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Experiences of Owners of Non-Luxury Vehicles with Collision Avoidance Technology

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Background

- Collision avoidance technologies have potential to prevent up to 20 percent of police-reported crashes
- Early look at insurance data shows reductions in claim rates associated with forward collision avoidance systems
- Full effectiveness of technologies depends on how they are used
- Previous surveys with Volvo and Infiniti owners found high acceptance of systems among drivers
- Technologies initially available in luxury vehicles, and now increasingly available in a larger variety of vehicles

Objectives

- To gather in-depth information on drivers' opinions about systems
- To understand drivers' use of systems and how they may affect driver behavior
- To assess if use of systems on luxury vehicles differs from use on more mainstream vehicles
- To examine if use of systems differs by driver age and duration of ownership

Forward collision avoidance

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Lane departure warning and prevention

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Blind spot detection

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Adaptive cruise control

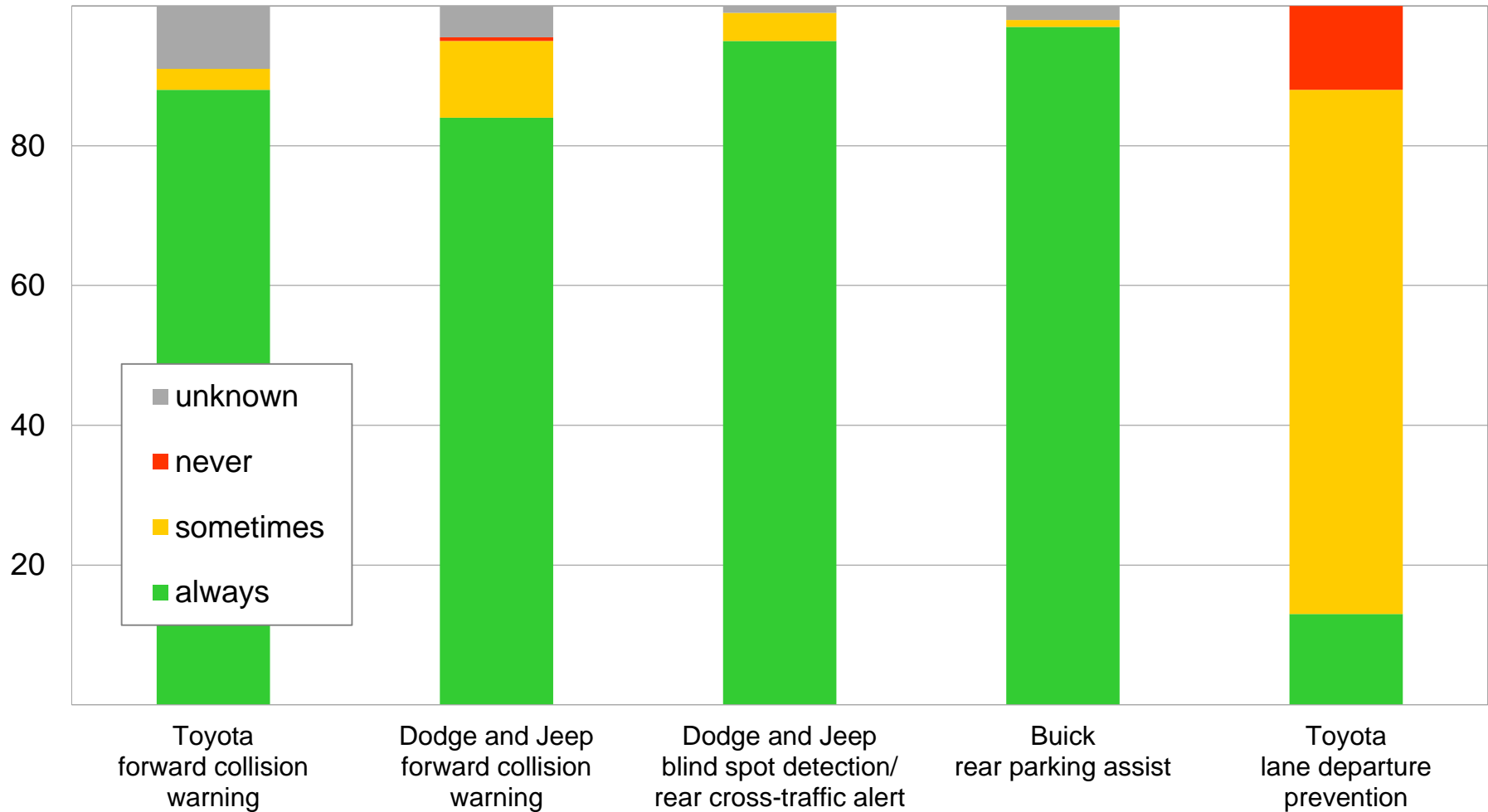
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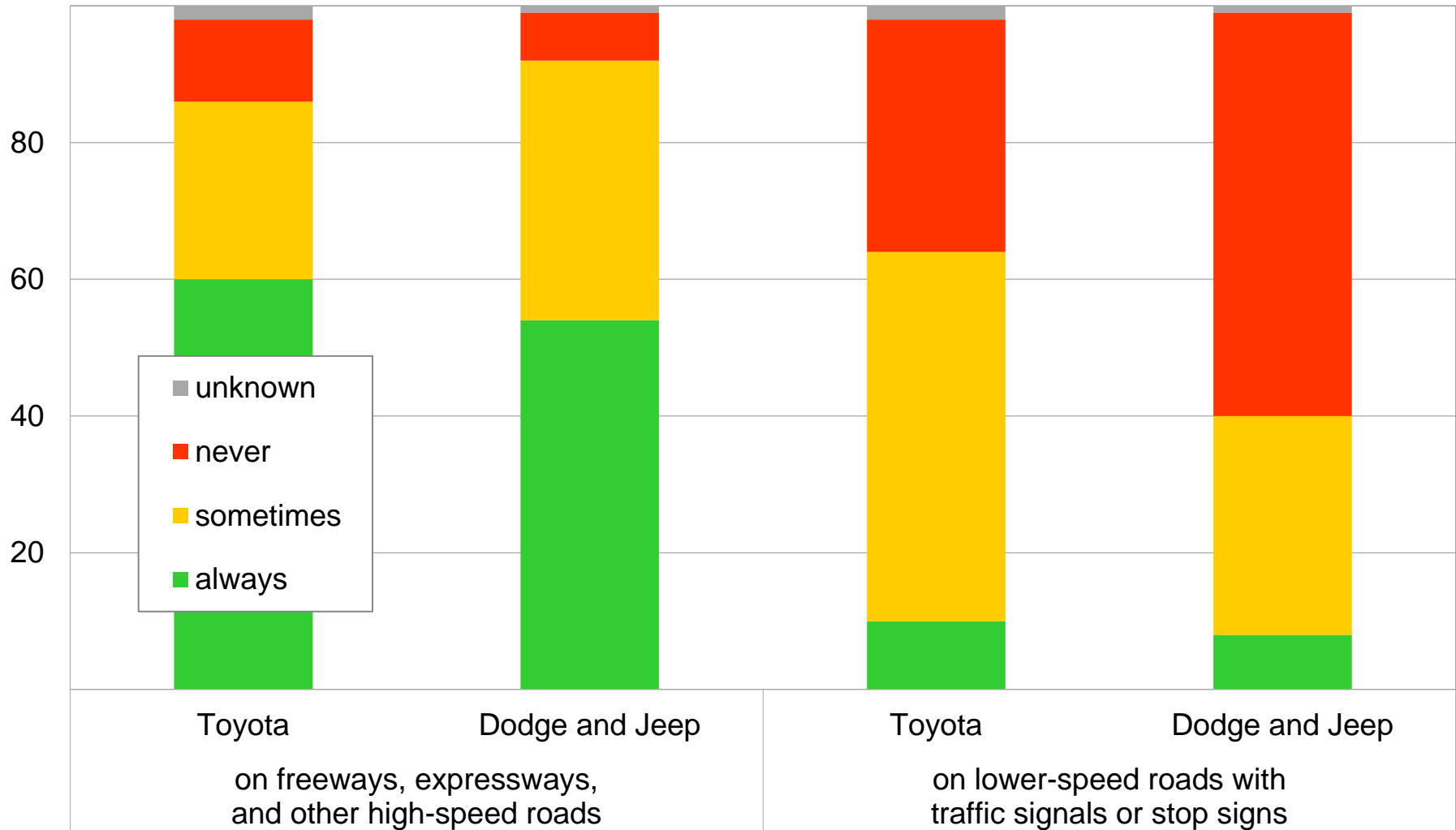
Surveys of owners of non-luxury vehicles with crash avoidance technologies

- 183 Toyota Sienna and Toyota Prius owners
 - 183 owners with adaptive cruise control and forward collision warning with autonomous braking
 - 120 Prius owners with lane departure prevention
- 430 Dodge Charger, Dodge Durango, and Jeep Grand Cherokee owners
 - 215 owners with adaptive cruise control and forward collision warning
 - 215 owners with blind spot detection and rear cross-traffic alert
- 426 Buick Lucerne owners with rear parking assist

