

EXHIBIT 14

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA**

People of the State of California, et al.,

Plaintiffs,

v.

Meta Platforms, Inc., et al.

Defendants.

IN RE: SOCIAL MEDIA ADOLESCENT
ADDICTION/PERSONAL INJURY PRODUCTS
LIABILITY LITIGATION

THIS DOCUMENT RELATES TO:
4:23-cv-05448

MDL No. 4:22-MD-03047

Case No. 4:23-CV-05448-YGR

**EXPERT REBUTTAL REPORT OF DR. BRUCE
ISAACSON IN RESPONSE TO THE EXPERT REPORT
OF CARL S. SABA, MBA, CVA, ASA, ABV.**

Table of Contents

Section 1: Executive Summary.....	1
Section 2: Qualifications and Assignment	3
Section 3: Mr. Saba’s use of the BEEF Survey is flawed and improper, because the survey has many limitations and was designed to track progress over time.	6
3A. The BEEF Survey did not include any control measures, so survey biases and noise may inflate the rates of reported bad experiences. There is no way to determine the effect of any such inaccuracies on the survey measures.	9
3B. The Beef Survey is unreliable as a means to estimate bad encounters by teens on Instagram because it is missing age and state data and does not account for differences in time spent on Instagram. The survey data may be skewed by users who visit Instagram more often or for longer sessions.....	18
3C. There is no evidence that the BEEF Survey provides reliable measures across a six-year period.....	23
Section 4: Mr. Saba’s Use of the Thorn Surveys to Calculate the Number of U13s Using Instagram and Facebook Is Also Flawed and Improper.....	25
4A. The Thorn Surveys did not include any control measures, so survey biases and noise may inflate the measures for U13s. There is no way to determine the effect of any such flaws on the survey measures.....	27
4B. The Thorn Surveys are unreliable because they do not provide sufficient information about the surveys’ design or the universe of respondents that the surveys interviewed.....	29
4C. The 2020 Thorn Survey shows higher rates of Instagram usage than Thorn Surveys conducted in other years. Also, Mr. Saba extrapolates 2019 to 2023 usage rates from the Thorn Surveys to earlier time periods, even though conditions likely changed over 11 years.	33

Exhibits

Exhibit 1: Dr. Bruce Isaacson CV and Testimony Experience

Exhibit 2: Materials Reviewed

Section 1: Executive Summary

1. I have been retained by counsel for Meta Platforms, Inc. and related defendants in this matter (collectively, “Meta”) to review and respond to certain opinions offered by Carl S. Saba.¹ Previously, I provided an expert rebuttal report in this matter (my “Initial Report” or my “First Report”),² which provides my opinions in response to an expert report provided by Dr. Adam Alter.³

2. A summary of my opinions follows below:

3. **Opinion 1: Mr. Saba’s use of the BEEF Survey is flawed and improper. The BEEF Survey was designed to track progress over time, not to measure absolute levels of subjective bad experiences, and has many limitations.** My first opinion relates to Mr. Saba’s use of the Bad Experiences and Encounters Framework (“BEEF”) Survey to quantify “the number of instances in which Teens were exposed to specific bad experiences on Instagram, based on the findings of the Bad Experiences and Encounters Survey conducted by Meta.”⁴ Mr. Saba was asked “to assume that the nature, rate, and frequency” of certain negative experiences on Meta’s platforms, which the Saba Report refers to as “Bad Encounters,” are consistent with the measures of subjective bad experiences in the BEEF Survey.⁵

4. My opinion, based on my expertise in survey design and interpretation, is that Mr. Saba’s use of the BEEF Survey is flawed and improper. The BEEF Survey was not designed to measure the absolute level of subjective bad experiences on Instagram, but rather was designed to provide a source of directional signals, using the bad experiences framework, to assess the effect of work done by the Instagram Community Pillar by means of a research design that

¹ “Expert Report of Carl S. Saba, MBA, CVA, ASA, ABV,” signed November 21, 2025 (the “Saba Report”).

² “Expert Report of Dr. Bruce Isaacson,” signed October 17, 2025.

³ “Trial Report of Adam L. Alter, Ph.D.,” dated August 1, 2025.

⁴ Saba Report, ¶ 17f. Mr. Saba defines Teens as people 13-17 years old (Saba Report, ¶ 2).

⁵ Saba Report, ¶ 78.

1 incorporated holdout and production groups. The BEEF Survey has many limitations that make
2 the measures and data from the survey unreliable when used as Mr. Saba attempts.

3 5. As will be discussed in greater detail in this report, the survey was designed to compare
4 holdout and production groups and does not include any other elements to control for biases
5 and measurement errors, so the rates of bad experiences reflected by the survey measures may
6 be inflated compared with the population of teen users on the platform as a whole. The survey
7 is subject to measurement errors such as false positives, and there is no way to know the
8 magnitude of such errors. Also, the survey is missing data on age, geography, and time spent on
9 the platform, so there is no way to know whether the survey database appropriately represents
10 the universe of people relevant to this matter. These problems with the survey's measures are
11 exacerbated by Mr. Saba's attempt to use the survey for a very specific purpose for which it was
12 not designed, namely to quantify the number of "Bad Encounters" by teen Instagram users in
13 the 18 UDAP states across a six-year period, notwithstanding that the survey itself was
14 conducted over a two-week period in 2021—during the COVID pandemic—when usage patterns
15 may have been different and not representative of other periods.

16 6. **Opinion 2: Mr. Saba's use of the Thorn Surveys to calculate the number of U13s using**
17 **Instagram and Facebook is also inappropriate and flawed.** My second opinion relates to Mr.
18 Saba's use of surveys conducted by Thorn and Benenson Strategy Group in 2019 to 2023 (the
19 "Thorn Surveys" and "Thorn Survey Reports"), which Mr. Saba used to estimate "the number of
20 under 13 year olds ('Under 13' or 'U13') Monthly Active Persons and Daily Active Persons on IG
21 and FB, on a yearly basis during the Relevant Time Period" and "the number of unique Under 13
22 persons that were active on IG or FB at any time during the Relevant Time Period."⁶ Mr. Saba
23 defines the Relevant Time Period as "January of 2012 through March 31, 2024."⁷

24 7. My opinion is that Mr. Saba's use of the Thorn Surveys to calculate the number of U13s
25 using Instagram and Facebook is inappropriate and flawed. As with the BEEF Survey, the Thorn
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27 ⁶ Saba Report, ¶ 17i, 17j.

28 ⁷ Saba Report, ¶ 17.

1 Surveys have no survey control, so the number of U13 respondents may be inflated compared
2 with the actual population of U13 Facebook and Instagram users. The surveys are subject to
3 measurement errors such as false positives, and there is no way to know the magnitude of such
4 errors. Also, the Thorn Survey Reports do not provide sufficient details to support Mr. Saba's
5 attempt to use the Thorn Surveys to measure the percentage of U13s who ever used Facebook
6 and Instagram, or to measure the percentage who used each platform at least once per day.
7 Mr. Saba's report lacks sufficient description of elements such as survey procedures,
8 measurement methods, and analysis of whether survey measures were affected by the COVID
9 pandemic. In addition, Mr. Saba inappropriately extrapolates the data from the 2019 to 2023
10 Thorn Surveys to the entire Relevant Time Period from 2012 to 2024, even though the 2020
11 Thorn Survey was conducted during the COVID-19 pandemic. Also, Mr. Saba applied the data
12 from the Thorn Surveys to years as early as 2012, even though patterns of social media usage
13 and smartphone ownership among youth under 13 changed during that period.

14
15 **Section 2: Qualifications and Assignment**

16 8. I have been retained by counsel for Meta to review and respond to certain opinions in
17 the Saba Report—specifically, Mr. Saba's interpretation, analysis, and use of the BEEF Survey
18 and the Thorn Surveys. Mr. Saba writes that he was retained by the plaintiffs in this matter to
19 compute economic damages associated with Meta's "alleged violation [...] of the Children's
20 Online Privacy Protection Act ('COPPA') and of each state's Unfair and Deceptive Acts and
21 Practices statutes (the 'UDAP Statutes')."8

22 9. I am Senior Managing Director and head of the Litigation Surveys and Consumer Science
23 group at IMS Legal Strategies ("IMS").

24 10. Previously, I served for nearly 20 years as President of MMR Strategy Group ("MMR"), a
25 marketing research and consulting firm that was acquired by IMS in April of 2025. At IMS, my
26 job responsibilities are similar to those that I had at MMR.

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⁸ Saba Report, ¶ 16.

1 11. I am experienced in consumer behavior, marketing, and research, including measuring
2 consumer attitudes and behaviors through consumer surveys. In more than 250 matters, I have
3 provided testimony, by written report and/or deposition, on topics relating to marketing,
4 marketing strategy, consumer behavior, and/or surveys.

5 12. I have testified about, among other things, marketing and consumer behavior in matters
6 before federal courts, state courts, the National Advertising Division of the Better Business
7 Bureau ("NAD"), the U.S. Trademark Trial and Appeal Board ("TTAB"), the U.S. International
8 Trade Commission, the U.S. Court of Federal Claims, and other venues and authorities. I have
9 also been retained in more than 25 matters by the U.S. Federal Trade Commission, the U.S.
10 Department of Justice, and the U.S. Patent and Trademark Office.

11 13. During my career, I have designed, conducted, and analyzed more than a thousand
12 research studies, including many surveys of consumer attitudes and behaviors. I have designed
13 and conducted many studies measuring the effect of advertising communications on consumer
14 attitudes and behaviors, for both litigation matters and marketing studies conducted on behalf
15 of commercial clients.

16 14. For more than 50 years, MMR provided marketing research and consulting, consisting
17 primarily of the design, execution, and analysis of thousands of surveys, as well as expertise
18 related to marketing and strategy. Prior to becoming president of MMR, I ran marketing and
19 strategy groups at a number of companies, and I was a consultant in marketing and business
20 strategy at a global consulting firm called Boston Consulting Group.

21 15. While I was President of MMR, I provided marketing research and consulting for many
22 well-known brands and companies, such as Farmers Insurance Group, Allstate Insurance,
23 Goodyear Tire & Rubber Company, Nestlé USA, Inc., RE/MAX, Kaplan Test Prep, and other
24 organizations. During my time at IMS and MMR, and in other, prior roles, I provided companies
25 with advice on topics such as marketing products and services, managing and growing brands,
26 sizing and segmenting markets, measuring and improving customer experiences, identifying and
27 analyzing new markets, evaluating and launching new products, satisfying and retaining
28

1 customers, pricing products and services, and other topics relating to marketing, consumer
2 behavior, and strategy.

3 16. I received a Bachelor of Science degree in engineering from the Technological Institute at
4 Northwestern University in 1985, and I received Master of Business Administration and Doctor
5 of Business Administration degrees from the Harvard Graduate School of Business
6 Administration in 1991 and 1995, respectively. At Harvard, I received my MBA with highest
7 distinction as a Baker Scholar and was a Dean's Doctoral Fellow, and published on marketing and
8 strategy. My research received awards from institutions including The Institute for the Study of
9 Business Markets at Penn State University and Harvard University. My education included
10 coursework in marketing, research design, statistics, buyer behavior, strategy, and other topics.

11 17. I have taught marketing and strategy for executive groups and executive MBA programs.

12 18. Since 1994, I have been on the editorial board of the *Journal of Business-to-Business*
13 *Marketing*, which publishes peer-reviewed research on business marketing. Since 2010, I have
14 been a member of *The Trademark Reporter* Committee of the International Trademark
15 Association; this Committee publishes peer-reviewed research on trademarks. Recently, I was
16 recognized as a high-performing member of the Committee. IMS is a member of the
17 International Trademark Association.

18 19. I regularly consult with clients regarding marketing, research, and strategy, and also
19 address conferences and groups on these issues. My public speaking includes addressing law
20 firms and bar associations on the use of surveys in litigation, and related topics.

21 20. I have authored or co-authored more than 18 publications on the subjects of marketing,
22 marketing strategy, consumer behavior, and surveys, for publications including *The Trademark*
23 *Reporter*, the *Intellectual Property Law Newsletter* of the American Bar Association's Section of
24 Intellectual Property Law, *Intellectual Property Today*, *Intellectual Property Magazine*, *Quirk's*
25 *Marketing Research Review*, and others. My publications have included book chapters as well as
26 teaching materials on marketing, consumer behavior, and other topics published by Harvard
27 Business Publishing and used for business school curricula.

21. My curriculum vitae is attached as Exhibit 1 to this report, and it reflects my testimony experience, including matters in which I have testified as an expert in the previous four years.

22. For my work on this matter, my time is billed at \$1,200 per hour. I was assisted by staff members at IMS Legal Strategies, who worked under my direction. Neither my compensation, nor the compensation of IMS Legal Strategies, is dependent on my opinions provided or the outcome of this or any other matter.

23. In forming my opinions and conclusions in this report, I have reviewed materials that are listed in Exhibit 2. I also rely on my professional and industry experience and knowledge in consumer surveys and consumer behavior.

24. Due to the ongoing nature of this matter, I reserve the right to review additional materials as they become available, and amend my report if needed.

Section 3: Mr. Saba's use of the BEEF Survey is flawed and improper, because the survey has many limitations and was designed to track progress over time.

25. The BEEF Survey was conducted in 2021 and included questions from an earlier survey focusing on policy-violating user experiences, called the Tracking Reach of Integrity Problems Survey ("TRIPS"). The BEEF study included topics from the prior survey, such as nudity, bullying (witness), and bullying (target), and added topics such as negative social comparison and self-harm, for a total of 22 topics.⁹

26. A total of 237,923 Instagram users participated in the research, with each respondent randomly assigned to five of the survey's 22 topics. They were asked questions for each of the five topics, starting with whether they recalled experiencing each of the five issues in the past seven days.¹⁰ Then, each respondent was randomly assigned further questions about one of the issues for which they had answered affirmatively to this initial question, including questions asking how many times in the period they were exposed to the issue and the length of the

⁹ META3047MDL-004-00015033.

¹⁰ META3047MDL-004-00015034-035.

