PUBLISHED

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 18-1470

LANCE R. BELVILLE; DONALD C. CARR; MINDI STEWART; STANLEY STEWART; CHARLES JOHNSON; JILL DURANT; MICHAEL ANTRAMGARZA; QUINTIN WILLIAMS; ACA LEGAL INVESTIGATIONS, INC.; JOHN MCGEE; DAVID H. PATTON; INEZ A. PATTON; PAMELA D. SMITH; BETTY J. TRINQUE; SHARON SHAFFER; ROBERT BRANDON; DANIEL GALLEGOS; TIMOTHY MATTHEWS; SAMUEL HAIRSTON; RHODA JEFFERS; MARY PHIPPEN; JONATHAN POMA; SHELLEY RILEY; CHARLES T. BURD; WILLIAM S. TROUTMAN; SHANE MAYFIELD; ANDREA MARTIN; THOMAS PORTER; HASEN DESIGN BUILD & DEVELOPMENT, INC.,

Plaintiffs – Appellants,

and

DEAN RICHARDSON; CHRISTINE SALAMONE; BEVERLY GORTON; JOSH LEGATO; ROOFWERKS, INC.; MILLS ALLISON; LAURA ELSINGER, and; GABRIEL KLETSCHKA, Individually and on behalf of all others similarly situated; CAROLYN CHASE; GREG PEET; TONY BURNETT; GEORGE SHAFFER; ROBERT AGRIS; JOHN E. GRIMALDI; JOLENE HARRIS,

Plaintiffs,

v.

FORD MOTOR COMPANY,

Defendant – Appellee.

Appeal from the United States District Court for the Southern District of West Virginia, at Huntington. Robert C. Chambers, District Judge. (3:13-cv-06529)

Argued: January 29, 2019 Decided: March 25, 2019

Before AGEE and HARRIS, Circuit Judges, and DUNCAN, Senior Circuit Judge.

Affirmed by published opinion. Judge Agee wrote the opinion, in which Judge Harris and Senior Judge Duncan joined.

ARGUED: John E. Tangren, DICELLO LEVITT & CASEY LLC, Chicago, Illinois, for Appellants. Jonathan D. Hacker, O'MELVENY & MYERS LLP, Washington, D.C., for Appellee. **ON BRIEF:** Adam J. Levitt, John E. Tangren, DICELLO LEVITT & CASEY LLC, Chicago, Illinois; Niall A. Paul, SPILMAN THOMAS & BATTLE, PLLC, Charleston, West Virginia; Gregory M. Travalio, Mark H. Troutman, Shawn K. Judge, ISAAC WILES BURKHOLDER & TEETOR, LLC, Columbus, Ohio, for Appellants. Sarah Virginia Bondurant Price, MCGUIREWOODS LLP, Richmond, Virginia; Jonathan D. Hacker, Bradley N. Garcia, O'MELVENY & MYERS LLP, Washington, D.C., for Appellee.

AGEE, Circuit Judge:

A group of individuals and corporations sued Ford Motor Company for an alleged defect in their purchased or leased Ford vehicles manufactured between 2002 and 2010. The district court dismissed various claims of certain Plaintiffs, excluded the opinions of the Plaintiffs' three experts, and granted summary judgment to Ford on all claims. Twenty-seven individual and two corporate Plaintiffs[1] now appeal and, for the reasons set out below, we affirm the judgment of the district court.

I.

In 2013, various individuals and corporations filed three related actions in the Southern District of West Virginia, alleging that their Ford vehicles had a defective electronic throttle control ("ETC") system, which could lead to an unintended acceleration ("UIA"). They further alleged that to prevent a UIA, Ford should have equipped their vehicles with an alternative failsafe system such as a Brake Over Accelerator ("BOA"). Based on this theory of defect, the Plaintiffs asserted numerous state and federal claims, including a violation of the Magnuson–Moss Warranty Act, breach of implied and express warranty, unjust enrichment, and a violation of state consumer protection statutes.

[1] Plaintiffs in the proceedings below included Appellants as well as fourteen other individuals and one corporation. These other Plaintiffs did not file a notice of appeal. For convenience and to avoid confusion, we will identify all plaintiffs below as "Plaintiffs," which includes Appellants.

