

# Political and ethnic-national spatial entities, tolerance and geographical judgment

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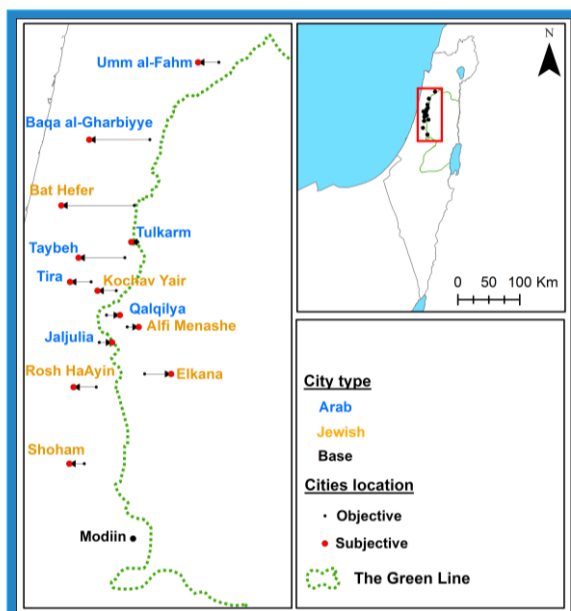
## Introduction

Systematic distortions in geographical judgment are used to understand how spatial information is perceived, organized and retrieved. Previous studies have identified two basic sources for systematic distortions (Omer, 2018): those resulting from perceptual factors (Tversky, 1981), and those resulting from categorization (Stevens & Coupe, 1978). Among the factors causing categorization systematic distortions are social and political attitudes. For example: Germans have shown greater overestimation of distance between cities in the former east and west Germany (Carbon & Leder, 2005), Texas students distance estimation between U.S. and Mexico cities was influenced by attitudes towards Hispanic (Kerkman, Stea, Norris, & Rice, 2004) and the attitude towards the president of the U.S. influenced the distance estimation between European and American cities (Carbon & Hesslinger, 2013).

### The present study

In this study, we concentrate on the case of Jewish and Arab cities located on the two sides of the Green Line (the 1949 armistice line between Israel and Jordan).

We investigate the influence of the Green Line and the ethnic-national identity of cities on geographic judgement, and analyzed if and how intergroup tolerance and political attitudes are related to that influence.



## Method

69 Jewish Israelis estimated the direction from one Jewish city – Modi'in, to Jewish and Arab cities located east or west of the Green Line using the direction circle method. After finishing the task they were asked to refer to 9 statements regarding political and social attitude towards the Arab Palestinians in Israel by employing a 4 point Likert scale.

## Results

### Analysis of the effect of the Green Line

A paired  $t$  - test was performed on the full data set. The effect of the Green Line was significant, [ $t(65) = -4.48, p < .001, d = -0.551$ ]. The table shows statistical analysis of the distortion of direction estimations due to the effect of the Green line.

Mean distortion is the difference between objective direction

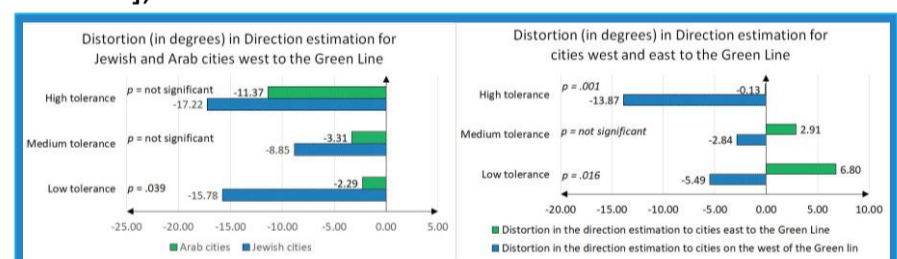
Group		Mean distortion (Degrees)	$t$	$p$	$N$
Cities on two sides of the Green Line	West	-7.40	-4.48	<.001	66
	East	3.19			
Jewish Cities on two sides of the Green Line	West	-12.91	-4.16	<.001	56
	East	4.72			
Arab Cities on two sides of the Green Line	West	-6.93	-2.91	=.005	59
	East	0.51			
Jewish and Arab Cities	Jewish	-6.07	-1.04	=.302	68
	Arab	-3.42			
Jewish and Arab cities West to the Green Line	Jewish	-13.84	-2.58	=.012	66
	Arab	-5.79			
Jewish and Arab cities east to the Green Line	Jewish	5.31	1.42	=.160	52
	Arab	0.34			

and average direction estimation. Negative value (-) indicates a counterclockwise distortion.

The results show clearly that direction estimations to cities located on the west side were distorted systematically in a counterclockwise direction, while the direction estimations to cities located on the east side were distorted systematically in a clockwise direction.

### Analysis of the effect of tolerance

The participants were divided to three groups according to the level of tolerance – low, medium and high. The effect of the Green Line on direction estimations was found significant for those with low tolerance, [ $t(21) = -2.61, p = .016, d = -0.557$ ] or high tolerance [ $t(21) = -3.82, p = .001, d = -0.814$ ], but not for those with the medium tolerance.



## Conclusions

- ✓ The effect of the Green line was found statistically significant. Hence, as was found in previous studies, a political border can serve as a 'mental wall' (Carbon & Leder, 2005), creating two distinguished spatial categories.
- ✓ The ethnic – national identity of the city effected the directions estimation significantly on the west side of the Green Line.
- ✓ The participants' social attitudes influenced the intensity of this tendency.

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