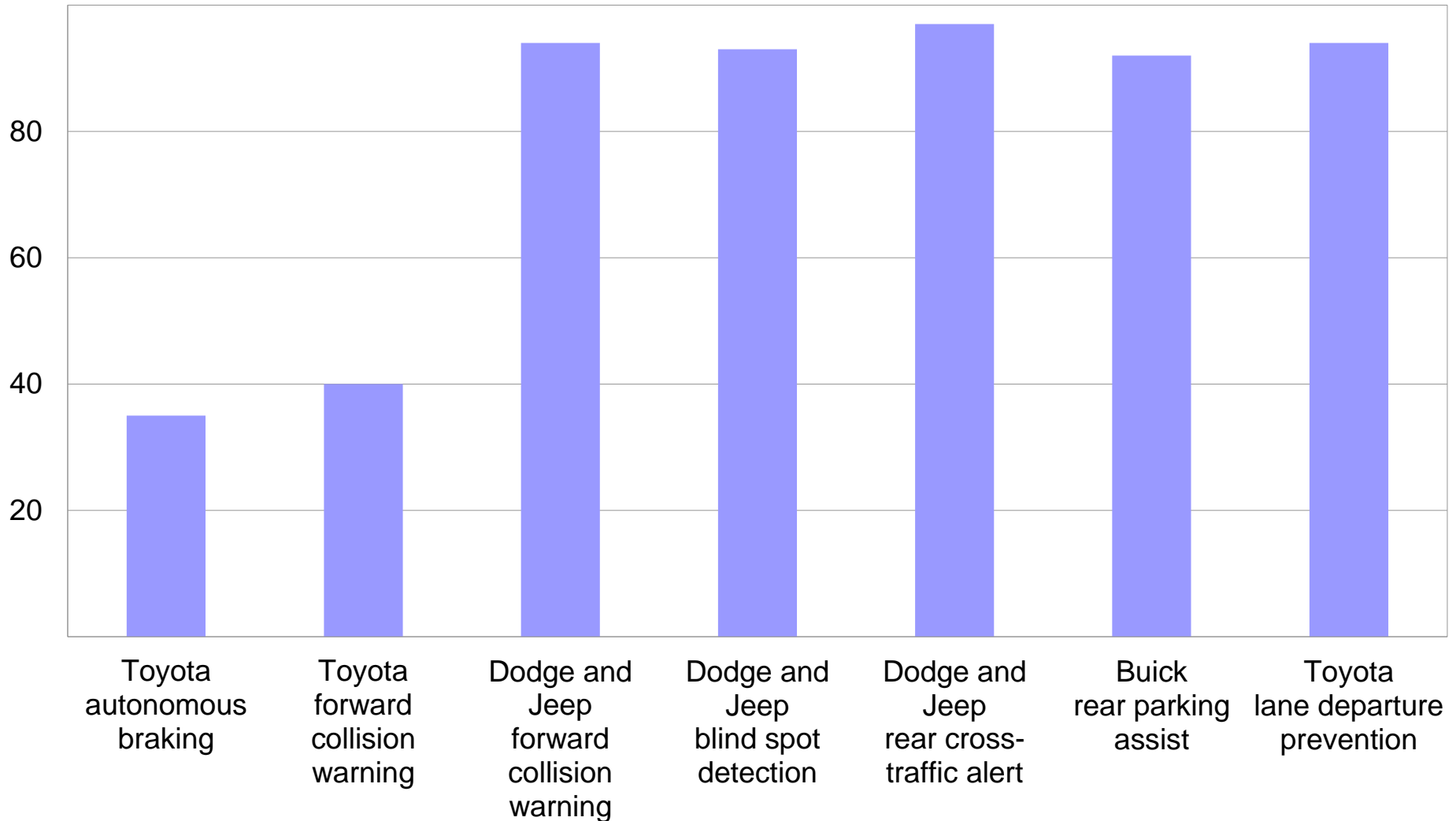
Percent of owners who drive with systems on