1 exposure. Because of the sequence of random issue assignments, sample sizes associated with
2 each issue range from 5,880 to 71,845.¹¹

3 27. The BEEF survey employed a research design with “holdout and production groups”¹² to
4 assess the impact of work done by a team in the Instagram Community Pillar. The production
5 group consisted of users who had been exposed to the team’s work, while the holdout group
6 had not. The sample size for the study was “calculated to detect a 1% absolute difference
7 between the two groups (production and holdout).”¹³ When the percentages between the two
8 groups were different, the team would conclude that their efforts to address an issue had made
9 meaningful progress. For example, 12.3% of 1,764 respondents in the production group
10 selected “Yes, during the last 7 days” in response to the initial question asking if they had seen
11 “any violent, bloody, or disturbing images on Instagram that bothered you.”¹⁴ By contrast,
12 13.2% of the 2,816 in the holdout group selected “Yes” in response to this question.¹⁵ The lower
13 percentage in the production group is noted in the report as statistically significant, meaning
14 that the team saw meaningful progress on addressing perceived violence on Instagram.

15 28. Mr. Saba writes that he used the BEEF Survey to measure the “number of instances in
16 which UDAP State Teens were exposed to specific bad experiences on Instagram.”¹⁶ He also
17 writes that he was asked by counsel “to assume that the nature, rate, and frequency of Bad
18 Encounters during the period of February 2018 through March 2024 were consistent with those
19 reported and measured in the BEEF Survey.”¹⁷ According to the Saba Report, counsel for the
20 plaintiffs instructed Mr. Saba to focus on ten specific types of bad experiences, including Bully

21 ¹¹ META3047MDL-004-00015035.

22 ¹² META3047MDL-004-00015031.

23 ¹³ META3047MDL-004-00015035.

24 ¹⁴ META3047MDL-004-00015033, META3047MDL-004-00015038.

25 ¹⁵ META3047MDL-004-00015038.

26 ¹⁶ Saba Report, ¶¶ 5, 61. In this report, I use the term “teens” to refer to individuals between the ages of
13 and 17, consistent with Mr. Saba’s use of that term (Saba Report, ¶ 2).

27 ¹⁷ Saba Report, ¶¶ 78, 217. The UDAP States are California, Colorado, Connecticut, Delaware, Illinois,
28 Indiana, Kansas, Kentucky, Louisiana, Minnesota, Nebraska, New Jersey, New York, North Carolina,
Pennsylvania, South Carolina, Virginia, and Wisconsin. Saba Report, ¶ 16, fn.2.

1 Target, Bully Witness, Drugs, Hate Witness, Negative Comparison, Nudity, Self Harm, Unwanted
2 Advances, Violence, and Perceived Control. He refers to these as “Bad Encounters” or “Bad
3 Encounter Issues.”¹⁸

4 29. In his report, Mr. Saba offers a series of calculations. For example, he concludes that
5 UDAP State Teens were exposed to over 13 billion instances of “Bad Encounter Issues” on
6 Instagram during the relevant period.¹⁹ Mr. Saba also offers calculations regarding the monthly
7 rate at which teens encountered each of the ten Bad Encounter Issues, based on an average
8 weekly rate of occurrence.²⁰ He also offers calculations for each Bad Encounter Issue for each
9 month from February 2018 to March 2024, then aggregates those numbers, concluding that the
10 total number of instances of all ten Bad Encounter Issues across all months from February 2018
11 to March 2024 is more than 2.4 billion.²¹

12 30. Mr. Saba also provides additional calculations that assume that a teen using Instagram
13 encounters only one Bad Encounter Issue per month; based on these calculations, he asserts
14 that there were more than 477 million instances from February 2018 to March 2024.²²

15 31. In addition, Mr. Saba calculated alternative numbers that assume that teens see the
16 same Bad Encounter Issues they saw in one month in successive months.²³ Based on this
17 calculation, Mr. Saba concludes that there were more than 779 million Bad Encounter Issues, or,
18 assuming that a teen using Instagram encounters only one Bad Encounter Issue per month,
19 more than 400 million.²⁴ Mr. Saba summarized these conclusions in a table, reproduced below
20 as Table A.

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23 ¹⁸ Saba Report, ¶ 218.

24 ¹⁹ Saba Report, ¶¶ 5.

25 ²⁰ Saba Report, ¶¶ 219-220.

26 ²¹ Saba Report, ¶¶ 221-222.

27 ²² Saba Report, ¶ 223.

28 ²³ Saba Report, ¶ 225.

²⁴ Saba Report, ¶¶ 226-227.

**Table A: Mr. Saba's Calculations of Instances of Bad Encounter Issues
by UDAP State Teens on Instagram from February 2018 to March 2024²⁵**

Description	Schedule	Total Instances (millions)	Maximum Number of Instances Assuming One Incident Per Month Per Person (millions)
Instances, Based on Weekly and Monthly Rate, Assuming No Correlation	5.1.1	2,433	477
Instances, Based on Weekly and Monthly Rate, Assuming 100% Correlation	5.1.2	779	401
Instances, Based on Weekly and Monthly Rate and Frequency	5.2	13,124	

32. As described below, my opinion is that, due to limitations described in this report, the BEEF Survey cannot provide reliable measures about the frequency or quantity of “Bad Encounters” for the population of Instagram users aged 13 to 17 as a whole in the UDAP States.

3A. The BEEF Survey did not include any control measures, so survey biases and noise may inflate the rates of reported bad experiences. There is no way to determine the effect of any such inaccuracies on the survey measures.

33. The measures from any survey may be affected not only by what the survey is intended to measure, but also by other factors, such as those that can cause bias or measurement error.²⁶ For example, the results of a survey may be affected by “existing consumers’ preconceptions, bias, or reactions to anything other than the test stimulus (such as the way the questions are

²⁵ Saba Report, ¶ 228.

²⁶ Edwards, G. Kip and J. David Mayberry. “The *Daubert* Revolution and Lanham Act Surveys.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, pp. 363- 364.

1 phrased).²⁷ Also, some survey respondents may guess, may be inattentive, or may mis-
2 understand survey instructions.²⁸

3 34. The answers that respondents provide in surveys may be affected by a wide range of
4 biases. For example, respondents generally try to be cooperative or helpful when they answer
5 survey questions, and this may affect the way that they answer questions.²⁹ Specifically, some
6 respondents may perceive clues in the phrasing of survey questions that may cause them to
7 think that the survey has a correct answer, or that the author of the survey prefers or expects
8 them to provide a particular answer. These types of biases are called “demand effects,”³⁰ and
9 arise in part because the phrasing or sequencing of one survey question can affect how
10 respondents answer another survey question.

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15 ²⁷ Bernstein, David H. and Bruce P. Keller. “Survey Evidence in False Advertising Cases.” *Trademark and*
16 *Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B.
Swann, 2nd ed., ABA Publishing, 2022, p. 212.

17 ²⁸ McCarthy, J. Thomas. § 32:187 “The need for a survey control.” *McCarthy on Trademarks and Unfair*
18 *Competition*, 5th ed., Thomson Reuters, 2021, pp. 32-550 through 32-552. *See also*, Edwards, G. Kip and J.
19 David Mayberry. “The *Daubert* Revolution and Lanham Act Surveys.” *Trademark and Deceptive*
Advertising Surveys: Law, Science, and Design, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd
ed., ABA Publishing, 2022, pp. 363-364.

20 ²⁹ “Believing that the survey question has an answer, some respondents will perceive the questionnaire as
21 essentially a test. In response to this perception, they will take it as their task to show they are smart
22 enough to pass the test. In other words, the natural reaction of at least some of the people, some of the
23 time, is to try to use clues presented in the survey to figure out what is the right (i.e., the correct or
24 desired) answer. The result is that some of the respondents, at least some of the time, may respond
25 differently to the stimulus (i.e., the trademark or advertisement) than they would respond to the same
stimulus in the real world, where they do not feel they have to get the right answer.” Rappeport, Mike.
“Design Issues and the Value of Multiple Controls.” *Trademark and Deceptive Advertising Surveys: Law,*
Science, and Design, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022,
p. 259.

26 ³⁰ Edwards, G. Kip and J. David Mayberry. “The *Daubert* Revolution and Lanham Act Surveys.” *Trademark*
and Deceptive Advertising Surveys: Law, Science, and Design, edited by Shari Seidman Diamond and Jerre
27 B. Swann, 2nd ed., ABA Publishing, 2022, p. 359. *See also*, McCarthy, J. Thomas. § 32:172 “Tests of
28 properly conducted survey—Slanted or leading questions—Avoiding leading questions.” *McCarthy on*
Trademarks and Unfair Competition, 5th ed., Thomson Reuters, 2021, pp. 32-498 through 32-499

35. Another type of bias that can affect survey responses is called “acquiescence bias” or “yea-saying.”³¹ This type of bias reflects the inherent suggestiveness of some types of survey questions, where some respondents tend to select the affirmative response, even if that response does not actually apply to them.

36. Acquiescence bias arises in part because some questions can be suggestive, meaning that they can cause some respondents to have thoughts or ideas that would not have otherwise occurred to them if the question had not been asked of them. The results of a suggestive question may be unreliable.³²

37. The amount of acquiescence bias or the tendency for false positive responses depends on a number of factors, but the types of questions that are particularly prone to this type of bias are questions with affirmative and negative responses. For example, a question asking whether someone exercised for at least 30 minutes in the past seven days might have responses of “Yes,” “No,” or “I don’t know,” while a question asking the same respondent for their favorite color might list colors and not have affirmative or negative responses. When someone answers “Yes” to a question for which “Yes” is not correct, it creates a false positive response.

38. The possibility of false positive responses can be greater when respondents are presented with lists of similar items. In such cases, respondents may answer affirmatively or select all items in the lists, even if only some of the items apply to their experience: “For example, when presented with a list of beers purchased in the past month, some beer drinkers

³¹ “This bias refers to a general tendency of some individuals to give affirmative responses to questions (i.e., to ‘say yea’) regardless of whether an affirmative response is actually accurate.” Neal, David T. “Psychological Considerations in Designing Trademark and False Advertising Survey Questionnaires.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, p. 277. *See also*, “The response style of acquiescence (ARS) is generally defined as the tendency to agree with items regardless of content. Other names are agreement tendency, yea-saying, and positivity.” Baumgartner, Hans, and Jan-Benedict E.M. Steenkamp. “Response Biases in Marketing Research.” *The Handbook of Marketing Research: Uses, Misuses, and Future Advances*, edited by Rajiv Grover and Marco Virens, SAGE Publications, Inc., 2021, p. 6.

³² “A survey is not credible if it relies on leading questions which are ‘inherently suggestive’ and invite guessing.” McCarthy, J. Thomas. § 32:172 “Tests of properly conducted survey—Slanted or leading questions—Avoiding leading questions.” *McCarthy on Trademarks and Unfair Competition*, 5th ed., Thomson Reuters, 2021, pp. 32-498 through 32-507.

1 may be inclined to select all of them, even if they have purchased only a subset. This bias can be
2 motivated by a desire to qualify for the survey, by a misguided desire to ‘help’ the researchers,
3 by simple guessing, or by ‘straight-lining’ (i.e., checking ‘yes’ to everything on a list because it is
4 easier and faster than effortfully deciding each one).”³³

5 39. These and other extraneous factors that may affect survey responses are often referred
6 to as survey “noise.”³⁴ To adjust for these extraneous factors, surveys incorporate measures
7 called survey controls, which provide a means to adjust survey results for the effect of these
8 factors. When a survey does not incorporate a control, researchers would be unable to adjust
9 the survey’s measures for the effect of these extraneous factors. When a survey does not have
10 a control, there is no way to determine what portion of the survey’s measures is attributable to
11 the “noise” that is unaccounted for in the survey.³⁵

12 40. The possible effect of extraneous factors on survey measures makes controls an
13 important part of surveys. The use of a control allows researchers to isolate the effect
14 associated with a particular variable, issue, or concern,³⁶ and the failure to include an
15 appropriate control may constitute a fatal flaw in survey design.³⁷ Courts have criticized

16 ³³ Neal, David T. “Psychological Considerations in Designing Trademark and False Advertising Survey
17 Questionnaires.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari
Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, p. 277.

18 ³⁴ Jay, E. Deborah. “Ten Truths of False Advertising Surveys.” *The Trademark Reporter*, vol. 103, no. 5,
19 2013, pp. 1161-1162. *See also*, Bernstein, David H. and Bruce P. Keller. “Survey Evidence in False
20 Advertising Cases.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by
Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, p. 212.

21 ³⁵ “Rappeport, Mike. “Design Issues and the Value of Multiple Controls.” *Trademark and Deceptive*
22 *Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd
ed., ABA Publishing, 2022, p. 259.

23 ³⁶ “By adding an appropriate control group, the survey expert can test directly the influence of the
24 allegedly actionable part of the stimulus.” Bernstein, David H. and Bruce P. Keller. “Survey Evidence in
False Advertising Cases.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited
by Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, p. 212.

25 ³⁷ Bernstein, David H. and Bruce P. Keller. “Survey Evidence in False Advertising Cases.” *Trademark and*
26 *Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B.
Swann, 2nd ed., ABA Publishing, 2022, p. 212. *See also*, McCarthy, J. Thomas. § 32:187 “The need for a
27 survey control.” *McCarthy on Trademarks and Unfair Competition*, 5th ed., Thomson Reuters, 2021, pp.
32-550 through 32-551 (“Courts have held that a survey that fails to use a control may be given less
28 weight or even excluded from evidence altogether.”).

litigation surveys that have poor controls,³⁸ ruling that “such surveys ‘lack scientific validity.’”³⁹
A control is important because it addresses extraneous factors that otherwise can affect a
survey’s measures.⁴⁰

41. There are two types of survey controls, including internal controls and external controls.
When a survey uses an external control, a separate group of control respondents is treated
differently than the group of test respondents, and the results are compared. For example, in a
medical study evaluating weight loss medication, a test group might receive the medication,
while a control group might not receive the medication. By comparing the two groups,
researchers can evaluate the effect of the medication.

42. The other type of control, called an internal control, is different from an external control
because it is not measured among a separate group of respondents; instead, it is measured
among the same group of respondents who are interviewed to gather the survey’s test
measures.⁴¹ Both are valid forms of controls, and both are commonly used in surveys to account
for the effect of extraneous measures that otherwise may affect the survey’s results.

43. The BEEF Survey was designed to use an external control in the form of “production” and
“holdout” groups. Respondents in the production group were exposed to work performed by

³⁸ For instance, see *24 Hour Fitness USA, Inc. v. 24/7 Tribeca Fitness, LLC*, 447 F. Supp. 2d 266 (S.D.N.Y. 2006) where the court found that the plaintiff’s control didn’t properly control for the “24-hour” feature. See also, *THOIP v. Walt Disney Co.*, 690 F. Supp. 2d 218, 240 (S.D.N.Y. 2010). The court excluded a confusion survey because the control shirts were improperly designed.

