

# UC Berkeley

## Research Brief

### Title

Peer Influence and Perceptions of Safety

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# Peer Influence and Perceptions of Safety

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## Introduction

At the heart of active transportation systems are the people. This brief discusses the importance of considering perceptions in traffic safety analyses and discusses the potential for investigating how a psychological phenomenon known as pluralistic ignorance could be shaping those perceptions. A couple of case studies from the psychology literature are discussed to facilitate this discussion. It is hoped that this brief can be employed to learn more about how to improve the safety of using active modes both in California and across the nation.

## The Importance of Perceptions in Traffic Safety

There is the built environment in which we live and there is the way we perceive the built environment. Traffic safety professionals rely primarily on crash data and injury reports to assess the safety of travelers in an area, but these data sources do not provide the whole story about people's perceptions of safety within a space. To provide a simple example, data may report no crashes along a bicycle corridor in a thriving central business district over the preceding five years, but conversations with women who bike regularly along that corridor may reveal that many don't feel safe when riding their bike. What factors contribute to the formation of such perceptions? Working to assess perceptions can help answer such questions by providing a more holistic understanding of what really goes on in the built environment.

Understanding perceptions of bicyclists and pedestrians has garnered considerable interest by researchers in recent years. But there is still work to do in understanding perceptions of people as they travel on those modes and other modes such as trains, e-scooters, and ride-hail. Additionally, acquiring an understanding of perceptions held by a wide range of persons with different travel patterns, personal identities, and walks of life will help give a more complete picture of traffic safety.

The importance of this issue has propelled traffic safety researchers at the Highway Safety Research Center, University of North Carolina, Chapel Hill and UC Berkeley's Safe Transportation Research and Education Center (SafeTREC) to study how crashes and injuries can be eliminated. Research supported by the Collaborative Sciences Center for Road Safety (CSCRS) investigated the impacts of pluralistic ignorance on traffic safety perceptions held by the public. Pluralistic ignorance is a psychological phenomenon where people's inaccurate conclusions about their peers' opinions on traffic safety issues alters their own thinking patterns, behavior, and overall receptiveness towards initiatives intended to improve traffic safety. More specifically, the research team hypothesizes that "pluralistic ignorance" may be a barrier to planning and implementing traffic safety initiatives. Relevant literature concerning the concept of pluralistic ignorance was examined with the intent of gaining a more holistic understanding of the implications of this concept for traffic safety research, design, and implementation. For this brief, a collection of articles was compiled to better understand how pluralistic ignorance has been studied in other fields.

The **Community Pedestrian and Bicycle Safety Training Program (CPBST)** is a California Office of Traffic Safety funded collaboration project between UC Berkeley SafeTREC and California Walks. The program works with local neighborhood associations to help communities seek positive active transportation safety outcomes by equipping them with the tools to develop action plans to meet their traffic safety goals. For more information, please visit: <https://safetrec.berkeley.edu/programs/cpbst>

Led by the [UNC Highway Safety Research Center](https://roadsafety.unc.edu), the **Collaborative Sciences for Road Safety (CSCRS)** is a national university transportation center funded by the United States Department of Transportation whose mission is to advance the science of transportation safety research through the employment of a multidisciplinary approach. For more information, please visit: <https://roadsafety.unc.edu>

## A Primer on Pluralistic Ignorance

The American Psychological Association (APA) defines pluralistic ignorance as the “state of affairs in which virtually every member of a group privately disagrees with what are considered to be the prevailing attitudes and beliefs of the group as a whole” (APA Dictionary of Psychology, n.d.). This phenomenon is generally characterized by a shared public rejection of a particular belief, idea, or action by a group of people that privately accept but assume that their peers reject it. Nevertheless, some studies tend to vary on whether the inclusion of the group dynamic effect is essential to their identification of pluralistic ignorance, but ultimately the shared component is generally emphasized and helps distinguish pluralistic ignorance from other phenomena that focus solely on perceptions held by an individual (Sargent & Newman, 2021).