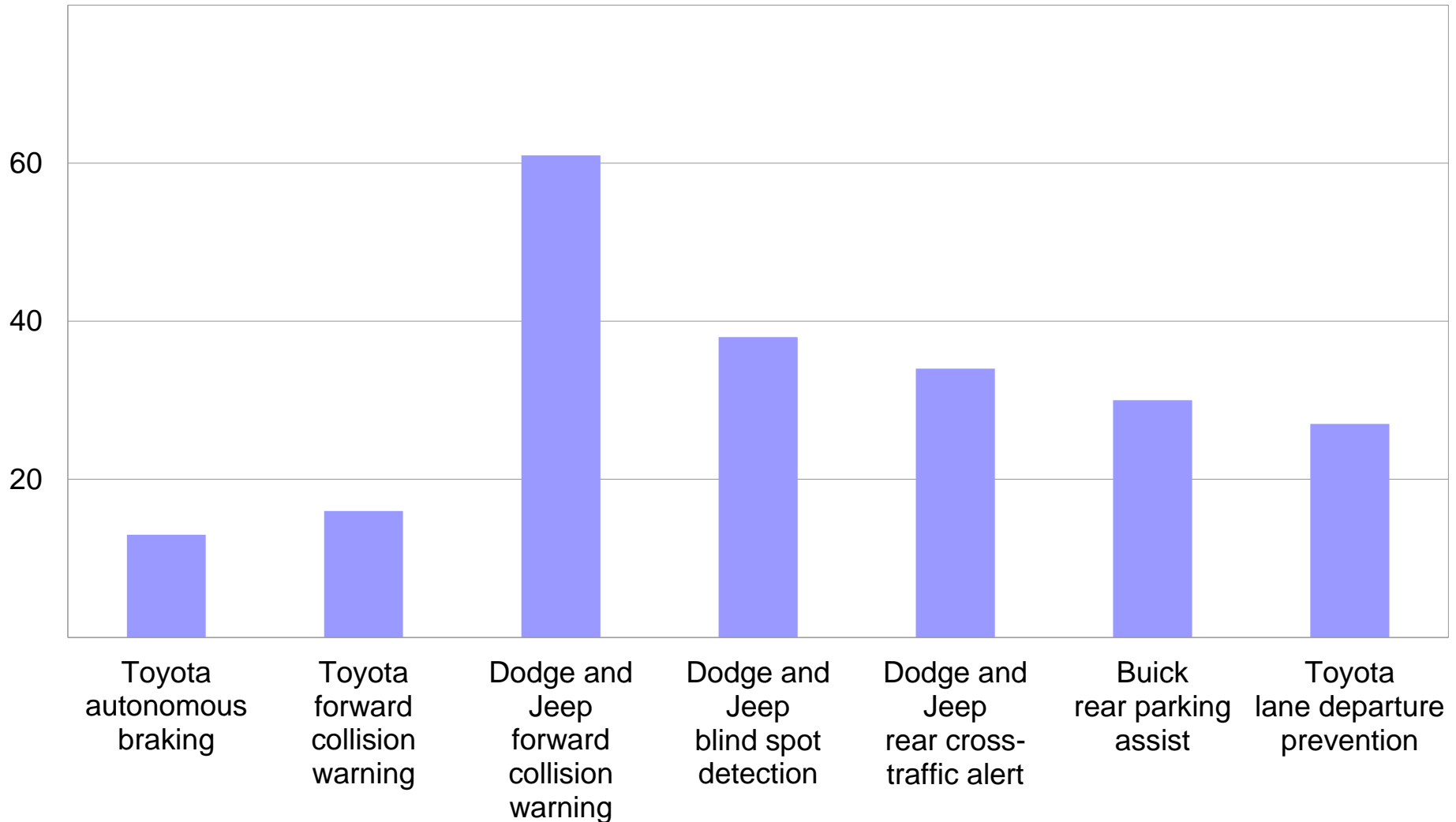
Percent of owners who use adaptive cruise control



