A consensus statement on potential negative impacts of smartphone and social media use on adolescent mental health

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Abstract

The impact of smartphones and social media use on adolescent mental health remains widely debated. To clarify expert opinion, we convened over 120 international researchers from 11 disciplines, representing a broad range of views. Using a Delphi method, the panel evaluated 26 claims covering international trends in adolescent mental health, causal links to smartphones and social media, and policy recommendations. The experts suggested 1,400 references and produced a consensus statement for each claim. The following conclusions were rated as accurate or somewhat accurate by 92–97% of respondents: First, adolescent mental health has declined in several Western countries over the past 20 years. Second, heavy smartphone and social media use can cause sleep problems. Third, smartphone and social media use correlate with attention problems and behavioural addiction. Fourth, among girls, social media use may be associated with body dissatisfaction, perfectionism, exposure to mental disorders, and risk of sexual harassment and predation. Fifth, evidence on social deprivation and relational aggression is limited. Sixth, the evidence for policies like age restrictions and school bans is preliminary. Overall, the results of this deliberative process and the set of concrete recommendations provided can help guide future research and evidence-informed policy on adolescent technology use.

Introduction

Do smartphone and social media use have negative impacts on adolescent mental health?

This question has sparked an ongoing debate across academic and public spheres. Some researchers argue that the use of smartphones and social media may be harming adolescents in general, and girls more severely than boys, drawing on empirical, correlational, and experimental evidence supporting their claims (Braghieri et al., 2022; Thrul et al., 2025; Twenge et al., 2018). Other researchers argue that there is a lack of causal evidence, or that the effects are small, or that the evidence is inconclusive—drawing on empirical, correlational, and experimental results supporting their claims (Ferguson, 2024a; Odgers & Jensen, 2020; Orben & Przybylski, 2019; Parry, 2024). This debate has entered the public sphere, with various local, provincial, and national government officials discussing policies such as banning smartphones in schools and raising the minimum age for social media use (New York Times, 2024; The Guardian, 2025; Time, 2025). As a result, there is a need to characterize the current state of the scientific literature and reveal where broad expert consensus exists and where it does not, in order to guide academic research and evidence-informed policy-making.

To this end, we convened a large and diverse panel of over 120 international experts from 11 disciplines who brought varied perspectives on the mental health effects of smartphones and social media, allowing us to represent a wide spectrum of opinions (see Expert Panel section).

The panel was asked to evaluate the scientific evidence regarding 26 specific claims concerning trends in the mental health of adolescents in general, and girls in particular, potential causal links to smartphone and social media use, and specific policy

recommendations that are being debated in various countries around the world. The list of claims is available in Table 1; the theoretical derivation of the claims is detailed in the Supplementary Information, Section S1. For the theoretical derivation of the claims, the Core Group (Capraro, Globig, Rathje, Van Bavel) chose to use Jonathan Haidt's (2024) book *The Anxious Generation*. This book was chosen for two reasons. First, it provides a large number of testable claims capturing many aspects of the debate that appeared in the academic literature, including international trends in adolescent mental health, potential causal links with smartphone and social media use, and gender differences. Second, it proposes a series of policy recommendations that have been adopted or are under consideration in several countries, even despite a lack of evaluation of their scientific consensus (The New York Times, 2024; The Guardian, 2025; Time, 2025).

General claims
Background claims 1. Over the last two decades, there has been a decline in mental health among adolescents in the USA. 2. The decline in mental health among girls in the USA began in the early 2010s. 3. The decline in mental health among girls in the USA since the early 2010s is more pronounced than the decline among boys during the same period. 4. Over the last two decades, there has been a decline in mental health among adolescents in the Anglosphere (Australia, Canada, Ireland, UK, New Zealand). 5. Over the last two decades, there has been a decline in mental health among adolescents in the Nordic countries (e.g., Denmark, Finland, Iceland, Norway, Sweden). 6. Over the last two decades, there has been a decline in mental health among adolescents in Western Europe overall, although with variation across countries. 7. Play-based childhood has shifted towards phone-based childhood (i.e., time with friends and total time playing away from screens has decreased). **Causal claims** 8. Heavy daily use of smartphones and social media can cause sleep deprivation. 9. Chronic sleep deprivation can cause a decline in mental health. 10. Heavy daily use of smartphones and social media can cause attention fragmentation. 11. Attention fragmentation can cause a decline in mental health (possibly through mediating factors such as its negative impact on social relationships). 12. Heavy daily use of smartphones and social media can cause behavioral addiction. 13. Behavioral addiction can cause a decline in mental health.

14. Heavy daily use of smartphones and social media can cause social deprivation, such as isolation and lack of formative social experiences. 15. Chronic social deprivation can cause a decline in mental health.
Gender-related effects
Background claim 16. Adolescent girls use visual social media platforms (e.g., TikTok and Instagram) more than adolescent boys. **Causal claims** 17. Social media increases visual social comparisons among adolescent girls. 18. Social media increases perfectionism among adolescent girls. 19. Social media increases relational aggression among adolescent girls, for example by providing tools for cyberbullying and exclusion. 20. Among adolescent girls, social media increases exposure to other people displaying or discussing their mental disorders. 21. Social media increases sexual predation and harassment of adolescent girls, for example by providing predators with access to potential victims.
Policy recommendations
Background claims 22. At least one third of US college students would prefer for social media platforms to simply not exist. 23. Most US parents would like to delay the age at which their children receive smartphones. **Causal claims** 24. If most parents waited until their children were in high school to give them their first smartphones, it would benefit the mental health of adolescents overall. (Parents would give only basic phones or flip phones before high school). 25. Imposing (and enforcing) a legal minimum age of 16 for opening social media accounts would benefit the mental health of adolescents overall. 26. Phone-free schools would benefit the mental health of adolescents overall.

Table 1. List of initial claims that were evaluated to produce consensus statements. *The theoretical derivation of the claims is reported in the Supplementary Section S1.*

Discussion among experts was guided using a gold-standard Delphi process (Lazarus et al., 2021; Lazarus et al., 2022), involving multiple rounds of structured feedback and iterative refinement. The claims were evaluated using the THEARI method (Theoretical, Empirical, Applicable, and Replicable Impact; Ruggeri et al., 2024; Ruggeri, 2025), which allows

experts to evaluate policy-relevant claims holistically. The structure of our Delphi method is schematized in Figure 1. Further details can be found in the Methods section. A glossary of the terms used during the Delphi process is available in Supplementary Section S2.

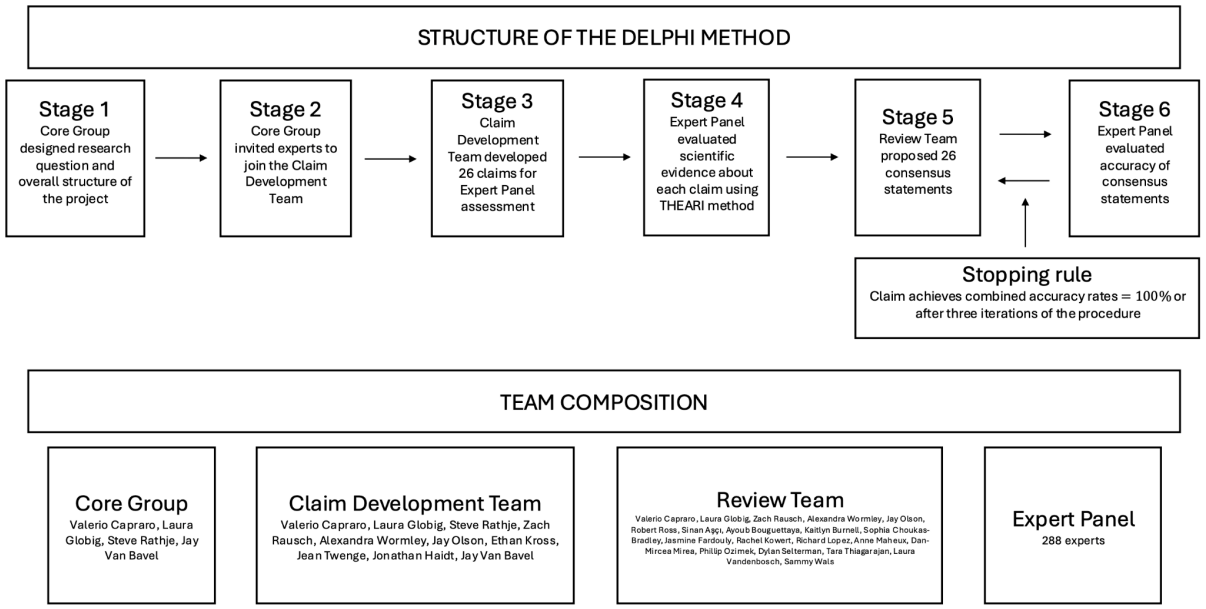

Figure 1. Structure of the Delphi method and composition of the teams. *In Stage 1, the Core Group (Capraro, Globig, Rathje, Van Bavel) formulated the plan for a consensus statement based on Haidt's (2024) causal framework and in Stage 2 recruited a Claim Development Team. Haidt and his chief researcher Rausch were invited to help draft claims but did not analyze data or write the initial manuscript draft. In Stage 3, the Claim Development Team generated 26 testable claims. In Stage 4, experts were invited, via targeted nominations and snowball sampling, to complete Survey 1, assessing each claim on "beliefs," "alignment," "level" of evidence, plus open-ended comments. In Stage 5, a Review Team synthesized responses into proposed consensus statements. In Stage 6, the Expert Panel rated the accuracy of these drafts over up to three iterative surveys (2–4). Iteration continued until each statement achieved unanimous combined accuracy (i.e. rated as accurate or somewhat accurate) or three rounds were completed, after which remaining disagreements were documented. See Methods for further details. A glossary of the terms used in the Delphi process is available in Supplementary Section S2.*

The Expert Panel

For a consensus statement on a debated topic, it is essential that the Expert Panel reflects a broad, and ideally representative, spectrum of expert opinions (Lazarus et al., 2022). Given that this is the first systematic effort to map expert opinion on this subject, there is no established benchmark distribution against which to assess the representativeness of the panel. Therefore, we took a different approach. We present multiple converging lines of evidence indicating that our Expert Panel is diverse across several indicators, including disciplinary background, pre-consensus opinions about the overall impact of smartphones and social media on adolescent mental health, beliefs about the likelihood of each of the 26

claims being true or false, and average accuracy ratings of the consensus statements. Therefore, while we cannot determine with certainty whether all viewpoints are included or proportionally represented, we find no indication that any evidence-based perspective is absent from the finalized consensus statements.

Expertise and country. Supplementary Table S2 reports the full list of primary areas of research self-reported by experts in Survey 1 as well as those who completed Survey 4, confirming a broad representation of experts on social media and/or mental health. Table S3 lists department affiliations. Experts represent 11 different disciplines, including psychology (30.1%), communication and media (11.3%), health sciences (11.3%), business and management (11.3%), economics (7.5%), social sciences (6.8%), and psychiatry (3.8%). Table S4 reports the countries in which the experts are based. The sample includes experts affiliated with institutions in 20 countries, including the United States (54.1%), Canada (9.0%), Australia (7.5%), and the United Kingdom (6.8%). All EU countries combined account for 17.3% of the sample. Therefore, experts represent a broad range of disciplines and countries, although with a clear skew toward Western countries. We refer to Supplementary Section S3 for further personal information about the expert sample (PhD and parental status).

Pre-consensus opinions. At the beginning of Survey 1, a total of 150 experts reported their assessment of the overall impact of smartphones and social media on adolescents' mental health. Results indicate that 10.7% of respondents perceived the impact as strongly negative, 15.3% as moderately negative, 2.7% as neutral, 3.3% as moderately positive, and 0.7% as strongly positive, while another 0.7% expressed uncertainty. The remaining 66.7% of respondents contended that the effect is context dependent and significantly influenced by various moderating factors. Therefore, experts in Survey 1 represented a broad spectrum of opinions, ranging from strongly negative to strongly positive, with a clear majority asserting that the impact is context-dependent.

Pre-consensus beliefs about the likelihood of each claim being true. A similar pattern emerged from the "beliefs" questions (see Figure 2). For 25 out of 26 claims, both "Probably True" and "Probably False" responses were represented. The only exception, "Chronic sleep deprivation can cause a decline in mental health", was one of the least controversial claims and was not rated as "Probably False" by any expert. This further supports the conclusion that expert opinions were diverse, even at the granular level of specific claims.

Accuracy intervals. In Surveys 2-4, experts were asked to rate the accuracy of each of the 26 proposed consensus statements from 1 = "inaccurate" to 5 = "accurate". For each expert, we compute their average accuracy rating across statements. The difference between the maximum and the minimum (across experts) provides a measure of the diversity of views among experts. In Survey 2, this "accuracy interval" was [1.69, 5], in survey 3 it was [1.46, 5], in survey 4, [1.38, 5]. Therefore, the Expert Panel included extremely critical views in each survey. Importantly, critical comments were used either to revise the subsequent consensus statements or, in the case of the final survey (#4), are included in the list of critical comments (see Table 3 and Supplementary Section S7). This provides further evidence that

the finalized consensus statements reflect a wide spectrum of perspectives, including strongly critical views. It is important to note that persistently low ratings across surveys were not due to unaddressed feedback; rather, they reflected new critiques. For instance, the comment "Adolescent self-report is unreliable [(Scheeringa, 2025)]", which appeared three times at the end of the Delphi process, was never mentioned in earlier surveys. See OSF link for all intermediate steps, including critical comments from Surveys 2 and 3, as well as our responses and proposed changes.

Response rate and attrition. We refer to Supplementary Section S4 for a detailed discussion of response rate and attrition. In brief, response rate slightly increased across surveys. In Survey 1, the "beliefs" questions received an average of 110.5 responses, while in Survey 4, the "accuracy" questions were answered by an average of 121.7 participants. Attrition was below 10% per round and under 25% cumulatively. There is some evidence that experts expressing more critical views were more likely to drop out; however, because their comments were addressed in subsequent survey rounds, there is no indication that their perspectives are absent from the final consensus statements.

Experts' pre-consensus beliefs and awareness of the evidence

In Survey 1, for each claim, experts were asked the following: (i) whether they believed the claim was likely to be true ("beliefs" question); (ii) what they perceived to be the direction of evidence regarding the claim (e.g., support, against, mixed; "alignment" question); and (iii) how they assessed the level of evidence for each claim (e.g., based on surveys, experimental studies, field research; "level" question). Additionally, a fourth open-ended question allowed respondents to elaborate on their answers and provide references to support their viewpoints. In this section, we summarize the results of the "beliefs", "alignment", and "level" questions. Detailed results are reported in Supplementary Sections S5. Note that these measures were taken at the beginning of the consensus process, before the deliberative and collective Delphi process took place.

Experts generally believed the claims to be "probably true." Responses to the "beliefs" question from Survey 1 indicate that for all 26 claims, more experts rated them as "probably true" than as "probably false." For 23 of these claims, it was a majority who said they were "probably true." None of the 26 claims was judged to be "probably false" by more than 21% of experts. See Figure 2.

Experts generally reported being aware of more evidence in favour of a claim than against. Responses to the "alignment" question show that, for each claim, fewer than 5% of experts reported awareness of evidence contradicting the claim, and for each claim, experts reported being aware of more supporting evidence than opposing evidence. Some claims drew a substantial proportion of "I don't know" responses in both the belief and alignment questions and one claim had "I don't know" as the most common answer (whether there has been a decline in mental health among adolescents in the Nordic countries). See Figure 2.

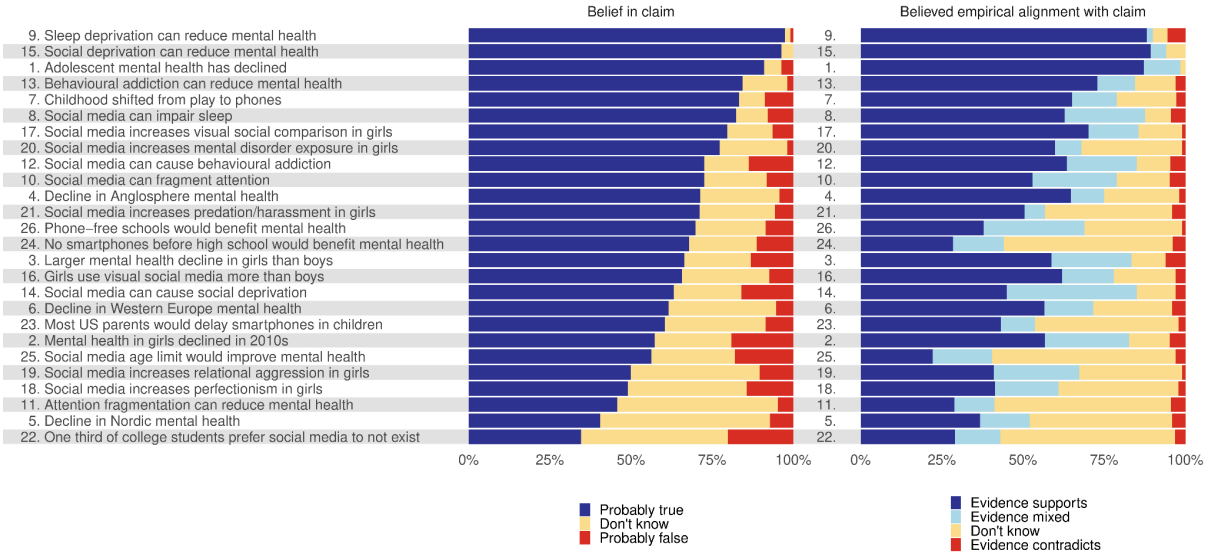

Figure 2. Summary of responses to the "belief" and "alignment" questions for each of the 26 claims from Survey 1, ordered from the highest level of belief to lowest. *For each claim, the "belief" question asked in Survey 1 was: "What do you think about this claim?" (probably true, don't know, probably false). The "alignment" question was: "To the best of your knowledge, how does the empirical evidence align with this claim?" (supports, mixed, don't know, contradicts). For visualization purposes, we shortened the wording of the claim. Refer to Table 1 for the exact wording of the claims.*

Experts generally reported that the level of evidence varies across claims. Responses to the "level" question varied substantially, suggesting that the quality of evidence differs across claims. For example, for the claim "Chronic sleep deprivation can cause a decline in mental health," experts reported being aware of evidence at every level, with 44% indicating awareness of wide-scale causal evidence. By contrast, for the claim "At least one third of US college students would prefer for social media platforms to simply not exist", most experts reported either being unaware of any evidence or being aware only of empirical evidence—and no expert reported awareness of wide-scale evidence. See Figure 3. Therefore, it is important to note that in some cases, responses to the "beliefs" questions were not entirely grounded in empirical evidence and should be interpreted as expert opinions in situations where evidence is preliminary, rather than evidence-based conclusions.

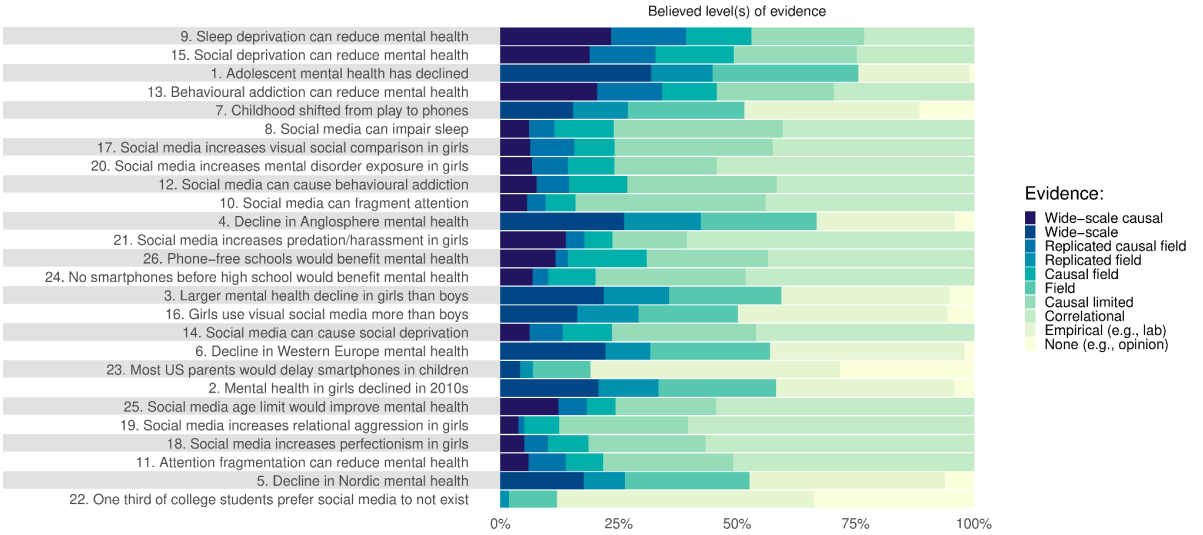

Figure 3. Summary of responses to the "level" question for each of the 26 claims from Survey 1, ordered as in Figure 2. *For each claim, the "level" question asked in Survey 1 was: "To the best of your knowledge, what is the level of evidence regarding this claim?". Available answers depended on the claim. For non-causal claims 1-7, 16, and 22-23, the available answers were: No evidence, only opinions, perspectives, general theory or anecdotes; Some empirical evidence but in limited settings (laboratories, surveys and online, self-reported measures); Field evidence; Replicated evidence in field studies or other natural settings; Wide-scale evidence from multiple field studies, policy evaluations or other natural settings. For causal claims 8-15, 17-21, and 24-26, the available answers were: No evidence, only opinions, perspectives, general theory or anecdotes; Some correlational evidence (laboratories, surveys, online, field); Some causal evidence but in limited settings (laboratories, surveys, and online, self-reported measures); Causal evidence in a field study; Replicated causal evidence from field studies; Wide-scale causal evidence from multiple field studies, policy evaluations or other natural settings. For visualization purposes, we shortened the wording of the claims. Refer to Table 1 for the exact wording of the claims.*

Summary of the conclusions of the consensus statements

The full consensus statements are presented in Supplementary Section S6. Each consensus statement begins with the results from Survey 1 (summarized in the previous section) and then includes a narrative review of the evidence suggested by the experts across Surveys 1-3. At the end of the statement, the narrative review is synthesized into a conclusion with recommendations for future research. After the full consensus statement, the main results of the final survey (#4) are presented: the "combined accuracy" rating of the finalized consensus statement and the number of "critical comments" received by the final consensus statement. Below, we summarize the conclusions of the consensus statements, the recommendations for future research, and the combined accuracy ratings. The evidence-based critical comments are reported verbatim in Table 2. Detailed results of Survey 4 are reported in Supplementary

Section S7. The full list of critical comments to the final consensus statements is available in Supplementary Section S8.

