

THE ROLE OF SALIENT CANAL STRUCTURES IN ENVIRONMENTAL ADAPTATION

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1 ABSTRACT

This study used mediation analysis to investigate the potential of water elements in mediating wayfinding differences due to gender and familiarity. In an unfamiliar environment, women and newcomers, on average, do not navigate as effectively as men and residents because of their tendency to use an eye-level instead of top-down map-like perspective for wayfinding (Devlin and Bernstein 1995, Malinowski and Gillespie 2001). Salient features, such as waterscapes (Yabiku, Casagrande et al. 2008, Faggi, Breuste et al. 2013), can potentially help women and newcomers navigate more effectively (Vinson 1999, Chen, Syvitski et al. 2012). Waterscapes were classified using Lynch's elements of imageability, landmarks, nodes, paths, edges, and districts (Lynch 1960). Participants (21 females and 39 males) from eight Dutch, German, and Belgian water towns completed cognitive mapping, photovoice, and emotional recall protocols, which measured their mental image coherence, waterscape mappability and identifiability, and their attachment towards waterscapes. The findings suggest that mappable canals with salient structures enabled women and newcomers to better use the top-down map-like perspective and to more effectively sequence eye-level views. Identifiable eye-level canal scenes helped evoke attachment towards mappable canals to contribute to their environmental adaptation in an unfamiliar setting. Frequent flooding has brought more flood refugees and water retention projects to safer higher grounds (Andoh and Declerck 1997, Najarian, Goenjian et al. 2001, Hartmann and Driessen 2017). Integrating water elements into the public realm can potentially make relocation destinations more adaptable to flood refugees, who tend to be disproportionately female (Few 2003, Fothergill and Peek 2004).

1.1 Keywords

Place attachment, water features, spatial cognition, flood refugees, relocation, wayfinding