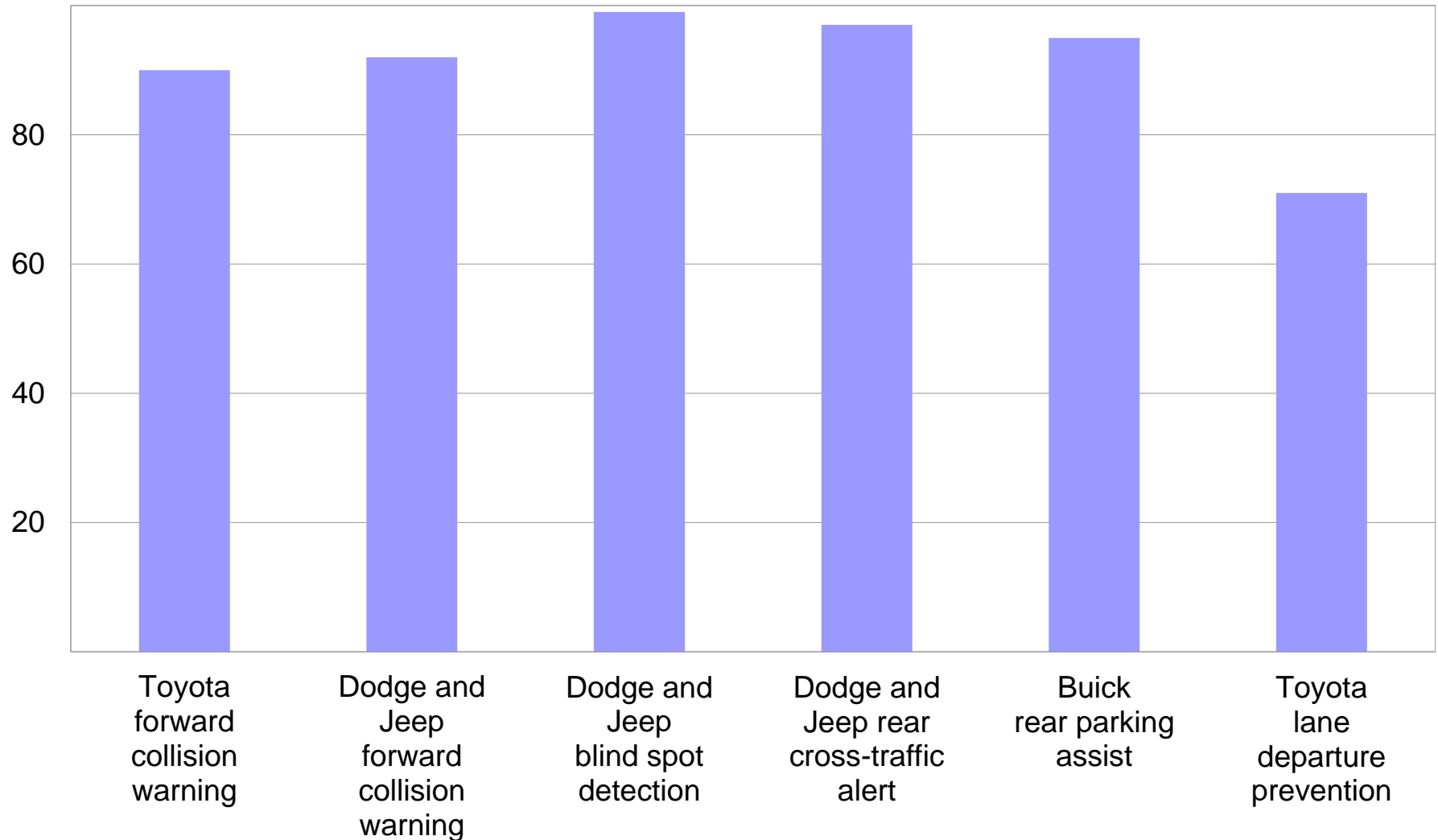
Percent of owners who report system activations



Percent of owners who report false or unnecessary activations



Percent of owners who would want systems again



Percent of drivers reporting safer driving behaviors with systems

Lane departure prevention

	Infiniti (2009)	Toyota (2013)
Drift from lane less often	68	35
Use turn signal more often	64	14