Despite the alleged defect, only sixteen Plaintiffs alleged that they actually experienced UIAs, and none had suffered personal injury or property damage from the alleged defect. Nonetheless, all Plaintiffs sought economic damages arguing that the alleged defect made their vehicles worth less than their purchase or lease price. Specifically, they requested "damages to recover for diminished value at the time of purchase," *Belville v. Ford Motor Co.*, 13 F. Supp. 3d 528, 535 (S.D.W. Va. 2014), which they posit on appeal is—for "many" Plaintiffs— "the *market price to repair* the defective Class Vehicles." Reply Br. 17.

Ford filed motions to dismiss all three actions, which the district court granted in part and denied in part. *Bellville*, 13 F. Supp. 3d at 530. In 2014, the court dismissed, among other claims, the warranty and unjust enrichment claims of those Plaintiffs who had not experienced a UIA because they "failed to demonstrate a plausible claim that they paid more for their vehicles than their actual worth when they have used their vehicles without incident for many years." *Id.* at 542. After the dismissal order was issued, the Plaintiffs twice attempted to amend their complaints. In considering the motions to amend, the district court clarified which claims were dismissed, consolidated the three actions into one, and directed the Plaintiffs to file a consolidated amended complaint consistent with the court's orders.

In December 2015, seventeen individuals and two corporations, as the Plaintiffs in the consolidated action, filed a Second Amended Master Consolidated Class Action

Complaint,[2] which became the operative complaint. As distinguished from the initial complaints, all but two Plaintiffs[3] now alleged that they experienced a UIA due to a defective ETC system in their Ford vehicles. Based on this alleged defect, the Plaintiffs continued to assert one federal claim—a violation of the Magnuson-Moss Warranty Act—and numerous state claims, including breach of express and implied warranty, fraud, and unjust enrichment claims.

Ford moved to exclude the Plaintiffs' expert witnesses and for summary judgment. By order of February 27, 2018, the district court granted partial summary judgment to Ford on the warranty and unjust enrichment claims, noting that because many factors unrelated to an ETC system may cause UIAs, the Plaintiffs' mere allegations that they experienced UIAs were not evidence of a defect. *See Johnson v. Ford Motor Co.*, 310 F. Supp. 3d 699 (S.D.W. Va. 2018). It observed that to survive Ford's motion for summary judgment, the Plaintiffs must establish "a causal link between their alleged [UIAs] and

[2] The Plaintiffs moved for class certification in January 2018, but the district court granted summary judgment on all claims to Ford before ruling on this motion. Thus, the court never certified a class.

[3] In the initial complaints, sixteen Plaintiffs, including Roofwerks, Inc., Greg Peet, Carolyn Chase, Robert Agris, and John Grimaldi, alleged that they experienced UIAs. With the district court's permission, Roofwerks, Peet, Chase, Agris and Grimaldi voluntarily dismissed their claims.

Nineteen of the Plaintiffs who survived the dismissal orders became the Plaintiffs in the consolidated action. This group included eleven Plaintiffs who alleged in the initial complaints that they experienced UIAs. The six other Plaintiffs changed their stance and alleged in the amended complaint that they experienced UIAs. Two Plaintiffs, John McGee and Hasen Design Build & Development, Inc., did not allege that they experienced UIAs or assert any warranty or unjust enrichment claims. All Plaintiffs in the consolidated action are parties to this appeal.

the alleged defect." *Id.* at 704. The district court held the Plaintiffs failed to produce evidence of causation, explaining:

> none of [Plaintiffs' proposed] experts can say that, for those Plaintiffs who alleged they experienced [a UIA], their events were the result of the alleged defect with the ETC system. Quite simply, Plaintiffs produced no experts who can testify that [their] alleged [UIAs] were proximately caused by the alleged defect rather than some other known cause for such events.

Id. at 706–07. The court found, "this gap between Plaintiffs' experts' opinions and what allegedly occurred in Plaintiffs' specific vehicles fatal to Plaintiffs' warranty and unjust enrichment claims." *Id.* at 707.