³⁹ Jay, E. Deborah. “Ten Truths of False Advertising Surveys.” *The Trademark Reporter*, vol. 103, no. 5, 2013, p. 1145.

⁴⁰ “It is important to recognize that although these forms of noise can seriously undermine the value of a survey, appropriate controls offer an effective way to overcome most of these threats.” Diamond, Shari Seidman. “Control Foundations: Rationales and Approaches.” *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd ed., ABA Publishing, 2022, pp. 241-242.

⁴¹ “[R]espondents are asked questions relating to the allegations in the case (the ‘test questions’) and a ‘control question’ about a fictitious topic.” Jay, E. Deborah. “Ten Truths of False Advertising Surveys.” *The Trademark Reporter*, vol. 103, no. 5, 2013, pp. 1143-1145.

1 teams in the Instagram Community Pillar on certain issues, while those in the holdout group
2 were not exposed to this work.⁴²

3 44. By comparing measures from the production and holdout groups, researchers could
4 evaluate whether Meta was making meaningful progress with a set of integrity issues.⁴³ As the
5 researchers wrote, “Without a control group, it’s impossible to determine causality from our
6 other signals. The BEEF Survey was fielded to both the well-being holdout and production
7 groups.”⁴⁴ As described throughout this report, the BEEF Survey was designed to measure the
8 progress of Instagram Community Pillar efforts, not to draw conclusions about whether
9 Instagram use has any effect on the mental health of teen users.

10 45. Mr. Saba’s use of the BEEF Survey is improper in part because his measures fail to reflect
11 the controls and comparisons that were an integral and important part of the survey’s design.
12 Instead, he has used measures from the BEEF Survey without any control or comparison, and
13 these numbers are inflated to an unknown degree. This makes those measures flawed and
14 unreliable.

15 46. The use of survey measures without any control or comparison is problematic in part
16 because the BEEF Survey is designed in a manner that would be subject to the types of biases
17 described earlier. All of the substantive questions in the BEEF Survey focus on negative
18 experiences, and ask respondents whether they have encountered certain types of
19 objectionable material.

20 47. For example, the BEEF Survey asked questions that included:

- 21 ■ “Have you ever seen anything on Instagram that was false or misleading?”
- 22 ■ “Have you ever seen any violent, bloody, or disturbing images on Instagram that
- 23 bothered you?”
- 24 ■ “Have you ever seen anyone discriminating against people on Instagram because of
- 25 their gender, religion, race, sexual orientation, or another part of their identity?”

26 ⁴² META3047MDL-004-00015035.

27 ⁴³ META3047MDL-004-00015031 and META3047MDL-004-00015035.

28 ⁴⁴ META3047MDL-004-00015031.

- 1 ▪ “Has anyone ever done any of these things to you on Instagram?
 - 2 - Insulted or disrespected you
 - 3 - Contacted you in an inappropriate way
 - 4 - Damaged your reputation
 - 5 - Threatened you
 - 6 - Excluded you or left you out.”
- 7 ▪ “Have you ever seen nudity or sexual images on Instagram that you didn’t want to
- 8 see?”
- 9 ▪ “Have you ever felt worse about yourself because of other people’s posts on
- 10 Instagram?”⁴⁵

11 48. These and other questions in the BEEF Survey leave much to the respondent to interpret.
12 For example, the questions do not define terms such as “false” or “misleading,” and they do not
13 define elements such as what it means to leave someone out, what constitutes a “disturbing”
14 image, or how to define nudity or an image that someone did not want to see.⁴⁶

15 49. The wording of these and other questions may have primed some respondents to answer
16 affirmatively, particularly when the question comes in the context of a survey that only asked
17 about negative experiences. As described earlier, when surveys present lists of items,
18 respondents may answer affirmatively to items that do not apply to them; the BEEF survey
19 presented a list of negative experiences, which would increase the possibility of false positive
20 responses.

21 50. The BEEF Survey not only asked only about the negative experiences described above but
22 also asked about very different types of negative experiences. For example, in addition to the
23 above questions, and to questions asking about topics such as self-harm, other questions in the
24 BEEF Survey asked,

25
26 ⁴⁵ META3047MDL-004-00015033.

27 ⁴⁶ Other research on Meta’s platforms, such as the TRIPS survey, shows that interpretation or definition of
28 some concepts relevant to the BEEF Survey, such as nudity, may vary by country. META3047MDL-050-
00295423.

- 1 ▪ “Have you ever been unable to access your Instagram account, either because of a
- 2 lost password or because your account was hacked?”
- 3 ▪ “Have you felt that not enough people see the things you share on Instagram?”
- 4 ▪ “Have you ever had difficulty posting a picture or video to Instagram?”
- 5 ▪ “Have you ever experienced the Instagram app freezing, crashing, or closing
- 6 unexpectedly?”⁴⁷

7 51. Although these topics were not part of Mr. Saba’s calculations, the above questions
8 represent negative experiences that may not be due to Instagram’s actions and may not be
9 under Instagram’s control. For example, a user who loses their password, posts highly
10 specialized content, does not have the basic knowledge to operate the Instagram website or
11 app, or uses Instagram on an old or broken phone may answer affirmatively to these questions,
12 but their affirmative answer may not relate in any way to Instagram’s actions.

13 52. The response options to questions in the BEEF Survey further encouraged the possibility
14 of false positives. To all questions asking about negative experiences, respondents were allowed
15 to answer “Yes, during the last 7 days,” “Yes, but more than 7 days ago,” or “No.”⁴⁸ The survey
16 provided two affirmative responses, only one negative response, and no option for the
17 respondent to answer that they did not know. This is known as an unbalanced scale, because it
18 presents more affirmative response options than negative response options. Some respondents
19 may have interpreted the greater number of positive options as suggesting that they should
20 answer affirmatively.⁴⁹

21 53. These response options are highly demanding in terms of the recall or memory that they
22 require from the respondent. A respondent answering each of the substantive questions in the
23 BEEF Survey must recall whether they have encountered certain types of content, whether that

24 ⁴⁷ META3047MDL-004-00015033.

25 ⁴⁸ META3047MDL-004-00015033.

26 ⁴⁹ Malhotra, Naresh K. “Questionnaire Design and Scale Development.” *The Handbook of Marketing*
27 *Research: Uses, Misuses, and Future Advances*, SAGE Publications, Inc., 2006, pp. 7-8. *See also*, Diamond,
28 Shari Seidman. “Reference Guide on Survey Research.” *Reference Manual on Scientific Evidence*, 3rd ed.,
National Academies Press, 2011, p. 394.

1 content fits the survey's description, whether that encounter took place on Instagram, and
2 whether that encounter took place in the past seven days. They must replicate this act of
3 memory across five issues, randomly selected from the 22 issues measured in the BEEF Survey.

4 54. The discussion so far indicates how Mr. Saba's use of the raw measures from the BEEF
5 Survey is subject to the effects of false positive responses and other types of biases. The BEEF
6 Survey was not designed for uses such as those Mr. Saba wishes to apply to the survey, namely
7 measuring the extent of subjective bad experiences by teen users of Instagram in the 18 UDAP
8 states. While the survey's measures are highly subject to acquiescence bias that creates false
9 positive responses, Mr. Saba's measures include no control measures. Consequently, the BEEF
10 Survey does not provide valid or reliable measures that would allow Mr. Saba to make
11 conclusions on the ten Bad Encounter Issues.

12 55. Specifically, without a control, the BEEF Survey's data may include false positives, which
13 means respondents may provide affirmative responses that are not true for them. In this
14 matter, a false positive is a respondent answering that they encountered objectionable content
15 on Instagram that they had not actually encountered. These kinds of responses undermine the
16 survey's validity for the purpose for which Mr. Saba uses it (extrapolating the results to the
17 population of Instagram teen users as a whole in 18 different states), particularly because the
18 rate of these kinds of responses is unknown.

19 56. In the BEEF Survey, a control could have helped to account for false positives and related
20 survey noise.⁵⁰ For example, an internal control might have measured the likelihood of false
21 positive responses by offering a response option describing a fictitious yet plausible encounter
22 or issue that does not exist on Instagram and that users could not have encountered.
23 Respondents would be asked the same questions about this fictitious encounter or issue as they
24 were asked about the other 22 issues measured in the survey. The percentage of respondents
25

26
27 ⁵⁰ Rappeport, Mike. "Design Issues and the Value of Multiple Controls." *Trademark and Deceptive*
28 *Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann, 2nd
ed., ABA Publishing, 2022, p. 261.

1 answering “Yes” to the fictitious encounter or issue would have been subtracted from the
2 percentages answering “Yes” to each of the 22 issues measured in the survey.

3 57. Given the lack of any control, Mr. Saba has attempted to apply the BEEF Survey to a
4 purpose for which it was not originally intended or designed. As the lead researcher for the
5 BEEF Survey testified, “In terms of BEEF, I would want something we released to be kind of
6 designed for that purpose ahead of time. If BEEF's intention was to share broadly, I would have
7 designed it differently to make sure it was understood clearly.”⁵¹

8 58. Mr. Saba failed to consider the lack of any control measures and the impact on the
9 survey results in his analysis.

10
11 **3B. The Beef Survey is unreliable as a means to estimate bad encounters by teens on**
12 **Instagram because it is missing age and state data and does not account for**
13 **differences in time spent on Instagram. The survey data may be skewed by**
14 **users who visit Instagram more often or for longer sessions.**

15 59. In addition to the flaws and limitations described in the prior section, Mr. Saba’s use of
16 the Beef Survey is also inappropriate because of the manner in which the survey located
17 respondents. A survey provides a means to interview a sample of people in a universe of
18 interest, instead of interviewing everyone in that universe. However, the results of the survey
19 can only be extrapolated to the larger universe if the sample is representative of that larger
20 universe. As one source has stated, “Arguably, the most critical consideration in designing and
21 evaluating scientific surveys conducted for the purpose of serving as evidence in litigated
22 proceedings is the universe to which the survey’s findings are to be extrapolated.”⁵²

23 60. Mr. Saba writes that he was instructed by the plaintiffs’ counsel to make certain
24 assumptions. For example, he was told to assume that the results of the BEEF Survey, which was
25 conducted from June 27 to July 8 of 2021, on ten Bad Encounter Issues would be no different

26 ⁵¹ Deposition of Kyle Andrews, PhD, November 19, 2024, vol. 1, 269:8-13.

27 ⁵² Jacoby, Jacob. “The Universe.” *Trademark Surveys: Designing Implementing and Evaluating Surveys*,
28 edited by Jacob Jacoby, ABA Publishing, 2013, p. 269.

1 from the experiences of all teens in the 18 UDAP states between February 2018 and March
2 2024.⁵³ Mr. Saba fails to offer any data supporting his assertion that the BEEF Survey can be
3 generalized across 18 states for the period from February 2018 to March 2024. As described in
4 this section, Mr. Saba's reliance on the Beef Survey and on this assumption is improper due to
5 problems with the universe for the Beef Survey, including flaws relating to the age of
6 respondents, the state where those respondents live, and the frequency and length of
7 respondents' visits to Instagram.

8 61. The BEEF Survey is missing data on age for about one-third of respondents. As the
9 researchers wrote, "Age was the last question asked, so we only have age data for the 67.5% of
10 respondents who completed the survey."⁵⁴ Dr. Kyle Andrews, the lead researcher of the BEEF
11 Survey, testified in deposition that, had he known the BEEF Survey would be shared more
12 broadly, he would have measured age at the beginning of the survey, as opposed to the end.⁵⁵

13 62. Because age data is missing for so many respondents, it is impossible to verify whether
14 the ages of teens who participated in the survey are consistent with the true population of
15 teenage Instagram users in the real world. This is because there is no way to assess whether
16 respondents who answered the final question, which asked about age, are similar to or different
17 from respondents who did not answer the age question. Survey researchers refer to this type of
18 issue as "nonresponse bias."⁵⁶

19 63. The BEEF Survey is also missing data on geography. The BEEF Survey includes a data field
20 for "Country,"⁵⁷ so respondents to the survey may have included Instagram users from countries
21 other than the U.S. Other surveys that relate to Meta's platforms included interviews with users
22 from other countries. For example, the Tracking Reach of Integrity Problems Survey (TRIPS) was

23 ⁵³ Saba Report, ¶¶ 78, 217.

24 ⁵⁴ META3047MDL-004-00015047.

25 ⁵⁵ Deposition of Kyle Andrews, PhD, November 19, 2024, vol. 1, 269:11-13, 20-21.

26 ⁵⁶ Edwards, G. Kip and J. David Mayberry. "The *Daubert* Revolution and Lanham Act Surveys." *Trademark*
27 *and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre
B. Swann, 2nd ed., ABA Publishing, 2022, p. 352.

28 ⁵⁷ META3047MDL-004-00015034.

1 fielded in at least eight and possibly as many as 25 countries;⁵⁸ the BEEF Survey was designed to
2 include questions from TRIPS⁵⁹ but to reflect “all of our input channels.”⁶⁰ The Negative
3 Experiences Tracking Survey (NETS) surveyed Instagram users from at least eight countries,
4 including the U.S., Brazil, India, Indonesia, Turkey, Russia, Japan, and the United Kingdom.⁶¹
5 Another research project, Hard Life Moments, included a survey of Instagram users conducted in
6 the U.S., Japan, Brazil, Indonesia, Turkey and India.⁶² The research project called Teen Mental
7 Health Deep Dive included a survey that was conducted in the U.S. and the United Kingdom.⁶³
8 64. If the BEEF Survey included interviews with teens from countries outside the U.S., it
9 would be inappropriate for Mr. Saba to include subjective ratings of bad experiences by users
10 located outside of the U.S. to estimate the number of subjective bad experiences by U.S. teens,
11 particularly when perceptions of harmful content may differ across countries.⁶⁴ Even within the
12 U.S., Mr. Saba has simply assumed that teen Instagram users from all states are alike, but has
13 not offered any evidence to support his assertion that the BEEF Survey findings apply to teens in
14 the UDAP states.