Percent of drivers reporting safer driving behaviors with systems

Adaptive cruise control and blind spot detection

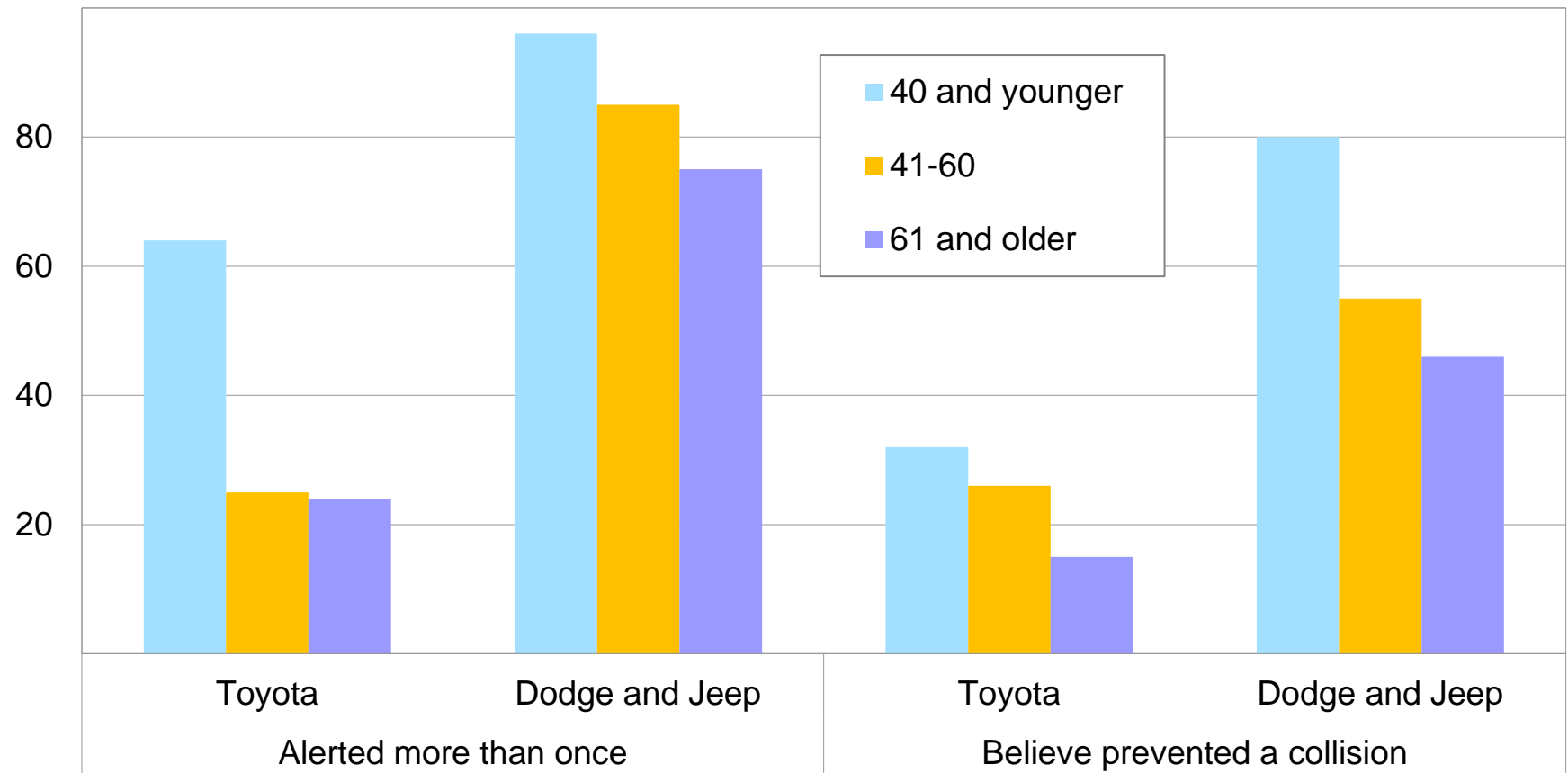
	Volvo (2009, 2012)	Toyota, Dodge, and Jeep (2013)
Follow vehicles less closely with adaptive cruise control	46	36-41
Check side mirrors more frequently with blind spot detection	25	20 for Dodge and Jeep

Percent of owners reporting less safe driving behaviors with systems

	Volvo (2009, 2012)	Toyota, Dodge, and Jeep (2013)
Follow vehicle ahead more closely with forward collision warning	2-5	16 for Toyota
Wait for the forward collision warning light or sound before slowing as they approached another vehicle	4	6-14
Turned their heads less often with blind spot detection	13	33 for Dodge and Jeep

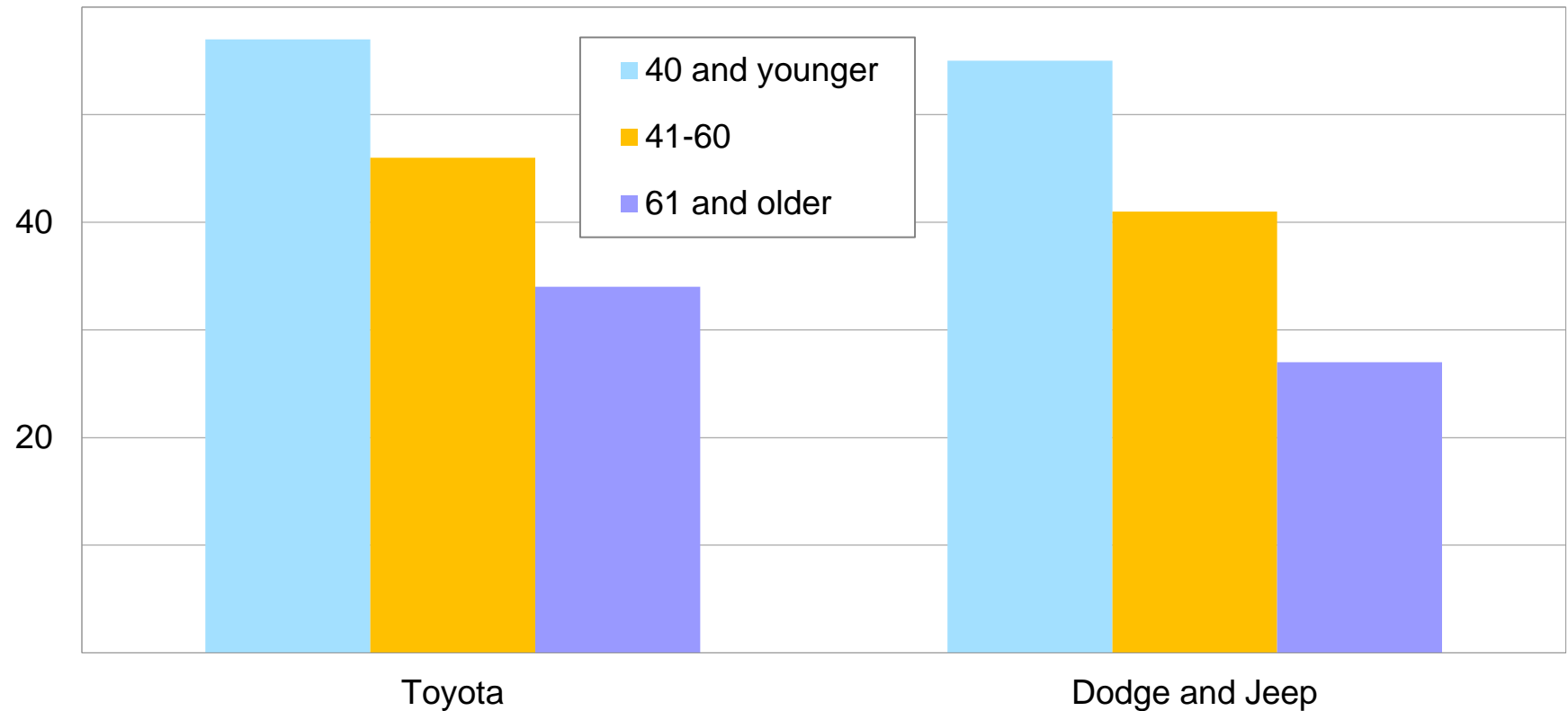
Percent of owners reporting benefit from forward collision warning

