The effect of viewing time on the safe street crossing judgments of fully and partially sighted subjects

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Objective/purpose: Partially sighted pedestrian’s often self-report difficulty when attempting to independently cross the street, especially at a crossing with no traffic controls. The pedestrian is required to obtain/act on environmental information that is constantly changing. We asked, can partially sighted people improve their judgments of safe crossing time if given the opportunity to sample more environmental information? The purpose of this study was to measure the effect of viewing time on safe street crossing judgments.

Design/methodology: Subjects stood at the curb of a mid-block crosswalk with no traffic controls. With exposure times of 1, 3, or 5 seconds, subjects viewed the scene as vehicles approached. Subjects indicated whether they could cross before the vehicle reached the crosswalk line and rated the level of confidence in their answer. Trials were classified as safe or unsafe from subject street crossing and vehicle arrival time measures. To date, data have been obtained from 9 out of 20 partially sighted and 5 out of 10 fully sighted subjects.

Results: We calculated d’ from the area under the ROC curve as a measure of judgment accuracy for the 3 viewing times for the two groups of subjects. Partially sighted subjects had lower values of d’ for all viewing times than did fully sighted subjects. Judgment accuracy did not change with viewing time for partially sighted subjects whereas it increased with increased viewing time for normally sighted subjects.

Conclusions: Preliminary findings suggest that partially sighted subjects have poorer judgment of safe crossing times than do fully sighted subjects and that judgment accuracy for partially sighted subjects does not improve with increased viewing time.