Areas where nearly all experts agreed there is supporting evidence. At the end of the consensus process, over 97% of experts agreed (i.e., rated it as accurate or somewhat accurate; 4 or 5 on 1-5 scale) that there is evidence that adolescent mental health has declined over the past two decades in several countries, including the USA (99.2%), several nations in the Anglosphere (99.0%), Nordic countries (97.9%), and Western European countries (97.1%), albeit with some heterogeneity across countries and measures. Moreover, 97.6% of experts agreed that there is evidence that heavy smartphone and social media use can cause some sleep problems. See Table 2, columns "conclusions" and "combined accuracy".

Areas on which nearly all experts agreed currently lack sufficient evidence. The consensus process identified several domains warranting further investigation (see Table 2, columns "future research" and "combined accuracy"). For instance, although the majority of experts believed that heavy smartphone and social media use can cause attention fragmentation and behavioural addiction, 97.4% and 92.2% of experts, respectively, agreed that the evidence is only correlational.

Additionally, while the majority of experts believed that smartphone and social media use can cause social deprivation, at the end of the consensus process, 96.7% of experts agreed that there is evidence that both the magnitude and direction of the effect of smartphone and social media use on social deprivation are likely influenced by various individual and social moderators. Moreover, while 97.4% of experts agreed that heavy social media use may cause some sleep problems, it remains unclear the extent to which it causes sleep deprivation specifically.

In terms of gender-related impacts among girls, over 94% of experts agreed that there is evidence suggesting that social media may be associated with body dissatisfaction (96.5%), perfectionism (96.9%), exposure to mental disorders (96.4%), and increased risk of sexual harassment and predation (94%). However, the evidence is primarily correlational. Additionally, over 93.9% of experts agreed that the evidence of an association between social media and relational aggression among adolescent girls is preliminary.

Regarding three widely debated recommendations—delaying the age of smartphone access, raising the minimum age of social media use to 16, and banning phones in schools—over 56% of experts believe these measures would have a generally positive impact on adolescent mental health and less than 21% of experts believe these measures would not have a generally positive impact. Nevertheless, at the end of the consensus process, over 93% of experts agreed that the current scientific evidence is too preliminary to support or challenge the claims that these recommendations are beneficial to adolescent mental health overall. It has been noted, however, that obtaining high-quality causal evidence of the effectiveness of policy decisions often takes years, whereas policymakers often have to make decisions in rapidly changing environments with limited data.

Claim	Conclusion of the finalized consensus statement	Future research directions according to the finalized consensus statement	Combined accuracy rating* of finalized consensus statement	Evidence-based critical comments** on the finalized consensus statement
1.	There is evidence that adolescent mental health has declined over the last two decades in the USA.	[None reported]	99.2% (125/126)	"Adolescent self-report is unreliable [(Scheeringa, 2025)]. New CDC [Centers for Disease Control and Prevention] data points to improvements in adolescent wellness and suicide in last few years [(CDC, 2024)]."
2.	There is evidence that various measures of adolescent girls' mental health have been declining since the early 2010s.	Consider longer time spans.	96.7% (117/121)	"Adolescent self-report is unreliable [(Scheeringa, 2025)]. New CDC data points to improvements in adolescent wellness and suicide in last few years [(CDC, 2024)]."
3.	There is evidence that the decline in mental health has been more pronounced among girls for certain metrics.	Disentangle true gender-based differences in mental health from gender differences in detection, access to resources, disorder type, and political ideology.	97.5% (115/118)	"CDC (2024) suggests suicide rose more quickly for males, before decreasing." "The role of ideology is based on one cross-sectional study from Gimbrone et al., (2022). [...] Highlighting this factor in the conclusion gives it disproportionate visibility."
4.	There is evidence that adolescent mental health has declined in some countries in the Anglosphere over the last two decades. Heterogeneity across countries concerns especially suicide rates.	Explore the effects of changes in diagnostic criteria, assessment practices, broader trends, and cross-country heterogeneity.	99.0% (103/104)	"Adolescent self-report is unreliable [(Scheeringa, 2025)]."
5.	There is some evidence that adolescent mental health has declined in some Nordic countries over the past two decades; however, there may be significant heterogeneity across countries and measures.	Explore the effects of changes in diagnostic criteria, assessment practices, broader trends, and cross-country heterogeneity.	97.9% (95/97)	[None reported]
6.	There is some evidence that adolescent mental health has declined in various Western European countries over the past two decades; however, there may be heterogeneity across countries, measures, and time periods.	Explore how methodological differences, national contexts, and cultural resilience factors contribute to variations in mental health outcomes across countries, measures, and time periods.	97.1% (101/104)	[None reported]

7.	There is some evidence that screen time has increased and time with friends in person has decreased, especially in the U.S.	Explore the extent to which screen time is directly displacing non-screen-based playtime (rather than displacing other forms of screen time, like watching television, or periods of inactivity). Conduct more cross-cultural studies and employ more precise definitions of key constructs and age groups.	95.0% (115/121)	[None reported]
8.	While there is evidence that heavy daily use of smartphones and social media can cause some sleep problems, the extent to which it causes sleep deprivation specifically remains unclear.	Prioritize field studies using objective measures and explore the different ways in which smartphones and social media might negatively impact sleep quality, considering the diversity of usage patterns and their specific impacts on sleep.	97.6% (121/124)	"[...] effect sizes are too weak to [support a link] (e.g., Ahmed et al. [2024])"
9.	There is evidence that chronic sleep deprivation can cause a decline in mental health.	[None reported]	100% (122/122)	[None reported]
10.	The impact of heavy smartphone and social media use on attention is complex and context-dependent. While correlational and some experimental data suggest a relationship, the evidence is not robust enough to definitively confirm a causal link.	Employ longitudinal designs and controlled experiments that consider individual differences and specific types of use. Exploring the theoretical mechanisms underlying these effects will be crucial in understanding how smartphone and social media use affect attention.	97.4% (113/116)	[None reported]
11.	The evidence regarding the effect of attention fragmentation on mental health is preliminary.	Define the construct of attention fragmentation and understand its effects on mental health, accounting for individual differences and including potential mediating factors.	97.2% (103/106)	[None reported]
12.	While there is some preliminary correlational evidence supporting the claim that heavy daily use of smartphones and social media can cause behavioural addiction, the experimental evidence is virtually absent and the underlying mechanisms are at times controversial.	Test this hypothesis with standardized definitions and consistent methodologies.	92.2% (106/115)	"[...] no agreement among scholars that "behavioral addiction" is even a thing (Aarseth et al., 2017)" "The statement "no experts provided experimental evidence about this claim" is inaccurate; Allcott et al. (2022) is a randomized experiment."

				"There exist validated tools to measure social media addiction in adolescents [(Andreassen et al., 2016a; Andreassen et al., 2016b; Zarate et al., 2022; Abiddine et al., 2024; Rouleau et al., 2023; Brailovskaia et al., 2020; Lin et al., 2017).]" "This statement is not correct: "no experts provided experimental evidence about this claim". Allcott et al (2022) provides experimental evidence." "[...] 10% or fewer of teens and adults engage in problematic social media use (Males, 2024a)."
13.	While there is evidence for a negative association between behavioral addiction and mental health, the direction of the causal relationship remains unclear.	Explore the direction of causality with standardized definitions of behavioral addiction.	96.5% (111/115)	[None reported]
14.	The strength and even the direction of the potential causal relationship between social media use and social deprivation likely depends on various individual and social factors.	Explore various potential moderating factors and whether social media actually replaces positive social interactions beyond other entertainment media or other non-social activities.	96.7% (116/120)	"Good online relationships predict good offline relationships [(Steinsbekk et al., 2024; Pew Research Center, 2022)]."
15.	The evidence supports the claim that chronic social deprivation can cause a decline in mental health.	[None reported]	99.2% (121/122)	[None reported]
16.	While there is some evidence that adolescent girls use some visual social media platforms, such as Instagram and TikTok, more than adolescent boys, there is also evidence that adolescent boys use other visual social media platforms, such as YouTube, more than adolescent girls.	Test gender differences in social media usage with objective measures and more precisely defined theoretical constructs.	99.1% (116/117)	[None reported]
17.	Although there is evidence that social media use is associated with body dissatisfaction among	Investigate the relationship between social media and visual social comparison, paying	96.5% (110/114)	[None reported]

	girls, whether this is due to increased visual social comparison is still under consideration. Furthermore, the potential causal link is likely moderated by individual factors.	particular attention to moderating variables and whether social media's impact extends beyond that of traditional media or in-person interactions.		
18.	Social media may be associated with perfectionism among girls.	Explore potential causal links, unpack various forms of perfectionism, and consider various moderating factors.	96.9% (95/98)	[None reported]
19.	The evidence that social media use increases relational aggression among adolescent girls is preliminary.	Investigate the effect of social media on various forms of relational aggression, examining both girls and boys as perpetrators and victims. Such studies should also consider a wider range of behaviours, including prosocial and antisocial actions, both online and offline.	93.9% (93/99)	"Families, schools, etc. provide far more direct opportunities for aggression, both relational and violent (CDC, 2023)."
20.	Social media may contribute to increased exposure to mental disorders.	Explore potential causal links, paying particular attention to how social media might uniquely exacerbate this issue beyond traditional media or in-person socializing. Examine both the positive and negative downstream effects.	96.4% (109/113)	"The statement overlooks the potential for social media to increase mental health literacy [(Pretorius et al., 2022)]." "[CDC (2023b) shows] 30% of girls report addicted parents, and 40% severely mentally troubled parents. That's far more harmful."
21.	Social media may in some cases contribute to sexual predation and harassment of adolescent girls.	Investigate whether a causal link exists between social media use and various forms of sexual abuse. Investigate whether and how social media uniquely impacts each of these forms of sexual abuse compared to other digital or in-person contexts.	94.0% (95/101)	"Families, churches, schools, athletics, youth programs, law enforcement, etc., are far more direct and dangerous exposers of teen girls to violent and sexual predators [(CDC, 2023)]."
22.	The evidence regarding the claim that at least one third of US college students would prefer for social media platforms to simply not exist is mixed.	Investigate the robustness of the findings across different question framings, social media platforms, and population subgroups.	94.2% (98/104)	[None reported]
23.	There is considerable uncertainty about whether most parents are concerned about the	Investigate parents' attitudes toward delaying smartphone access and distinguish between different smartphone uses (e.g.,	94.1% (96/102)	[None reported]

	age at which children receive smartphones.	social media versus entertainment).		
24.	The evidence is insufficient to draw conclusions about the claim that if most parents waited until their children were in high school to give them their first smartphones (while providing basic phones or flip phones), it would benefit the mental health of adolescents overall.	Investigate whether collective delays in smartphone ownership might yield positive outcomes by fostering shared activities. Differentiate between various smartphone uses and examine their effects across developmental stages, with a particular focus on individual differences that might moderate their impact. Research into scaffolding techniques.	95.4% (105/110)	"Social media access is connected to lower suicide and self-harm among girls [(CDC, 2023) and abused and depressed teens use social media to seek help [(Pew Research Center, 2022; Males, 2024b)]."
25.	The available evidence is insufficient to support or challenge the claim that imposing (and enforcing) a legal minimum age of 16 for opening social media accounts would benefit the mental health of adolescents overall.	Prioritize evidence-based strategies, comparing or combining restrictive measures with less restrictive approaches that focus on platform accountability or digital literacy education, with a broad view that includes practical, legal, and ethical issues.	93.7% (104/111)	"Social media access is connected to lower suicide and self-harm among girls [(CDC, 2023) and abused and depressed teens use social media to seek help [(Pew Research Center, 2022; Males, 2024b)]."
26.	The available evidence is too limited and inconsistent to draw conclusions about the claim that phone-free schools would benefit the mental health of adolescents overall.	Examine the effect of bans across various dimensions of student well-being and consider how socioeconomic backgrounds influence these outcomes.	93.6% (102/109)	"The evidence for the negative impact of smartphone use during the school day is much more compelling than what is reviewed here (Felisoni & Godoi, 2018; Dontre, 2021)." "No research supports this, see, e.g. Goodyear et al. (2025)."

Table 2. Summary of the consensus statements. *For each claim, we report the conclusion of the corresponding consensus statement, the suggested directions for future research, the combined accuracy rating of the final consensus statement, and the list of evidence-based critical comments to the final consensus statement. One comment was removed from the list of critical comments for the consensus statements related to Claims 8 and 10, as the cited references were deemed unrelated. No experts objected to this decision; the removed comment is reported verbatim in Section S7, along with further details about the procedure. *The combined accuracy score is calculated by summing the "accurate" and "somewhat accurate" responses and dividing this total by the overall number of responses, after excluding "I don't know" responses (Lazarus et al., 2022). **Critical comments are quoted verbatim, with minimal editing indicated by square brackets.*

Common concerns raised by the experts

While we refer to the full consensus statements for in-depth discussions, here we summarize several recurring concerns and limitations in the existing literature that emerged during the Delphi process.

Adolescent mental health trends. Several experts stressed the importance of disentangling true gender-based differences in mental health declines from differences in detection rates, access to care, changes in diagnostic criteria, and assessment practices. Other researchers noted the need to consider individual and cultural factors that may contribute to or mitigate these declines, such as political ideology.

Definitions of terms. Several experts highlighted the lack of precise, widely accepted definitions for key concepts. While we provided a glossary of definitions from the first survey onward, some terms—such as attention fragmentation and behavioural addiction due to heavy smartphone and social media use—remained contested due to the absence of standardized constructs in the literature. This reflects a broader issue in social sciences, where unclear constructs often make it difficult to empirically test theories (Lundberg et al., 2021; Scheel, 2022). Future research should prioritize developing operational definitions for such terms.

Policy recommendations. Several experts warned that policy interventions restricting smartphone and social media use for youth, if implemented as blanket policies, could inadvertently harm members of some communities, such as LGBTQ+ youth or people with disabilities, who disproportionately utilize social media for support and information (Craig et al., 2021). Others suggested that these policies may benefit some members of these communities, as they are also disproportionately at risk from various harms from social media use, such as greater exposure to harassment and stress, and increased likelihood of reporting that social media increases body image and social comparison concerns (Common Sense, 2024). Relatedly, some experts recommended the scaffolding of digital skills (i.e., structured support to help teens gradually develop safe and critical use of smartphones and social media in a parent-mediate manner) as a potentially more effective and equitable way to reduce harms and enhance benefits. Others noted that policy effects must be considered at the group level: if only one adolescent lacks a smartphone in a peer group, they may feel excluded. In contrast, collective actions (e.g., most parents delaying smartphones until high school) could lead to different social dynamics, reducing the risk of exclusion and amplifying positive effects.

Causality and direction of effects. Some experts raised concerns about reverse causality (Fassi et al., 2025) and bidirectionality (Flannery et al., 2023). For example, depression may be associated with more social media use, but social media use may not necessarily exacerbate depression (Vidal et al., 2024). Relatedly, experts highlighted the difficulty of establishing causality for several claims, due to theoretical, ethical, and practical constraints (Murphy et al., 2024). When feasible, future research would benefit from adopting modern

causal inference methods to assess causal relationships between social media use and adolescent mental health (Glass et al., 2013).

Other risks. Some experts argued that focusing solely on social media risks while overlooking other risk factors may produce biased conclusions by neglecting the broader context of mental health (Sewall & Parry, 2024).

Geographic bias in the evidence. Another concern that emerged during the consensus process relates to the geographic distribution of the available evidence. Much of the empirical data used to inform the consensus statements originates from the United States and other Western countries, a limitation that mirrors broader trends in psychological science (Henrich et al., 2010). Several experts emphasized the need for more inclusive research that incorporates perspectives from the Global South and other underrepresented populations (Ghai et al., 2022).

Limitations of the Delphi process and future work

One of the primary potential criticisms is whether our expert sample is truly representative. From the outset, our objective was to secure a broad and diverse representation of expertise and we took several actions with this objective in mind. Initially, the Core Group invited experts who have argued in academic journal articles that there is—or is not—evidence for a relation between social media use and negative adolescent mental health outcomes. Once the claims were formulated, the Claim Development Team curated a list of additional experts to invite to take the surveys, deliberately aiming for diversity by including scholars from across the debate and from various disciplinary backgrounds, and from a range of geographic regions. Additionally, Survey 1 was also shared on several specialized forums and early respondents were invited to suggest additional experts. Results from the first question of Survey 1, assessing pre-consensus opinions regarding the overall effect of smartphones and social media on adolescents' mental health, as well as beliefs about the veracity of each claim, indicate that the objective of gathering a broad panel of experts was achieved, as reflected by the wide range of opinions expressed, even at the granular level of each claim. This diversity persisted throughout the Delphi method, with a total of 250 critical comments from 60 different non-anonymous experts and 5 anonymous experts. Furthermore, at every Delphi round, several authors of critical comments were invited to join the Review Team in order to ensure that critical viewpoints were adequately represented in the consensus statements.

Despite our efforts, it is conceivable that scholars who are more skeptical that there is evidence of negative effects of smartphone and social media use on adolescent mental health were less likely to agree to participate in our surveys and/or more likely to drop out. Indeed, some highly cited scholars who have expressed scepticism about there being strong evidence of harms, including some cited earlier in this paper (Ferguson, 2024a; Odgers, 2024; Orben & Przybylski, 2019), were notably absent from the author list of this paper, although they were all personally invited and it is entirely possible that some of them have responded to our surveys anonymously. Therefore, the quantitative accuracy ratings for each consensus

statement should be interpreted with this limitation in mind. Regarding the qualitative content of the consensus statements, by the final Delphi round, panelists themselves voiced conflicting concerns: some expressed concern that critical perspectives were underrepresented, while others suggested that they might be overrepresented. Both sides agreed that, beyond subjective judgments, there is no way to objectively assess the representativeness of viewpoints, as this is the first structured effort to map expert opinion in this area. Given that many claims sparked intense debate and remained far from resolved, we can be confident that the Delphi process captured a wide spectrum of expert views, but it is not possible to determine whether it encompassed them all or they were truly proportionally represented. Still, the analyses presented in the Expert Panel section provide several pieces of evidence indicating that the panel is diverse across several indicators.

Like any Delphi process our work reflects a series of choices that limit its scope and suggest future research. First, our set of claims were based on Haidt's (2024) *The Anxious Generation*. We selected this book as a starting point because it presents a wide range of empirically testable claims spanning key facets of the discussion already mentioned in the academic literature, ranging from international patterns in adolescent mental health, possible causal relationships with smartphone and social media use, gender-differences, and policy proposals actively debated across nations. However, anchoring the process to this source inevitably limited the inclusion of alternative sets of claims. Second, some claims focused on adolescent girls. While this reflects concerns that girls may be disproportionately at risk for anxiety and depression from social media use, several experts noted that boys and young men also face worsening mental health and have higher suicide rates (Hedegaard & Warner, 2021). We share these concerns and recognize the challenges faced by boys and men and other gender groups. Third, some claims focused on trends in Western countries and, relatedly, almost all experts were based in Western countries. While this reflects the abundance of literature from these regions, it overlooks possible important trends elsewhere. Fourth, some experts observed that the focus on social media may overlook higher risk factors for mental health, such as parental abuse. We agree that dysfunctional family environments can have severe consequences (CDC, 2023); however, we are not attempting to address all causes of mental health issues—that is a separate research question. Our focus on social media stems from its role as a major global shift in communication, time spent, and entertainment. Given its ubiquity, even small effects may have large impacts. Fifth, our study focused on potential harms, not benefits, of smartphone and social media use. While we recognize that there may be real and important benefits, our intention was to examine and help mitigate possible harms. Sixth, the narrative reviews in the consensus statements should be seen as guidance rather than systematic. For example, after the Delphi process concluded, some experts identified articles relevant to some claims. These articles have been added to Table S9 (Further Readings) but not incorporated into the consensus statements, as the Delphi process had formally ended. Seventh, one methodological limitation concerns the binary response format in the "beliefs" question ("Probably true" vs "Probably false"), which may have oversimplified expert views on complex issues. Eighth, in the opinion questions, we treated 'context-dependent' as mutually exclusive from other options, when in fact it may not be. Since most phenomena are context-dependent to some extent, this may have inflated the

number of responses selecting that option. Responses to these questions should be interpreted with these limitations in mind.

Research and policy directions

Our results highlight five urgent future research and policy directions:

1. Define key constructs and standardize measurements.
2. Investigate individual and cultural factors that may contribute to or buffer against the decline in adolescent mental health.
3. Move beyond correlations to test causal pathways, moderators, and boundary conditions.
4. Conduct more research beyond the developed Western world.
5. Evaluate and compare the effectiveness of proposed interventions.

Progress will require methodological rigour, theoretical precision, interdisciplinary collaboration, academic, industrial, and governmental partnerships, and a clear-eyed resistance to oversimplification.

Conclusion

This analysis represents by far the largest effort to date to assess expert views on an urgent global health issue. The most comparable initiative is a recent report by the National Academies of Sciences, Engineering, and Medicine (2024), which convened eleven experts to write narrative reviews on the potential harms and benefits of social media use for adolescent health, and provide recommendations. Ten additional reviewers provided feedback, but they were not asked to rate the conclusions. While this effort is certainly valuable, it did not aim to systematically quantify agreement or disagreement among experts, nor did it involve a broad expert sample.

We provide a detailed analysis of where over 120 experts with varied pre-consensus views agree about the evidence and where further research is needed, across 26 claims covering international trends in adolescent mental health, possible causal links to smartphones and social media, and related policy recommendations.

We have found strong consensus that adolescent mental health has declined in several Western countries over the past 20 years. Something is going wrong for young people, and policymakers want guidance from researchers. Our study may be useful to policymakers, both as a guide to where interventions might be most effective today and as a guide to what kinds of research are most needed to extend the zone of consensus in the future.