By owner age



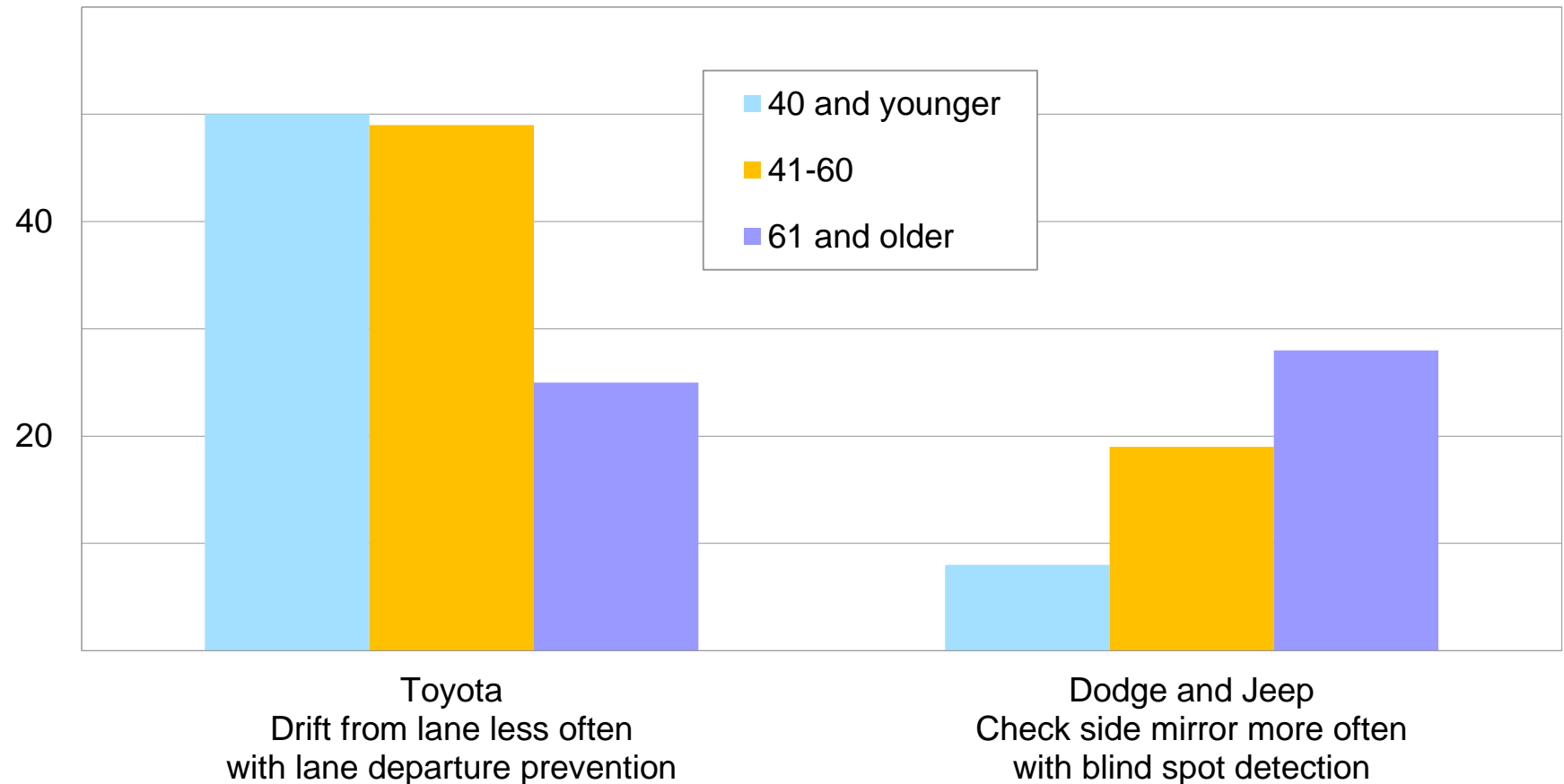
Percent of owners reporting they follow the vehicle ahead less closely with adaptive cruise control

