]Keshev & Meltzer-Asscher, 2019. [11]Kush et al., 2019. [12]Sprouse, 2007. [13]Schneider et al., 2019. [14]Heim & Kratzer, 1998.

(1) a. Which man did Sarah discover a poem about _ ?
    b. ? Which man did Sarah discover the poem about _ ?
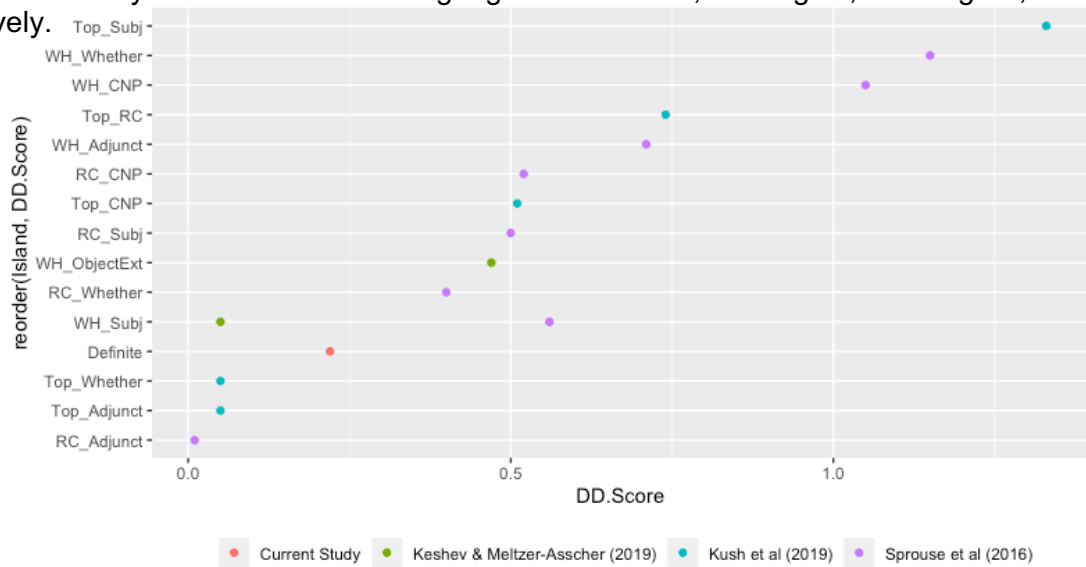   c. * Which man did Sarah discover that poem about _ ?

Figure 1. Interaction plot of mean acceptability ratings across the conditions
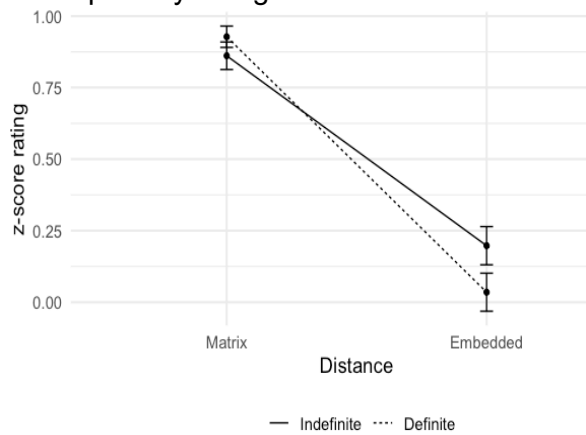
Figure 2. Bayesian mixed-effects regression of z-scored ratings.
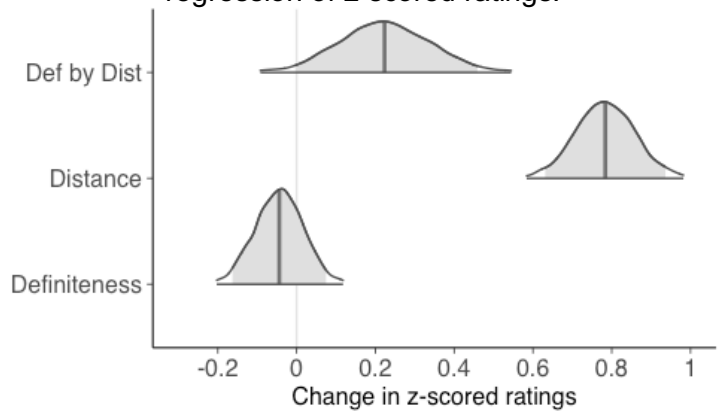
Figure 3. Summary of DD scores. The languages are Hebrew, Norwegian, and English, respectively.

Figure 4. Rating distributions by condition.