Methods

In the first two stages of our Delphi method, the Core Group (Valerio Capraro, Laura Globig, Steve Rathje, and Jay Van Bavel) developed the idea of writing a theoretically grounded consensus statement (Stage 1) and identified a set of experts (Stage 2) from across the spectrum of positions in the debate to be invited to join the Claim Development Team. This team was responsible for formulating claims (Stage 3) addressing key aspects of the debate on social media and mental health, based on the causal framework proposed by Jonathan Haidt (2024) in his book, *The Anxious Generation*.

Given the claims being addressed, Haidt and his chief researcher, Zach Rausch, were invited to join the Claim Development Team to assist in formulating the claims derived from the book. To help ensure the neutrality of the final consensus statement, they were not involved in data analysis, nor in writing the initial draft of this paper, although, like many of the authors, they suggested edits to the draft. Moreover, the evidence suggested by the experts in three rounds of surveys (described below) was reviewed and organized into consensus statements by Valerio Capraro, with feedback from the Review Team (see Methods for details). Importantly, Capraro had produced no prior research on the impact of social media on mental health and had no previous professional or personal connection with Haidt or Rausch, and so was considered a neutral investigator. Members of each team and the team's roles are described in Figure 1. The glossary of terms used during the Delphi process is reported in the Supplementary Information, Section S2.

After developing the claims, the Claim Development Team compiled a list of experts to be invited to join the Expert Panel, deliberately aiming for diverse representation by including scholars with differing viewpoints and varied disciplinary expertise. The term "expert" was not explicitly defined. Instead, it was left to the interpretation of the nominators to decide how to operationalize it. For example, some nominators suggested well-known researchers on social media and/or mental health, whereas others searched Google Scholar for authors of papers related to the topic. Supplementary Section 2 reports two sample emails where nominators were asked to suggest experts.

The process then advanced to Stage 4, where members of the Expert Panel were personally invited to participate in Survey 1. To further broaden the representativeness of the Expert Panel, Survey 1 was shared on several specialized forums (listed in "Survey 1" subsection), and early respondents were contacted and encouraged to recommend additional experts. Snowball sampling is a widely used method for recruiting participants from hidden populations (Browne, 2005), including experts (Christopoulos, 2007). The range of expertise and opinions within the panel is discussed in the Expert Panel section and, in more detail, in Supplementary Sections S3 and S4.

The subsequent questions of Survey 1 were designed to evaluate the evidence supporting each claim, using a methodology inspired by the THEARI method (Ruggeri et al., 2024; Ruggeri, 2025). In Survey 1, for each claim, experts were asked the following: (i) whether they believed the claim was likely to be true (henceforth: "beliefs" question); (ii) what they

perceived to be the direction of evidence regarding the claim (e.g., support, against, mixed; "alignment" question); and (iii) how they assessed the level of evidence for each claim (e.g., based on surveys, experimental studies, field research; "level" question). Additionally, a fourth open-ended question allowed respondents to elaborate on their answers and provide references to support their viewpoints.

In Stage 5, a Review Team was formed with the responsibility to synthesize the collected material into 26 proposed summaries (i.e., "proposed consensus statements"), one for each claim. Stage 6 consisted of a follow-up survey (Survey 2) with the Expert Panel to gauge how accurately each of these proposed consensus statements reflected the current state of knowledge for each claim. This second round allowed the Expert Panel to point out ambiguities and factual errors, which the Review Team used to refine the consensus statements where necessary. Following previous work (Lazarus et al., 2021; Lazarus et al., 2022), this procedure was iteratively applied for up to three rounds (Survey 2, Survey 3, and Survey 4). All surveys are described in detail below. Because Surveys 2-4 were conditional on previous rounds, the Expert Panel was instructed not to disseminate these surveys externally. Nevertheless, across these three rounds, we received 10 responses from experts who had not been initially invited. To enhance inclusivity and increase representativeness, these additional experts were included in the Expert Panel and invited to the subsequent surveys. In total, 288 experts were invited to participate in at least one survey (see OSF link for full list).

The stopping rule between the Review Team and the Expert Panel was defined as follows. Following previous work (Lazarus et al., 2021; Lazarus et al., 2022), we classified a statement's consensus level as follows: *U* for Unanimous if it was rated "accurate" or "somewhat accurate" (henceforth: "combined accuracy") from 100% of experts; A for combined accuracy ratings between 90% and 99%; B for combined accuracy ratings between 78% and 89%; and so forth. The back and forth between the Review Team and the Expert Panel concluded once a claim achieved a U rating (100%) or upon reaching the third round. If, after three rounds, a consensus statement for a specific claim did not have unanimous accuracy, areas of disagreement were reported. It is important to note that accuracy ratings reflect experts' evaluations of how well the entire consensus statement reflects the available evidence—not whether they personally agree or disagree with the claim. An expert may disagree with a claim but still find the consensus statement accurate; conversely, an expert may agree with a claim, but judge the consensus statement to be inaccurate. For example, an expert may disagree with the claim "Heavy daily use of smartphones and social media can cause attention fragmentation" but may find a consensus statement concluding that "The evidence regarding the effect of attention fragmentation on mental health is preliminary" to be accurate.

Survey 1

Structure

Survey 1 began with a welcoming screen introducing participants to the project's objectives. Following this, key definitions were provided to ensure a common understanding among experts. Given the survey's length, the Claim Development Team decided to define only the concepts deemed most likely to be misunderstood. Definitions included:

- ***Field evidence:*** Evidence collected in real-world, consequential settings using objective measures (e.g.., official statistics in real-world settings, such as suicide rates; self-reported surveys are not field evidence).
- ***Mental health:*** Following the APA Dictionary of Psychology, we define mental health as "a state of mind characterized by emotional well-being, good behavioral adjustment, relative freedom from anxiety and disabling symptoms, and a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life".
- ***Behavioral addiction:*** Following the DSM-5, we define behavioral addiction as a pattern of behavior characterized by an overwhelming compulsion to engage in a specific activity, despite harmful consequences. Unlike substance addiction, behavioral addiction does not involve chemical dependency but instead involves compulsive engagement in activities such as gambling.
- ***Attention fragmentation:*** Frequent shifts and interruptions in one's focus of attention. Instead of maintaining sustained focus on a single task or subject, attention becomes fragmented.
- ***Adolescent:*** The developmental stage spanning from early pre-teen years through late teenage years, covering the age range of 11 to 19.

After these definitions, the survey posed two overarching questions to gauge participants' views on the impact of smartphones and social media on adolescent mental health. The first question was: "Considering all factors, what do you believe is the overall impact of smartphones and social media on adolescents' mental health?" The available answers were:

- **Strong positive impact:** Smartphones and social media significantly improve mental health, for example by fostering social connections, providing mental health resources, and offering support networks.
- **Moderate positive impact:** Smartphones and social media offer some benefits to mental health, like access to supportive communities and helpful content, though there may be some minor drawbacks.
- **Neutral impact:** Overall, smartphones and social media neither significantly harm nor benefit mental health. Their effects are negligible or balanced.
- **Moderate negative impact:** While smartphones and social media can have certain benefits, they often contribute to stress, anxiety, or mental health issues in a moderate way.
- **Strong negative impact:** Smartphones and social media are predominantly harmful to mental health, contributing significantly to anxiety, depression, and reduced overall well-being.

- **Context-dependent impact:** The impact of smartphones and social media on mental health varies greatly depending on individual usage patterns, the type of content consumed, and personal factors such as age, gender, support systems, and existing mental health conditions.
- **Unsure:** I am uncertain about the impact of smartphones and social media on mental health.

The expert sample was then prompted: "Please use the space below to justify your response to the previous question. In your response, include key moderators that you believe influence the impact of smartphones and social media on adolescents' mental health, whether positively, negatively, or in a mixed manner. Where applicable, please reference relevant academic research that supports your perspective".

Subsequently, expert participants proceeded to the main section of the survey, where they encountered the claims sequentially, from the 1st to the 26th. For each claim, participants are asked four questions:

- What do you think about this claim? (Available answers: I think this claim is probably true; I think this claim is probably false; I have no idea whether this claim is true or false)
- To the best of your knowledge, how does the empirical evidence align with this claim? (Available answers: To the extent that there is empirical evidence, it contradicts the claim; To the extent that there is empirical evidence, it supports the claim; The empirical evidence is mixed and unclear; I am not aware of any empirical evidence regarding this claim).
- To the best of your knowledge, what is the level of evidence regarding this claim?
    - o Available answers for correlational claims: No evidence, only opinions, perspectives, general theory or anecdotes; Some empirical evidence but in limited settings (laboratories, surveys and online, self-reported measures); Field evidence; Replicated evidence in field studies or other natural settings; Wide-scale evidence from multiple field studies, policy evaluations or other natural settings
    - o Available answers for causal claims: No evidence, only opinions, perspectives, general theory or anecdotes; Some correlational evidence (laboratories, surveys, online, field); Some causal evidence but in limited settings (laboratories, surveys, and online, self-reported measures); Causal evidence in a field study; Replicated causal evidence from field studies; Wide-scale causal evidence from multiple field studies, policy evaluations or other natural settings.

(Note that participants were clearly informed about the transition from background claims to causal claims and vice versa. Moreover, after careful consideration within the core group, we decided to allow multiple answers for this question to avoid forcing participants to rank the level of evidence.)

- Please use this space to share any comments you would like us to consider when writing the paper. We would greatly appreciate it if you could include a link or citation to the studies you believe provide the highest level of evidence regarding this claim.

Participants were encouraged to skip questions if they felt unqualified to comment.

Finally, participants were asked to provide several demographic details (such as whether they hold a PhD, their primary field of research, and whether they are parents) and personal information (including first name, middle initial, last name, affiliation, email address, and ORCID). After careful consideration, we decided not to include gender among the demographic questions (although it would have provided useful information), as we also asked participants to provide their names and wanted to avoid putting anyone in a position where they might feel forced to publicly disclose sensitive personal information. The distribution of demographic details is provided in Supplementary Section S3.

Launch

The survey was personally sent to 229 experts in the field. This list includes well-known experts on the impact of social media on adolescent mental health, as well as many authors of articles that are directly related to the survey's topic. Additionally, the survey was posted on several technical forums, such as the SPSP (Society for Personality and Social Psychology), the SJDM (Society for Judgment and Decision Making), and the ESA (Economic Science Association) forums.

Analysis

The first author reviewed all responses to the claims. For the first three questions, he calculated the frequency of each potential answer, which is documented in Table S7. The code for replicating these results is available on the OSF page. Table S7 also includes responses split by whether respondents chose to remain anonymous, whether they self-reported holding a PhD, and whether they reported being a parent. The open-ended responses were condensed by the first author into a preliminary consensus statement, a text reviewing the literature and structurally resembling the final consensus statements presented in Supplementary Section S5. Next, the remainder of the Review Team analysed the results of Survey 1 and the summaries of each claim to verify the accuracy of the summaries in representing the responses. Where necessary, they offered suggestions for improvement or identified inaccuracies. The final decisions were made by the first author. This process created a feedback loop, enabling the Review Team to refine and converge on the "proposed consensus statements" presented in Survey 2.

Survey 2

Structure

Survey 2 began with a welcoming screen that introduced participants to the objectives of the second survey. Experts were then asked to provide their name and email address. Subsequently, they were presented with the 26 proposed consensus statements—developed by the Review Team by synthesizing the results of Survey 1—along with a reminder of the corresponding claim. These statements were displayed in random order. For each statement, experts were asked to respond to two questions:

- "To what extent do you believe this statement represents an accurate description of the current state of knowledge regarding this claim?" (Available answers: inaccurate, somewhat inaccurate, I don't know, somewhat accurate, accurate). Participants were encouraged to select "I don't know" or leave the response blank if they did not feel competent to answer.

- "Is there anything factually incorrect or significantly ambiguous that needs to be corrected? If yes, please explain and provide academic evidence to support your point." (This was an open-ended question.)

Launch

The survey was sent directly to the same list of 229 experts who received Survey 1, as well as to all experts who responded to Survey 1 via forums and provided their contact information.

Analysis

The first author reviewed all responses and revised the consensus statements based on the feedback received. Every "critical comment" (defined as any comment accompanied by an "inaccurate" or "somewhat inaccurate" rating) was addressed either by incorporating the feedback or by providing a rebuttal. For each consensus statement, a document was prepared that included the previous version, the critical comments, responses to these comments, and a provisional proposed revised version. This document was then shared with the Review Team, with at least one member evaluating each document and suggesting improvements if necessary. Several authors of critical comments were invited to join the Review Team to ensure that critical perspectives were adequately addressed. This iterative feedback loop led to the final proposed revised consensus statements, which were subsequently sent back to the Expert Panel in Survey 3. The documents including the previous versions of the consensus statements, the list of critical comments and proposed changes, and the proposed revised versions of the consensus statements were made available to respondents to Survey 3. We also make it publicly available in the OSF page of this article.

Survey 3

Structure

The third survey was very similar to the previous survey, with some modifications:

- At the beginning of the survey, we included the same definitions used in Survey 1. This change was implemented after analysing Survey 2 responses, which revealed that some experts participated in Survey 2 without completing Survey 1 and, consequently, were not familiar with the exact definitions—potentially causing confusion.

- We clarified that accuracy ratings should be assigned to the consensus statements, not the underlying claims. This clarification was necessary because some experts appeared to be rating the accuracy of the claims instead of the statements.

- The consensus statements were presented in sequential order rather than in random order. We made this change because analysis of Survey 2 responses suggested that the random order might have contributed to confusion.

Launch

The survey was distributed to the same list of 229 experts who received Survey 1 (excluding one expert who declined further participation) and to all experts who had responded to either Survey 1 or Survey 2 and provided their contact information.

Analysis

The analysis procedure was identical to that used in the previous survey. The first author reviewed all the responses and revised the consensus statements addressing the critical comments when applicable, and then submitted the previous version of the consensus statements, the list of critical comments with proposed responses, and the proposed revised consensus statement to the Review Team for feedback. Once again, several authors of critical comments were invited to join the Review Team. The revised consensus statements were then forwarded to the Expert Panel in Survey 4. The documents including the previous versions of the consensus statements, the list of critical comments and proposed changes, and the proposed revised versions of the consensus statements were made available to respondents to Survey 4. We also make it publicly available in the OSF page of this article.

Survey 4

Structure

The fourth survey was very similar to the previous survey, with the following modifications:

- We explicitly stated, in the introductory screen, that, "**unlike previous rounds** [original bold], any factual errors or significant ambiguities you identify in the statements—provided they are supported by scientific evidence—will not be used to revise the statements; instead, they will be reported directly in the final paper". A similar sentence was included also within each claim. This clarification was introduced to encourage experts to maintain a rigorous, scientific perspective.

Launch

The survey was distributed to the same list of 229 experts who received Survey 1 (excluding three experts who declined further participation) and to all experts who had responded to either Survey 1 or Survey 2 or Survey 3 and provided their contact information.

Analysis

For each claim, we computed a combined accuracy score by summing the "accurate" and "somewhat accurate" responses and dividing this total by the overall number of responses, after excluding "I don't know" responses (Lazarus et al., 2022). Excluding these "I don't know" responses helped ensure that the consensus was based on views of only experts who were knowledgeable about the specific claim. These scores are presented in Table 2. Bar charts including the frequency of all the responses are reported in the Supplementary Section S6. Supplementary Table S8 reports the frequency of each response for the full sample, as well as separately for experts who were invited to join the Expert Panel versus those who were not, those who completed the survey anonymously versus those who did not, those who reported having a PhD in Survey 1 versus those who did not, and those who reported being parents in Survey 1 versus those who were not. Critical comments supported by scientific evidence are reported, with minimal editing, in the "evidence-based critical comments to the final consensus statement" column of Table 2, while all other critical comments are reported in Supplementary Section S7.

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Authors contributions

VC, LKG, SR, JVB conceived the project. VC, LKG, ZR, SR, ASW, JAO, EK, JH, JVB designed the methodology. RMR helped in the design of the methodology. VC, LKG, ZR, ASW, JAO, RMR, and authors from SA to SW helped in the Review Team. Authors from EAJ to LZ participated in at least one round of the Delphi process. VC wrote the first draft of the paper. All authors reviewed the manuscript.

Competing interests

Laura K. Globig reports supported by a grant from Google Inc., a grant from the Roddenberry Foundation, and the Dana Foundation. Zach Rausch reports he is Jonathan Haidt's chief researcher. Steve Rathje reports: "provided consulting for the state of New Mexico regarding a case related to Meta". Robert M. Ross. discloses support for the research of this work from the John Templeton Foundation [grant number 62631]. Kaitlyn Burnell reports: "has served as a paid consultant on social media litigation". Anne Maheux reports: "I am supported in

part by the Winston Family Foundation." Dylan Selterman reports: "I was hired by Snap Inc. in 2024 to provide expert consultation with regards to the science of social media use and well-being as part of ongoing litigation." Jon-Patrick Allem reports: "I have received fees for consulting services in court cases involving social media content. I have no other conflicts of interest to disclose." Gaia Bernstein reports: "Board Member Fairplay for Kids". Sarah Domoff reports: "Dr. Domoff was on the board of the Smart Gen Society until May 2024. In 2023, Dr. Domoff consulted with Pixel Digital Health, LLC, on their school-based prevention curriculum." Matthew Gentzkow reports: "In the past five years, Matthew Gentzkow has been a paid consultant for Amazon and done economic consulting for Analysis Group and Compass Lexecon. Clients for this economic consulting work include Facebook and Google. In this period he has received compensation as a member of the Toulouse Network for Information Technology, a research group funded in part by Microsoft, and as a member of a review panel for the Sloan Foundation." Lauren Hale reports: "Scientific Advisory Board (voluntary) of the Children and Screens: Institute of Digital Media and Child Development; Good Night Advisory Council (voluntary) of the Pajama Program; Honoraria from National Sleep Foundation; Honoraria from Children and Screens Institute of Digital Media and Child Development; Expert witness; Research support from Stephen and Pamela Della Pietra Family Foundation" Ro'ee Levy reports: "I am an unpaid member of Facebook's 2020 Election Research Project." Dr. Potenza reports: "no conflicts of interest with respect to the content of this manuscript. Dr. Potenza discloses that he has consulted for and advised Baria-Tek and Boehringer Ingelheim; been involved in a patent application with Yale University and Novartis; received research support from the Mohegan Sun Casino and the Connecticut Council on Problem Gambling; consulted for or advised legal, non-profit, healthcare and gambling entities on issues related to impulse control, internet use and addictive behaviors; performed grant reviews; edited journals/journal sections; given academic lectures in grand rounds, CME events, and other clinical/scientific venues; and generated books or chapters for publishers of mental health texts." Johannes Thrul reports: "no conflicts of interest, but for transparency notes that he is the PI of a research grant on digital wellbeing from Aramco Services Company, a subsidiary of Saudi Aramco." Pamela Rutledge reports: "Unpaid participation in a free educational monthly webinar/podcast discussing digital literacy for parents and teachers." Elisa Wegmann reports: "I have no conflict of interest with regard to the current publication. My work is partly funded by the German Research Foundation (DFG)." Ethan Kross reports: "Kross received a grant from Facebook to fund research several years ago". Jonathan Haidt declares that he is the author of the book used to develop the claims examined in this article. Jay Van Bavel reports: "has received funding from Google Jigsaw, has consulted for Microsoft News (MSN), and has participated in expert testimony for the state of New Mexico in a case related to Meta." The other authors did not declare conflicts of interests.

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Supplementary Information

Section S1. Theoretical framework and selection of the claims

In constructing the theoretical framework, the Claim Development Team drew upon Jonathan Haidt's book *The Anxious Generation* (Haidt, 2024). Garnering significant attention from the popular media and policy stakeholders, the book contends that a decline in adolescent mental health, more pronounced for girls compared to boys, began in the early 2010s and is being driven by rising overprotection in the offline world (best characterized by a lack of childhood independence, free play, and responsibility) and underprotection online (best characterized by heavy smartphone and social media use).

Haidt argues that smartphone and social media use can cause four foundational harms that affect both boys and girls: sleep deprivation, social deprivation, attention fragmentation, and behavioural addiction, all of which can have detrimental effects on mental health (see the Methods section for the definitions used in this work).

Haidt contends that there are a number of reasons why social media harms girls more than boys. He suggests that girls use visual social media more than boys, which can lead to a range of hypothesized negative outcomes. In particular, he claims that among girls, social media increases (1) visual social comparison, (2) perfectionism, (3) relational aggression, (4) exposure to mental disorders, and (5) risk for online predation and sexual harassment.

For boys, Haidt contends that the decline in mental health is driven by a combination of heavy social media use, online video games, and pornography that facilitate a withdrawal from healthy and necessary engagement in the offline world. However, in this consensus statement we do not address boys' pathways. This decision was influenced by the understanding that addressing all theoretical pathways of harm for both girls and boys plus an examination of non-digital media harms would significantly extend the surveys and potentially increase participant dropout rates.

The Claim Development Team formulated 26 claims. The first seven claims focus on longitudinal trends in adolescent mental health and childhood behaviour. These claims were designed to test Haidt's assertions about the timing and scope of the hypothesized decline of youth mental health. For example, Claim 1 states, "Over the last two decades, there has been a decline in mental health among adolescents in the USA".

The next eight claims (Claim 8-15) spell out the four foundational harms by which social media might cause a decline in the mental health of both adolescent boys and girls. For instance, "Heavy daily use of smartphones and social media can cause sleep deprivation," followed by, "Chronic sleep deprivation can cause a decline in mental health." These causal claims directly address the harm pathways as outlined by Haidt, linking the use of smartphones and social media to adolescent mental health declines. The inclusion of both smartphones and social media in the claims aligns closely with Haidt's work, which posits that the combination of these technologies allows many adolescents to remain "almost

constantly" connected, thereby contributing to deteriorating mental health. Figure S1 visually represents the four pathways.