By order of March 26, 2018, the district court resolved the Plaintiffs' remaining claims. *Johnson v. Ford Motor Co.*, No. 3:13-6529, 2018 WL 1512377 (S.D.W. Va. Mar. 26, 2018). The district court first granted Ford's motion to exclude the opinions of the Plaintiffs' three experts, Todd H. Hubing, Ph.D., Marthinus van Schoor, Ph.D., and Philip Koopman, Ph.D., holding that their opinions were inadmissible under Rule 702 of the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). And "the challenged expert opinions [were] critical to the remaining summary judgment issues." *Id.* at *1. Because the expert opinions failed to prove the Plaintiffs' theory of defect, the theory was "largely hypothetical." *Id.* at *2.

As the district court explained, the Plaintiffs' "theory is that many predictable flaws may occur with the pedal sensors. Plaintiffs theorize that these flawed sensors produce faulty voltage signals that should trigger the ETC system's failsafe modes. However, due to a defectively designed ETC system, the failsafe modes are not activated,

resulting in [UIAs]." *Id* at *3. Thus, "testing of ETC systems was central to the experts' opinions." *Id* at *2.

The district court found that the experts' "testing was flawed, and Plaintiffs have failed to establish other means by which their experts can meet the reliability standard." *Id.* The district court noted, for example, that the only peer-reviewed publication relied on by the experts was a 2015 article by Dr. Hubing; however, the theory relied on in that article had been discredited by two federal agencies, the National Highway Traffic Safety Administration ("NHTSA") and the National Aeronautics and Space Administration ("NASA"). In analyzing the experts' testing evidence, the court noted the continuing failure of proof establishing any causal link:

> Although Plaintiffs' experts purport to test [Plaintiffs' theory of defect], they leave a gap between analytical possibility and actual proof of occurrence. The experts attempt to excuse this gap by reporting that the defect leaves no evidence of its effect. However, this position shifts the burden to Ford to prove the negative. Furthermore, there is no "general acceptance" within the automotive safety or engineering community that underpins Plaintiffs' theory. The causes of [UIA] are myriad. Some events are attributable to driver error, while others are tied to different defects from cruise control to mechanical issues. Even though many drivers' complaints of [UIA] are credible and likely caused by some defects, Plaintiffs' theory here is still largely hypothetical . . . .

Id. at *3.

The district court examined each of the three experts' individual opinions to determine whether that opinion should be admitted into evidence. First, the court rejected the opinion of Dr. Hubing[4] whose report was primarily based on the article noted above

[4] Dr. Hubing is an electrical engineer and a professor at Clemson University.

and in which he examined five vehicles with ETC systems, including two Ford models, a 2005 Mustang and a 2006 Explorer. After comparing accelerator pedal performance of the five vehicles, Dr. Hubing concluded that "Ford's Gen II ETC system fails to adequately mitigate accelerator pedal faults which can lead to" UIAs. J.A. 10873. In Dr. Hubing's opinion, this was "the most probable reason that Ford vehicles with this throttle control system have high reported rates of" UIAs. J.A. 10873.

The district court found Dr. Hubing's testing unreliable for two reasons. First, his testing required making separate accommodations for the Ford vehicles he tested because the testing "was developed to test vehicles with 'two track' pedal sensors," but the Ford vehicles had "three track" pedal sensors. *Johnson*, 2018 WL 1512377, at *4. To accommodate this difference, Dr. Hubing arbitrarily assigned a set value to Ford's third pedal without knowing how this affected Ford's computer source code or software program. In some cases, the set value he used for the third track intentionally caused the vehicles to accelerate if one of the other two sensors' values matched this set value.

Second, Dr. Hubing's testing rested on questionable assumptions that lacked evidentiary foundations. The voltages he injected into the ETC system purportedly simulated real-world circumstances and actual vehicle conditions. But the voltage values simply reflected Dr. Hubing's "assumptions of what would happen" if factors such as a worn sensor, loose connector, or tin whisker existed. *Id.* at *4 n.6. Furthermore, Dr. Hubing's testing revealed that UIAs occurred when two pedal sensors produced values of a certain range, and those values were "close to the same . . . , as though each sensor was faulting in the same way." *Id.* at *4. But Dr. Hubing did not "offer any testing of sensors

to verify the assumption that both sensors should be expected to fault and that they do so in the same way." *Id.*

The court found that the sources supporting Dr. Hubing's sensor assumption were insufficient to be reliable. Dr. Hubing's assumption was based on two sources: "first, by reference to various documents, such as Ford's CQIS database (complaints relating to either pedal faults and/or [UIA]) and Ford's design and development phases for the Gen II ETC system; second, the inherent knowledge of the expert." *Id.* The first source did "little" to support Dr. Hubing's assumption because these documents were "brief, and very few reflect[ed] an inspection, testing, or analysis by a trained eye." *Id.* As for Dr. Hubing's qualifications, those alone could not substitute for the lack of testing evidence.