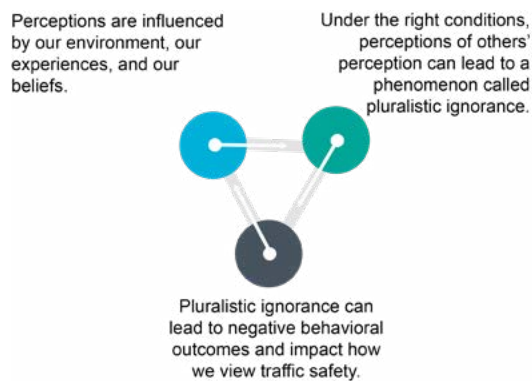


Figure 1: Pluralistic Ignorance

Pluralistic ignorance has been extensively studied using college students for empirical data. For example, in their article titled, Pluralistic ignorance and health risk behaviors: do college students misperceive social approval for risky behaviors on campus and in media?, Hines et al. (2002) investigate the potential impact of pluralistic ignorance on college students' behavior related to drinking, drug use, and other risky behaviors at a university in the Midwest. The study involved giving two groups of students several questionnaires that assessed the students' comfort levels with the behaviors under examination, their perceptions of other students' comfort levels with the behaviors, and the impact of media depictions of these behaviors on both personal comfort levels and perceptions of others' comfort levels. Based on the results, the respondents indicated with statistical significance that other students have greater comfort levels than their own for the four identified behaviors, and also rated that other students would be more comfortable with how those behaviors are depicted in the media than their own comfort with such depictions.

Another study examined the impact of educating persons about pluralistic ignorance on behavior. In the article titled, Exposing pluralistic ignorance to reduce alcohol use among college students, Schroeder & Prentice (1998) note that excessive drinking has been associated with a range of negative health outcomes. The authors conducted an experiment to assess if educating college students in a group activity about the effects of pluralistic ignorance on drinking patterns would have an impact on social conformity to observed norms. The experiment compared two groups of undergraduate students at Princeton: 1) first-year undergraduates who participated in a group discussion that centered upon the relationship between pluralistic ignorance and drinking, and 2) first-year undergraduates who participated in a discussion that focused on making better individual choices in drinking situations. After a period of four to six months, the group who participated in the discussion focused on pluralistic ignorance reported lower weekly alcohol intake than those who participated in the discussion focused on individual choices. This article is an example of experimentally measuring the impact of educating persons concerning pluralistic ignorance on behavior.

## Could studying pluralistic ignorance lead to better traffic safety outcomes for pedestrians and bicyclists?

The two articles, both of which focused on college students but are indicative of a trend observed in other populations in the literature, mentioned in the previous section on pluralistic ignorance highlight the potential for examining the relationship between perceptions and traffic safety outcomes such as crashes, injury severity, and fatality rates. It is important to distinguish between some of the various questions that are of interest to traffic safety researchers. First, what factors are most important in shaping perceptions of traffic safety? Second, what is the relationship between perceptions of safety and traffic safety outcomes? Third, how do personal perceptions of group perceptions of traffic safety impact traffic safety outcomes? These questions are not independent of one another, but the first two have garnered more attention in the literature in recent years. Nevertheless, it is the third question by which studying pluralistic ignorance can help us more intimately understand the broader impacts of perceptions of safety.

## Next Steps

The research team at UC Berkeley SafeTREC is continuing to explore the relationship between perceptions of safety and traffic safety outcomes through projects such as the CSCRS project, outreach such as a recent [vlog on perceptions of safety](#), and the Community Pedestrian and Bicycle Safety Training (CPBST) project. Methodologically, there is space for potentially exploring how group dynamics influence recommendation formation in future iterations of the CPBST program. Both the CSCRS research and CPBST teams at SafeTREC plan to seek opportunities to explain this relationship further so that better recommendations can be developed for engaging communities, designing infrastructure, and effecting behavioral modifications to achieve reductions in crashes, injuries, and fatalities on roadways and active transportation facilities in California.

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*For further information about the CPBST or to bring activities to your California community, contact Katherine Chen at [kchen@berkeley.edu](mailto:kchen@berkeley.edu)*

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