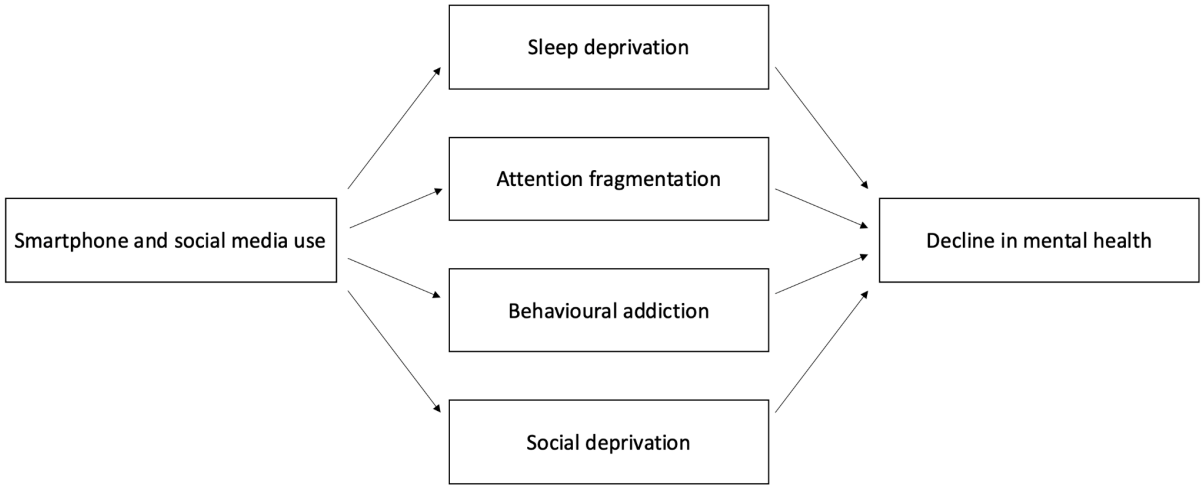

Figure S1. Mechanisms through which smartphones and social media can cause a decline in mental health among adolescent boys and girls, proposed by Haidt (2024).

Next, the Claim Development Team incorporated the gender-related aspects of the theory that are relevant for girls' social media use, as outlined by Haidt. The 16th claim states that "Adolescent girls use visual social media platforms (e.g., TikTok and Instagram) more than adolescent boys." This claim helps set the stage for understanding why girls might be more susceptible to the negative impacts of some social media platforms. Following this, the Claim Development Team introduced five causal claims (Claim 17-21) that articulated the additional potential pathways through which social media may increase the risk of harm to girls. These pathways are: increased social comparison and perfectionism, wherein girls are more likely than boys to measure their self-worth against idealized and unattainable images; increased relational aggression, as online interactions can foster or exacerbate bullying behaviours; enhanced exposure to mental disorders, where the visibility of mental health issues might normalize or even glamorize such conditions, potentially increasing their spread; and finally, an increased risk of sexual predation, given the vulnerability of young girls in digital spaces. Figure S2 visually represents these mechanisms.

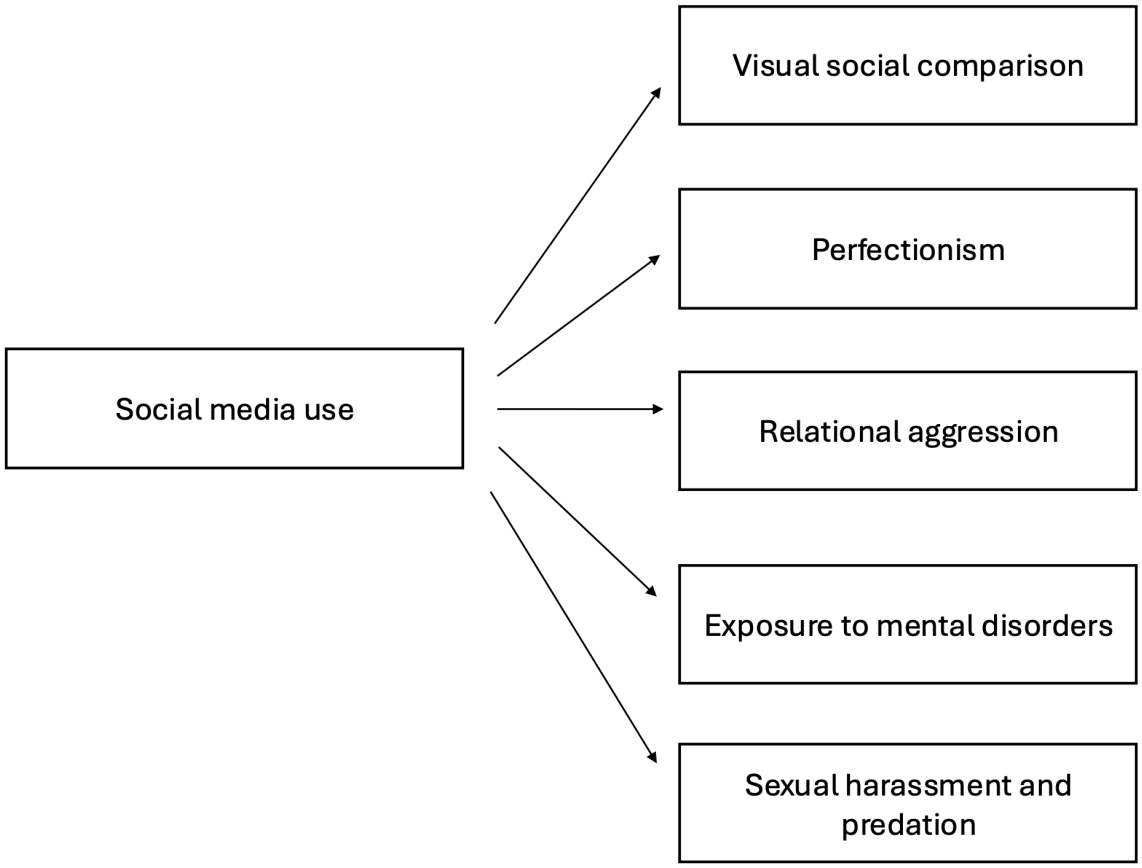

Figure S2. Mechanisms through which social media may cause mental health problems among adolescent girls, proposed by Haidt (2024).

The third segment of the survey focuses on Haidt's suggested policy recommendations. First, two background claims (Claims 22-23) assess adolescents' and parents' opinions that could affect the effectiveness of these policy suggestions. For instance, Claim 22 posits that "At least one third of US college students would prefer for social media platforms to simply not exist." This claim measures a societal readiness for interventions aimed at mitigating early exposure to digital devices and its wording could be easily adapted for other countries. Claims 22-23 are contextualized within the United States due to the necessity of choosing a national context of reference, and at the time the only relevant survey was US-based (Harris Poll, 2024).

Finally, three causal claims (Claim 24-26) explore three popular recommendations: to delay smartphone ownership until high school, to delay social media access until the age of 16 years, and to ban smartphones from schools. The focus is placed on the anticipated effects of each of these policy recommendations on adolescents' mental health. For example, Claim 24 states, "If most parents waited until their children were in high school to give them their first smartphones, it would benefit the mental health of adolescents overall. (Parents would give only basic phones or flip phones before high school)." The 26 claims, divided by claim categories, are listed in the main text, Table 1.

Section S2. Glossary of terms used in the manuscript.

Glossary	
Term	**Meaning**
Core Group	The group of researchers who originally conceived the project and oversaw its execution: Valerio Capraro, Laura Globig, Steve Rathje, and Jay Van Bavel.
Claim Development Team	The group of researchers responsible for developing the claims based on Haidt's *The Anxious Generation* and for creating all four surveys: Valerio Capraro, Laura Globig, Steve Rathje, Zach Rausch, Alexandra Wormley, Jay Olson, Ethan Kross, Jean Twenge, Jonathan Haidt, and Jay Van Bavel.
Review Team	The group of researchers responsible for organizing the material received in Survey 1, Survey 2, and Survey 3 into consensus statements. The full list of participants is available in Figure 1 in the main text. This group was led by Valerio Capraro, who wrote the first draft of each consensus statement and solicited feedback from at least one member of the Review Team—typically someone who had provided critical comments—to ensure the final version accurately reflected all key critiques.
Expert Panel	Group of researchers who were invited to take the surveys. This group consists of 288 experts. The full list of participants is available on the OSF page associated with this article.
Claims	Twenty-six propositions concerning youth mental health, the impact of social media on mental health, and policy proposals which were submitted for expert evaluation in Survey 1.
Survey 1	A survey in which experts evaluated 26 claims by responding to four questions: "beliefs," "alignment,"

	"level," and "references" (see details below).
"Beliefs" question	"What do you think about this claim?" (Available answers: I think this claim is probably true; I think this claim is probably false; I have no idea whether this claim is true or false).
"Alignment" question	"To the best of your knowledge, how does the empirical evidence align with this claim?" (Available answers: To the extent that there is empirical evidence, it contradicts the claim; To the extent that there is empirical evidence, it supports the claim; The empirical evidence is mixed and unclear; I am not aware of any empirical evidence regarding this claim).
"Level" question	"To the best of your knowledge, what is the level of evidence regarding this claim?" (Available answers depend on the claim, see Methods).
"References" question	An open-ended question inviting experts to suggest references supporting their responses to the previous questions.
Consensus statement	A synthesis written by the "Review Team" that summarizes the responses to the "beliefs," "alignment," and "level" questions, along with a narrative review of the responses to the "references" question.
Surveys 2, 3, 4	Subsequent surveys in which, for each consensus statement, experts answered two questions: "accuracy" and "critiques".
"Accuracy" question	"To what extent do you believe the statement represents an accurate description of the current state of knowledge regarding the claim?" (Available answers: Inaccurate, Somewhat inaccurate, I don't know, Somewhat accurate, Accurate)
"Critiques" question	An open-ended question asking experts to identify any factual inaccuracies or significant ambiguities in the consensus statement. If issues are noted, experts are requested to supply references.
Combined accuracy	For each claim, this metric represents the number of

	experts who rated the statement as “accurate” or “somewhat accurate”, divided by the number of experts who rated the statement as “inaccurate”, “somewhat inaccurate”, “somewhat accurate”, and “accurate”.
Critical comment	A comment associated with an accuracy rating of 1 (“inaccurate”) or 2 (“somewhat inaccurate”). These comments were used iteratively to refine the consensus statements.
Evidence-based critical comment	A critical comment that contained at least one reference.

Table S1. Glossary of the terms used to describe the key elements of the process.

Section S3. Detailed information about the Expert Sample

Nomination of experts

Experts were nominated by members of the Claim Development Team and by early respondents to Survey 1, who were personally contacted to suggest further experts. The term "expert" was not explicitly defined. Instead, we left it to the interpretation of the nominators to decide how to operationalize it. For example, some nominators suggested well-known researchers in one of the relevant fields, while others searched Google Scholar for authors of papers related to the topic. From the context of the nomination process, it seems clear that "experts" were understood to be individuals with expertise in social media and/or mental health. We include here two sample emails where nominators were asked to suggest experts. A total of 288 experts were invited to take at least one survey. The list of experts is reported at the OSF link.

Email #1

The following is an excerpt from an email sent by Valerio Capraro to Laura Globig, Steve Rathje and Jay Van Bavel on October 17, 2024.

" [...] Finally, as you may remember, I'm compiling a list of scholars to whom we could send the survey directly. Please let me know if there are any additional names you would like to add."

Email #2

The following email was sent by Valerio Capraro to Vincent Paquin, one of the early responders of Survey 1, on October 30, 2024. A similar email was sent to several other early responders.

"Dear Vincent,

Thank you very much once again for completing the survey on the impact of social media on mental health. As mentioned, we'll be in touch shortly after the November 15 deadline with details on the next steps.

In the meantime, we wanted to ask if there are any other experts you would recommend inviting to join the project. We believe the impact of the project will greatly depend on the breadth of the consensus we are able to build, so we're reaching out to participants for suggestions. If you have any names in mind, please let us know.

Best,
Valerio"

Personal information of the experts

In Survey 1, we collected the following information regarding the respondents:

- whether they hold a PhD
- areas of research
- whether they are parents
- affiliation

Table S2 lists the primary areas of research self-reported by experts in Survey 1, as well as those matched across Survey 1 and Survey 4.

Primary areas of research: Survey 1	**Primary areas of research: Both Survey 1 and Survey 4**
Addiction and Mental Health	Addiction and Mental Health
addictions (addiction psychiatry), behavioral addiction, problematic usage of the internet	addictions (addiction psychiatry), behavioral addiction, problematic usage of the internet
Adolescence, school, violence, radicalization, digital media, mental health, positive youth development	Adolescence, school, violence, radicalization, digital media, mental health, positive youth development
Adolescents, Social media, and Mental Health; Designing Media to support children's learning and well-being; Children, Adolescents, and the Media more generally.	Adolescents, Social media, and Mental Health; Designing Media to support children's learning and well-being; Children, Adolescents, and the Media more generally.
Attention, cognitive control, multitasking, ADHD	Attention, cognitive control, multitasking, ADHD
behavior and health economics	behavior and health economics
behavioral decision research / cognitive psychology	behavioral decision research / cognitive psychology
Behavioral Economics	Behavioral Economics
Behavioral Economics. Experimental Economics, Gender	Behavioral Economics. Experimental Economics, Gender
behavioral economist; machine learning	behavioral economist; machine learning
Behavioral Science	Behavioral Science
Bioecological and Neo-ecological Theory, Parent-Child Relationships, Digital Parental Mediation	Bioecological and Neo-ecological Theory, Parent-Child Relationships, Digital Parental Mediation
Body Image	Body Image
children and media, assessment and measurement, public health	children and media, assessment and measurement, public health
children and screens	children and screens

Children, aggression, technology	Children, aggression, technology
Clinical and developmental psychology, developmental psychopathology	Clinical and developmental psychology, developmental psychopathology
Cognitive Neuroscience, Decision Making	Cognitive Neuroscience, Decision Making
Cognitive Neurosience (Social Neuroscience)	Cognitive Neurosience (Social Neuroscience)
Consumer Behavior, Marketing	Consumer Behavior, Marketing
Consumer psychology	Consumer psychology
Consumer psychology (self-identity, materialism, self-threat)	Consumer psychology (self-identity, materialism, self-threat)
Consumer well-being, marketing, social media usage	Consumer well-being, marketing, social media usage
corporate influences on public health, Tobacco Control, Adolescent Health, Social Media, Media Effects, Health Communication	corporate influences on public health, Tobacco Control, Adolescent Health, Social Media, Media Effects, Health Communication
Cyberbullying, online grooming, social media, vulnerable groups, digital literacy	Cyberbullying, online grooming, social media, vulnerable groups, digital literacy
Cyberpsychology, Psychopathology, Addiction	Cyberpsychology, Psychopathology, Addiction
Decision making, Learning, Use of Incentives	Decision making, Learning, Use of Incentives
developmental neuropsychiatry	developmental neuropsychiatry
Developmental Psychology	Developmental Psychology
developmental psychology, adolescence, social media, gender, methods	developmental psychology, adolescence, social media, gender, methods
Developmental Psychopathology. Evolutionary Psychopathology.	Developmental Psychopathology. Evolutionary Psychopathology.
Digital and social media use in children and adolescents - in association with health outcomes and health-related behaviors	Digital and social media use in children and adolescents - in association with health outcomes and health-related behaviors
Digital culture and mental health	Digital culture and mental health
digital mental health, social media & mental health, computational psychiatry	digital mental health, social media & mental health, computational psychiatry
eating disorders, prevention, early intervention, social media	eating disorders, prevention, early intervention, social media
Economics	Economics
Economics of digitization, social media, political economy	Economics of digitization, social media, political economy
Education, Economics	Education, Economics
Expectations, mental health awareness, placebo effect, nocebo effect	Expectations, mental health awareness, placebo effect, nocebo effect
I am mainly a clinician and I supervise upper level clinical psychology graduates students treating adolescents aged 12-19. My research background was in psychophysiology, health psychology, and psychosomatic medicine.	I am mainly a clinician and I supervise upper level clinical psychology graduates students treating adolescents aged 12-19. My research background was in psychophysiology, health psychology, and psychosomatic medicine.

I do translational work on the effects of screen media on the mental health of youth	I do translational work on the effects of screen media on the mental health of youth
Interventions for SMI (psychosis and personality disorders), social media and body image, motivation for treatment	Interventions for SMI (psychosis and personality disorders), social media and body image, motivation for treatment
judgment & decision making, personality, (anti-)social behavior	judgment & decision making, personality, (anti-)social behavior
Learning, Behaviour, Digital Usage, Health	Learning, Behaviour, Digital Usage, Health
Media economics, Behavioral economics, and political economy	Media economics, Behavioral economics, and political economy
Media effects on child and adolescent development; gender; body image; mental health	Media effects on child and adolescent development; gender; body image; mental health
Media psychology	Media psychology
media psychology	media psychology
Media Psychology	Media Psychology
media psychology, health communication, adolescents and media, video games	media psychology, health communication, adolescents and media, video games
Media Psychology, Social Psychology, Self and Identity.	Media Psychology, Social Psychology, Self and Identity.
Media, technology	Media, technology
Mental health influencers on social media; emotion language in therapeutic contexts; building resilience to psychopathology in young adults; mental health identity	Mental health influencers on social media; emotion language in therapeutic contexts; building resilience to psychopathology in young adults; mental health identity
narratives, digital media, marketing	narratives, digital media, marketing
Positive Media Psychology, I study the way new media and traditional media impact our well-being, broadly speaking	Positive Media Psychology, I study the way new media and traditional media impact our well-being, broadly speaking
problematic media use	problematic media use
psychology, video games, media effects	psychology, video games, media effects
Public Health/Demography/Sleep Health	Public Health/Demography/Sleep Health
Public mental health; health psychology; behavioral intervention	Public mental health; health psychology; behavioral intervention
social and IO psych; management & leadership	social and IO psych; management & leadership
Social disconnection (i.e. isolation, loneliness, lack of social support), JDM	Social disconnection (i.e. isolation, loneliness, lack of social support), JDM
Social identity, health, online behavior	Social identity, health, online behavior
Social media and body image; Social impact of digital media; media effects	Social media and body image; Social impact of digital media; media effects
Social media and issues affecting women/girls	Social media and issues affecting women/girls
social media and mental health; social media and self-regulation; social comparison, materialism and narcissism	social media and mental health; social media and self-regulation; social comparison, materialism and narcissism

social media effects in relation to mental health and attention	social media effects in relation to mental health and attention
Social media use & Well-being/Health; Social support	Social media use & Well-being/Health; Social support
Social media, body image, and mental health.	social media, mental health, and development
social media, mental health, and development	Social psychology
Social psychology	Social Psychology
Social Psychology	Social Psychology, Social Neuroscience
Social Psychology, Social Neuroscience	Social-Personality Psychology
Social-Personality Psychology	sociology
sociology	Substance use, addiction, mental health, digital and mobile health
Substance use, addiction, mental health, digital and mobile health	Transcultural psychiatry, cognitive anthropology, adolescent and young adult mental health, social polarization and violent radicalization
Transcultural psychiatry, cognitive anthropology, adolescent and young adult mental health, social polarization and violent radicalization	youth anxiety; implementation science
youth anxiety; implementation science	Youth digital media use; parental media literacy; adolescent substance use; early childhood adversity
Youth digital media use; parental media literacy; adolescent substance use; early childhood adversity	Youth mental health outcomes in Australia; suicide geography
Youth mental health outcomes in Australia; suicide geography	youth mental health, implementation science
youth mental health, implementation science	
Behavioral interventions, Human-Computer Interaction	
Behavioral Science. I studied cellphone use on sleep as part of one of my subjects in a Masters degree.	
Belief-Updating, Social Learning, Organizational Learning	
Economics	
Marketing	
OB/social psychology	
Problematic digital media use, adolescence	
Psychology	
Public Health	
Social media and mental health, Suicide prevention, neurodevelopmental conditions	
Social Psychology	
Youth	

Table S1. Lists the primary areas of research self-reported by experts in Survey 1, as well as those matched across Survey 1 and Survey 4.

To give more detail on our expert sample, we compiled two additional tables: Table S2 lists department affiliations, and Table S3 shows participants' countries. These tables include all authors (excluding the Core Group) and any experts who took part in at least one survey and agreed to have their names listed in the acknowledgments.

Expert department/school	Discipline	Frequency
Department of Management	Business and Management	15
Business School		
Department of Decision Sciences		
Department of Marketing (x4)		
Marketing		
Ross School of Business		
School of Business (x2)		
School of Management (x2)		
School of Business (x2)		
Anti-Bullying Centre	Center or Institute	12
Behavioural Science Institute		
Center for Heterodox Social Science (x2)		
Center on Juvenile and Criminal Justice		
Flinders University Institute for Mental Health and Wellbeing (x2)		
Institute for Evidence in Medicine		
Instituto de Investigaciones Psicológicas		
Massachusetts Aggression Reduction Center		
Sapien Labs		
The Telos Project		
Department of Family Medicine	Child and Family	4

Department of Child and Family Studies		
Department of Family		
School of Family Life		
Media Psychology Lab	Communication and Media	15
School of Communication Research		
Department of Communication (x6)		
Department of Communication Science		
Department of Marketing (x2)		
Department of Marketing Communication		
Department of Media		
Department of Media and Information		
School of Communication		
Department for Economy and Health	Economics	10
Department of Economics (x5)		
Department of Economics and Business Administration		
Department of Economics and Law		
Department of Political Economy		
School of Economics		
Département de psychopédagogie et d'andragogie	Education	3
Graduate School of Education (x2)		
College of Medicine and Public Health	Health Sciences	15
Department of Biomedical and Clinical Sciences		
Department of Biomedical Sciences		
Department of Epidemiology and Biostatistics		
Department of Health Administration and Public Health		
Department of Health and Functioning		
Department of Health Behavior		
Department of Medicine		

Department of Public Health		
Health Policy and Economics		
School of Medicine (x3)		
School of Public Health (x2)		
School of Law	Law	1
Department of Psychiatry (x2)	Psychiatry	5
Department of Psychiatry and Behavioral Sciences		
Hartford Hospital		
Washington Interventional Psychiatry		
Department of Clinical and Health Psychology	Psychology	40
Department of Clinical Psychology		
Department of Counseling and Educational Psychology		
Department of Communication and Psychology		
Department of General Psychology: Cognition		
Department of Psychological and Behavioural Science		
Department of Psychology (x24)		
Department of Psychology and Brain Sciences		
Department of Psychology and Neuroscience (x3)		
Media Psychology Research Center		
Psychology Department		
Psychology Discipline		
School of Psychology		
School of Psychological Science		
School of Psychological Sciences		
Department of Philosophy	Social Science	9
Department of Human Service		
Department of Humanities		
Department of Medical Social Sciences		

Department of Social Science and Policy Studies		
Faculty of Social Sciences		
Human Service Studies		
Macedonian Academy of Sciences and Arts		
School of Social and Political Science		
Department of Computer Science	Technology and Information	4
Information School		
School of Information & Goldman School of Public Policy		
School of Interacting Computing		
Total		133

Table S3. Expert affiliations, grouped by discipline.