The district court found further problems with Dr. Hubing's report, including that "degraded sensors are not the defect, nor are they the only precipitating cause of [UIA], according to Plaintiffs' claim. However, Dr. Hubing's theory of defect rests significantly on the system's inability to properly recognize and mitigate faulty sensors." *Id.* Dr. Hubing also had never tested the Plaintiffs' actual vehicles or attempted to produce voltages that would cause a UIA instead of simply injecting these voltages. Finally, the NHTSA and NASA in 2011 had rejected his theory as lacking real-world evidence. Based on all these findings, the court excluded Dr. Hubing's opinion.

Next, the court considered the opinion of Dr. van Schoor who holds a Ph.D. in aeronautics and astronautics. He opined that Ford's accelerator pedal sensors are subject to wear or "gunk" buildup, either of which "can lead to failure and erratic vehicle

behavior." J.A.10972. The district court found three problems with this theory: (1) Plaintiffs' counsel "explicitly stated that Plaintiffs were not offering his opinion as to a defect;" (2) Dr. van Schoor did not perform any inspections or surveys to support his theory; and (3) he "did not attribute any of Plaintiffs' [UIAs] to the problems he identified in his report." *Johnson*, 2018 WL 1512377, at *5. Thus, the court found his theory irrelevant to the Plaintiffs' theory of defect.

Dr. van Schoor also offered an opinion on an alternative vehicle design with BOA, but the court did not examine this in depth because the availability of an alternative design was not proof of the alleged defect.[5] Based on these findings, the court excluded Dr. van Schoor's report.

The third expert at issue was Dr. Koopman,[6] who opined that a design defect made Ford's Gen II ETC system vulnerable to allowing UIAs. In support, Dr. Koopman tested two Ford models, a 2005 Mustang and a 2006 Fusion, by injecting voltages into the accelerator wiring harness as a substitute for the three accelerator pedal sensors. Similar to Dr. Hubing's testing, the injected voltages represented the voltages "likely produced

[5] The district court's holding is consistent with our precedent. *See Sexton By and Through Sexton v. Bell Helmets, Inc.*, 926 F.2d 331, 338 (4th Cir. 1991) (holding that the simple availability of an alternative design at the time of trial "does not lead to the conclusion that the design of the [product] was defective"); *see also Edwards v. Bell Helicopter Textron, Inc.*, 63 F. App'x 674, 680–81 (4th Cir. 2003) (per curiam) (determining that the availability of an alternative design "was irrelevant to the proof" of the strict liability and negligent defective design claims because the existence of an alternative design could not have contributed to the alleged injury and therefore did not establish that an alleged design defect in the product was a proximate cause of the alleged injuries).

[6] Dr. Koopman is a tenured Associate Professor in the Electrical and Computer Engineering Department of Carnegie Mellon University.

by sensors degraded in one or more ways, such as from wear and tear, loose wires, and water intrusion." *Johnson*, 2018 WL 1512377, at *5. Next, he evaluated "actual vehicle performance" by repeating this testing on a dynamometer[7] that was designed to simulate an actual vehicle condition. *Id*. Based on the results of his testing, Dr. Koopman concluded that a UIA occurs when two or more sensors produce voltages of a certain range close to each other.