15 65. It is possible that perceptions about bad experiences vary across states. According to
16 one survey, in 2021, the year when the BEEF Survey was fielded, the percentage of respondents
17 who answered that they had been “cyberbullied” in the past 30 days was 15.9% in California,⁶⁵

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19 ⁵⁸ META3047MDL-020-00662467 and META3047MDL-050-00295464-67.

20 ⁵⁹ META3047MDL-004-00015031 and META3047MDL-004-00015033.

21 ⁶⁰ META3047MDL-004-00015031.

22 ⁶¹ META3047MDL-023-00001755, META3047MDL-014-00347782, p. 2, and META3047MDL-014-
00347805, p. 2.

23 ⁶² META3047MDL-003-00094983.

24 ⁶³ META3047MDL-003-00048781.

25 ⁶⁴ See, for example, Table 6 on p. 16/22 in Jialun Aaron Jiang, Morgan Klaus Scheuerman, Casey Fiesler,
26 and Jed R. Brubaker, “Understanding International Perceptions of the Severity of Harmful Content
Online,” *PLOS ONE* 16, no. 8 (2021): e0256762, <https://doi.org/10.1371/journal.pone.0256762> (This
research was funded by a grant from Facebook Research).

27 ⁶⁵ Hinduja, S. & Patchin, J. W. (2021). Bullying, Cyberbullying, and Sexting Statistics - California.
28 *Cyberbullying Research Center*. <https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-california>. Accessed December 25, 2025.

1 compared with 23.9% in Texas,⁶⁶ 28.4% in Florida,⁶⁷ 24.1% in Georgia,⁶⁸ and 26.2% in Michigan.⁶⁹
2 In 2021, California was the most populous state in the U.S., while Texas was second, Florida was
3 third, Georgia was eighth, and Michigan was tenth.⁷⁰ In this matter, California is one of the 18
4 UDAP states, while Texas, Florida, Georgia, and Michigan are not. It is likely that some unknown
5 portions of teen Instagram users from Texas, Florida, Georgia, and Michigan participated in the
6 BEEF Survey even though they do not reside in states that are relevant to this matter.

7 66. The percentages in the prior paragraph show that the BEEF Survey may include
8 responses from Instagram users who live in non-UDAP states, which may have affected Mr.
9 Saba's data relating to instances of bad experiences. Mr. Saba has not provided any way to
10 analyze the results of the BEEF Survey by state to explore the magnitude of state-related error,
11 or even to understand which states are reflected in the survey. The failure to account for
12 potential differences in teen user experiences across states makes the BEEF Survey an unreliable
13 source of data for Mr. Saba to calculate Bad Encounters on Instagram.⁷¹

14 67. In addition to limitations relating to the availability of data on the age of respondents
15 and the states in which they live, the BEEF Survey did not ask respondents how much time they
16

17 ⁶⁶ Hinduja, S. & Patchin, J. W. (2021). Bullying, Cyberbullying, and Sexting Statistics - Texas. *Cyberbullying*
18 *Research Center*. [https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-texas)
[cyberbullying-sexting-statistics-texas](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-texas). Accessed December 25, 2025.

19 ⁶⁷ Hinduja, S. & Patchin, J. W. (2021). Bullying, Cyberbullying, and Sexting Statistics - Florida. *Cyberbullying*
20 *Research Center*. [https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-florida)
[sexting-statistics-florida](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-florida). Accessed December 25, 2025.

21 ⁶⁸ Hinduja, S. & Patchin, J. W. (2021). Bullying, Cyberbullying, and Sexting Statistics - Georgia.
22 *Cyberbullying Research Center*. [https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-georgia)
[cyberbullying-sexting-statistics-georgia](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-georgia). Accessed December 25, 2025.

23 ⁶⁹ Hinduja, S. & Patchin, J. W. (2021). Bullying, Cyberbullying, and Sexting Statistics - Michigan.
24 *Cyberbullying Research Center*. [https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-michigan)
[cyberbullying-sexting-statistics-michigan](https://cyberbullying.org/bullying-cyberbullying-sexting-by-state/bullying-cyberbullying-sexting-statistics-michigan). Accessed December 25, 2025.

25 ⁷⁰ U.S. Census Bureau. State Population Totals and Components of Change: 2020–2021. *Population*
26 *Estimates Program, U.S. Department of Commerce*, 2021. Accessed December 25, 2025. See Annual
27 Estimates of the Resident Population for the United States, Regions, States, District of Columbia and
28 Puerto Rico: April 1, 2020 to July 2024 (NST-EST2024-POP), [https://www2.census.gov/programs-](https://www2.census.gov/programs-surveys/popest/tables/2020-2024/state/totals/NST-EST2024-POP.xlsx)
[surveys/popest/tables/2020-2024/state/totals/NST-EST2024-POP.xlsx](https://www2.census.gov/programs-surveys/popest/tables/2020-2024/state/totals/NST-EST2024-POP.xlsx).

⁷¹ Saba Report, ¶ 218.

1 spend on Instagram, so it is not possible to know whether respondents who participated in the
2 survey reflect the general population of teen Instagram users in UDAP states, or whether, for
3 example, the survey respondents, on average, may have spent more time on the platform than
4 the population of Instagram users as a whole.

5 68. The BEEF Survey did not ask about time spent on Instagram at least in part because that
6 was not necessary for the purpose for which the survey was designed. As Dr. Kyle Andrews has
7 explained, "If BEEF's intention was to share broadly, I would have designed it differently to make
8 sure it was understood clearly. You know, things like controlling for time spent."⁷²

9 69. In addition, the BEEF Survey appears to have been conducted on the Instagram
10 platform.⁷³ Given this location for the survey, users who spend more time on Instagram, or who
11 visit more often, would have greater odds of participating in the survey, simply because users on
12 Instagram for longer periods of time would be more likely to be exposed to the survey,
13 particularly given the short period of time that the survey was made available. However,
14 because the survey asked about negative experiences in the past seven days, a user who was on
15 Instagram more often or for longer periods of time may also have been more likely to encounter
16 such experiences. Consequently, this flaw may have led to disproportionate reporting of
17 negative experiences among the app's most active users, which would have inflated the survey's
18 measures.

19 70. Mr. Saba's calculations do not appear to have accounted for potentially inflated rates of
20 subjective bad experiences due to missing age, country, and state data, along with not
21 controlling for time spent on Instagram. These issues do not undermine using the BEEF Survey
22 to compare results of the production and holdout groups and measure the progress of efforts
23 relating to the Instagram Community Pillar. However, these issues would affect an attempt to
24 use the survey results to draw conclusions about the population of teen users in the 18 UDAP
25 states, as the survey was not intended or designed for this purpose.

26 _____
27 ⁷² Deposition of Kyle Andrews, PhD, dated November 19, 2024, vol. 1, p. 269:11-15.

28 ⁷³ META3047MDL-004-00015031 and META3047MDL-004-00015034. *See also* Deposition of Kyle
Andrews, PhD, vol. 1, p. 221:4-5.

3C. There is no evidence that the BEEF Survey provides reliable measures across a six-year period.

71. A research study can be broadly classified as either a cross-sectional study or a longitudinal study, according to the time period during which the study gathers data. A cross-sectional study gathers data at a specific moment in time and provides a snapshot measure. By contrast, a longitudinal study uses “continuous or repeated measures to follow particular individuals over prolonged periods of time—often years or decades.”⁷⁴ Cross-sectional studies, by definition, do not provide measures over the course of time, so this type of study “provides no information with regards to the influence of time on the variables measured—being static by its very nature.”⁷⁵

72. Mr. Saba acknowledges that the BEEF Survey was fielded from June 27 to July 8, 2021.⁷⁶ The BEEF Survey was a cross-sectional survey, not a longitudinal survey, because it did not gather measures over a longer period. Although the BEEF Survey was fielded for less than two weeks in 2021, Mr. Saba asserts that counsel requested that he “assume that the nature, rate, and frequency of Bad Encounters during the time period from February 2018 to March 2024 were consistent with those reported and measured in the BEEF Survey.”⁷⁷

73. Contrary to this assumption, there is no way to know what the measures of the BEEF Survey would have been in 2018, three years before it was conducted, or in 2024, three years after it was conducted. The measures from the BEEF Survey reflect reported experiences by users during the period in which it was fielded, and may or may not reflect any other year. Although it “may be tempting to interpret the results of a cross-sectional study as if they were

⁷⁴ Caruana, Edward Joseph, Marius Roman, Jules Hernández-Sánchez, and Piergiorgio Solli. “Longitudinal studies.” *Journal of Thoracic Disease*, vol. 7, no. 11, 2015, <https://jtd.amegroups.org/article/view/5822/5680>, p. 1.

⁷⁵ Caruana, Edward Joseph, Marius Roman, Jules Hernández-Sánchez, and Piergiorgio Solli. “Longitudinal studies.” *Journal of Thoracic Disease*, vol. 7, no. 11, 2015, <https://jtd.amegroups.org/article/view/5822/5680>, p. 1.

⁷⁶ Saba Report, ¶ 63.

⁷⁷ Saba Report, ¶ 78.

1 drawn from a longitudinal study,” it may or may not be appropriate, depending on the context
2 and the time period involved.⁷⁸

3 74. In this case, using a survey designed to gather a snapshot of Instagram user experiences
4 at a single time to make assumptions about other years ignores any possible differences across
5 these years. The BEEF Survey was fielded in June and July of 2021, when many consumers
6 stayed home to avoid the COVID pandemic and spent more time on activities such as social
7 media. As the title of one article described it, many people were “Staying PUT: Consumers
8 Forced Indoors During Crisis Spend More Time On Media.”⁷⁹ The survey was fielded before the
9 FDA approved the first COVID vaccine, in August 2021.⁸⁰

10 75. Mr. Saba has not offered any evidence that a survey conducted in 2021 can provide data
11 relevant to consumer experiences over a six-year period. However, 2021 was a singular and
12 unique year, and the measures from the survey may not apply to other years.

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17 ⁷⁸ Albery, Ian P. and Marcus Munafò. *Key Concepts in Health Psychology*. SAGE Publications Ltd, 2008, p.
24.

18 ⁷⁹ “Staying PUT: Consumers Forced Indoors During Crisis Spend More Time On Media.” *Nielsen*, March
19 2020, [https://www.nielsen.com/insights/2020/staying-put-consumers-forced-indoors-during-crisis-spend-](https://www.nielsen.com/insights/2020/staying-put-consumers-forced-indoors-during-crisis-spend-more-time-on-media/)
20 [more-time-on-media/](https://www.nielsen.com/insights/2020/staying-put-consumers-forced-indoors-during-crisis-spend-more-time-on-media/). Accessed January 1, 2026. *See also* Slotta, Daniel. “Social media use during
21 COVID-19 worldwide – Statistics & Facts.” *Statista*, December 17, 2025,
22 [https://www.statista.com/topics/7863/social-media-use-during-coronavirus-covid-19-](https://www.statista.com/topics/7863/social-media-use-during-coronavirus-covid-19-worldwide/#topicOverview)
23 [worldwide/#topicOverview](https://www.statista.com/topics/7863/social-media-use-during-coronavirus-covid-19-worldwide/#topicOverview). Accessed January 1, 2026. (“With billions of people around the world
24 spending more time at home, socially distancing, and trying to come up with ways to stay in touch despite
25 lockdowns, all leading social platforms seemed to thrive and reported monthly active usage growth in
2021 compared to 2019.”) *See also* Thygesen, Hilde et al. “Use and self-perceived effects of social media
before and after the COVID-19 outbreak: a cross-national study.” *Health and Technology*, vol. 11, 2021,
pp. 1347-1357. SpringerLink, [https://link.springer.com/article/10.1007/s12553-021-00595-](https://link.springer.com/article/10.1007/s12553-021-00595-x?utm_source=getftr&utm_medium=getftr&utm_campaign=getftr_pilot&getft_integrator=sciencedirect_contenthosting)
x?utm_source=getftr&utm_medium=getftr&utm_campaign=getftr_pilot&getft_integrator=sciencedirect_
contenthosting. Accessed January 1, 2026.

26 ⁸⁰ “COVID-19 and related vaccine development and research.” *Mayo Clinic*,
27 <https://www.mayoclinic.org/diseases-conditions/history-disease-outbreaks-vaccine-timeline/covid-19>.
28 Accessed January 2, 2026. *See also* “FDA Approves First COVID-19 Vaccine.” *U.S. Food & Drug*
Administration, August 23, 2021, [https://www.fda.gov/news-events/press-announcements/fda-approves-](https://www.fda.gov/news-events/press-announcements/fda-approves-first-covid-19-vaccine)
first-covid-19-vaccine. Accessed January 2, 2026.

Section 4: Mr. Saba’s Use of the Thorn Surveys to Calculate the Number of U13s Using Instagram and Facebook Is Also Flawed and Improper

76. In addition to his use of the BEEF Survey, Mr. Saba also used data from surveys conducted by Thorn and Benenson Strategy Group in 2019, 2020, 2021, 2022, and 2023. Mr. Saba used data from these surveys “to estimate the total Under 13 persons that were active on IG or FB, in at least one of the months during the Relevant Time Period, without counting any individual U13 person more than once.”⁸¹

77. The Thorn Surveys were not commissioned by Meta. The first Thorn Survey was launched in 2019 to measure “Self-Generated Child Sexual Abuse Material” or “SG-CSAM.”⁸² The five Thorn Surveys interviewed minors ages 9 to 17, with children ages 9 to 12 in one group and teens ages 13 to 17 in another group.⁸³

78. To estimate the number of Daily Average Persons (“DAP”) under the age of 13 on Facebook and Instagram, Mr. Saba used these two measures from the 2019 to 2023 Thorn Surveys:⁸⁴

- i. the percentage of respondents who reported that they “ever used” Facebook and Instagram, and
- ii. the percentage of respondents who reported that they used Facebook and Instagram “at least once per day.”

79. Table B below shows these two measures for 9- to 12-year-olds, as they were shown in the Saba Report.

⁸¹ Saba Report, ¶ 239.

⁸² *Self-Generated Child Sexual Abuse Material: Attitudes and Experiences*. Thorn & Benenson Strategy Group, August 2020, https://info.thorn.org/hubfs/Research/08112020_SG-CSAM_AttitudesExperiences-Report_2019.pdf.

⁸³ See pp. 32-33 for tables of segmented results from *Youth Perspectives on Online Safety, 2023: An annual report of youth attitudes and experiences*. Thorn and BSG, August 2024, https://info.thorn.org/hubfs/Research/Thorn_23_YouthMonitoring_Report.pdf.