Country/State	**Frequency**
Argentina	1
Australia	10
Austria	1
Belgium	1
Canada	12
China	1
Czech Republic	1
Denmark	1
France	1
Germany	6
Ireland	1
Israel	3
Italy	4
North Macedonia	1
Norway	1

Poland	1
Spain	2
The Netherlands	4
United Kingdom	9
USA	72
Total	133

Table S4. Country of expert affiliations.

In Table S5, we report the proportions of respondents who self-identified as holding a PhD and as being parents, both for Survey 1 and Survey 4.

	PhD	**Parent**
Survey 1	85.6% (89/104)	61.1% (66/108)
Both Survey 1 and Survey 4	85.9% (67/78)	57.0% (45/79)

Table S5. Percentage of experts with a PhD and of those who are parents, in Survey 1 and among those who completed both Survey 1 and Survey 4. Experts who left these questions unanswered are excluded from this analysis.

Section S4. Response rates, attrition, and anonymous responses

Response rate across surveys. Estimating the number of experts who participated in our surveys is challenging, as participants were free to skip questions they felt unqualified to answer. To estimate the response rate for Survey 1, we used the average number of responses to the "beliefs" questions, which were the most consistently answered. The "alignment" questions yielded a very similar average, while responses to the "level" questions were lower, because no "I don't know" option was provided. The "beliefs" questions in Survey 1 were evaluated by an average of 110.5 experts. To estimate the response rate to the final survey, we considered the average number of responses to the "accuracy" questions. These questions received a response from 121.7 experts on average. This indicates a modest increase in the response rate across surveys.

Attrition. In each Delphi round, less than a dozen experts dropped out and did not return in subsequent rounds (9 experts in Survey 1, 9 experts in Survey 2, 5 experts in Survey 3), while others joined. These numbers should be interpreted with some caution, as Surveys 2 and 3 included one anonymous response each, and Survey 4 included four anonymous responses. It is therefore possible that some apparent dropouts may have continued participating anonymously. Additionally, 6 experts dropped out during the reviewing phase of the article. Although attrition per round was below 10%, the cumulative attrition rate approached 25%, potentially biasing the results if experts expressing critical views were more likely to drop out.

Therefore, here we compare the distribution of accuracy ratings for experts who dropped out with those who remained. Accuracy ratings were collected only in Surveys 2, 3, and 4, therefore this analysis focuses on dropouts from Survey 2, Survey 3, and the reviewing phase. For this analysis, we exclude anonymous respondents, because we cannot know whether they dropped out or not. We discuss this caveat below.

Table S6 reports the mean accuracy (with standard error in brackets) and accuracy interval for both groups. We focus on these two metrics because we interpret (i) mean accuracy as a proxy for how critical the experts in each group are on average, (ii) the accuracy interval as a proxy of the breadth of critical viewpoints represented within each group.

	Average accuracy		Interval of accuracy	
	Remained	Dropped	Remained	Dropped
From Survey 2 to Survey 3	4.42 (0.04)	3.55 (0.30)	[3, 5]	[2.42, 5]
From Survey 3 to Survey 4	4.58 (0.04)	4.08 (0.27)	[2.46,5]	[3.35,5]
Reviewing phase	4.68 (0.04)	4.55 (0.20)	[2.42,1]	[3.88,5]

Table S6. Average accuracy ratings (with standard errors in brackets) and accuracy intervals for experts who dropped out versus those who remained.

A two‑sample Wilcoxon–Mann–Whitney U test shows that the experts who dropped out from Survey 2 to Survey 3 had significantly lower accuracy ratings than those who remained ($p = 0.004$). Experts who dropped out from Survey 3 to Survey 4 had slightly lower accuracy ratings than those who remained, but the difference did not reach conventional significance ($p = 0.068$). Experts who dropped out during the reviewing process also had slightly lower accuracy ratings than those who remained, but the difference was far from statistical significance ($p = 0.50$). This analysis suggests that more critical voices have been somewhat more likely to drop out, especially in Survey 2. However, it is important to highlight that two major caveats apply. First, some apparent dropouts may have participated anonymously in later surveys. This would underestimate the mean rating for dropouts, while overestimating it for remainers. Second, even if certain critical experts actually dropped out (as is likely the case), subsequent revisions of the consensus statements explicitly addressed their concerns, and we cannot know how they would have rated the finalized statements.

Additionally, the accuracy intervals for dropouts closely resemble those of remaining experts. In fact, from Survey 3 to Survey 4 and again during the reviewing process, the accuracy interval for remaining experts is actually wider than the dropout interval—encompassing critical views (mean rating < 3), which the dropout interval does not. Moreover, the accuracy interval for remainers in Survey 3 and during the reviewing process is remarkably similar to the accuracy interval for dropouts in Survey 2.

In sum, although experts with a critical viewpoint may have been somewhat more likely to drop out, especially in Survey 2, there is no evidence that their critical views are not represented in the final consensus statements.

Anonymous responses. Additional insights come from anonymous responses. In Survey 2 and Survey 3, there was one anonymous respondent each, while in Survey 4 there were four. Although the small number of anonymous participants prevents any statistical conclusions, visual inspection suggests that some of these responses were particularly critical. The average accuracy rating from the anonymous respondent in Survey 2 was 1.69. Importantly, this respondent also provided several critical comments that were used to refine the subsequent consensus statements. Similarly, the anonymous respondent in Survey 3 gave an average rating of 1.46, and in Survey 4, the lowest average rating among the four anonymous participants was 1.38. Again, their critical comments were used either to revise the subsequent consensus statements or, in the case of Survey 4, are included in the list of critical comments (see Table 3 and Supplementary Section 6). This offers additional support for the conclusion that the consensus statement captures a broad range of viewpoints, including those that are highly skeptical. Notably, consistently low scores from anonymous participants did not stem from unresolved earlier concerns but rather from the introduction of new criticisms. For example, the comment “Adolescent self-report is unreliable [(Scheeringa, 2025)]”, was submitted three times toward the end of the Delphi process, yet had not been raised in any previous rounds. To ensure transparency, we have made all intermediate stages publicly

accessible on the associated OSF page, including critical comments from Surveys 2 and 3, our replies and proposed revisions.

Section S4. Detailed results of Survey 1

Table S7. Responses to the "beliefs", "direction", and "level" questions without any restriction (as in the main text), dividing participants between those who took the survey anonymously and those who did not, dividing participants between those who report having a PhD and those who don't, dividing participants between those who reported having a PhD or not, and dividing participants between those who reported being parents or not. In the first column of the table, we provide a brief reminder of each claim. For the exact wording, we refer to the previous section or to the main text. The acronym MH stands for "mental health".