The district court found Dr. Koopman's approach unreliable for much the same reasons that it found Dr. Hubing's opinion defective. The court noted that he did not test or prove his assumption that two or more degraded sensors have produced or would produce the voltages he used for his testing. Furthermore, Dr. Koopman purposely chose arbitrary voltage inputs that would instruct the system to accelerate. Thus, his "testing was an artificial demonstration that essentially mimicked intentional acceleration." *Id.* at *7, and was not a "realistic example of sensor faults" because it required multiple steps "in a sequence that ha[d] no 'real-world' support." *Id.*

Furthermore, the district court concluded "Dr. Koopman's testimony, that Plaintiffs' complaints are consistent with his design defect opinion, is inadequate to tie his opinions to this case." The court explained why this was so:

> First, [Dr. Koopman] relies on nothing more specific than the Consolidated Complaint to understand Plaintiffs' [UIAs]. Second, there are profound inconsistencies between the general complaints and his opinions. Nearly every Plaintiff described a failure of their brakes to counteract the [UIA],

[7] Dynamometer is a "device for measuring mechanical force, or power, transmitted by a rotating shaft." *Dynamometer*, Encyc. Britannica (2018); *see Maxwell Dynamometer Co. v. United States*, 386 F.2d 855, 859 (Ct. Cl. 1967).

> yet in Dr. Koopman's own testing procedure, the brakes restrained the acceleration. Further, some Plaintiffs reported that their gas pedals were moving up and down without a foot-on-pedal, a circumstance not replicated in any of the tests done by Plaintiffs' experts. If these Plaintiffs were right, this pedal problem likely would be mechanical, perhaps caused by the return spring.

Id. at *8 (internal citation omitted). Because his testing was not "a reliable basis" for his opinions regarding the alleged defect, the district court excluded Dr. Koopman's opinion. *Id.*

The district court also found problematic that none of the Plaintiffs' experts had tested or inspected the Plaintiffs' actual vehicles or attempted to connect their testing to any of those vehicles. Instead, the Plaintiffs asserted the alleged ETC defect and experts' opinions applied universally to all the thousands of vehicles in their purported class despite Drs. Koopman's and Hubing's opinions that their testing results varied significantly between individual vehicles and that the pedal sensors differed among the class vehicles.

Once the expert opinions were excluded, the district court concluded that the Plaintiffs had "no evidence of their core allegation that there is a design defect in Ford's Gen II ETC system." *Id.* Insomuch as the Plaintiffs' theory of defect was without an evidentiary basis, they could not establish the existence of a defect and the necessary element of causation. Accordingly, the district court granted summary judgment on all remaining claims to Ford.

A group of the Plaintiffs now appeal, and this Court has jurisdiction under 28 U.S.C. § 1291.

II.

A.

We review summary judgment decisions de novo, *see Campbell v. Hewitt, Coleman & Assocs., Inc.*, 21 F.3d 52, 53 (4th Cir. 1994), and *Daubert* decisions for abuse of discretion, *see Nease v. Ford Motor Co.*, 848 F.3d 219, 228 (4th Cir. 2017). A district court abuses its discretion if it makes an error of law or clearly erroneous factual finding. *See id.* at 228.

The merits of the district court's *Daubert* decision addressing the Plaintiffs' proof of their defect theory is our initial focus because their entire case hinges on the allegedly defective ETC system as the cause of UIAs. UIAs alone do not substantiate their theory because, as the Plaintiffs concede on appeal, many factors unrelated to an ETC system could trigger UIAs. *See, e.g.*, Opening Br. 31 ("[M]ultiple circumstances can initiate unintended acceleration signals."). Thus, to establish the existence of the alleged defect and the requisite causal link between it and their UIAs, the Plaintiffs proffered the opinions of the three experts, Drs. Hubing, van Schoor, and Koopman. As the district court recognized, these experts' opinions are "critical" to the Plaintiffs' case because their theory of defect is "largely hypothetical" without them. *Johnson*, 2018 WL 1512377, at *3. Accordingly, if the district court correctly excluded the expert opinions, the Plaintiffs' case fails because they would be "unable to prove the fundamental theory of their case." *Id.* at *9.

B.

The district court excluded the expert opinions under the Supreme Court's landmark precedent in *Daubert*, which established that under the Federal Rules of Evidence "the admissibility of scientific evidence no longer was limited to knowledge or evidence 'generally accepted' as reliable in the relevant scientific community." *Nease*, 848 F.3d at 228 (citing *Daubert*, 509 U.S. at 588–89). Instead, *Daubert* held that courts must evaluate proposed expert testimony according to Rule 702, which tasks a district judge with "ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." 509 U.S. at 597. This rule requires trial judges to conduct "a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue. . . . . Many factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test." *Id.* at 592–93.