⁸⁴ “Pages from 2025.11.21 Meta – Schedules 7.1 & 7.4 of Saba MDL Expert Report.pdf,” provided by counsel.

**Table B: Percentages From the Saba Report of 9 to 12 Year Olds
Who Reported Using Facebook and Instagram**

Platform	2019 ⁸⁵	2020 ⁸⁶	2021 ⁸⁷	2022 ⁸⁸	2023 ⁸⁹
Facebook					
Ever used	51%	66%	52%	53%	59%
At least once per day	29%	45%	32%	29%	35%
Instagram					
Ever used	56%	65%	49%	51%	50%
At least once per day	34%	40%	26%	29%	26%

80. Based on reading the Saba Report, I believe that Mr. Saba relied on the “ever used” and the “at least once per day” percentages as inputs to estimate usage rates for U13 DAP on Facebook and Instagram not only for the years of 2019 to 2023, but for all years in the Relevant Time Period, including 2012 through 2018.⁹⁰ For example, Mr. Saba writes that to calculate what percentage of the “ever used” rate is attributable to daily usage, he divided the “at least once per day” percentage by the corresponding “ever used” percentage, and then calculated an average across the years.⁹¹

⁸⁵ *Self-Generated Child Sexual Abuse Material: Attitudes and Experiences*. Thorn & Benenson Strategy Group, August 2020, https://info.thorn.org/hubfs/Research/08112020_SG-CSAM_AttitudesExperiences-Report_2019.pdf. (“2019 Thorn Survey Report.”)

⁸⁶ *Self-Generated Child Sexual Abuse Material: Youth Attitudes and Experiences in 2020*. Thorn and Benenson Strategy Group, November 2021, https://info.thorn.org/hubfs/Research/SGCSAM_Attitudes&Experiences_YouthMonitoring_FullReport_2021.pdf. (“2020 Thorn Survey Report.”)

⁸⁷ *Self-Generated Child Sexual Abuse Material: Youth Attitudes and Experiences in 2021*. Thorn and Benenson Strategy Group, October 2022, https://info.thorn.org/hubfs/Research/Thorn_SG-CSAM_Monitoring_2021.pdf. (“2021 Thorn Survey Report.”)

⁸⁸ *Youth Perspectives on Online Safety, 2022: an Annual Report of Youth Attitudes and Experiences*. Thorn and Benenson Strategy Group, November 2023, https://info.thorn.org/hubfs/Research/22_YouthMonitoring_Report.pdf. (“2022 Thorn Survey Report.”)

⁸⁹ *Youth Perspectives on Online Safety, 2023: An annual report of youth attitudes and experiences*. Thorn and BSG, August 2024, https://info.thorn.org/hubfs/Research/Thorn_23_YouthMonitoring_Report.pdf. (“2023 Thorn Survey Report.”)

⁹⁰ Saba Report, ¶¶ 2, 253-254.

⁹¹ Saba Report, ¶ 260.

81. To demonstrate this calculation, as shown in Table B, for Facebook in 2019, the percentages are 29% for “at least once per day” and 51% for “ever used,” which yields 57% (calculated as 29% divided by 51%). For the other years, similar calculations for Facebook yields percentages of 57% (2019), 68% (2020), 62% (2021), 55% (2022), and 59% (2023). The average of these five percentages for Facebook is approximately 60%.

82. In the same manner, Mr. Saba appears to have calculated percentages for Instagram of 61% (2019), 62% (2020), 53% (2021), 57% (2022), and 52% (2023). The average of these five percentages for Instagram is approximately 57%.

83. I also believe that Mr. Saba used these two average usage rates of 61% for Facebook and 57% for Instagram as inputs into his calculations of U13 DAP for the years 2012 through 2018, even though there is no Thorn survey covering any of those six years. Based on these calculations, Mr. Saba concludes that there were 15.5 million U13s active on Instagram and 15.9 million U13s active on Facebook during the Relevant Time Period.⁹²

84. I am not opining on Mr. Saba’s calculations of damages in this matter. However, I am offering opinions relating to Mr. Saba’s use of the Thorn Surveys as a basis for his computations.

4A. The Thorn Surveys did not include any control measures, so survey biases and noise may inflate the measures for U13s. There is no way to determine the effect of any such flaws on the survey measures.

85. As described earlier in this report, the measures from any survey may be affected not only by what the survey is intended to measure, but also by other factors, such as those that can cause bias or measurement error. These factors may include consumers’ preconceptions, biases, reactions to question phrasing, the tendency of some consumers to guess, not pay sufficient attention, or misunderstand survey instructions.

86. This report also described how responses in surveys may be affected by biases including demand effects, where respondents may perceive clues in the phrasing of survey questions that may cause them to think that the survey has a correct answer, or that the author of the survey

⁹² Saba Report, ¶¶ 9, 265.

1 prefers or expects them to provide a particular answer. Another type of bias described earlier is
2 called “acquiescence bias” or “yea-saying,” where some respondents tend to select the
3 affirmative response, which may lead to false positive responses. This report also described that
4 the possibility of false positive responses can be greater when respondents are presented with
5 lists of similar items, where respondents may answer affirmatively or select all items in the lists,
6 even if only some of the items apply to their experience.

7 87. Also, I previously described, to adjust for these extraneous factors, surveys often
8 incorporate measures called survey controls, which provide a means to adjust survey results for
9 the effect of these factors. When a survey does not have a control, there is no way to determine
10 what portion of the survey’s measures are attributable to the “noise” that is unaccounted for in
11 the survey.

12 88. As with the BEEF Survey, the Thorn Surveys use a format that appears to have no control,
13 and ask the specific type of question that is most likely to be subject to acquiescence bias and
14 false positive responses. For example, the 2022 Thorn Survey Report includes Figure 1 and
15 Figure a-01, which provides the measures from Q14B, which the report describes as asking “How
16 often do you use/check/play each of the following?” The Figure provides responses for 40
17 different platforms. The report does not describe how respondents were asked this question,
18 but it is possible that respondents were shown all 40 platforms and asked to check those that
19 they had ever used.

20 89. Similarly, the report includes Figure a-02, which provides the measures from a question
21 also described as Q14B. This Figure shows the percentage of respondents who had used each
22 platform at least once per day. The report does not describe how respondents were asked this
23 question, but it is possible that respondents were shown all platforms they selected as a
24 platform that they ever used, and asked about their frequency of use for each platform in a
25 question that asked them to check those that they used at least once per day.

26 90. As described earlier with regard to the BEEF Survey, this question in the Thorn Surveys is
27 asked in a manner that would be subject to the types of biases described earlier. In particular,
28

1 also as described earlier, when surveys present lists of items, respondents may answer
2 affirmatively to items that do not apply to them.

3 91. As described elsewhere, the Thorn Survey Reports do not explain how these questions
4 were phrased or what response options were provided, so there is no way to know whether
5 either encouraged the possibility of false positives. As with the responses from the BEEF Survey,
6 these response options are demanding in terms of the recall or memory that they require from
7 the respondent. A respondent answering each of the substantive questions in the Thorn Survey
8 must recall whether they have ever used certain platforms and their frequency of use. They
9 must repeat this act of memory across all platforms they were asked about.

10 92. The Thorn Surveys do not provide valid or reliable measures that would allow Mr. Saba
11 to make conclusions or calculations in this matter, because Mr. Saba's measures include no
12 external control group and no internal control. Without a control, the Thorn data may include
13 false positives, which means respondents may provide "yes" responses that are not true for
14 them. For this survey, a false positive is a respondent answering that they ever used a platform
15 that they had not actually used, or that they had used that platform with a frequency that was
16 not in fact true. These kinds of responses undermine the survey's validity, particularly because
17 the rate of these kinds of responses is unknown. Given the lack of any control, Mr. Saba has
18 attempted to apply the Thorn Surveys to a purpose for which they were originally not intended.

19
20 **4B. The Thorn Surveys are unreliable because they do not provide sufficient**
21 **information about the surveys' design or the universe of respondents that the**
22 **surveys interviewed.**

23 93. As summarized above, I reviewed the five Thorn Survey Reports for the years 2019 to
24 2023⁹³ to evaluate the research design which generated the key metrics used by Mr. Saba for his
25 computation of U13 DAP on Facebook and Instagram. None of the reports provide the
26 necessary information to evaluate how survey respondents were recruited or to understand

27 ⁹³ 2019 Thorn Survey Report, p. 5; 2020 Thorn Survey Report, p. 5; 2021 Thorn Survey Report, p. 6; 2022
28 Thorn Survey Report, p. 29; 2023 Thorn Survey Report, pp. 32-33.

1 what questions were asked to generate the data Mr. Saba analyzed. Without this information,
2 there is no way to evaluate the reliability of the resulting data or of any analysis that relies on
3 these data. As one source has written, “To make it possible for the court and the opposing party
4 to closely scrutinize the survey so that its relevance, objectivity, and representativeness can be
5 evaluated, the party proposing to offer the survey as evidence should also describe in detail the
6 design, execution, and analysis of the survey.”⁹⁴

7 94. The Thorn Survey Reports do not describe how the survey respondents for each survey
8 were recruited, other than mentioning that the organization, in partnership with Benenson
9 Strategy Group, used an unnamed survey panel provider.⁹⁵ The Thorn Survey Reports provide
10 no information regarding the identity of the panel provider, the quality control measures that
11 the panel provider uses to manage their panel and confirm that respondents are who they claim
12 to be (particularly in terms of variables such as age and location), the procedures used to recruit
13 prospective respondents to the survey, or any other operating procedures relating to the survey
14 and to the respondents who participated in the research.

15 95. Because the panel provider is unidentified, there is no way to evaluate the source of
16 respondents from the Thorn Surveys. Mr. Saba used the data from these respondents to
17 attempt to calculate U13 DAP on Facebook and Instagram in the 29 MDL states during the time
18 period of January 2012 through March 2024.

19 96. Mr. Saba also relied on the Thorn Surveys without knowing what questions were asked in
20 those surveys, or how those questions were phrased. As described earlier, Mr. Saba used two
21 measures from the Thorn Surveys to calculate the number of users on Facebook and Instagram

22 ⁹⁴ “This should include (1) a description of the population from which the sample was selected,
23 demonstrating that it was the relevant population for the question at hand; (2) a description of how the
24 sample was drawn and an explanation for why that sample design was appropriate; (3) a report on
25 response rate and the ability of the sample to represent the target population; and (4) an evaluation of
26 any sources of potential bias in respondents’ answers.” Diamond, Shari Seidman. “Reference Guide on
Survey Research.” *Reference Manual on Scientific Evidence*, 3rd ed., National Academies Press, 2011, p.
362.

27 ⁹⁵ Each of the five Thorn Survey Reports has a research design section. 2019 Thorn Survey Report, pp. 5-6;
28 2020 Thorn Survey Report, pp. 5-7; 2021 Thorn Survey Report, pp. 6-7; 2022 Thorn Survey Report, p. 29;
2023 Thorn Survey Report, p. 7.

1 who were ages 9 to 12, including the percentage who had “ever used” Facebook and Instagram,
2 and the percentage who used each of the two platforms “at least once per day.” Neither the
3 Thorn Survey Reports nor the Saba Report indicate whether these two measures are from the
4 same question or different questions, how these questions were phrased, or what other
5 questions might have been asked in the course of the Thorn Surveys that could have influenced
6 the measures from those surveys.

7 97. For example, in the 2023 Thorn Survey Report, results for these two measures are shown
8 in tables with the headings “Fig 1 | Platform usage rates – ever used” and “Fig 2 | Platform
9 usage rates – at least once per day,” along with this question text under each heading: “Q14B.
10 How often do you use/check/play each of the following?”⁹⁶ The tables do not specify what the
11 answer options were provided to respondents as they answered Q14B, or whether the answer
12 options were evenly balanced between different types of responses, such as affirmative and
13 negative responses.

14 98. Without knowing the format and structure of the questions in the Thorn Surveys, it is not
15 possible to know how to interpret the data from the surveys. For example, it is possible that
16 respondents were asked about usage frequency only if they previously indicated that they “ever
17 used” a particular platform. In that case, the “ever used” question serves as a filter question,
18 which refers to a question for which only those who provide a certain response are asked a
19 subsequent question or questions.⁹⁷

20 99. Whether the “ever used” measure serves as a filter for the “at least once per day”
21 measure matters for the proper interpretation of the results for these two measures. Using the
22 2023 Instagram numbers as an example, as shown in Table B, 50% of respondents ages 9 to 12
23 answered they had “ever used” Instagram. If “ever used” is a filter for the usage frequency

24 ⁹⁶ See 2023 Thorn Survey Report, pp. 9-10. Similar tables with the same question text are presented in
25 the survey reports for 2020 to 2022. 2020 Thorn Survey Report, pp. 9-10 (Fig. 6); 2021 Thorn Survey
26 Report, pp. 10-11 (Fig. 6); 2022 Thorn Survey Report, pp. 6-7 (Fig. 1). For the 2019 report, only “at least
27 once per day” is reported, with the question being labeled “Q21” instead of “Q14B” as it was in the other
28 four reports. 2019 Thorn Survey Report, p. 8.

⁹⁷ Diamond, Shari Seidman. “Reference Guide on Survey Research.” *Reference Manual on Scientific Evidence*, 3rd ed., National Academies Press, 2011, pp. 389-390.

1 question, then this subset of 50% of respondents would have gone on to answer the usage
2 frequency question, with 26% of these respondents answering that they used Instagram “at
3 least once per day.” This would mean that 13% (calculated as 50% times 26%) of 9- to 12-year-
4 olds surveyed used Instagram daily, not the 52% Mr. Saba used for daily Instagram usage in
5 Schedule 7.4 of his report. Given the lack of information in the Thorn Survey Reports, there is no
6 way to evaluate how to use the measures from the survey.

7 100. The Thorn Survey Reports also do not describe the phrasing of survey questions, which
8 could affect how respondents understood or interpreted those questions. For example, the
9 Thorn Surveys asked respondents if they had “ever used” Facebook and Instagram, and whether
10 they used the platforms “at least once per day.” The Thorn Survey Reports do not specify
11 whether “use” was defined, and whether the definition would include only situations where
12 someone had their own account, or whether it might include situations such as:

- 13 ▪ someone who attempted unsuccessfully to sign up,
- 14 ▪ someone who briefly viewed a link sent by someone else, or
- 15 ▪ someone who briefly looked at a parent’s, sibling’s, or friend’s account.