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
Claim 1 MH declines in USA	Beliefs	Probably yes	90.98%	87.50%	92.47%	93.18%	86.67%	90.91%	95.12%
		Probably no	3.76%	7.50%	2.15%	2.27%	6.67%	4.55%	0.00%
		Don't know	5.26%	5.00%	5.38%	4.55%	6.67%	4.55%	4.88%
	Direction	Against	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		Support	87.22%	80.49%	90.22%	86.21%	93.33%	87.88%	87.50%
		Mixed	11.28%	19.51%	7.61%	11.49%	6.67%	10.61%	10.00%
		Unaware	1.50%	0.00%	2.17%	2.30%	0.00%	1.52%	2.50%
	Evidence	No evidence	1.54%	5.13%	0.00%	1.16%	0.00%	1.54%	0.00%
		Empirical	37.69%	48.72%	32.97%	39.53%	20.00%	32.31%	42.50%
		Field	49.23%	53.85%	47.25%	45.35%	46.67%	46.15%	50.00%
		Replicated Field	20.77%	17.95%	21.98%	23.26%	20.00%	20.00%	25.00%
		Wide-scale	50.77%	30.77%	59.34%	54.65%	66.67%	56.92%	55.00%
Claim 2 MH declines for girls	Beliefs	Probably yes	57.25%	55.26%	58.06%	59.09%	66.67%	54.55%	68.29%
		Probably no	19.08%	26.32%	16.13%	15.91%	13.33%	15.15%	17.07%
		Don't know	23.66%	18.42%	25.81%	25.00%	20.00%	30.30%	14.63%
	Direction	Against	4.72%	5.71%	4.35%	4.60%	0.00%	3.03%	5.00%
		Support	56.69%	51.43%	58.70%	56.32%	66.67%	57.58%	57.50%
		Mixed	25.98%	31.43%	23.91%	24.14%	26.67%	24.24%	27.50%
		Unaware	12.60%	11.43%	13.04%	14.94%	6.67%	15.15%	10.00%
	Evidence	No evidence	6.14%	6.25%	6.10%	7.79%	0.00%	6.90%	5.41%
		Empirical	54.39%	65.62%	50.00%	55.84%	28.57%	51.72%	51.35%
		Field	35.96%	46.88%	31.71%	33.77%	28.57%	34.38%	35.14%
		Replicated Field	18.42%	9.38%	21.95%	18.18%	28.57%	18.97%	18.92%
		Wide-scale	29.82%	12.50%	36.59%	35.06%	28.57%	34.48%	29.73%
Claim 3	Beliefs	Probably yes	66.39%	46.67%	72.83%	71.26%	66.67%	66.67%	77.50%
		Probably no	13.11%	20.00%	10.87%	11.49%	20.00%	15.15%	7.50%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
MH declines for girls more than boys		Don't know	20.49%	33.33%	16.30%	17.24%	13.33%	18.18%	15.00%
	Direction	Against	6.14%	3.70%	6.90%	4.88%	14.29%	6.35%	8.11%
		Support	58.77%	44.44%	63.22%	58.54%	71.43%	60.32%	59.46%
		Mixed	24.56%	44.44%	18.39%	26.83%	0.00%	25.40%	18.92%
		Unaware	10.53%	7.41%	11.49%	9.76%	14.29%	7.94%	13.51%
	Evidence	No evidence	7.55%	7.69%	7.50%	8.00%	7.14%	5.36%	10.81%
		Empirical	50.94%	57.69%	48.75%	50.67%	50.00%	51.79%	48.65%
		Field	33.96%	46.15%	30.00%	29.33%	35.71%	33.93%	29.73%
		Replicated Field	19.81%	11.54%	22.50%	22.67%	14.29%	21.43%	18.92%
		Wide-scale	31.13%	15.38%	36.25%	34.67%	28.57%	33.93%	29.73%
Claim 4 MH declines in Anglosphere	Beliefs	Probably yes	71.30%	61.54%	74.16%	73.81%	73.33%	70.31%	76.92%
		Probably no	4.35%	11.54%	2.25%	3.57%	0.00%	4.69%	0.00%
		Don't know	24.35%	26.92%	23.60%	22.62%	26.67%	25.00%	23.08%
	Direction	Against	1.85%	4.55%	1.16%	2.47%	0.00%	3.28%	0.00%
		Support	64.81%	59.09%	66.28%	64.20%	66.67%	65.57%	64.86%
		Mixed	10.19%	18.18%	8.14%	9.88%	0.00%	8.20%	8.11%
		Unaware	23.15%	18.18%	24.42%	23.46%	33.33%	22.95%	27.03%
	Evidence	No evidence	5.81%	6.25%	5.71%	6.15%	8.33%	8.00%	3.45%
		Empirical	41.86%	50.00%	40.00%	43.08%	33.33%	38.00%	44.83%
		Field	34.88%	37.50%	34.29%	33.85%	25.00%	32.00%	37.93%
		Replicated Field	23.26%	12.50%	25.71%	23.08%	25.00%	18.00%	31.03%
		Wide-scale	37.21%	31.25%	38.57%	40.00%	25.00%	36.00%	41.38%
Claim 5 MH declines in Nordic countries	Beliefs	Probably yes	40.54%	29.17%	43.68%	40.24%	53.33%	32.26%	53.85%
		Probably no	7.21%	8.33%	6.90%	7.32%	0.00%	11.29%	0.00%
		Don't know	52.25%	62.50%	49.43%	52.44%	46.67%	56.45%	46.15%
	Direction	Against	4.08%	5.26%	3.80%	4.17%	0.00%	5.77%	2.70%
		Support	36.73%	26.32%	39.24%	33.33%	53.33%	34.62%	37.84%
		Mixed	15.31%	15.79%	15.19%	16.67%	6.67%	13.46%	16.22%
		Unaware	43.88%	52.63%	41.77%	45.83%	40.00%	46.15%	43.24%
	Evidence	No evidence	8.20%	11.11%	7.69%	10.87%	0.00%	9.09%	8.70%
		Empirical	54.10%	77.78%	50.00%	54.35%	33.33%	48.48%	52.17%
		Field	34.43%	22.22%	36.54%	34.78%	44.44%	42.42%	30.43%
		Replicated Field	11.48%	0.00%	13.46%	13.04%	11.11%	15.15%	8.70%
		Wide-scale	22.95%	0.00%	26.92%	26.09%	22.22%	18.18%	34.78%
Claim 6 MH declines in Western Europe	Beliefs	Probably yes	61.61%	45.83%	65.91%	65.06%	60.00%	61.29%	65.00%
		Probably no	5.36%	12.50%	3.41%	4.82%	0.00%	6.45%	0.00%
		Don't know	33.04%	41.67%	30.68%	30.12%	40.00%	32.36%	35.00%
	Direction	Against	4.04%	10.53%	2.50%	4.11%	0.00%	5.77%	0.00%
		Support	56.57%	42.11%	60.00%	58.90%	46.67%	65.38%	44.74%
		Mixed	15.15%	15.79%	15.00%	12.33%	26.67%	7.69%	23.68%
		Unaware	24.24%	31.58%	22.50%	24.66%	26.67%	21.15%	31.58%
	Evidence	No evidence	2.78%	9.09%	1.64%	3.70%	0.00%	2.63%	3.57%
		Empirical	54.17%	72.73%	50.82%	53.70%	45.45%	47.37%	57.14%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Field	33.33%	45.45%	31.15%	31.48%	27.27%	34.21%	28.57%
		Replicated Field	12.50%	0.00%	14.75%	12.96%	18.18%	13.16%	14.29%
		Wide-scale	29.17%	0.00%	34.43%	31.48%	36.36%	26.32%	39.29%
Claim 7 Shift from play to phone childhood	Beliefs	Probably yes	83.19%	63.64%	87.91%	87.21%	86.67%	84.38%	92.68%
		Probably no	8.85%	22.73%	5.49%	6.98%	6.67%	10.94%	0.00%
		Don't know	7.96%	13.64%	6.59%	5.81%	6.67%	4.69%	7.32%
	Direction	Against	2.75%	10.00%	1.12%	2.41%	6.67%	3.17%	2.56%
		Support	65.14%	50.00%	68.54%	65.06%	73.33%	69.84%	64.10%
		Mixed	13.76%	15.00%	13.48%	15.66%	0.00%	14.29%	10.26%
		Unaware	18.35%	25.00%	16.85%	16.87%	20.00%	12.70%	23.08%
	Evidence	No evidence	16.67%	26.67%	14.81%	17.11%	8.33%	17.24%	11.76%
		Empirical	53.12%	60.00%	51.85%	57.89%	33.33%	50.00%	58.82%
		Field	35.42%	26.67%	37.04%	32.89%	41.67%	34.48%	38.24%
		Replicated Field	16.67%	0.00%	19.75%	17.11%	25.00%	20.69%	11.76%
		Wide-scale	21.88%	13.33%	23.46%	19.74%	41.67%	22.41%	20.59%
Claim 8 Smartphones and social media cause sleep deprivation	Beliefs	Probably yes	82.30%	84.21%	81.91%	79.78%	93.33%	80.30%	85.71%
		Probably no	7.96%	15.79%	6.38%	8.99%	0.00%	9.09%	4.76%
		Don't know	9.73%	0.00%	11.70%	11.24%	6.67%	10.61%	9.52%
	Direction	Against	4.42%	10.53%	3.19%	2.25%	0.00%	4.55%	2.38%
		Support	62.83%	63.16%	62.77%	61.80%	80.00%	68.18%	57.14%
		Mixed	24.78%	10.53%	27.66%	29.21%	6.67%	25.76%	23.81%
		Unaware	7.96%	15.79%	6.38%	6.74%	13.33%	1.52%	16.67%
	Evidence	No evidence	4.76%	7.14%	4.40%	4.76%	7.14%	1.56%	10.53%
		Correlational	64.76%	92.86%	60.44%	61.90%	71.43%	64.06%	63.16%
		Causal limited	57.14%	35.71%	60.44%	61.90%	42.86%	53.12%	68.42%
		Causal Field	20.00%	14.29%	20.88%	20.24%	14.29%	20.31%	21.05%
		Replicated causal field	8.57%	7.14%	8.79%	9.52%	7.14%	10.94%	5.26%
		Wide-scale causal	9.52%	0.00%	10.99%	9.52%	14.29%	12.50%	5.26%
Claim 9 Sleep deprivation causes decline in MH	Beliefs	Probably yes	97.35%	100.00%	96.81%	96.63%	100.00%	96.97%	97.62%
		Probably no	0.88%	0.00%	1.06%	1.12%	0.00%	1.52%	0.00%
		Don't know	1.77%	0.00%	2.13%	2.25%	0.00%	1.52%	2.38%
	Direction	Against	5.45%	0.00%	6.45%	5.68%	0.00%	6.06%	4.88%
		Support	88.18%	94.12%	87.10%	86.38%	100.00%	84.85%	92.68%
		Mixed	1.82%	5.88%	1.08%	2.27%	0.00%	3.03%	0.00%
		Unaware	4.55%	0.00%	5.38%	5.68%	0.00%	6.06%	2.44%
	Evidence	No evidence	1.00%	0.00%	1.16%	0.00%	6.67%	0.00%	2.63%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Correlational	44.00%	50.00%	43.02%	43.04%	40.00%	45.76%	39.47%
		Causal limited	45.00%	46.51%	35.71%	45.57%	40.00%	50.85%	34.21%
		Causal Field	26.00%	35.71%	24.42%	26.58%	20.00%	20.34%	34.21%
		Replicated causal field	30.00%	21.43%	31.40%	32.91%	13.33%	27.12%	34.21%
		Wide-scale causal	44.00%	28.57%	46.51%	45.57%	40.00%	47.46%	39.47%
Claim 10 Smartphones and social media cause attention fragmentation	Beliefs	Probably yes	72.48%	66.67%	73.63%	70.93%	80.00%	72.31%	75.00%
		Probably no	8.26%	16.67%	6.59%	9.30%	0.00%	10.77%	2.50%
		Don’t know	19.27%	16.67%	19.78%	19.77%	20.00%	16.92%	22.50%
	Direction	Against	4.81%	11.76%	3.45%	4.88%	0.00%	6.45%	0.00%
		Support	52.88%	52.94%	52.87%	48.78%	64.29%	58.06%	44.74%
		Mixed	25.96%	23.53%	26.44%	28.05%	28.57%	20.97%	36.84%
		Unaware	16.35%	11.76%	17.24%	18.29%	7.14%	14.52%	18.42%
	Evidence	No evidence	9.09%	7.69%	9.33%	10.29%	7.69%	9.43%	9.38%
		Correlational	63.64%	76.92%	61.33%	58.82%	84.62%	62.26%	65.62%
		Causal limited	57.95%	61.54%	57.33%	60.29%	53.85%	49.06%	75.00%
		Causal Field	9.09%	0.00%	10.67%	7.35%	23.08%	11.32%	6.25%
		Replicated causal field	5.68%	7.69%	5.33%	5.88%	7.69%	5.66%	6.25%
		Wide-scale causal	7.95%	0.00%	9.33%	8.82%	0.00%	13.21%	0.00%
Claim 11 Attention fragmentation causes decline in MH	Beliefs	Probably yes	45.71%	37.50%	47.19%	42.86%	66.67%	50.00%	41.03%
		Probably no	4.76%	12.50%	3.37%	4.76%	0.00%	4.69%	2.56%
		Don’t know	49.52%	50.00%	49.44%	52.38%	33.33%	45.31%	56.41%
	Direction	Against	4.44%	7.69%	3.90%	5.63%	0.00%	7.55%	0.00%
		Support	28.89%	23.08%	29.87%	25.35%	40.00%	35.85%	20.00%
		Mixed	12.22%	23.08%	10.39%	11.27%	6.67%	3.77%	20.00%
		Unaware	54.44%	46.15%	55.84%	57.75%	53.33%	52.83%	60.00%
	Evidence	No evidence	29.63%	40.00%	28.57%	30.95%	22.22%	25.00%	33.33%
		Correlational	48.15%	40.00%	28.57%	50.00%	44.44%	50.00%	47.62%
		Causal limited	25.93%	20.00%	26.53%	26.19%	33.33%	25.00%	28.57%
		Causal Field	7.41%	0.00%	8.16%	7.14%	11.11%	3.12%	14.29%
		Replicated causal field	7.41%	0.00%	8.16%	4.76%	11.11%	6.25%	9.52%
		Wide-scale causal	5.56%	0.00%	6.12%	7.14%	0.00%	9.38%	0.00%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
Claim 12 Smartphones and social media cause behavioural addiction	Beliefs	Probably yes	72.48%	52.94%	76.09%	71.26%	93.33%	72.31%	75.61%
		Probably no	13.76%	23.53%	11.96%	13.79%	6.67%	13.85%	12.20%
		Don't know	13.76%	23.53%	11.96%	14.94%	0.00%	13.85%	12.20%
	Direction	Against	4.67%	12.50%	3.30%	4.71%	0.00%	7.94%	0.00%
		Support	63.55%	37.50%	68.13%	63.53%	80.00%	69.84%	56.10%
		Mixed	21.50%	31.25%	19.78%	21.18%	6.67%	15.87%	26.83%
		Unaware	10.28%	18.75%	8.79%	10.59%	13.33%	6.35%	17.07%
	Evidence	No evidence	9.57%	30.00%	7.14%	9.21%	7.69%	8.62%	9.09%
		Correlational	64.89%	60.00%	65.48%	61.84%	76.92%	63.79%	63.64%
		Causal limited	48.94%	30.00%	51.19%	50.00%	61.54%	46.55%	57.58%
		Causal Field	19.15%	10.00%	20.24%	22.37%	7.69%	20.69%	18.18%
		Replicated causal field	10.64%	10.00%	10.71%	13.16%	0.00%	15.52%	3.03%
		Wide-scale causal	11.70%	20.00%	10.71%	13.16%	0.00%	17.24%	3.03%
Claim 13 Behavioural addiction causes decline in MH	Beliefs	Probably yes	84.40%	76.47%	85.87%	81.61%	100.00%	84.62%	82.93%
		Probably no	1.83%	11.76%	0.00%	2.30%	0.00%	1.54%	2.44%
		Don't know	13.76%	11.76%	14.13%	16.09%	0.00%	13.85%	14.63%
	Direction	Against	2.91%	13.33%	1.14%	1.22%	6.67%	1.64%	5.13%
		Support	72.82%	66.67%	73.86%	71.95%	80.00%	77.05%	66.67%
		Mixed	11.65%	20.00%	10.23%	10.98%	13.33%	8.20%	15.38%
		Unaware	12.62%	0.00%	14.77%	15.85%	0.00%	13.11%	12.82%
	Evidence	No evidence	12.35%	10.00%	12.68%	12.90%	13.33%	10.64%	15.62%
		Correlational	50.62%	60.00%	49.30%	48.39%	53.33%	51.06%	46.88%
		Causal limited	41.98%	40.00%	42.25%	43.55%	40.00%	38.30%	50.00%
		Causal Field	19.75%	20.00%	19.72%	24.19%	6.67%	21.28%	18.75%
		Replicated causal field	23.46%	0.00%	26.76%	29.03%	6.67%	23.40%	25.00%
		Wide-scale causal	34.57%	10.00%	38.03%	41.94%	6.67%	48.94%	15.62%
Claim 14 Smartphones and social media cause social deprivation	Beliefs	Probably yes	63.21%	50.00%	65.56%	61.18%	80.00%	68.75%	57.50%
		Probably no	16.04%	18.75%	15.56%	17.65%	6.67%	17.19%	12.50%
		Don't know	20.75%	31.25%	18.89%	21.18%	13.33%	14.06%	30.00%
	Direction	Against	3.00%	7.14%	2.33%	3.75%	0.00%	5.00%	0.00%
		Support	45.00%	42.86%	45.35%	45.00%	46.67%	56.67%	28.95%
		Mixed	40.00%	35.71%	40.70%	40.00%	33.33%	28.33%	55.26%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Unaware	12.00%	14.29%	11.63%	11.25%	20.00%	10.00%	15.79%
	Evidence	No evidence	13.25%	25.00%	12.00%	14.93%	0.00%	13.73%	9.68%
		Correlational	63.86%	75.00%	62.67%	61.19%	75.00%	58.82%	70.97%
		Causal limited	42.17%	50.00%	41.33%	44.78%	33.33%	39.22%	48.39%
		Causal Field	14.46%	12.50%	14.67%	14.93%	16.67%	19.61%	6.45%
		Replicated causal field	9.64%	0.00%	10.67%	10.45%	0.00%	11.76%	6.45%
		Wide-scale causal	8.43%	0.00%	9.33%	10.45%	0.00%	13.73%	0.00%
Claim 15 Social deprivation causes decline in MH	Beliefs	Probably yes	96.33%	100.00%	95.70%	96.59%	93.33%	96.67%	95.12%
		Probably no	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		Don't know	3.67%	0.00%	4.30%	3.41%	6.67%	3.03%	4.88%
	Direction	Against	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		Support	89.32%	85.71%	89.89%	89.16%	86.67%	90.32%	87.18%
		Mixed	4.85%	7.14%	4.49%	6.02%	0.00%	4.84%	5.13%
		Unaware	5.83%	7.14%	5.62%	4.82%	13.33%	4.84%	7.69%
	Evidence	No evidence	1.10%	0.00%	1.23%	0.00%	7.69%	0.00%	2.94%
		Correlational	49.45%	60.00%	48.15%	50.00%	38.46%	43.64%	55.88%
		Causal limited	51.65%	30.00%	54.32%	52.70%	46.15%	49.09%	55.88%
		Causal Field	32.97%	30.00%	33.33%	35.14%	23.08%	36.36%	26.47%
		Replicated causal field	27.47%	20.00%	28.40%	29.73%	15.38%	29.09%	23.53%
		Wide-scale causal	37.36%	50.00%	35.80%	37.84%	38.46%	41.82%	32.35%
Claim 16 Girls use visual social media more than boys	Beliefs	Probably yes	65.74%	56.25%	67.39%	65.91%	66.67%	63.08%	70.73%
		Probably no	7.41%	0.00%	8.70%	9.09%	0.00%	9.23%	4.88%
		Don't know	26.85%	43.75%	23.91%	25.00%	33.33%	27.69%	24.39%
	Direction	Against	3.00%	0.00%	3.45%	3.66%	0.00%	3.39%	2.56%
		Support	62.00%	38.46%	65.52%	60.98%	71.43%	59.32%	66.67%
		Mixed	16.00%	30.77%	13.79%	15.85%	7.14%	16.95%	12.82%
		Unaware	19.00%	30.77%	17.24%	19.51%	21.43%	20.34%	17.95%
	Evidence	No evidence	8.14%	20.00%	6.58%	8.45%	0.00%	8.00%	5.88%
		Empirical	63.95%	70.00%	63.16%	63.38%	63.64%	60.00%	70.59%
		Field	30.23%	10.00%	32.89%	32.39%	27.27%	34.00%	26.47%
		Replicated Field	18.60%	10.00%	19.74%	18.31%	27.27%	20.00%	17.65%
		Wide-scale	23.26%	10.00%	25.00%	25.35%	18.18%	28.00%	17.65%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
Claim 17 Social media increases visual social comparisons for girls	Beliefs	Probably yes	79.63%	75.00	80.43%	78.41%	86.67%	83.08%	75.61%
		Probably no	6.48%	6.25%	6.52%	7.95%	0.00%	7.69%	4.88%
		Don't know	13.89%	18.75%	13.04%	13.64%	13.33%	9.23%	19.51%
	Direction	Against	0.96%	6.67%	0.00%	1.19%	0.00%	1.61%	0.00%
		Support	70.19%	60.00%	71.91%	67.86%	86.67%	77.42%	60.00%
		Mixed	15.38%	20.00%	14.61%	16.67%	0.00%	12.90%	17.50%
		Unaware	13.46%	13.33%	13.48%	14.29%	13.33%	8.06%	22.50%
	Evidence	No evidence	14.58%	15.38%	14.46%	15.58%	7.14%	13.56%	14.29%
		Correlational	57.29%	76.92%	54.22%	55.84%	57.14%	54.24%	62.86%
		Causal limited	44.79%	23.08%	48.19%	45.45%	57.14%	47.46%	42.86%
		Causal Field	11.46%	7.69%	12.05%	11.69%	14.29%	10.17%	14.29%
		Replicated causal field	12.50%	7.69%	13.25%	11.69%	14.29%	11.86%	11.43%
		Wide-scale causal	8.33%	7.69%	8.43%	9.09%	7.14%	11.86%	2.86%
Claim 18 Social media increases perfectionism for girls	Beliefs	Probably yes	49.04%	46.67%	49.44%	50.59%	40.00%	48.44%	51.28%
		Probably no	14.42%	26.67%	12.36%	15.29%	6.67%	15.62%	10.26%
		Don't know	36.54%	26.67%	38.20%	34.12%	53.33%	35.94%	38.46%
	Direction	Against	2.17%	0.00%	2.56%	2.70%	0.00%	3.57%	0.00%
		Support	41.30%	50.00%	39.74%	40.54%	42.86%	46.43%	34.29%
		Mixed	19.57%	21.43%	19.23%	20.27%	14.29%	17.86%	20.00%
		Unaware	36.96%	28.57%	38.46%	36.49%	42.86%	32.14%	45.71%
	Evidence	No evidence	23.61%	10.00%	25.81%	22.41%	27.27%	18.18%	29.63%
		Correlational	63.89%	70.00%	62.90%	63.79%	72.73%	63.64%	66.67%
		Causal limited	27.78%	20.00%	29.03%	27.59%	27.27%	27.27%	29.63%
		Causal Field	9.72%	10.00%	9.68%	12.07%	0.00%	11.36%	7.41%
		Replicated causal field	5.56%	0.00%	6.45%	6.90%	0.00%	6.82%	3.70%
		Wide-scale causal	5.56%	10.00%	4.84%	6.90%	0.00%	6.82%	3.70%
Claim 19 Social media increases relational aggression for girls	Beliefs	Probably yes	50.00%	37.50%	52.22%	48.84%	60.00%	54.69%	42.50%
		Probably no	10.38%	31.25%	6.67%	8.14%	13.33%	10.94%	7.50%
		Don't know	39.62%	31.25%	41.11%	43.02%	26.67%	34.38%	50.00%
	Direction	Against	1.05%	0.00%	1.23%	1.30%	0.00%	1.82%	0.00%
		Support	41.05%	35.71%	41.98%	41.56%	35.71%	54.55%	21.05%
		Mixed	26.32%	42.86%	23.46%	23.38%	35.71%	20.00%	34.21%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Unaware	31.58%	21.43%	33.33%	33.77%	28.57%	23.64%	44.74%
	Evidence	No evidence	19.72%	12.50%	20.63%	19.64%	16.67%	16.28%	23.08%
		Correlational	69.01%	75.00%	68.25%	67.86%	83.33%	65.12%	76.92%
		Causal limited	30.99%	25.00%	31.75%	32.14%	25.00%	34.88%	26.92%
		Causal Field	8.45%	12.50%	7.94%	10.71%	0.00%	13.95%	0.00%
		Replicated causal field	1.41%	0.00%	1.59%	1.79%	0.00%	2.33%	0.00%
		Wide-scale causal	4.23%	0.00%	4.76%	5.36%	0.00%	6.98%	0.00%
Claim 20 Social media increases exposure to mental disorders for girls	Beliefs	Probably yes	77.36%	81.25%	76.67%	74.42%	86.67%	78.46%	74.36%
		Probably no	1.89%	6.25%	1.11%	2.33%	0.00%	3.08%	0.00%
		Don’t know	20.75%	12.50%	22.22%	23.26%	13.33%	18.46%	25.64%
	Direction	Against	1.03%	0.00%	1.19%	1.30%	0.00%	0.00%	2.78%
		Support	59.79%	76.92%	57.14%	57.14%	66.67%	62.71%	55.56%
		Mixed	8.25%	15.38%	7.14%	9.09%	0.00%	10.17%	2.78%
		Unaware	30.93%	7.69%	34.52%	32.47%	33.33%	27.12%	38.89%
	Evidence	No evidence	18.06%	8.33%	20.00%	17.86%	18.18%	13.64%	23.08%
		Correlational	69.44%	66.67%	70.00%	67.86%	72.73%	65.91%	76.92%
		Causal limited	27.78%	33.33%	26.67%	30.36%	27.27%	31.82%	23.08%
		Causal Field	12.50%	8.33%	13.33%	10.71%	27.27%	15.91%	7.69%
		Replicated causal field	9.72%	0.00%	11.67%	8.93%	18.18%	13.64%	3.85%
		Wide-scale causal	8.33%	11.67%	8.33%	8.93%	9.09%	9.09%	7.69%
Claim 21 Social media increases sexual harassment for girls	Beliefs	Probably yes	71.15%	66.67%	71.91%	72.94%	60.00%	76.56%	61.54%
		Probably no	5.77%	20.00%	3.37%	5.88%	0.00%	6.25%	5.13%
		Don’t know	23.08%	13.33%	24.72%	21.18%	40.00%	17.19%	33.33%
	Direction	Against	4.12%	7.14%	3.61%	3.85%	6.67%	3.39%	5.41%
		Support	50.52%	50.00%	50.60%	50.00%	46.67%	61.02%	32.43%
		Mixed	6.19%	7.14%	6.02%	7.69%	0.00%	5.08%	8.11%
		Unaware	39.18%	35.71%	39.76%	38.46%	46.67%	30.51%	54.05%
	Evidence	No evidence	28.81%	28.57%	28.85%	30.61%	22.22%	17.65%	44.00%
		Correlational	52.54%	42.86%	53.85%	53.06%	55.56%	55.88%	48.00%
		Causal limited	13.56%	0.00%	15.38%	14.29%	0.00%	17.65%	8.00%
		Causal Field	5.08%	0.00%	5.77%	4.08%	11.11%	8.82%	0.00%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Replicated causal field	3.39%	0.00%	3.85%	0.00%	22.22%	5.88%	0.00%
		Wide-scale causal	11.86%	28.57%	9.62%	14.29%	0.00%	14.71%	8.00%
Claim 22 US students would prefer social media don't exist	Beliefs	Probably yes	34.62%	40.00%	33.71%	26.19%	66.67%	36.51%	30.00%
		Probably no	20.19%	26.67%	19.10%	22.62%	13.33%	14.29%	30.00%
		Don't know	45.19%	33.33%	47.19%	51.19%	20.00%	49.21%	40.00%
	Direction	Against	3.23%	7.14%	2.53%	4.05%	0.00%	3.57%	2.78%
		Support	29.03%	28.57%	29.11%	25.68%	26.67%	35.71%	16.67%
		Mixed	13.98%	14.29%	13.92%	13.51%	20.00%	12.50%	16.67%
		Unaware	53.76%	50.00%	54.43%	56.76%	53.33%	48.21%	63.89%
	Evidence	No evidence	33.90%	16.67%	35.85%	39.13%	22.22%	28.21%	47.37%
		Empirical	54.24%	83.33%	50.94%	50.00%	66.67%	58.97%	42.11%
		Field	10.17%	0.00%	11.32%	10.87%	0.00%	10.26%	10.53%
		Replicated Field	1.69%	0.00%	1.89%	0.00%	11.11%	2.56%	0.00%
		Wide-scale	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Claim 23 US parents would like to delay age of smartphone	Beliefs	Probably yes	60.38%	66.67%	59.34%	56.98%	80.00%	69.23%	45.00%
		Probably no	8.49%	6.67%	8.79%	10.47%	0.00%	7.69%	10.00%
		Don't know	31.13%	26.67%	31.87%	32.56%	20.00%	23.08%	45.00%
	Direction	Against	2.11%	0.00%	2.44%	2.60%	0.00%	3.45%	0.00%
		Support	43.16%	38.46%	43.90%	44.16%	33.33%	51.72%	30.56%
		Mixed	10.53%	23.08%	8.54%	10.39%	13.33%	13.79%	5.56%
		Unaware	44.21%	38.46%	45.12%	42.86%	53.33%	31.03%	63.89%
	Evidence	No evidence	31.82%	28.57%	32.20%	32.85%	18.18%	23.26%	47.83%
		Empirical	59.09%	71.43%	57.63%	56.60%	72.73%	65.12%	47.83%
		Field	13.64%	0.00%	15.25%	13.21%	9.09%	16.28%	8.70%
		Replicated Field	3.03%	0.00%	3.39%	3.77%	0.00%	4.65%	0.00%
		Wide-scale	4.55%	0.00%	5.08%	3.77%	9.09%	6.98%	0.00%
Claim 24 Delaying smartphones would benefit MH	Beliefs	Probably yes	67.92%	71.43%	67.39%	65.52%	73.33%	68.18%	67.50%
		Probably no	11.32%	28.57%	8.70%	12.64%	6.67%	10.61%	12.50%
		Don't know	20.75%	0.00%	23.91%	21.84%	20.00%	21.21%	20.00%
	Direction	Against	3.92%	15.38%	2.25%	4.82%	0.00%	6.25%	0.00%
		Support	28.43%	38.46%	26.97%	24.10%	46.67%	35.94%	15.79%
		Mixed	15.69%	15.38%	15.73%	18.07%	6.67%	14.06%	18.42%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Unaware	51.96%	30.77%	55.06%	53.01%	46.67%	43.75%	65.79%
	Evidence	No evidence	50.68%	28.57%	53.03%	55.74%	27.27%	48.94%	53.85%
		Correlational	39.73%	71.43%	36.36%	37.70%	54.55%	34.04%	50.00%
		Causal limited	26.03%	28.57%	25.76%	24.59%	36.36%	27.66%	23.08%
		Causal Field	8.22%	14.29%	7.58%	6.56%	9.09%	8.51%	7.69%
		Replicated causal field	2.74%	0.00%	3.03%	3.28%	0.00%	4.26%	0.00%
		Wide-scale causal	5.48%	0.00%	6.06%	6.56%	0.00%	8.51%	0.00%
Claim 25 Imposing minimum age on social media would benefit MH	Beliefs	Probably yes	56.19%	38.46%	58.70%	54.65%	60.00%	62.50%	46.34%
		Probably no	18.10%	53.85%	13.04%	18.60%	13.33%	12.50%	26.83%
		Don’t know	25.71%	7.69%	28.26%	26.74%	26.67%	25.00%	26.83%
	Direction	Against	3.03%	15.38%	1.16%	3.75%	0.00%	3.28%	2.63%
		Support	22.22%	23.08%	22.09%	21.25%	20.00%	31.15%	7.89%
		Mixed	18.18%	15.38%	18.60%	17.50%	26.67%	16.39%	21.05%
		Unaware	56.57%	46.15%	58.14%	57.50%	53.33%	49.18%	68.42%
	Evidence	No evidence	70.59%	71.43%	70.49%	77.59%	25.00%	63.64%	83.33%
		Correlational	26.47%	28.57%	26.23%	27.59%	25.00%	29.55%	20.83%
		Causal limited	10.29%	14.29%	9.84%	5.17%	50.00%	13.64%	4.17%
		Causal Field	2.94%	14.29%	1.64%	3.45%	0.00%	4.55%	0.00%
		Replicated causal field	2.94%	0.00%	3.28%	1.72%	0.00%	4.55%	0.00%
		Wide-scale causal	5.88%	14.29%	4.92%	6.90%	0.00%	6.82%	4.17%
Claim 26 Phone-free schools would benefit MH	Beliefs	Probably yes	69.81%	64.29%	70.65%	66.67%	80.00%	72.31%	65.85%
		Probably no	8.49%	14.29%	7.61%	9.20%	6.67%	9.23%	7.32%
		Don’t know	21.70%	21.43%	21.74%	24.14%	13.33%	18.46%	26.83%
	Direction	Against	0.97%	8.33%	0.00%	1.19%	0.00%	1.56%	0.00%
		Support	37.86%	41.67%	37.36%	35.71%	46.67%	50.00%	17.95%
		Mixed	31.07%	16.67%	32.97%	34.52%	20.00%	23.44%	43.59%
		Unaware	30.10%	33.33%	29.67%	28.57%	33.33%	25.00%	38.46%
	Evidence	No evidence	28.57%	14.29%	30.00%	31.25%	18.18%	20.83%	41.38%
		Correlational	44.16%	42.86%	44.29%	46.88%	36.36%	43.75%	44.83%
		Causal limited	25.97%	0.00%	28.57%	23.44%	45.45%	25.00%	27.59%
		Causal Field	16.88%	0.00%	18.57%	15.62%	18.18%	22.92%	6.90%

Claim	Measure	Answer	Sample restriction						
			None	Anonymous	Noanonymous	PhD	No PhD	Parent	No parent
		Replicated causal field	2.60%	0.00%	2.86%	3.12%	0.00%	4.17%	0.00%
		Wide-scale causal	11.69%	42.86%	8.57%	10.94%	9.09%	12.50%	10.34%

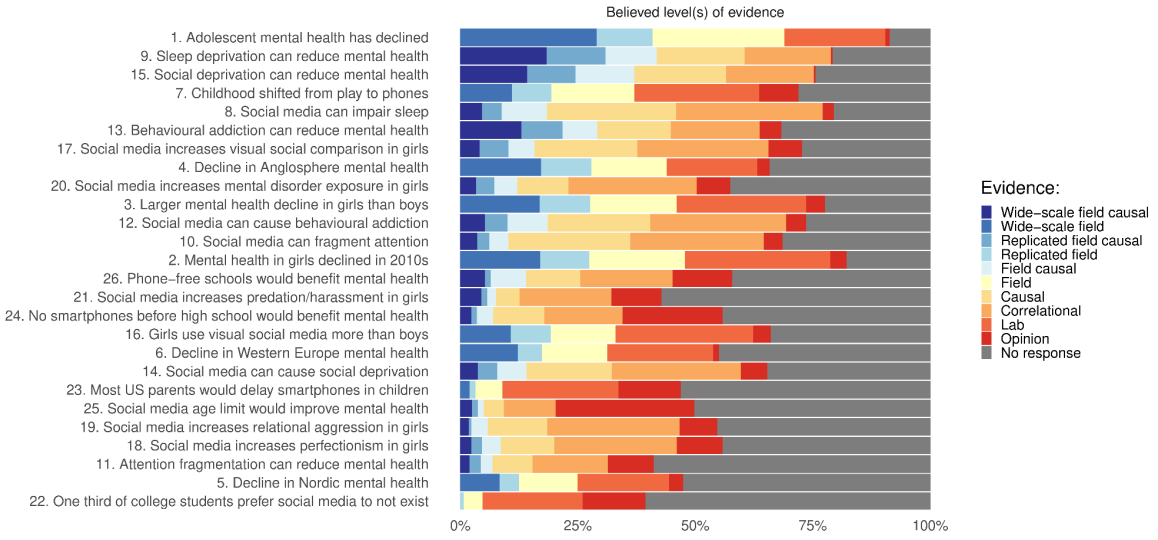

Figure S3. Summary of responses to the "level" (of evidence regarding a claim) question for each of the 26 claims from Survey 1, including "no response" answers conditional on answering to the corresponding "belief" question. Since the "level" question did not include an "I don't know" response option, we can reasonably interpret participants who answered the "belief" question but did not answer the "level" question as participants who are not aware of any evidence related to the given claim.