Under Rule 702, an expert's testimony is relevant if it has "a valid scientific connection to the pertinent inquiry." *Id.* at 592. To be reliable, the testimony "must be based on scientific, technical, or other specialized *knowledge* and not on belief or speculation, and inferences must be derived using scientific or other valid methods." *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir. 1999) (citing *Daubert*, 509 U.S. at 590, 592–93).

In determining whether expert testimony is "sufficiently reliable to be admissible," a district court generally considers several factors:

> First, "a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested." A second question . . . is "whether

> the theory or technique has been subjected to peer review and publication." Publication regarding the theory bears upon peer review; "the fact of publication (or lack thereof) in a peer reviewed journal will be a relevant, though not dispositive, consideration in assessing the scientific validity of a particular technique or methodology on which an opinion is premised." Third, "in the case of a particular scientific technique, the court ordinarily should consider the known or potential rate of error." Fourth, . . . "'general acceptance'" is . . . relevant to the reliability inquiry. "Widespread acceptance can be an important factor in ruling particular evidence admissible, and a known technique which has been able to attract only minimal support with the community may properly be viewed with skepticism."

Nease, 848 F.3d at 229 (quoting *Daubert*, 509 U.S. at 593–94) (internal citations and alterations omitted).

This list, however, is "not exhaustive," and "'neither necessarily nor exclusively applies to all experts or in every case.'" *Id.* (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999)). "[A]t bottom, the court's evaluation is always a flexible one, and the court's conclusions necessarily amount to an exercise of broad discretion guided by the overarching criteria of relevance and reliability." *Oglesby*, 190 F.3d at 250. Thus, the trial court has "broad latitude" in determining whether "*Daubert's* specific factors are, or are not, reasonable measures of reliability in a particular case." *Kumho Tire*, 526 U.S. at 153. Here, the district court properly considered appropriate factors and did not abuse its discretion in excluding the experts' opinions based on their lack of relevance and reliability.

C.

The Plaintiffs fail to show that the district court made "a clearly erroneous factual finding" or "error of law" by excluding their expert witnesses. *See Nease*, 848 F.3d at

228. They argue that the district court did not consider certain *Daubert* factors, such as the known or potential rate of error, or considered *Daubert* factors, like peer review, in an inappropriate manner. This argument lacks merit, in part, because the Plaintiffs do not identify a tangible error in the district court's analysis. The district court was not under any obligation to consider a certain factor or weigh factors it did consider in a particular manner. *See id.* at 229. As noted earlier, the trial court's inquiry is a "flexible one," and it exercises "broad discretion" in choosing which *Daubert* factors to apply and how to consider them. *Oglesby*, 190 F.3d at 250; *accord Nease*, 848 F.3d at 229.

The Plaintiffs further argue that the court made conclusory findings and wrongly assessed the expert opinions. We disagree. Contrary to the Plaintiffs' assertion, our review shows that the district court thoroughly reviewed the record, including the experts' reports and the depositions of these experts, to understand their testing, theories, and methodologies. The court then provided a well-reasoned analysis of the experts' theories and testing based on its consideration of relevant *Daubert* factors such as general acceptance of a theory within a relevant field, peer review, and the scientific validity of their underlying methodologies.

For example, the district court properly noted that Dr. Hubing's testing method was, at a minimum, suspect because it had been rejected by NASA and NHTSA. Further, as the court pointed out, Dr. Hubing never tested any vehicle in actual conditions so all his projections were purely theoretical. His "testing," at least in part, seemed artificially induced to produce a desired result and did not reflect real-world results from any vehicle claiming a UIA. In sum, Dr. Hubing's opinion was partly *ipse dixit*.

As for Dr. van Schoor, even without examining the merits of his testimony, the Plaintiffs effectively pled him out of the case. During the district court proceedings, the Plaintiffs stipulated "on the record that Dr. van Schoor will not offer defect opinions per se." J.A. 11934. Even more to the point, Plaintiffs' counsel admitted Dr. van Schoor failed to meet the necessary threshold of evidentiary reliability: "candidly I will concede to the Court that he couches all of his conclusions in the form of a defect opinion. Candidly I'll say to the Court that I don't know that Dr. van Schoor in this case tested his opinions against the rigor that is required for Federal Rules of Evidence." J.A. 11932.