16 101. The number of U13 DAP on Facebook and Instagram could be inflated if the survey
17 language was vague regarding which of these situations should qualify as using Instagram or
18 Facebook.

4C. The 2020 Thorn Survey shows higher rates of Instagram usage than Thorn Surveys conducted in other years. Also, Mr. Saba extrapolates 2019 to 2023 usage rates from the Thorn Surveys to earlier time periods, even though conditions likely changed over 11 years.

102. As described earlier and shown in Table B, Mr. Saba relies on the Thorn Surveys conducted in the years 2019, 2020, 2021, 2022, and 2023. Mr. Saba then applies data from those surveys to all years in the Relevant Time Period, including the non-survey years of 2012 to 2018.

103. Mr. Saba's analysis relies on only five years of Thorn Surveys, and one of those years is 2020. As the data in Table B shows, percentages of 9- to 12-year-olds who reported using Facebook and Instagram were considerably higher in 2020 than in the other four years of Thorn Surveys included in the Saba analysis.

104. For example, Table B shows that 45% reported using Facebook "at least once per day" in 2020, compared with 29% in 2019, 32% in 2021, 29% in 2022, and 35% in 2023. For Facebook, the average is 31.25% if 2020 is excluded from the analysis, compared with 34.0% if 2020 is included.

105. For Instagram, the percentage reporting "at least once per day" was 40% in 2020, compared with 34% in 2019, 26% in 2021, 29% in 2022, and 26% in 2023. For Instagram, the average is 28.75% if 2020 is excluded from the analysis, compared with 31.0% if 2020 is included.

106. The research teams conducting the Thorn Surveys cautioned about the effect of the COVID pandemic on self-reported usage rates in the survey. As they noted, "These numbers should be interpreted as guidelines that do not, account[], in particular, for shifts resulting from increased time online during COVID stay-at-home orders."⁹⁸ Other studies also report that COVID had an impact on increasing social media use. One study concludes that there was a

⁹⁸ 2019 Thorn Survey Report, p. 8. The data collection for this survey was done in October 2019, but the report was not released until August 2020. While the 2019 data collection preceded the COVID outbreak, analysis and reporting of the 2019 results may have occurred during the initial months of the outbreak.

1 significant increase in average time spent on social media in the U.S during the pandemic.⁹⁹

2 Another study concludes that there was a general increase in social media use during the COVID-
3 19 pandemic, “driven by increased free time and social isolation.”¹⁰⁰

4 107. Mr. Saba did not account for possible COVID-related increases in the self-reported
5 Facebook and Instagram usage data in 2020. His report, including Schedule 7.4, shows that he
6 included these higher 2020 “ever used” and “at least once per day” measures when averaging
7 the results across the Thorn Surveys. This resulted in higher average usage rates, which he then
8 extrapolated to all years in the Relevant Time Period.

9 108. The Thorn Surveys were conducted from 2019 to 2023, yet Mr. Saba used data from
10 these surveys to support his estimate of the number of U13s active on Instagram and Facebook
11 from 2012 to 2024.¹⁰¹ The estimate covers years when there were no Thorn Surveys; instead,
12 Mr. Saba used the usage rates from 2019 to 2023 to estimate usage rates for 2012 to 2018,
13 which assumes that usage rates were the same in 2019 to 2023 as they were in 2012 to 2018.
14 Mr. Saba provides no evidence to support this assumption, and several considerations indicate
15 that this assumption is likely not valid.

16 109. First, the total user base for Instagram and Facebook was not similar during all of these
17 years. During this time, the number of users of all ages grew substantially. According to one
18 source, there were approximately 50 million Instagram users at the start of 2012, compared
19 with approximately one billion users by June of 2018.¹⁰² Meta reported that it had an average of
20

21 ⁹⁹ Slotta, Daniel. “Social media use during COVID-19 worldwide – Statistics & Facts.” *Statista*, December
22 17, 2025, <https://www.statista.com/topics/7863/social-media-use-during-coronavirus-covid-19-worldwide/#topicOverview>. Accessed December 23, 2025.

23 ¹⁰⁰ Delogu, Franco et al. “The Impact of the COVID-19 Pandemic on the Use of Social Media: A Cross-
24 National Comparison.” *Acta Psychologica*, vol. 255, no. 104888, May 2025, p. 10,
<https://doi.org/10.1016/j.actpsy.2025.104888>. Accessed January 9, 2026.

25 ¹⁰¹ Saba Report, ¶ 17.

26 ¹⁰² Richter, Felix. “Instagram’s Rise to 1 Billion.” *Statista*, June 21, 2018,
27 <https://www.statista.com/chart/9157/instagram-monthly-active-users/>. Accessed January 5, 2026. (This
28 source cites information provided by Instagram. Reports from Meta from this time period do not show
user counts for Instagram, or may aggregate Instagram user counts with user counts for other Meta
platforms.)

584 million daily active users and 1.01 billion monthly active users in the third quarter of 2012.¹⁰³ Meta reported that it had 2.11 billion daily active users and 3.07 billion monthly active users in the fourth quarter of 2023,¹⁰⁴ and a source estimated that Meta had 2.13 billion daily active users in the second quarter of 2025.¹⁰⁵ If all other considerations were equal, a smaller user base for Instagram and Facebook at the start of the Relevant Time Period would have meant fewer U13 users on those platforms during those years.

110. Also, other evidence suggests that social media usage among U13s may have changed during these years. According to one source, 10% of children ages 8 to 12 reported that they used social media every day in 2015,¹⁰⁶ compared with 13% in 2019 and 18% in 2021.¹⁰⁷ The same source reported that the percentage of children ages 8 to 12 who answered that they had

¹⁰³ “Facebook Reports Third Quarter 2012 Results.” *Meta Investor Relations*, October 23, 2012, https://s21.q4cdn.com/399680738/files/doc_news/2012/FB_News_2012_10_23_Financial_Releases.pdf. Accessed January 8, 2026.

¹⁰⁴ “Meta Reports Fourth Quarter and Full Year 2023 Results; Initiates Quarterly Dividend.” *Meta Investor Relations*, February 1, 2024, <https://investor.atmeta.com/investor-news/press-release-details/2024/Meta-Reports-Fourth-Quarter-and-Full-Year-2023-Results-Initiates-Quarterly-Dividend/default.aspx>. Accessed January 8, 2026.

¹⁰⁵ Moran, Debbie. “Facebook Statistics 2025: Latest Data for Social Media Marketers.” *RecurPost*, December 11, 2025, <https://recurpost.com/blog/facebook-statistics/>. Accessed January 5, 2026. (Meta no longer reports user numbers for individual platforms. See also Vanian, Jonathan. “Instagram now has 3 billion monthly active users.” *CNBC*, September 24, 2025, <https://www.cnn.com/2025/09/24/instagram-now-has-3-billion-monthly-active-users.html>. Accessed January 8, 2026.)

¹⁰⁶ Common Sense. “The Common Sense Census: Media Use by Tweens and Teens 2015.” *Common Sense*, https://www.common Sense media.org/sites/default/files/research/report/census_researchreport.pdf. Accessed January 5, 2026.

¹⁰⁷ Common Sense. “The Common Sense Census: Media Use by Tweens and Teens 2021.” *Common Sense*, https://www.common Sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf. Accessed January 5, 2026.

1 their own smartphones grew from 24% in 2015¹⁰⁸ to 41% in 2019 and 43% in 2021.¹⁰⁹

2 111. Mr. Saba's choice to generalize data from the 2019 to 2023 Thorn Surveys is not only
3 without support, but also ignores fluctuations in the survey data. For example, as shown earlier
4 in Table B, according to the Thorn Surveys, the percentage of U13s who reported that they "ever
5 used" Instagram was 65% in 2020 and 49% in 2021, a drop of 16 percentage points. Similarly,
6 the percentage of U13s who reported that they "ever used" Facebook was 66% in 2020 and 52%
7 in 2021, a drop of 14 percentage points. There is no way to know what causes such large
8 differences across these years or across other years in Table B. The differences across years
9 could be due to the effect of the COVID-19 pandemic causing consumers to spend more time at
10 home, or may simply be unexplained fluctuation that represents survey noise.

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24 ¹⁰⁸ Common Sense. "The Common Sense Census: Media Use by Tweens and Teens 2015." *Common*
25 *Sense*,
26 https://www.common sense media.org/sites/default/files/research/report/census_researchreport.pdf.
Accessed January 5, 2026.

27 ¹⁰⁹ Common Sense. "The Common Sense Census: Media Use by Tweens and Teens 2021." *Common*
28 *Sense*, https://www.common sense media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf. Accessed January 5, 2026.

1 I declare under penalty of perjury under the laws of the United States that the foregoing is true
2 and correct to the best of my belief.

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4 Executed in Encino, California, on January 9, 2026.

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9 Dr. Bruce Isaacson
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1 The undersigned hereby certifies their understanding that they owe a primary and overriding
2 duty of candor and professional integrity to help the Court on matters within their expertise
3 and in all submissions to, or testimony before, the Court. The undersigned further certifies that
4 their report and opinions are not being presented for any improper purpose, such as to harass,
5 cause unnecessary delay, or needlessly increase the cost of litigation.

6
7 Signed on January 9, 2026

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Dr. Bruce Isaacson

Exhibit 1:
Dr. Bruce Isaacson CV and Testimony Experience



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DR. BRUCE R. ISAACSON, DBA, MBA

IMS Legal Strategies 2025 - Present
SENIOR MANAGING DIRECTOR, LITIGATION SURVEYS AND CONSUMER SCIENCE

MMR Strategy Group, Encino, CA 2005 - 2025
PRESIDENT

I manage a group that provides surveys, analysis, and consulting to measure the attitudes and behaviors of customers and consumers. The group works in three practice areas:

1. Litigation Surveys: Surveys and testimony for intellectual property matters.
2. Claim Substantiation: Research and consulting to substantiate claims that involve consumer perceptions, and are made in packages, advertising, and other types of marketplace communications.
3. Marketing Research and Consulting: Marketing research and consulting to help clients grow sales, develop marketing strategies, and improve products and services.

I design studies, manage research projects, and provide consulting relating to marketing, research, consumer behavior, and strategy.

I have conducted many hundreds of surveys during my career, and frequently provide surveys, testimony, and rebuttals for intellectual property litigation and claim substantiation.

I have provided testimony relating to litigation surveys in a wide variety of venues involving federal courts, state courts, the Patent and Trademark Office (PTO), the National Advertising Division (NAD) of the Better Business Bureau, the International Trade Commission, the Trademark Trial and Appeal Board, the Federal Trade Commission, the Court of Federal Claims, and others.

I have been retained in more than 250 matters involving litigation surveys, and have been retained in more than 25 matters by agencies of the federal government, including the Federal Trade Commission, the Department of Justice, and the Patent and Trademark Office.

I speak and write on topics relating to marketing research, marketing strategy, litigation surveys, and consumer behavior.

Education

- Doctor of Business Administration in Marketing, **Harvard Business School**, 1995. Awarded Dean's Doctoral Fellowship.
- MBA with High Distinction, **Harvard Business School**, 1991. Graduated in top 5% of class as a Baker Scholar.
- Bachelor of Science in Engineering with focus on Regional Development, Northwestern University Technological Institute, 1985.

Publications

When to Conduct an Eveready Survey: The Importance of Aided Awareness. *The Trademark Reporter*, May-June, 2021.

Book Review of *Trademark and Deceptive Advertising Surveys: Law, Science, and Design*, edited by Shari Seidman Diamond and Jerre B. Swann. *The Trademark Reporter*, September, 2013.

Playing Nice With Legal: How Research Can Help Keep Marketing Claims in Compliance. *Quirk's Marketing Research Review*, January, 2013.

The Quantity of Presidential Polls and the Quality of Marketing Research. *Green Book Blog*, October, 2012.

Three Critical Questions to Evaluate Intellectual Property Surveys. *Intellectual Property Today*, September, 2012. Co-authors: Professor Jonathan Hibbard and Professor Scott Swain.

Asking the Right Questions (in Litigation Surveys). *Intellectual Property Magazine*, October, 2012.

Why Online Consumer Surveys Can Be a Smart Choice in Intellectual Property Cases (with Professor Jonathan Hibbard and Professor Scott Swain). *Intellectual Property Law Newsletter of the American Bar Association, Intellectual Property Law Section*, May 2008.

Bose Corporation: The JIT II Program (A), (B), (C), and (D) (with Professor Roy Shapiro). Harvard Business School cases 9-694-001, -002, -003, and -004.

Bose Corporation: The JIT II Program Teaching Note. Harvard Business School teaching note 5-695-017.

Buyer-Supplier Relationships: Antecedents, Management, and Consequences. Harvard Business School doctoral dissertation, 1996.

Goodyear: The Aquatred Launch (with Professor John Quelch). Harvard Business School case 9-594-106. Best seller.

Goodyear: The Aquatred Launch Teaching Note (with Professor John Quelch). Harvard Business School teaching note 5-595-016.

Industrial Marketing (with Professor V. Kasturi Rangan). In *AMA Management Handbook, Third Edition*, edited by John J. Hampton. New York: Amacom Books, 1994, pp. 2-101 to 2-108.

Managing Buyer-Supplier Relationships. Preface to *JIT II: Revolution in Buying and Selling*, edited by Lance Dixon and Anne Millen Porter. Newton, MA: Cahners Publications, Inc., 1994.

Philip Morris: Marlboro Friday (A) and (B). Harvard Business School case 9-596-001 and -002.

Scope and Challenge of Business-to-Business Marketing (with Professor V. Kasturi Rangan). Harvard Business School class note 9-594-125.

Vistakon: 1 Day Acuvue Disposable Contact Lenses (with Professor Alvin J. Silk and Marie Bell). Harvard Business School case 9-596-087.

What is Industrial Marketing? (with Professor V. Kasturi Rangan). Harvard Business School class note 9-592-012.