Section S5. Full consensus statements

Claim 1. Over the last two decades, there has been a decline in mental health among adolescents in the USA.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 90.98%; Probably False: 3.76%; Don't know: 5.26% (N=133). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 0%; Support: 87.22%; Mixed: 11.28%; Unaware: 1.50% (N=133). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 1.54%; Empirical: 37.69%; Field: 49.23%; Replicated Field: 20.77%; Wide-scale: 50.77% (N=130). Experts provided a total of 84 references regarding this claim (see Table S9 for full list).

References included nationally representative surveys (Duffy et al., 2019), field research (Bommersbach et al., 2023), and wide-scale studies (American Academy of Pediatrics, 2021). However, some experts pointed to research discussing whether certain youth mental health trends are influenced by changes in diagnostic criteria or assessment practices (Collishaw, 2015; Burkhart et al., 2020; Corredor-Waldron & Currie, 2024). Nonetheless, there is broad consistency of findings across various research methods and outcome measures—such as depression (Keyes et al., 2019), anxiety (Duffy et al., 2019), self-harm (Mercado et al., 2017), and suicide rates (Burstein et al., 2019; Twenge et al., 2019; National Center for Health Statistics, 2023).

In conclusion, there is evidence that adolescent mental health has declined over the last two decades in the USA.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 127 accuracy ratings, with a combined accuracy score of 99.2%, and one evidence-based critical comment, reported in Table 2. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 2. The decline in mental health among girls in the USA began in the early 2010s.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 57.25%; Probably False: 19.08%; Don't know: 23.66% (N=131). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were: Against: 4.72%; Support: 56.69%; Mixed: 25.98%; Unaware: 12.60% (N=127). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 6.14%; Empirical: 54.39%; Field: 35.96%; Replicated Field: 18.42%; Wide-scale: 29.82% (N=114). Experts provided a total of 69 references regarding this claim (see Table S9 for full list).

Supporting evidence includes large-scale surveys (Keyes et al., 2019; Daly, 2022), longitudinal research (Centers for Disease Control and Prevention, 2023), and data on self-harm and suicide rates (Twenge, 2020).

However, approximately 26% of experts highlighted mixed evidence regarding this claim. Their reservations stemmed primarily from concerns that the observed decline in mental

health may have begun earlier than in the 2010s (Sheffler et al., 2020; Hinshaw & Kranz, 2009; Galmiche et al., 2019; Collishaw et al., 2015). Experts reported evidence suggesting a curvilinear trend in several mental health outcomes. From the 1950s to the 1990s, rates of depression, anxiety, and suicide rose steadily among adolescents and young adults (Kessler et al., 1994; Lewinsohn et al., 1993; Twenge, 2000). However, during the late 1990s through the late 2000s, there was a decline in depression, suicidal ideation, and suicide rates. In the late 2000s and early 2010s, a reversal of this trend was observed (Centers for Disease Control and Prevention, 2024).

In conclusion, while there is evidence that various measures of adolescent girls' mental health have been declining since the early 2010s, future work should consider longer time spans.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 128 accuracy ratings, with a combined accuracy score of 96.7%, one evidence-based critical comment (reported in Table 2), and one non-evidence-based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 3. The decline in mental health among girls in the USA since the early 2010s is more pronounced than the decline among boys during the same period.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 66.39%; Probably False: 13.11%; Don't know: 20.49% (N=122). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 6.14%; Support: 58.77%; Mixed: 24.26%; Unaware: 10.53% (N=114). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 7.55%; Empirical: 50.94%; Field: 33.96%; Replicated Field: 19.81%; Wide-scale: 31.13% (N=106). Experts provided a total of 78 references regarding this claim (see Table S9 for full list).

Supporting evidence includes representative surveys (Salk et al., 2017; Twenge et al., 2018), large-scale studies, and field studies (Centers for Disease Control and Prevention, 2023). Data indicate a sharper rise in suicidal ideation, attempts, and completions among teenage girls since 2010 (Daly, 2022; Collishaw, 2015; Miron et al., 2019), as well as a notable increase in feelings of sadness and hopelessness in adolescent girls compared to boys (Centers for Disease Control and Prevention, 2023) and higher rates of depression (Twenge et al., 2022).

However, concerns about potential biases emerged. For example, experts highlighted that much of the research focuses on disorders typically associated with women (e.g., eating disorders), while less attention has been given to conditions more prevalent among men, such as externalizing disorders (Kramer et al., 2008; Khesht-Masjedi et al., 2017). Symptoms of disorders may also manifest differently by gender; for example, excessive exercise is more common among males (Ryding & Kuss, 2020; Ussher, 2023). Additionally, males are less likely to respond to certain scales measuring mental health issues (Borys & Perlman, 1985; Sigmon et al., 2008). Some experts also suggested that societal pressures to conform to certain masculinity norms may negatively affect men's mental health (Wong et al., 2017), an

area where further exploration is needed. Another unresolved issue is to what extent these trends reflect actual differences in mental health or disparities in screening and access to care. For instance, adolescent girls may benefit from greater access to supportive adults, such as career counselors or teachers, which could influence their likelihood of being identified and treated for mental health concerns (Fortin et al., 2015; Van Bavel et al., 2018). Furthermore, experts noted that political ideology has emerged as a strong predictor of mental health outcomes in a way that interacts with gender. Specifically, Gimbrone et al. (2022) found that the mental health of liberal teenage boys is worse than that of conservative teenage girls. Therefore, while it may be technically accurate to state that girls' mental health has deteriorated more than boys', this assertion may overlook the more critical influence of ideology on mental health outcomes compared to gender.

In conclusion, there is evidence that the decline in mental health has been more pronounced among girls for certain metrics, but there is a need for further research to disentangle true gender-based differences in mental health from gender differences in detection, access to resources, disorder type, and ideology.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 125 accuracy ratings, with a combined accuracy score of 97.5%, with two evidence-based critical comments (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 4. Over the last two decades, there has been a decline in mental health among adolescents in the Anglosphere (Australia, Canada, Ireland, UK, New Zealand).

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 71.30%; Probably False: 4.35%; Don't know: 24.35% (N=115). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 1.85%; Support: 64.81%; Mixed: 10.19%; Unaware: 23.15% (N=108). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 5.81%; Empirical: 41.86%; Field: 34.88%; Replicated Field: 23.25%; Wide-scale: 37.21% (N=86). Experts provided a total of 80 references regarding this claim (see Table S9 for full list).

Supporting evidence includes multiple national health surveys and time-lag studies from Australia (Australian Government, 2024a; Lawrence et al., 2016), Canada (Canadian Institute for Health Information, 2020; Wiens et al., 2020), Ireland (Dooley et al., 2024; Griffin et al., 2018), United Kingdom (NHS England, 2023; Patalay & Gage, 2019), and New Zealand (Fleming et al., 2022; Sutcliffe et al., 2023).

Nonetheless, experts have noted variation across countries in youth suicide rates. For instance, suicide rates have risen among adolescents in the UK and Australia since 2010, but not in New Zealand, while in Canada, they have increased among adolescent girls but not among adolescent boys (Rausch & Haidt, 2023). Additionally, some experts noted that the limitations noted in the claims about the decline in mental health in the USA—such as changes in diagnostic criteria or assessment practices and the importance of considering broader trends over longer time spans—are also relevant here. Moreover, some researchers highlighted that there is little research regarding potential sources of heterogeneity between countries.

In conclusion, there is evidence that adolescent mental health has declined in some countries in the Anglosphere over the last two decades. Heterogeneity across countries concerns especially suicide rates. Future work should explore the effects of changes in diagnostic criteria, assessment practices, broader trends, and cross-country heterogeneity.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 120 accuracy ratings, with a combined accuracy score of 99.0%, and one evidence-based critical comment (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 5. Over the last two decades, there has been a decline in mental health among adolescents in the Nordic countries (e.g., Denmark, Finland, Iceland, Norway, Sweden).

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 40.50%; Probably False: 7.21%; Don't know: 52.25% (N=111). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.08%; Support: 36.73%; Mixed: 15.31%; Unaware: 44.88% (N=98). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 8.20%; Empirical: 54.10%; Field: 34.42%; Replicated Field: 11.47%; Wide-scale: 22.95% (N=61). Experts provided a total of 24 references regarding this claim (see Table S9 for full list).

Supporting evidence includes empirical studies, field research, and large-scale data (Krokstad et al., 2022; Parlikar et al., 2023; Potrebny et al., 2017; Schrijvers et al., 2024). However, some experts pointed to studies showing that observed trends can vary depending on the specific measures of mental health used. For instance, one study found that adolescents across all five Nordic countries reported a decline in "adequate mental health" between 2002 and 2022; however, when asked about "perceptions of good mental health", adolescents in Iceland and Norway reported improvements over the same period (Eriksson & Stattin, 2024). Experts also referenced other research that highlights country-specific patterns. For example, one study identified a sharper decline in adolescent mental health in Sweden compared to other Nordic countries (Potrebny et al., 2019). Another study reported a rise in suicide rates

among girls aged 15-24 across all Nordic countries except Iceland (Oskarsson et al., 2023). This suggests that mental health problems may manifest differently across countries, which could be attributable to unique combinations of cultural, social, and systemic factors. Additionally, experts highlighted that the limitations noted in the claims about the decline in mental health in the USA—such as changes in diagnostic criteria or assessment practices and the importance of considering broader trends over longer time spans—are also relevant here.

In conclusion, there is some evidence that adolescent mental health has declined in some Nordic countries over the past two decades; however, there may be significant heterogeneity across countries and measures. Future work should explore the effects of changes in diagnostic criteria, assessment practices, broader trends, and cross-country heterogeneity.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 121 accuracy ratings, with a combined accuracy score of 97.9%, and two non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 6. Over the last two decades, there has been a decline in mental health among adolescents in Western Europe overall, although with variation across countries.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 61.61%; Probably False: 5.36%; Don't know: 33.04% (N=112). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.04%; Support: 56.57%; Mixed: 15.15%; Unaware: 24.24% (N=99). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 2.78%; Empirical: 54.17%; Field: 33.33%; Replicated Field: 12.5%; Wide-scale: 29.17% (N=72). Experts provided a total of 44 references regarding this claim (see Table S9 for full list).

Supporting evidence includes various empirical, field, and large-scale studies (Castelpietra et al., 2022; Marquez & Long, 2021; Park et al., 2023; Sacco et al., 2024; Schrijvers et al., 2024; Twenge et al., 2021; UNICEF, 2024; World Health Organization, 2018). These studies cover some of the most populous countries in Western Europe, including Germany (Kaman et al., 2020), France (Simoës‐Perlant et al., 2023), and Italy (Twenge et al., 2021).

However, several experts cautioned that these general trends may not be consistent across all nations or measures. For example, while decreases in life satisfaction have been documented between 2002 and 2018 in countries such as Austria, Belgium, the Netherlands, and Switzerland, Spain has shown an increase in this dimension during the same period (Cosma et al., 2020). Furthermore, data from the Netherlands indicate a decline in mental health concentrated between 2019 and 2021, primarily attributed to the COVID-19 pandemic (Centraal Bureau voor de Statistiek, 2022). Experts noted that suicide trends also show variation. Eurostat data suggest that, while overall suicide rates remained relatively stable across genders between 2008 and 2020, rates have increased specifically among adolescent girls in historically Protestant nations (Rausch, Potrebny, & Haidt, 2024). Cultural and social factors appear to play a protective role in certain regions. For instance, countries in Catholic and Eastern Orthodox Europe, as well as other regions of the world, like Brazil and India, may experience resilience factors, such as cultural tightness, that help mitigate declines in mental health (Olson et al., 2023; Rausch, Potrebny & Haidt, 2024). Additionally, experts highlighted that the limitations noted in the claims about the decline in mental health in the USA—such as changes in diagnostic criteria or assessment practices and the importance of considering broader trends over longer time spans—are also relevant here.

In conclusion, there is some evidence that adolescent mental health has declined in various Western European countries over the past two decades; however, there may be heterogeneity across countries, measures, and time periods. Future work should explore how methodological differences, national contexts, and cultural resilience factors contribute to variations in mental health outcomes across countries, measures, and time periods.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 119 accuracy ratings, with a combined accuracy score of 97.1%, and two non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 7. Play-based childhood has shifted towards phone-based childhood (i.e., time with friends and total time playing away from screens has decreased).

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 83.19%; Probably False: 8.85%; Don't know: 7.96% (N=113). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 2.75%; Support: 65.14%; Mixed: 13.76%; Unaware: 18.35% (N=109). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 16.67%; Empirical: 53.12%; Field: 35.42%; Replicated Field: 16.67%; Wide-scale: 21.87% (N=96). Experts provided a total of 64 references regarding this claim (see Table S9 for full list).

Some experts pointed to evidence regarding the high quantity of screen use among youth. For example, daily screen time is now teens' primary leisure activity (Rideout et al., 2022). Face-to-face interactions have significantly decreased compared to earlier decades (Shim, 2007; Kannan & Veazie, 2023), with 95% of American teens having access to smartphones and 45% reporting they are online "almost constantly" (Anderson & Jiang, 2018). In addition, American teens now report spending an average of five hours a day on social media (Gallup, 2024), and between eight and ten hours on entertainment screen use (Rideout et al., 2022).

However, some experts argued that the evidence supporting the "displacement hypothesis"—the idea that screen time is directly displacing non-screen based playtime—remains limited. Some surveys have found that higher screen time in childhood correlates with reduced play (Lu et al., 2023; Ho et al., 2024; Putnick et al., 2023). Yet, field studies directly measuring children's play behaviors are scarce. One expert argued that while the displacement hypothesis may have been relevant during the era of television dominance,

the evidence is less compelling in the context of smartphones and social media (Goodyear & Bundon, 2025). Relatedly, it is also possible that screen time is replacing periods of inactivity.

Experts also emphasized the importance of distinguishing within-cohort individual differences from between-cohort group differences over time. For example, a study based on survey data spanning 1976 to 2017 found that, overall, time spent with friends offline has declined among American adolescents in the 2010s compared to previous cohorts (Twenge et al., 2019). However, within this cohort, social media usage was associated with spending more time with friends offline—likely because more social adolescents engage in both online and offline interactions. A similar positive association between social media usage and spending time with friends was found in a cohort of Norwegian children (Steinsbekk et al., 2024).

Further limitations noted by experts include that most studies focus on the U.S., with limited evidence from other countries or cultures. Some experts also pointed out that key terms such as "play-based childhood" and "phone-based childhood" were not explicitly defined. The claim itself only described a shift between these two states without specifying their precise characteristics. Additionally, the operationalization of "time with friends and total time playing away from screens has decreased" did not distinguish between in-person and online interactions with friends. If both are combined, the total time spent with friends might have increased rather than decreased. Experts also noted that the claim lacked clarity regarding the specific age groups under consideration, leading to potential inconsistencies across studies.

In conclusion, while there is some evidence that screen time has increased and time with friends in person has decreased, especially in the U.S., future work should explore the extent to which screen time is directly displacing non-screen-based playtime (rather than displacing other forms of screen time, like watching television, or periods of inactivity). There is also a need for more cross-cultural studies and for employing more precise definitions of key constructs and age groups.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 119 accuracy ratings, with a combined accuracy score of 95.0%, and four non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 8. Heavy daily use of smartphones and social media can cause sleep deprivation.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 82.30%; Probably False: 7.96%; Don't know: 9.73% (N=113). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.42%; Support: 62.83%; Mixed: 24.78%; Unaware: 7.96% (N=113). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 4.76%; Correlational: 64.76%; Causal limited: 57.14%; Causal Field: 20.00%; Replicated Causal Field: 8.57%; Wide-scale Causal: 9.52% (N=105). Experts provided a total of 91 references regarding this claim (see Table S9 for full list).

Experts reported that correlational evidence is consistent with this claim (Alonzo et al., 2021; Cheng et al., 2024; Alimoradi et al., 2019; Orben & Przybylski, 2020; Gjoneska et al., 2022). Higher levels of social media use were associated with going to bed later and greater sleep variability among multiple samples of young people, including preadolescents (Hamilton et

al., 2020), adolescent girls (Hamilton et al., 2023), and adolescents in treatment for depression and suicidal thoughts and behaviors (Hamilton et al., 2024). Additionally, longitudinal studies have shown that excessive smartphone use is linked to disrupted sleep patterns, including sleep interruptions (Rod et al., 2018) and shorter sleep durations (Liu et al., 2019). Intervention studies provide further support, demonstrating that reducing screen time, including smartphone use, can improve multiple dimensions of sleep quality, such as longer sleep duration and reduced pre-sleep cognitive arousal (Martin et al., 2020; Perrault et al., 2019; Tu et al., 2023).

Experts reported that the most compelling causal evidence stems from laboratory experiments investigating biological mechanisms. These studies show that evening use of light-emitting devices suppresses melatonin production, disrupts circadian rhythms, and alters sleep architecture (Chang et al., 2015). A meta-analysis of interventions to reduce blue light showed a small-to-medium positive effect on sleep efficiency and sleep duration (Schechter et al., 2022). Furthermore, a consensus panel recently reviewed 522 empirical studies and 52 review articles, refining the focus to 35 experimental and intervention studies. They reached several key conclusions, including that screen use impairs sleep health among children and adolescents (Hartstein et al., 2024).

Despite this body of evidence, experts highlighted several methodological challenges. Most studies rely on self-reported measures, which may introduce bias. This issue arises because measuring both smartphone use and sleep in naturalistic settings is difficult (Christensen et al., 2016). New methodologies should be used to overcome this issue, such as collecting objective screen time usage from smartphones and using smartwatch data to assess sleep metrics (De Zambotti et al., 2024). Recent work has made advances in this direction, finding that screen time in bed is associated with impaired sleep using objective measures (Brosnan et al., 2024). However, further work using objective methodologies is needed.

Additionally, experts emphasized that the effect may depend on how “heavy daily use of smartphones and social media” is operationalized, and on the specific outcome measure (e.g., sleep latency or quality). For example, a meta-analysis of 98 studies found that social media use is not associated with sleep problems and sleep duration, while problematic social media use is associated with sleep problems, but not with sleep duration (Ahmed et al., 2024). The associations may also differ based on when the technology is used (e.g., extensive use during the day vs. use immediately before bedtime) and the type of smartphone use. One study found that using meditation apps is positively associated with sleep quality, while using work-related apps was negatively associated with it. This highlights the importance of studying the type of use (and the potential unique mechanisms of different forms of use, such as blue light emission vs. cognitive arousal), rather than use per se (Sumter et al., 2024). Furthermore, experts highlighted that existing laboratory studies often rely on small sample sizes and extreme light exposure, and there are few research studies in more realistic settings. Moreover, it is unclear whether smartphones and social media uniquely contribute to sleep deprivation in ways that other digital technologies (e.g., television) or offline activities (e.g., socializing) do not.

In conclusion, while there is evidence that heavy daily use of smartphones and social media can cause some sleep problems, the extent to which it causes sleep deprivation specifically remains unclear. Future research should prioritize field studies using objective measures and explore the different ways in which smartphones and social media might negatively impact sleep quality, considering the diversity of usage patterns and their specific impacts on sleep.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 127 accuracy ratings, with a combined accuracy score of 97.6%, and four non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 9. Chronic sleep deprivation can cause a decline in mental health.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 97.35%; Probably False: 0.88%; Don't know: 1.77% (N=113). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 5.45%; Support: 88.18%; Mixed: 1.82%; Unaware: 4.55% (N=110). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 1.00%; Correlational: 44.44%; Causal limited: 45.00%; Causal field: 26.00%; Replicated causal field: 30.00%; Wide-scale causal: 44.00% (N=100). Experts provided a total of 59 references regarding this claim(see Table S9 for full list).

For example, sleep deprivation has been shown to increase state anxiety (Pires et al., 2016), while getting six or fewer hours of sleep per night predicts higher levels of depression (Roberts & Duong, 2014). A review of 41 longitudinal studies found that sleep disturbances, including insomnia, were significant predictors of suicidal ideation and suicide attempts (Liu et al., 2020). A meta-analysis of the impacts of sleep-improvement interventions revealed that improving sleep had a positive effect on a composite index of mental health, as well as on depression, anxiety, rumination, stress, and positive psychosis symptoms (Scott et al., 2021). The negative impact of sleep deprivation is also pronounced among adolescents, who experience critical brain developmental phases that make them more vulnerable to insufficient sleep and its adverse effects on mental health (Short et al., 2022). Biological mechanisms have also been extensively studied. For instance, sleep deprivation disrupts brain areas and networks that are involved in emotion regulation and stress response (McEwen & Lasley, 2002).

In conclusion, there is evidence that chronic sleep deprivation can cause a decline in mental health.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 127 accuracy ratings, with a combined accuracy score of 100%, and no critical comments. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 10. Heavy daily use of smartphones and social media can cause attention fragmentation.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 72.48%; Probably False: 8.26%; Don't know: 19.27% (N=109). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.81%; Support: 52.88%; Mixed: 25.96%; Unaware: 16.35% (N=104). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 9.09%; Correlational: 63.64%; Causal limited: 57.95%; Causal field: 9.09%; Replicated causal field: 5.68%; Wide-scale causal: 7.95% (N=88). Experts provided a total of 67 references regarding this claim (see Table S9 for full list).

For example, a systematic review of studies measuring screen time and attention concluded that excessive screen time in children can be associated with attention problems (Santos et al., 2022). Experts also provided several references regarding a potential association between screen time and clinical issues related to inattention. For instance, Barry et al. (2017) observed an association between the number of social media accounts adolescents report having and the DSM-5 inattention symptoms as assessed by both parental and adolescent reports. Experts also noted various longitudinal studies that explored the association between different measures of smartphone use and ADHD symptoms. George et al. (2017) found an association between self-reported daily time spent on digital devices and symptoms of ADHD on the same day; Ra et al. (2018) reported that high social media use is associated with ADHD symptoms in follow-up assessments collected up to two years later; Deng et al. (2024) found that time spent on online social activities was linked to the development of ADHD symptoms from late childhood to early adolescence. However, experts cautioned against overinterpreting these results, as ADHD symptoms are not equivalent to attention fragmentation, even though the two concepts overlap to some extent. ADHD symptoms include hyperactivity, impulsivity, and inattention, which is defined as a persistent difficulty in sustaining focus. This is not necessarily the same as the frequent switching between tasks that characterizes attention fragmentation.

