

ABSTRACT

Distracted pedestrians, those talking or texting on phones as examples, are potentially at risk when crossing urban intersections. They may lack traffic awareness of risk as distracted drivers often do. The transportation field has limited data on distracted pedestrians. This study aimed to contribute to the literature by observing pedestrian behaviors at four urban-area, downtown crosswalks over five weeks in June-July 2021. Overall, 2,055 pedestrians were observed, with 25.4% being distracted. Common distractions were texting, talking on a cell phone, and using headphones. Chi-square analyses found that while distraction overall did not predict looking left, women who were distracted looked left less often than men, an atypical gender difference in the traffic safety literature. These and other results are discussed in terms of the next steps for increasing pedestrian safety.



RESULTS

- 25.4% of pedestrians had at least one distraction.
- Overall, distractions did not predict looking left (70.7% of undistracted looked left while 66.5% of distracted did), $\chi^2(1, 2016) = 3.19, p = .074$.
- However, gender mattered. 71.1% of distracted men looked left, vs. 59.6% of distracted women, $\chi^2(1, 516) = 7.35, p = .007$.
- Number of pedestrians in a group mattered when distracted, $\chi^2(2, 516) = 21.62, p < .001$.
 - 72.1% of distracted unaccompanied pedestrians looked left.
 - 47.9% of distracted pedestrians traveling with an additional person looked left.
 - 58.1% of distracted pedestrians in groups of 3 or more looked left.
- An occurring event predicted looking left less frequently (61.8% vs. 71.6%), $\chi^2(1, 2016) = 15.13, p < .001$ but also being distracted less frequently (21.0% vs. 26.6%), $\chi^2(1, 2049) = 5.52, p = .019$.

References

- Kochanek KD, Xu JQ, Arias E. Mortality in the United States, 2019. NCHS Data Brief, no 395. Hyattsville, MD: National Center for Health Statistics. 2020. Retrieved August, 1.2020.
- National Safety Council. (2021). Pedestrians: Injury and facts. NSC publication. Retrieved June 8, 2021, from <https://injuryfacts.nsc.org/motor-vehicle/road-users/pedestrians/data-details/>

METHODS

3 Field training days:

4 Weeks of observations

- 3 days a week 2X a day
- 4 locations each for 25 minutes
- 2,055 Observed behavior
- 1,265 Men & 784 Women (six not recorded)

Maximum of 2 pedestrian behaviors recorded at a time.

- **Primary target:** first pedestrian entering a cross walk.
- **Secondary target:** a pedestrian crossing behind the primary pedestrian heading in the same direction.

3 Days of reliability:

- 242 pedestrians
- 2 Reliability Analyses: Percent Agreement & Cohen's Kappa, respectively
 - **Looking Left:** 73.9% and .426
 - **Distractions:** 91.6% and .705
 - **Gender:** 93.9% and .875

DISCUSSION

Current literature suggests that men take more risks using the roads. Distracted women were less likely to look left when crossing putting them at greater risk. Further research regarding this contradiction in literature is needed.

When there was an event pedestrians were less likely to be distracted and but were also more likely not to look left. More work needs to be done to determine the event characteristics leading to these findings.

The study will continue into its next phase, building multivariate models that model the risk pedestrians take using crosswalks.