Honors, Appointments, Affiliations

- Member, American Marketing Association (AMA)
- Member, International Trademark Association (INTA)
- Member, Marketing Research Association (MRA)
- Member, Brand Activation Association (BAA)
- Member, Editorial Board, *Journal of Business-to-Business Marketing*, 1994 to present
- Member, *The Trademark Reporter* Committee, International Trademark Association, 2010 to present
- Policy Advisory Board, Joint Center for Housing Studies at Harvard University, 1999 to 2001
- Winner, Doctoral Dissertation, Institute for Study of Business Markets, Penn State, 1994
- George S. Dively Award for Innovative Research, Harvard Business School, 1993
- George F. Baker Scholar, Harvard Business School (top 5% of class), 1991
- Dean's Doctoral Fellowship, Harvard Business School, 1993 -1995

Selected Speaking Engagements

Frequent speaker at industry conferences and client events on topics relating to marketing and strategy, including:

- Scheduled to moderate a roundtable discussion, “A Comparative Review: Survey Evidence Offered at the Patent and Trademark Office and Federal Court,” International Trademark Association Annual Conference, May, 2025.
- Panelist for a Continuing Legal Education seminar on litigation surveys at a conference of the Intellectual Property Institute of the USC Gould School of Law, March, 2025.
- Guest lecturer on “Litigation Surveys” to advertising law class at the George Washington University Law School, October, 2022; and October, 2023.
- Speaker on panel, “Survey Says: The Use of Consumer Perception Surveys in Advertising-Related Litigation,” held at Davis & Gilbert, LLP, March, 2020.
- Speaker on panel, “What Can Trademark Practitioners Learn from Advertising and Marketing Professionals?” International Trademark Association Annual Conference, May, 2018.
- Moderator for roundtable discussion, “Trademark Surveys: How Requirements Differ by Venue and Authority,” International Trademark Association Annual Conference, May, 2018.
- Guest lecturer on “Litigation Surveys” to advertising law class at Loyola Law School, February, 2023; September, 2021; September, 2020; October, 2019; and October, 2018.
- Moderator for roundtable discussion, “Using Surveys to Measure Product Usage, Configuration, and Damages in Trademark, Copyright, and Patent Matters,” International Trademark Association Annual Conference, May, 2016.
- Panelist for “Battle of the Experts – Deploying the Proper Scientific Methodology for Supporting or Challenging Claims,” Advanced Forum on Resolving & Litigating Advertising Disputes, March, 2015, sponsored by the Bar Association of San Francisco.
- Guest lecturer on the legal aspects of marketing to MBA classes held at University of California – Irvine, November, 2015, and December, 2015.
- Speaker for presentation, “Using Surveys to Measure Attitudes and Behaviors,” U.S. Department of Justice, Civil Division, Commercial Litigation Branch, March, 2015.
- Speaker for presentation, “Improving Customer Experience with Customer Journey Maps,” Corporate Researchers Conference, sponsored by the Marketing Research Association, October, 2013.

- Speaker on panel for seminar, “Trademark Protection in Cyberspace,” sponsored by the Los Angeles County Bar Association (LACBA), May, 2013.
- Moderator for roundtable discussion, “Using Survey Evidence for Claim Substantiation,” International Trademark Association Annual Conference, May, 2013.
- Speaker and panelist for multi-day conference, “Advertising Claims Support: Case Histories and Principles,” conference hosted by The Institute for Perception, April, 2013.
- Moderator for roundtable discussion, “Replicating Marketplace Conditions in Trademark Surveys,” International Trademark Association Annual Conference, 2011.
- Moderator for roundtable discussion, “The Use of Surveys in Intellectual Property Litigation,” International Trademark Association Annual Conference, 2010.
- Faculty on panel at expert forum, “Litigating & Resolving Advertising Disputes,” American Conference Institute, June, 2010.
- Speaker for presentation, “The Use of Online Surveys in Intellectual Property Litigation,” National Advertising Division (NAD) Annual Conference, October, 2009.
- Speaker for presentation, “Integrating Research Techniques for Deeper Customer Insights: Blurring Boundaries Between Research Methods,” American Marketing Association Annual Marketing Research Conference, September, 2008.
- Speaker for presentation, “Understanding Your Customer and Making Tough Strategic Choices,” International Restaurant & Foodservice Show of New York, March, 2008.
- Presented Continuing Legal Education (CLE) seminar titled, “Measuring Consumer Attitudes and Behaviors in Intellectual Property Litigation.” Presented to:
 - Orange County Bar Association, November, 2007.
 - Baker Botts, LLP, March, 2008.
 - Amster, Rothstein & Ebenstein LLP, March, 2008.
 - Fulwider Patton, LLP, March, 2008.
- Speaker for presentation, “Understanding Today’s Customers and Making Tough Choices – Lessons Learned From Starbucks,” Western Foodservice & Hospitality Expo, August, 2007.
- Speaker for presentation titled, “What Can We Learn from Customer Satisfaction Studies?” Real Trends Marketing & Technology Expo, September, 2006.

Blogging and Commentary

I have written posts and white papers at www.MMRStrategy.com that include:

Litigation Surveys

- “How to Measure False Advertising in a Litigation Survey” (November, 2012)
- “Using Surveys to Estimate Damages in Patent Infringement Matters” (October, 2012)
- “Apple vs. Samsung: Litigation Surveys as Evidence” (August, 2012)
- “What is the Theory Behind Your Lanham Act Survey?” (June, 2012)
- “Keyword Infringement Surveys: The New Frontier in Measuring Likelihood of Confusion” (June, 2012)
- “The Challenge of Replicating Marketplace Conditions in Intellectual Property Surveys” (May, 2012)

Claim Substantiation

- “When it Comes to ‘Up To’ Claims, Make Sure You Have the Right Substantiation” (February, 2013)
- “Critical Research Steps and Core Principles of Claim Substantiation” (white paper)
- “How Many Industries are Affected by Claim Substantiation?” (June, 2012)
- “Lessons in Claim Substantiation from the Pom Wonderful Decision” (May, 2012)
- “How Claim Substantiation Differs from Traditional Marketing Research” (May, 2012)

Marketing and Marketing Research

- “Lessons in Pricing Strategy from JCPenney” (May, 2013)
- “Why You Should (Almost) Never Use the van Westendorp Pricing Model” (March, 2013)
- “Three Types of Market Segmentation and the 2012 Presidential Election” (October, 2012)
- “Presidential Polls and the Quality of Marketing Research” (October, 2012)
- “Sizing the Potential of a New Market or New Product” (white paper)
- “MaxDiff vs. Conjoint: Which is Better to Measure Consumer Preferences?” (white paper)

- “Ten Best Practices to Improve Your Concept and Product Tests” (white paper)
- “Using Choice-Based Market Segmentation to Improve Your Marketing Strategy” (white paper)
- “What Your Tracking Study Should Measure About Your Customers” (white paper)
- “Using Customer Journey Maps to Improve Your Customer Experience” (white paper)
- “How to Improve Your Usage and Attitude Study” (June, 2012)
- “Five Pitfalls of Market Segmentation and How to Avoid Them” (May, 2012)

Professional Experience Prior to MMR Strategy Group

Fairview Company, Calabasas, CA

2002 - 2004

Managing Director

- **West Coast Practice Leader of Executive Development for Monitor Group.**
Designed and managed marketing and strategy executive education programs.
Developed curriculum, served as lead faculty on programs for Fortune 100 clients.
- **Consulted with clients in technology, software, and financial services.**
Provided consulting services in marketing and strategy.

Intuit/Digital Insight, Calabasas, CA

2001 - 2002

Senior Vice President for Products, Marketing, and Alliances

- **Managed business lines for \$130 million provider of outsourced banking services/software.**
Directed marketing, strategy, alliances, mergers, acquisitions, resellers, and pricing for 9 business lines. Managed \$29 million budget and staff of 40.
- **Built product management and strategy functions.**
Set priorities for \$22 million R&D budget. Directed \$51 million acquisition and post-merger conversion of 150 new clients.

Move, Inc., Westlake Village, CA

1999 - 2001

President, Home Services

- **Founded home services division for software/services provider to real estate industry.**
Directed business unit for new division. Built alliances with associations including National Association of Homebuilders and American Institute of Architects.

PHH Corporation (NYSE: PHH), Mortgage Division, Mount Laurel, NJ

1997 - 1999

Vice President, Marketing

- **Directed marketing for \$26 billion outsourced mortgage services division.**
Company provided private label loans and loan servicing for customers and partners, including Wells Fargo, USAA, Coldwell Banker, Century 21. Served on 14-member Executive Committee. Managed \$14 million budget and 60 people in marketing, research, public relations, advertising, strategic planning, business development, and e-commerce.
- **Created collateral for selling, processing, and closing loans distributed to 750,000 customers annually.**
Redesigned sales materials used by 150-person sales force. Created point-of-sale materials and placed in 1,600 real estate offices nationwide. Negotiated co-marketing deals.
- **Built online platform to originate, close, and service mortgages.**
Created co-branded system used by 1,400 partners to originate \$700 million in mortgages in 2000. Integrated system with more than 2,000 sales and customer service reps.

Boston Consulting Group, Chicago, IL

1995 - 1997

Consultant

- **Consulted in marketing, strategy, and distribution for \$1 billion international strategy consulting firm.**
Designed and rolled out database marketing program for international supermarket chain. Developed purchasing strategy for \$3 billion consumer goods company. Evaluated market strategy for \$800 million division of paper goods company.

Harvard Business School, Cambridge, MA

1991 - 1995

Dean's Doctoral Fellow

- **Developed and implemented multi-year research project analyzing buyer-supplier alliances.**
Authored 14 publications including best-selling case studies and articles in distribution, sales, supplier management, purchasing, branding, and new products. Taught in Babson College Executive MBA program.

E&J Gallo Winery, Modesto, CA

1990

MBA Intern

- Summer intern at global winery. Developed packaging strategy, distribution, and retailer incentive programs for the wine cooler category.

Long Wharf Trading Company, Danvers, MA

1986 - 1989

President & Co-Founder

- **Co-founded company manufacturing high quality sewn products for advertising premiums.**
Directed 30 employees. Clients included banks, universities, corporations, schools, and museums. Company was featured with full-page story in *Inc. Magazine*.

Parsons Corporation/Barton-Aschman Associates, Evanston, IL

1985 - 1986

Associate Consultant

- **Conducted strategic and operations planning for public transportation systems at global construction and regional planning company.**

Received *President's Award* for outstanding initiative and performance.

Selected Courses Taken in MBA and Doctoral Programs

- Economics and Finance, including topics such as Managerial Economics; Financial Reporting and Accounting; Business, Government, and the International Economy; Corporate Finance; Product Costing; and Microeconomic Theory.
- Marketing and Strategy, including topics such as Marketing; Marketing Foundations Readings; New Products; Marketing Implementation; Service Management; Research Issues in Marketing; Buyer Behavior; Industrial Marketing and Procurement; Industry and Competitive Analysis; and Communications.
- Sociology and Psychology, including Organizational Behavior; Human Resources; Social Behavior in Organizations; Readings in Administration (two courses); and Management Policy and Practice.
- Statistics, including Statistical Inference; Social Network Analysis; Applied Data Analysis; and Analyzing Covariance Structures.
- Research Methods and Research Design, including Doctoral Research Seminar; Research Design and Measurement; Design of Field Research in Organizational Behavior; and Intervention Research and Action Science.

Dr. Bruce Isaacson Litigation Expert Witness Experience
January 2026

Cases in which Dr. Bruce Isaacson has testified as an expert, including written expert reports or testimony at deposition or trial, from 2016 to present.

Mark Anthony International SRL, Mark Anthony Brands International Unlimited Company, and Más+ Next Generation Beverage Co. v. Prime Hydration LLC

U.S. District Court, Southern District of New York

People of the State of California, et al. v. Meta Platforms, Inc., et al.

U.S. District Court, Northern District of California

Commonwealth of Massachusetts v. Meta Platforms, Inc., and Instagram, LLC

Superior Court of the Commonwealth of Massachusetts, Suffolk County

The American Automobile Association Inc. v. AAA Auto Glass, Inc.

U.S. District Court, Southern District of Florida

Novo Nordisk A/S and Novo Nordisk Inc. v. MD Exam LLC

U.S. District Court, Southern District of Florida

Caesar Bacarella v. Prime Hydration, LLC

U.S. District Court, Southern District of Florida

Skillz Platform Inc. v. Papaya Gaming, Ltd. and Papaya Gaming, Inc.

U.S. District Court, Southern District of New York

Homevestors of America, Inc. v. Warner Bros. Discovery, Inc.

U.S. District Court, District of Delaware

Ignite International, Ltd. v. The United States Patent and Trademark Office; and Katherine K. Vidal, in her official capacity as Director of the United States Patent and Trademark Office

U.S. District Court, Eastern District of Virginia

Dennis Gromov, individually and on behalf of all others similarly situated v. Belkin International, Inc.

U.S. District Court, Northern District of Illinois, Eastern Division

Empower Annuity Insurance Company of America, a Colorado corporation v. Empower Finance, Inc.

U.S. District Court, District of Colorado

Dyson Technology Limited and Dyson Canada Limited v. SharkNinja Operating LLC

Federal Court, Canada

Reebok International LTD. LLC and Reebok International Limited v. Autry International S.r.l. and Autry USA, LLC

U.S. District Court, District of Massachusetts

Subaru of America, Inc. v. Space Exploration Technologies Corp.

United States Patent and Trademark Office, Trademark Trial and Appeal Board

David Wallenstein, individually and on behalf of all others similarly situated v. Mondelēz International, Inc., a Virginia corporation; Mondelēz Global, LLC, a Delaware limited liability company, and Nabisco, Inc., a New Jersey corporation

U.S. District Court, Northern District of California, San Francisco Division

In re: Honda Idle Stop Litigation

U.S. District Court, Central District of California

In the Matter of Certain Products Containing Tirzepatide and Products Purporting to Contain Tirzepatide

United States International Trade Commission, Washington, D.C.

Lenore Miley, individually and on behalf of all others similarly situated v. Belkin International, Inc.

Superior Court of the State of California, County of Los Angeles, Central Judicial District

Diamond Resorts U.S. Collection Development, LLC, Diamond Resorts Hawaii Collection Development, LLC, and Diamond Resorts Management, Inc. v. Wesley Financial Group, LLC a Tennessee limited liability company, and Charles William McDowell III

U.S. District Court, Eastern District of Tennessee

Roblox Corporation v. WowWee Group Limited, et al.

