



Seismic performance expectations of homeowners using strengthening techniques to structurally prepare houses for earthquakes

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ABSTRACT

Due to the widespread damage and large economic losses caused to residential houses by major earthquakes all around the world, government authorities and nongovernmental organizations have made significant investments to better prepare communities through well-engineered new buildings and retrofitting existing ones. Although policy and guidelines have been developed to strengthen existing buildings, generally residential houses less than two-storey must be strengthened voluntarily by owners. Several factors have been identified affecting the intention of voluntarily undertaking mitigation actions in existing buildings. One area that has been recognized as influencing whether owners undertake mitigation actions is people's earthquake experience. This paper explores the influence of prior earthquake experiences on the expectations of damage to houses by homeowners with and without having strengthened their house structurally. By conducting a questionnaire in the Wellington region, it was found that the type of experience influences expectations of damage, awareness and use of strengthening actions. This survey is also part a project looking at the seismic performance of residential housing on slopes and effective retrofit solutions.