By owner age



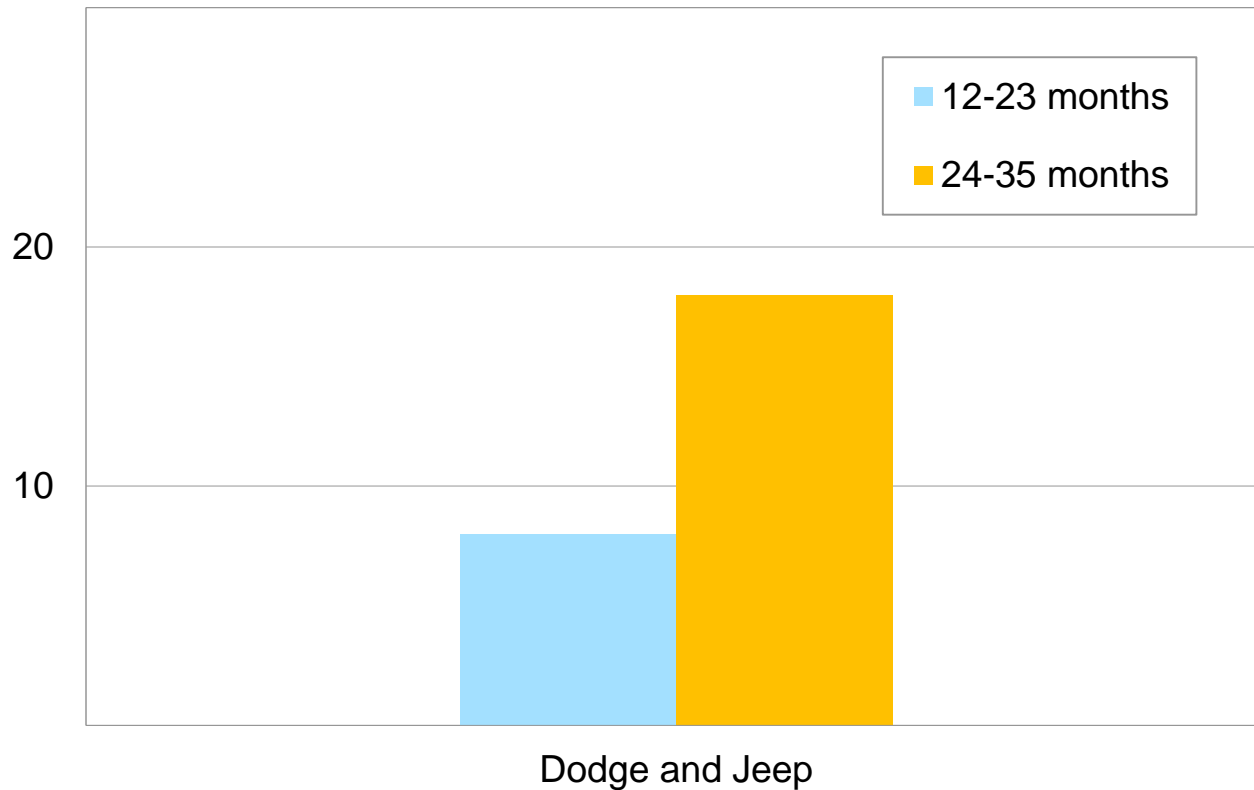
Percent of owners reporting safer driving behaviors with systems

By owner age



Percent of owners reporting at least sometimes waiting for forward collision warning before braking

By duration of ownership



Conclusions

- Use of systems is consistent with previous surveys:
 - Most owners leave systems on and would want again
 - Lane departure prevention was least likely to be used
- But reports of changes in driving habits were not as positive for non-luxury models, in comparison with previous surveys with luxury models
- Drivers ages 40 and younger experienced more warnings and generally reported the most positive impact on driving habits
- Although the current surveys focused on non-luxury models, the retail prices of models with crash avoidance options were high and substantially greater than the base models without the options



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