Regardless, we find no abuse of discretion in the district court's merits analysis of Dr. van Schoor's testimony for the reasons it explained. We simply note two salient points from that analysis: Dr. van Schoor "performed no inspections nor surveys to support his theory about contacting sensors" and "did not attribute any of Plaintiffs' [UIAs] to the problems he identified in his report." *Johnson*, 2018 WL 1512377, at *5.

Dr. Koopman's testimony fares no better. As with the other experts, there is a considerable gap between Dr. Koopman's theory and any evidentiary proof of causation related to an ETC defect and a UIA. The district court aptly recited the evidentiary failure on Dr. Koopman's part:

> Dr. Koopman admits that in many of his tests, he injected faults with voltages designed to produce pedal angles consistent with acceleration.
>
> . . . Yet, nowhere does he validate his hypothesis that degraded sensors, presumably to be expected, will actually cause or, in fact, have produced faulty voltages in the way he arranged for his testing. . . . The testing was an artificial demonstration that essentially mimicked intentional acceleration. Dr. Koopman offers no testing of Plaintiffs' vehicles, or the exemplars he chose, to demonstrate how degraded sensors or the other

> circumstances can produce similar voltages that result in unintended open throttle.

Id. at *7 (internal citation omitted).

Further, the district court correctly observed that none of the experts tested any of the Plaintiffs' vehicles or any of the thousands of Ford vehicles in their purported class which they allege had a UIA. Of the multitude of vehicles the Plaintiffs claim to be defective, the record does not reflect they attempted to test even one vehicle purported to have had a UIA, much less conduct such a test under real-world conditions. Most importantly, none of the proffered expert opinions purport to tie their testing to any alleged UIA so as to show the fundamental element of causation. To the contrary, the Plaintiffs' experts disclaimed any finding or opinion as to the causation of any specific UIA. J.A. 1754 ([Counsel's question to Dr. Hubing:] "But you can't say that your vulnerabilities that you identify actually cause the event in the plaintiffs' vehicles, correct? . . . [Answer:] In any one of those vehicles, no."); J.A. 10196–97 ([Counsel's question to Dr. van Schoor:] "Have you identified any alleged unwanted acceleration event occurring in a Ford vehicle that you have determined resulted from any of the alleged defects or vulnerabilities that you have identified in your report? [Answer:] I have not."); *see also* J.A. 8922–23 ([Counsel's question to Dr. Koopman:]"And then you don't go out to the vehicle to see if there are any other possible causes or explanation for their claim; correct? . . . [Answer:] I have not physically examined the vehicles."); J.A. 8925–26 ([Dr. Koopman:] "What I am saying is that I see explanations consistent with software

and hardware defects, and I see that that's consistent with my report. That's all I have been saying.").[8]

The court's well-articulated analysis clearly distinguishes this case from *Nease* in which the district court failed to act as a gatekeeper by not assessing the expert's reliability but leaving that question to the jury. *See* 848 F.3d at 231. Instead, the court here faithfully performed its duty as a "gatekeeper" in the manner we approved in *In re Lipitor (Atorvastatin Calcium) Marketing, Sales Practices and Products Liability Litigation (No II) MDL 2502*, 892 F.3d 624, 631 (4th Cir. 2018). There, we upheld the district court's extensive analysis of the experts' theories and testing, which formed the basis of the court's exclusion of several expert opinions, because that court, like the district court here, properly "identified and articulated clear . . . concerns it had about the manner in which [the expert] reached his conclusions." *Id.* at 638. In approving the district court's analysis in *In re Lipitor*, we once more emphasized that "'[m]any factors will bear on the inquiry,' and there is no 'definitive checklist or test.'" *Id.* at 637 (quoting *Daubert*, 509 U.S. at 593).

