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**Title:** Letting go of the wheel: The nature and role of consumer trust in autonomous vehicle adoption decisions

**Abstract:** There is a pressing need to curtail greenhouse gas emissions contributing to climate change, and technological advances in the transportation sector represent a critical part of the solution. Autonomous vehicles (AVs), for example, have the potential to improve fuel efficiency and reduce greenhouse gas emissions by up to 10% past current EPA standards (Mersky & Samaras, 2016), in addition to reducing fatal crash rates (Fagnant & Kockelman, 2015), compared to human-operated vehicles, yet public acceptance of AVs remains low, with 54% of the general public expressing some level of worry about AV technology (Pew Research, 2018). Building on emerging work that has explored the influence of general trust in AVs on AV acceptance (Choi & Ji, 2015; Dixon et al., 2018; Liu et al., 2018), we explore trust as a multi-dimensional construct. We assess and examine the influence of three facets of trust on AV adoption intent (i.e., social, media, and software trust). Further, advancing knowledge in risk and decision science that has established affect as a heuristic in risk decision-making (Finucane et al., 2000; Slovic & Peters, 2006), we test whether trust is used as a heuristic when evaluating risks of AVs. To do so, we use an experimental design in which approximately 500 participants assessed perceived risk of AVs in either a treatment (under time pressure) or control (not under time pressure) condition. All participants also completed survey measures on AV adoption intent and policy support, and trust, affect, and perceived benefits pertaining to AVs. We find support for three distinct facets of trust: social, technical, and media trust. Each facet of trust is significantly negatively correlated with AV risk perceptions ( $-.67 < r < -.24$ ). These correlations are stronger in the timed vs. untimed condition, pointing to a non-significant trend whereby individuals under higher vs. lower cognitive load tend to rely more on trust as a short-cut to assess risk. In a multiple regression analysis, AV adoption intent is positively predicted by the three trust variables and negatively predicted by risk perceptions, which together explain two thirds of the variation in AV adoption intent. This research advances knowledge on the nature of trust and its role in assessing risks related to AVs. Results enhance understanding of barriers to public acceptance of AVs, and can be used to improve integration of AVs into transport systems.