U.S. District Court, Northern District of California

Apple, Inc. v Masimo Corporation and Sound United, LLC

U.S. District Court, District of Delaware

Enterprise Holdings, Inc., v. Europcar International

United States Patent and Trademark Office, Trademark Trial and Appeal Board

Sandoz Inc. v. Amgen Inc.

U.S. District Court, Central District of California, Western Division

Apple Inc. v. The United States Patent and Trademark Office; and Katherine K. Vidal, in her official capacity as Director of the United States Patent and Trademark Office

U.S. District Court, Eastern District of Virginia

Delta Air Lines, Inc. v. Marriott International, Inc.

U.S. District Court, Northern District of Georgia, Atlanta Division

Tequila Los Abuelos S.A. DE C.V. v. Podlaska Wytwórnia Wódek "POLMOS" S.A.

United States Patent and Trademark Office, Trademark Trial and Appeal Board

GOLO, LLC v. Goli Nutrition Inc, a Canadian Corporation, Goli Nutrition Inc., a Delaware Corporation, and Michael Bitensky, an individual

U.S. District Court, Southern District of Delaware

The United States of America v. Global Occupational Safety and Health Academy, LLC

U.S. District Court, Northern District of Illinois, Eastern Division

US Dominion, Inc., Dominion Voting Systems, Inc., and Dominion Voting Systems Corporation v. Fox News Network, LLC, Fox Corporation, and Fox Broadcasting Company, LLC

Superior Court of the State of Delaware

GeigTech East Bay LLC v. Lutron Electronics Co., Inc.

U.S. District Court, Southern District of New York

In re: Nissan North America, Inc. Litigation consolidated with Kemp, et al., and Bereda, et al. v. Nissan North America, Inc. et al

U.S. District Court, Middle District of Tennessee, Nashville Division

Hermès International and Hermès of Paris, Inc. v. Mason Rothschild

U.S. District Court, Southern District of New York

MGA Entertainment Inc. v. Clifford T.I. Harris et al.

U.S. District Court, Central District of California, Western Division

In the Matter of L'Oréal USA, Inc. (CeraVe Skincare Products)

National Advertising Division of the Better Business Bureau

Power Home Remodeling Group, LLC v. Power Home Solar, LLC d/b/a Powerhome Solar, also d/b/a Powerhome Solar & Roofing, also d/b/a Power Home Solar and Roofing

U.S. District Court, Eastern District of Pennsylvania

Diamond Resorts U.S. Collection Development, LLC; and Diamond Resorts Hawaii Collection Development, LLC v. Pandora Marketing, LLC d/b/a Timeshare Compliance; Intermarketing Media, LLC d/b/a Resort Advisory Group; Slattery, Sobel & Decamp, LLC; Del Mar Law Group, LLP; Carlsbad Law Group, LLP; JL "Sean" Slattery, Esq.; Unlock Legal, APLC; Miranda Dempsey, APLC, d/b/a McCroskey Legal; and Miranda McCroskey, Esq.

U.S. District Court, Central District of California

LEGO A/S, LEGO Systems, Inc., and LEGO Juris A/S v. ZURU Inc.

U.S. District Court, District of Connecticut

Rasmussen Instruments, LLC v. DePuy Synthes Products, Inc., DePuy Synthes Sales, Inc., and Medical Device Business Service Inc.

U.S. District Court, District of Massachusetts, Eastern Division

New Prime, Inc., d/b/a Prime, Inc., v. Amazon Logistics, Inc., Amazon.com Services LLC, and Amazon Technologies, Inc.

U.S. District Court, Western District of Missouri, Southern Division

Coulter Ventures, LLC v. Rogue Ridge, LLC

United States Patent and Trademark Office, Trademark Trial and Appeal Board

Tiffany and Company and Tiffany (NJ), LLC v. Costco Wholesale Corp.

U.S. District Court, Southern District of New York

In re Elysium Health-ChromaDex Litigation

U.S. District Court, Southern District of New York

Diamond Resorts U.S. Collection Development, LLC, and Diamond Resorts Hawaii Collection Development, LLC v. US Consumer Attorneys, P.A., Henry Portner, Esq., Robert Sussman, Pluto Marketing Inc., 1Planetmedia Inc., Newton Group Transfers, LLC, The Newton Group, ESA LLC, Interval Broker Direct, LLC, Newton Group Exit, LLC, and DC Capital Law Firm, LLP

U.S. District Court, Southern District of Florida

ALIIGN Activation Wear, LLC v. lululemon Athletica Canada Inc. and lululemon USA Inc.

U.S. District Court, Central District of California, Western Division

TravelPass Group, LLC, Partner Fusion, Inc., Reservation Counter, LLC v. Caesars Entertainment Corporation, Choice Hotels International, Inc., Hilton Domestic Operating Company, Inc., Hyatt Hotels Corporation, Marriott International, Inc., Red Roof Inns, Inc., Six Continents Hotels, Inc., Wyndham Hotels Group, LLC

U.S. District Court, Eastern District of Texas, Texarkana Division

American Beverage Association, California Retailers Association, California State Outdoor Advertising Association v. The City and County of San Francisco

U.S. District Court, Northern District of California, San Francisco Division

Barry Braverman, et al v. BMW of North America, LLC and BMW AG

U.S. District Court, Central District of California, Southern Division

Glaxo Group Limited v. Respirent Pharmaceuticals Co., Ltd.

U.S. District Court, Southern District of New York

Sulzer Mixpac AG v. DXM Co., LTD and Dentazon Corporation

U.S. District Court, Southern District of New York

American Massage Therapy Association v. Implus Footcare, LLC

United States Patent and Trademark Office, Trademark Trial and Appeal Board

Richard Sotelo, on behalf of himself and all others similarly situated v. Rawlings Sporting Goods Company, Inc.

U.S. District Court, Central District of California, Western Division

In re: Application of Apple Inc. for TVOS Mark (86/632,177)

United States Patent and Trademark Office, Trademark Trial and Appeal Board

Susan Tran, on Behalf of Herself and all Others Similarly Situated v. Sioux Honey Association, Cooperative

U.S. District Court, Central District of California, Southern Division

Sansi North America, LLC v. LG Electronics USA, Inc.

U.S. District Court, Central District of California

Lindsay and Jeff Aberin, Don Awtrey, Charles Burgess, John Kelly, Yun-Fei Lou, Joy Matza, and Melissa Yeung, individually and on behalf of all others similarly situated v. American Honda Motor Company

U.S. District Court, Northern District of California

Federal Trade Commission and Utah Division of Consumer Protection v. Nudge LLC et al.

U.S. District Court, District of Utah, Central Division

Rockwell Automation, Inc. v. Radwell International, Inc.

U.S. District Court, District of New Jersey

James Demetriades, an individual v. Yelp, Inc., a Delaware corporation, et al.

Superior Court of the State of California, County of Los Angeles, Central District

In the Matter of Certain Pocket Lighters

United States International Trade Commission, Washington, D.C.

Vital Pharmaceuticals, Inc. v. Monster Energy Company and REIGN Beverage Company, LLC

U.S. District Court, Southern District of Florida

In the Matter of Certain Motorized Vehicles and Components Thereof

United States International Trade Commission, Washington, D.C.

Mahindra & Mahindra, Ltd. and Mahindra Automotive North America, Inc. v. FCA US LLC
United States District Court, Eastern District of Michigan

MGA Entertainment Inc. and The Little Tikes Company v. Dynacraft BSC, Inc. et al.
U.S. District Court, Central District of California

Fuse Chicken, LLC v. Amazon.com, Inc. and Does 1-10
U.S. District Court, Northern District of Ohio

Diamond Foods, Inc. v. Hottrix, LLC
U.S. District Court, Northern District of California

Steven A. Conner DPM, P.C. v. Optum360, LLC
U.S. District Court, Eastern District of Pennsylvania

Stephanie Escobar, individually and on behalf of all others similarly situated v. Just Born, Inc.
U.S. District Court, Central District of California

Daryl White, Jr., individually and on behalf of all others similarly situated v. Just Born, Inc.
U.S. District Court, Western District of Missouri

Forever 21 v. Gucci America, Inc.
U.S. District Court, Central District of California, Western Division

Ezaki Glico Kabushiki Kaisha, d/b/a Ezaki Glico Co., LTD., and Ezaki Glico USA Corporation
U.S. District Court, District of New Jersey

GoPro, Inc. v. 360Heros, Inc.
U.S. District Court, Northern District of California

Monster Energy Company v. Integrated Supply Network, LLC
U.S. District Court, Central District of California

Lokai Holdings LLC v. Twin Tiger USA LLC, Twin Tiger World Markets Ltd., Rory Coppock and Troy Coppock
U.S. District Court, Southern District of New York

Joann Martinelli, individually and on behalf of all others similarly situated v. Johnson & Johnson and McNeil Nutritionals, LLC
U.S. District Court, Eastern District of California

Strategic Partners, Inc. v. Vestagen Protective Technologies, Inc.
U.S. District Court, Central District of California, Western Division

Federal Trade Commission v. Damian Kutzner, individually and as an officer of Brookstone Law P.C. (California), et al.

U.S. District Court, Central District of California

In re: National Collegiate Athletic Association Athletic Grant-In-Aid Cap Antitrust Litigation

U.S. District Court, Northern District of California, Oakland Division

Adidas America, Inc., Adidas AG, Adidas International Marketing B.V., Reebok International Ltd., and Reebok International Limited v. TRB Acquisitions LLC, et al.

U.S. District Court, District of Oregon, Portland Division

Network-1 Technologies, Inc. v. Alcatel-Lucent USA Inc., et al.

U.S. District Court, Eastern District of Texas, Tyler Division

In the Matter of DIRECTV LLC v. Comcast Cable Communications

National Advertising Division of the Better Business Bureau

Sisters of Charity of Leavenworth Health System, Inc. v. Blue Cross and Blue Shield Association

U.S. District Court, District of Colorado

Pinkette Clothing, Inc. v. Cosmetic Warriors Limited, dba Lush Handmade Cosmetics

U.S. District Court, Central District of California

LifeScan, Inc. and Johnson & Johnson v. PharmaTech Solutions, Inc. and Decision Diagnostics Corp.

U.S. District Court, Northern District of California, Oakland Division

General Motors LLC Ignition Switch Litigation

U.S. District Court, Southern District of New York

Robert S. Davidson, d/b/a Plastertech v. The United States

United States Court of Federal Claims

Blue Cross and Blue Shield Association, an Illinois not-for-profit corporation v. Zoom Care, P.C.; Zoom Management, Inc.; Zoomcare; Zoom Care Health Plan; and Zoom Care Washington, P.L.L.C.

U.S. District Court, Western District of Washington at Seattle

Kosair Charities Committee, Inc. v. Norton Healthcare, Inc. et al.

Jefferson County, Kentucky Circuit Court, Division Five (5)

Safelite Group, Inc. and Safelite Solutions LLC v. Lori Swanson, in her official capacity as Attorney General of the State of Minnesota, and Michael Rothman, in his official capacity as the Commissioner of the Minnesota Department of Commerce

U.S. District Court, District of Minnesota

Confederate Motors, Inc. v. FCA US LLC

United States Patent and Trademark Office, Trademark Trial and Appeal Board

Talking Rain Beverage Company, Inc. v. DS Services of America, Inc.

U.S. District Court, Western District of Washington at Seattle

Farouk Systems, Inc. v. AG Global Products, LLC d/b/a FHI Heat, LLC and Shauky Gulamani

U.S. District Court, Southern District of Texas, Houston Division

Philippe Charriol International Limited v. A'lor International Limited

U.S. District Court, Southern District of California

Globefill Incorporated v. Elements Spirits, Inc. and Kim Brandi

U.S. District Court, Central District of California

Exhibit 2:
Materials Reviewed

Materials Reviewed

For the purposes of this report, I have gathered and/or reviewed materials that include the following:

1. Expert Report of Carl S. Saba, MBA, CVA, ASA, ABV, signed November 21, 2025. Also, pages from 2025.11.21 Meta – Schedules 7.1 & 7.4 of Saba MDL Expert Report.
2. A report describing the BEEF Survey, titled, “Bad Experiences and Encounters Framework (BEEF) Survey, Data collection: June 27-July 8, 2021” (META3047MDL-004-00015029-063).
3. The transcript of the deposition of Kyle Andrews, PhD, November 19, 2024, vol 1.
4. Five Thorn Survey Reports:
 - a. “Self-Generated Child Sexual Abuse Material: Attitudes and Experiences.” Thorn & Benenson Strategy Group. August 2020.
https://info.thorn.org/hubfs/Research/08112020_SG-CSAM_AttitudesExperiences-Report_2019.pdf (“2019 Thorn Survey Report”).
 - b. “Self-Generated Child Sexual Abuse Material: Youth Attitudes and Experiences in 2020.” Thorn & Benenson Strategy Group. November 2021.
https://info.thorn.org/hubfs/Research/SGCSAM_Attitudes&Experiences_YouthMonitoring_FullReport_2021.pdf (“2020 Thorn Survey Report”).
 - c. “Self-Generated Child Sexual Abuse Material: Youth Attitudes and Experiences in 2021.” Thorn & Benenson Strategy Group. October 2022.
https://info.thorn.org/hubfs/Research/Thorn_SG-CSAM_Monitoring_2021.pdf (“2021 Thorn Survey Report”).
 - d. “Youth Perspectives on Online Safety, 2022: an Annual Report of Youth Attitudes and Experiences.” Thorn & Benenson Strategy Group. November 2023.
https://info.thorn.org/hubfs/Research/22_YouthMonitoring_Report.pdf (“2022 Thorn Survey Report”).

- e. "Youth Perspectives on Online Safety, 2023: An annual report of youth attitudes and experiences." Thorn & BSG. August 2024.
https://info.thorn.org/hubfs/Research/Thorn_23_YouthMonitoring_Report.pdf
("2023 Thorn Survey Report").
5. The Tracking Reach of Integrity Problems Survey (TRIPS) CP Leads Meeting, February 19, 2019 (META3047MDL-050-00295403-467).
6. Intro Document: Tracking Reach of Integrity Problems Survey (TRIPS MVP) (META3047MDL-020-00662466-485).
7. Instagram Well-being FYI | Group | Workplace (META3047MDL-023-00001752-776).
8. Exhibit 43 Negative Experiences Survey – May 2019 Edition, Shilpa Mody (META3047MDL-014-00347782).
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15. In addition to the items specified in this document, my report may also provide additional citations and references.