Having failed on their primary arguments, the Plaintiffs argue that the district court mischaracterizes the experts' testimony during depositions, but this argument

[8] The district court found, as do we, the anomaly of the Plaintiffs' theory at trial that the ETC defect was universal to all the class vehicles, but that their experts own laboratory testing showed significant differences between vehicles. As the district court noted, "Dr. Hubing's testing revealed significant differences between the two Ford vehicles, which he asserts had identical ETC systems," and yet, the Plaintiffs are "inconsistent" because they "maintain the Gen II ETC system used by Ford is exactly the same in all vehicles, but then they excuse results when it is not." *Johnson*, 2018 WL 1512377, at *8.

simply channels the Plaintiffs' disagreement with the district court's findings. The Plaintiffs essentially assert the district court erred by making findings that were favorable to Ford or reaching conclusions that contradicted their portrayal of the expert opinions. For instance, the Plaintiffs challenge the district court's finding that when Dr. Hubing was asked whether "he ever saw 'dual faults occur in the same resistive ranges' in the 'real world,' [he] ultimately answered no." *Johnson*, 2018 WL 1512377, at *4. They assert that this finding is erroneous because Dr. Hubing answered "no" to an entirely different question. Our review of the record reveals that the district court's finding is correct. When Ford's counsel asked Dr. Hubing whether he had ever "physically see[n] . . . dual faults occur in the same resistive range," he answered, ". . . how would we do that?" because "physical evidence of two simultaneous faults occurring [in the real world] . . . would be basically impossible to find." J.A. 09335–36. Similarly, the Plaintiffs' other arguments related to the district court's alleged mischaracterization reveal no more than their disagreement with the district court's findings or contrary interpretation, and do not show that the court committed any error.

Once the opinions of the three experts were excluded, the district court necessarily concluded that the Plaintiffs had "no evidence of their core allegation that there is a design defect in Ford's Gen II ETC system." *Johnson*, 2018 WL 1512377, at *8. As the court held, other evidence that the Plaintiffs recite, such as a software expert's opinion and Ford's internal documents, does not prove their defect theory.

The Plaintiffs point to unverified reports of UIAs from Ford vehicle drivers, but, as noted above, UIA alone does not prove the existence of a defect. Similarly, the

availability of an alternative vehicle design with BOA does not substantiate the Plaintiffs' theory of defect because the alternative design's mere availability does not prove that the existing design is defective or could lead to a UIA. *See Sexton*, 926 F.2d at 337–38 (remanding for new trial where district court improperly allowed expert testimony of a possible alternative design to substitute for evidence that was necessary to satisfy plaintiff's burden of showing a design defect); *Edwards*, 63 F. App'x at 680–81 (discussing the difference between the two types of evidence). The Plaintiffs further direct our attention to Ford's internal documents without discussing what these documents specifically contain or how they prove the missing element of causation. Instead, they generally argue that "the factual record in this case is rife with internal documents demonstrating Ford's knowledge of the defect." Reply Br. 14. Like the Plaintiffs' other evidence, this generalized argument neither proves nor disproves their theory of defect. Lastly, the Plaintiffs focus on the opinion of the software expert, Steve Loudon, but the district court could not have considered this opinion because the Plaintiffs admit that it was not available to the court and is not in the record. Thus, we agree with the district court that after the expert opinions were excluded, the Plaintiffs had no proof of a defect in Ford's ETC system.

Because the Plaintiffs could not prove their theory of defect and thus fail to meet the essential element of causation, we affirm the district court's grant of summary judgment on all claims to Ford.[9]

III.

For the foregoing reasons, the district court's *Daubert* and summary judgment decisions are

AFFIRMED.

[9] We find it unnecessary to assess the merits of the Plaintiffs' claims dismissed under Federal Rule of Civil Procedure 12(b)(6) because those claims are based on the same unsubstantiated theory and suffer from the same lack of proof, although the district court dismissed them for additional reasons not discussed here. Thus, even if those claims had survived the Rule 12(b)(6) challenge, they would not have survived the district court's summary judgment rulings because all contain the same failure of proof.

Similarly, we find without merit the Plaintiffs' argument that the district court erred by granting summary judgment to Ford on their various state consumer protection claims because those claims also fail for the reasons stated herein. The Plaintiffs argue the court did not recognize that those claims simply require "the breach of a duty to warn consumers of a known risk or danger or violation of a prohibition against misleading the consumer." Opening Br. 37. The Plaintiffs cannot establish the existence of a defect, let alone its risk or danger. Ford does not have a duty to warn consumers of an unproven risk or danger associated with a hypothetical and unproven defect.