The causal evidence of smartphone use on various attention-related measures provided by the experts was mixed. Some studies show that the mere presence of a smartphone, even when not in use, could reduce cognitive capacity and impair performance on tasks requiring attention (Ward et al., 2017; Skowronek et al., 2023). Yet, a recent meta-analysis of 56 studies examining various cognitive functions reported only one statistically significant pooled effect: the presence of a smartphone negatively impacted working memory capacity (Parry, 2024). A study that compared a 7-day 50% reduction of social media screen time to a 10% reduction found no effect on multiple indicators of attention (van Wezel et al., 2021); however, the manipulation ultimately failed because the control group also reduced their social media use to the point where they were statistically indistinguishable from the treatment group.

Experts suggested that discrepancies across studies may be explained by individual differences; for people already at risk for attention deficit issues, such content may exacerbate their symptoms (Beyens et al., 2018). Experts also noted that smartphones and social media are not monolithic, and the specific social media platform and the content engaged with may play a role in explaining differences in results across studies; for example, playing a cognitive, attention, or problem-solving game on one's phone will have a different impact on attention compared to passively scrolling on social media. Experts also noted that smartphones may support executive functioning, particularly for youth with developmental disorders such as ADHD, by providing access to video games designed to improve attention (Kollins et al., 2020). Furthermore, some experts suggested that smartphones may create state-level distractions without impairing trait-level attention. Relatedly, experts also highlighted that while the claim referred specifically to "attention fragmentation", defined as frequent switching between tasks, some evidence refers to inattention. More generally, different studies often use different outcome measures, highlighting the need for a more uniform theoretical approach.

In conclusion, the impact of heavy smartphone and social media use on attention is complex and context-dependent. While correlational and some experimental data suggest a relationship, the evidence is not robust enough to definitively confirm a causal link. Future research should aim to address these gaps by employing longitudinal designs and controlled experiments that consider individual differences and specific types of use. Additionally, exploring the theoretical mechanisms underlying these effects will be crucial in understanding how smartphone and social media use affect attention.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 125 accuracy ratings, with a combined accuracy score of 97.4%, and one evidence-based critical comment (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 11. Attention fragmentation can cause a decline in mental health (possibly through mediating factors such as its negative impact on social relationships).

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 45.71%; Probably False: 4.76%; Don't know: 49.52% (N=105). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.44%; Support: 28.89%; Mixed: 12.22%; Unaware: 54.44% (N=90).

Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 29.62%; Correlational: 48.15%; Causal limited: 25.93%; Causal field: 7.41%; Replicated causal field: 7.41%; Wide-scale causal: 5.55% (N=54). Experts provided a total of 40 references regarding this claim (see Table S9 for full list).

Some experts noted that evaluating this claim was particularly challenging because "attention fragmentation" is not a well-established psychological construct. Following the provided definition—"Frequent shifts and interruptions in one's focus of attention, rather than maintaining sustained focus on a single task or subject, resulting in fragmented attention"—some experts interpreted this concept through the lens of three existing constructs: mind-wandering, cognitive load, and multitasking. Consequently, they provided evidence linking any of these constructs to mental health outcomes. For example, the seminal work by Killingsworth and Gilbert (2010) found that mind-wandering is associated with unhappiness. Smallwood and Schooler (2015) reviewed work on the relationship between mind-wandering and unhappiness, highlighting how a persistent state of mental "busyness" and difficulty maintaining focus can contribute to stress, anxiety, and low self-esteem. Yet, some studies have reported a null or even positive effects of mind-wandering on mood, especially when thoughts during mind-wandering are pleasant (Poerio et al., 2013; Welz et al., 2018). Regarding cognitive load, correlational studies suggest a link between cognitive load and negative well-being (Mizuno et al., 2011; Hawthorne et al., 2019). However, in some cases cognitive load may increase well-being by allowing people with subthreshold depression to forget negative information (Hu et al., 2021). Concerning multitasking, correlational studies have shown that media multitasking is associated with higher depression and social anxiety symptoms (Becker et al., 2013; Shin et al., 2024), as well as higher negative affect and lower self-esteem (Hatchel et al., 2018).

Experts also highlighted intervention studies aimed at mitigating attention fragmentation potentially caused by smartphones and social media, which had mixed results. While some studies found that disabling non-essential notifications on the smartphone has positive effects on well-being (Fitz et al., 2019; Olson et al., 2023), others found that disabling notifications may have drawbacks such as increased checking behaviors, anxiety and fear of missing out (Dekker et al., 2024; Liao et al., 2022).

No evidence was provided regarding the specific mediating factors suggested in the claim, such as the potential negative impact of attention fragmentation on social relationships, through which it could lead to a decline in mental health, or any other potential mediators.

In conclusion, the evidence regarding the effect of attention fragmentation on mental health is preliminary. Future research should aim to define the construct of attention fragmentation and understand its effects on mental health, accounting for individual differences and including potential mediating factors.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 122 accuracy ratings, with a combined accuracy score of 97.2%, with no critical comments. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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wandering affects mood in daily life. Mindfulness, 9(1), 332-343.

Claim 12. Heavy daily use of smartphones and social media can cause behavioral addiction.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 72.48%; Probably False: 13.76%; Don't know: 13.76% (N=109). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.67%; Support: 63.55%; Mixed: 21.50%; Unaware: 10.28% (N=107). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 9.57%; Correlational: 64.89%; Causal limited: 48.93%; Causal field: 19.15%; Replicated causal field: 10.64%; Wide-scale causal: 11.70% (N=94). Experts provided a total of 114 references regarding this claim (see Table S9 for full list).

For example, Truzoli et al. (2023) found that after ceasing an internet session, social media users with high scores on the Internet Addiction Test reported lower levels of psychological distress, consistent with mobile device use functioning as a sedative. Anderson and Wood (2023) found that frequent social media users show blunted sensitivity to social rewards, characteristic of habituation. Allcott et al. (2022) reported a field study suggesting that social media usage may involve self-control problems and be habit forming. A TikTok internal study revealed that watching 35 minutes of videos is sufficient to develop a habit (NPR, 2024). Neuroimaging studies reveal parallels in brain activity patterns between individuals with problematic smartphone use and those with other behavioral addictions, such as gaming disorder, in areas associated with reward processing and impulse control (He et al., 2017; Montag et al., 2017).

As for potential mechanisms, some experts referenced books that argue that social media targets our dopamine system, fostering addiction (Courtwright, 2019; Lembke, 2021). This may occur through various design choices, such as the scroll and refresh features, which mimic slot machines (Schüll, 2012) and reinforcement through features such as "likes" (Sherman et al., 2016; Lindström et al., 2021).

However, some experts pointed out several limitations to the literature. First, no experts provided experimental evidence about this claim. Another key issue is the lack of standardized definitions and measurements for "social media addiction". Experts noted that the very definition of "social media addiction" is under debate. While "gambling disorder" and "gaming disorder" are officially recognized in the diagnostic manual ICD-11, and are under further investigation in the DSM-5, "smartphone addiction" and "social media addiction" lack formal recognition (Brand et al., 2025). Some experts noted that a delay in formal recognition is inherent in emerging potential disorders and that several scales have been developed to assess problematic social media use (Andreassen et al., 2012; Paschke et al., 2021; Boniel-Nissim et al., 2024). Yet, the lack of an agreed-upon definition complicates the interpretation of the literature and has fueled some debate over the term "addiction" itself

and its distinction from bad habits. Several experts argued that excessive smartphone use may be better understood as a bad habit rather than a true addiction (Panova & Carbonell, 2018; Bayer et al., 2022; Zimmermann et al., 2023).

Additionally, experts pointed to research showing that heavy social media use does not always equate with problematic use (Hitcham et al., 2023). For example, heavy use for connecting with friends and family, or for educational reasons, may not lead to behavioral addiction. Relatedly, some experts noted that some studies rely on questionnaires that may inadvertently label normal behaviors—like spending significant time socializing with friends—as addictive, raising concerns about the validity of such assessments (Abi-Jaoude et al., 2020; Satchell et al., 2020). Other experts observed that new tools have been designed to capture problematic social media use as a potentially addictive behavior (Fineberg et al., 2022). Regarding mechanisms through which social media may cause addiction, some experts noted that the "dopamine hit hypothesis" may not be accurate (Etchells, 2024).

In conclusion, while there is some preliminary correlational evidence supporting the claim that heavy daily use of smartphones and social media can cause behavioral addiction, the experimental evidence is virtually absent and the underlying mechanisms are at times controversial. Future work should test this hypothesis with standardized definitions and consistent methodologies.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 122 accuracy ratings, with a combined accuracy score of 92.2%, five evidence-based critical comments (reported in Table 2) and one non-evidence based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 13. Behavioral addiction can cause a decline in mental health.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 84.40%; Probably False: 1.83%; Don't know: 13.76% (N=109). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 2.91%; Support: 72.82%; Mixed: 11.65%; Unaware: 12.62% (N=103). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 12.35%; Correlational: 50.62%; Causal limited: 41.96%; Causal field: 19.75%; Replicated causal field: 23.46%; Wide-scale causal: 34.57% (N=81). Experts provided a total of 57 references regarding this claim(see Table S9 for full list).

For example, Grant et al. (2010) reviewed existing research and found that behavioral addictions share similarities with substance addictions across various areas, such as developmental trajectory, clinical presentation, tolerance, co-occurring disorders, shared genetic factors, and underlying neurobiological processes. Petry et al. (2005) reported high comorbidity between pathological gambling and psychiatric disorders, including depression and anxiety. Similarly, Ko et al. (2009) linked excessive online gaming to depression, anxiety, and social phobia. Hartmann and Blaszczynski (2018) demonstrated that gambling problems can lead to increased depression and anxiety over time. Marchant et al. (2017) reviewed studies linking various operationalizations of "internet-related problematic behaviors" to self-harm and suicidal behaviors in school-based surveys, but noted that the direction of causality remains unclear. Moreover, the range of behaviors falling under this term, "problematic internet-related behaviors", is very broad, ranging from online sharing of self-harm content to cyberbullying. This term includes, but is not limited to, (behavioral) addictions to social media. Meta-analytic evidence further supports the existence of an association between behavioral addiction and decreased mental health. Alimoradi et al. (2024) reviewed 85 studies and found that problematic internet-related behaviors were consistently associated with mental health issues. Some experts argued that the claim is true by definition, as the DSM and ICD define addiction partly by its negative impact on functioning and mental health.

However, experts highlighted that complexities remain. While the ICD-11 defines "disorders due to addictive behaviours", the DSM does not formally define "behavioral addiction", which may create ambiguity about what qualifies as such (Alavi et al., 2012; Fournier et al., 2023; Brand et al., 2025). Additionally, behavioral addiction is a broad term, encompassing gaming, gambling, and potentially other non-internet-related behavioral addictions. Future work should explore the extent to which each of these (behavioral) addictions is associated with mental health.

Furthermore, some experts discussed evidence for “associations” rather than “causes”, and several experts specifically noted that it is difficult to identify the direction of causality and that robust causal inference is needed (e.g., Hygen et al., 2020). In some cases, mental health problems may precede or co-occur with (behavioral) addiction. For example, people with poor mental health may use (social) media, gambling, or gaming as maladaptive coping mechanisms.

In conclusion, while there is evidence for a negative association between behavioral addiction and mental health, the direction of the causal relationship remains unclear. Future work should explore the direction of causality with standardized definitions of behavioral addiction.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 122 accuracy ratings, with a combined accuracy score of 96.5%, and no critical comments. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 14. Heavy daily use of smartphones and social media can cause social deprivation, such as isolation and lack of formative social experiences.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 63.21%; Probably False: 16.04%; Don't know: 20.75% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 3.00%; Support: 45.00%; Mixed: 40.00%; Unaware: 12.00% (N=100). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 13.25%; Correlational: 63.86%; Causal limited: 42.17%; Causal field: 14.46%; Replicated causal field: 9.64%; Wide-scale causal: 8.43% (N=83). Experts provided a total of 74 references regarding this claim (see Table S9 for full list).

Experts pointed to several meta-analyses that have explored the positive correlation between social media usage and loneliness (Appel et al., 2020; Liu & Baumeister, 2016; Cheng et al., 2019). However, the largest-to-date meta-analysis (196 studies) found no overall association between these two variables (Cheng et al., 2019).

Experts also referred to a quasi-experimental study finding that higher connection speeds and increased Internet use can lead to reduced social engagement in various forms (Geraci et al., 2022). Furthermore, an experimental study found that deactivating Facebook for four weeks results in more in-person socialization with friends and family, but also increased solitary television watching and other solitary offline activities (Allcott et al., 2020). However, experts noted that these outcome measures are different from social deprivation, defined as an insufficiency of social connections, relative to the person's needs.

Additionally, several experts highlighted that there is also some evidence pointing in the opposite direction of the claim. According to a Pew Research survey, 81% of American teens report that social media makes them feel more connected to "what's going on in their friends' lives" (Anderson & Jiang, 2018). Experts also shared one study that found that social media

use is associated with more time with friends offline, and concluded that social media may actually foster social skills development (Steinsbekk et al., 2024).

Some experts argued that social media can facilitate access to social support and the development of friendships, particularly for LGBTQ+ youth (Berger et al., 2022; Paceley et al., 2022) and students with disabilities. Additionally, experts provided studies showing that individuals who experience social anxiety or have limited offline social opportunities may rely on online interactions (Kim et al., 2009). However, they also presented evidence that socially anxious and lonely individuals do not always receive the support they seek online (O'Day & Heimberg, 2021). A longitudinal study by Wang et al. (2018) examined the possibility of curvilinear relationships, revealing a U-shaped relationship between active Facebook use and social/emotional loneliness. Moderate use decreased loneliness, while heavy use predicted increased loneliness. Furthermore, some experts questioned the direction of causality, observing that while loneliness and screen time are often correlated, the direction of causality remains elusive (Burke et al., 2010).

Some experts highlighted that evidence for a "displacement hypothesis", which posits that time on social media displaces other social interactions, is mixed (Verduyn et al., 2021; Dienlin et al., 2017; Hall et al., 2019a). Some experts argued that much of what people do on social media involves passive browsing, which may fulfill non-social needs like entertainment. This suggests that social media may mostly displace other entertainment media, such as television, or unstructured solitary activities like browsing the internet or cleaning (Hall et al., 2019b), instead of in-person socialization.

In conclusion, the strength and even the direction of the potential causal relationship between social media use and social deprivation likely depends on various individual and social factors. Future work should explore various potential moderating factors and whether social media actually replaces positive social interactions beyond other entertainment media or other non-social activities.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 127 accuracy ratings, with a combined accuracy score of 96.7%, one evidence-based critical comment (reported in Table 2), and one non-evidence-based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 15. Chronic social deprivation can cause a decline in mental health.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 96.33%; Probably False: 0.00%; Don't know: 3.67% (N=109). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 0.00%; Supporting: 89.32%; Mixed: 4.85%; Unaware: 5.83% (N=103). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 1.10%; Correlational: 49.45%; Causal limited: 51.65%; Causal field: 32.97%; Replicated causal field: 27.47%; Wide-scale causal: 37.36% (N=91). Experts provided a total of 43 references regarding this claim (see Table S9 for full list).

National health surveys, such as those conducted by the United Kingdom's National Health System (NHS), consistently report associations between social deprivation and various measures of poor mental health (Newlove-Delgado et al., 2022). A longitudinal study has demonstrated increased depression in socially isolated participants (Cacioppo et al., 2006), and social-evaluative stressors are associated with greater cortisol levels, a key biological marker of stress (Dickerson & Kemeny, 2004). Field studies and natural experiments, particularly during the COVID-19 pandemic, provide real-world evidence of the effects of prolonged social deprivation on mental health. Killgore et al. (2020), for example, analyzed mental health data across lockdown periods, uncovering significant increases in depressive symptoms and suicidal ideation associated with extended social isolation. Several experimental studies have shown that increasing social interactions improves various mental health outcomes (Alvarez et al., 2024; Costello et al., 2022; Lai et al., 2020). A recent review concluded that social connections represent a key factor for mental and physical health (Holt-Lunstad, 2024).

Despite the converging evidence, experts noted that nuances merit consideration. The evidence is not based on controlled experiments that deprive individuals of social interactions – for obvious ethical reasons – therefore causality cannot be conclusively established. Another issue is the potential for reverse causality, where individuals with poor mental health may withdraw from social interactions or face stigma that limits their social opportunities (Lewinsohn, 1975; Schaefer et al., 2011).

In conclusion, experts agreed that the evidence supports the claim that chronic social deprivation can cause a decline in mental health.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 123 accuracy ratings, with a combined accuracy score of 99.2%, and one non-evidence-based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 16. Adolescent girls use visual social media platforms (e.g., TikTok and Instagram) more than adolescent boys.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 65.74%; Probably False: 7.41%; Don't know: 26.85% (N=108). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 3.00%; Support: 62.00%; Mixed: 16.00%; Unaware: 19.00% (N=100). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 8.14%; Empirical: 63.95%; Field:

30.23%; Replicated Field: 18.60%; Wide-scale: 23.26% (N=86). Experts provided a total of 47 references regarding this claim (see Table S9 for full list).

Some experts pointed to a Pew Research Center survey of U.S. teens, which found that more girls than boys report almost constant use of visual social media platforms like TikTok (22% vs. 12%), Snapchat (17% vs. 12%), and Instagram (10% vs. 7%) (Pew Research Center, 2023). The most recent Pew Research Center survey reports that TikTok and Instagram are used more widely by teen girls than teen boys (Pew Research Center, 2024). Other studies find that boys are more inclined toward other social platforms like Discord, including at least one with a strong visual component, YouTube (Manago et al., 2023). Additionally, boys are more likely to play some (visual) video games with a strong social component, such as *World of Warcraft* (Venn & DeMaio, 2020). This suggests that there might be underlying average differences in how boys and girls use the same platforms. Girls often emphasize aesthetic aspects of their social media presence by curating an online persona through features like stories and filters, while boys prioritize interactions through memes, text, and humor-driven content (Goodyear et al., 2022; Goodyear & Quennerstedt, 2020). However, other scholars pointed to evidence showing that these gender differences are not uniform. For instance, one study found no significant gender differences in self-reported photo editing behaviors on social media (Ozimek et al., 2023). While girls' preference for platforms like TikTok and Instagram is often attributed to the platforms' visual nature, the link is still not fully understood.

Experts have also identified methodological limitations in existing research. Most studies rely on self-reported measures, which can be subject to recall bias and imprecision. Future research could benefit from objective measures such as real-time social media data, eye-tracking (Scott & Hand, 2016; Scott et al., 2023), or screenomics, a method that captures participants' smartphone screenshots at frequent intervals (Reeves et al., 2021). Moreover, it has been noted that there is a blurred distinction between visual and non-visual social media: even supposedly non-visual social media (e.g., Reddit, which is used more by boys than girls) has substantial visual components including photos and videos. More compelling evidence for the hypothesized gender divide should include experimental studies with better-defined theoretical constructs.

In conclusion, while there is some evidence that adolescent girls use some visual social media platforms, such as Instagram and TikTok, more than adolescent boys, there is also evidence that adolescent boys use other visual social media platforms, such as YouTube, more than adolescent girls. Future research should test gender differences in social media usage with objective measures and more precisely defined theoretical constructs.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 126 accuracy ratings, with a combined accuracy score of 99.2%, and no critical comments. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

Goodyear, V., Andersson, J., Quennerstedt, M., & Varea, V. (2022). # Skinny girls: young girls' learning processes and health-related social media. Qualitative Research in Sport, Exercise and Health, 14(1), 1-18.

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Claim 17. Social media increases visual social comparisons among adolescent girls.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 79.63%; Probably False: 6.48%; Don't know: 13.89% (N=108). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 0.96%; Support: 70.19%; Mixed: 15.38%; Unaware: 13.46% (N=104). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 14.58%; Correlational: 57.29%; Causal limited: 44.79%; Causal field: 11.46%; Replicated causal field: 12.50%; Wide-scale causal: 8.33% (N=96). Experts provided a total of 62 references regarding this claim (see Table S9 for full list).

Most of the suggested evidence focuses on body image as the outcome variable, instead of visual social comparison directly. A recent meta-analysis of 63 samples, including both adults and youth, found that social media use is associated with decreased body satisfaction, with a stronger effect observed in younger individuals. The moderating effect of gender was not significant, indicating similar effects on males and females (Saiphoo & Vahedi, 2019). Similarly, a systematic review of experimental studies by Fioravanti et al. (2022) indicated that idealized images consistently increased body dissatisfaction among both young women and men, with appearance comparison playing a significant mediating role. Using eye-tracking technology, Couture Bue (2020) showed that Instagram use predicted greater attention to body regions associated with anxiety; this effect was mediated by appearance comparisons and body dissatisfaction among women aged 18-35. Qualitative studies highlight how girls use social media to compare their bodies with peers or influencers, striving to conform to idealized standards via features like filters and stories (Goodyear et al., 2022).

Experts noted that experimental studies provide a more nuanced picture. Fardouly et al. (2015) experimentally assigned young women aged 17 to 25 years to browse Facebook, magazines, or websites. They found no significant Facebook effect on body dissatisfaction, shape and weight concerns, or hair, face, and skin discrepancy. Yet, they identified a moderating role of upward social comparison: young women high in upward social comparison showed increased hair, face, and skin discrepancy after browsing Facebook. Similarly, Kleemans et al. (2018) exposed adolescent girls to edited Instagram content, finding that girls with higher comparison tendency were more strongly affected by idealized posts, whereas those lower in comparisons were statistically unaffected. Tiggemann and Anderberg (2020) showed that viewing “Instagram vs. reality” content (i.e., side-by-side idealized and natural photos of the same individual) reduced body dissatisfaction compared to idealized images. Yet, appearance comparison did not significantly vary across conditions, suggesting that the underlying mechanism may not be visual comparison. One hypothesis is that social media simply reminds some women of their body dissatisfaction (Ferguson, 2018).

Experts highlighted that another important question is whether social media uniquely increases visual comparisons compared to traditional media (e.g., comparing oneself to celebrities) or even in-person interactions. Two studies were provided on this. Roberts et al. (2022) found that social media contributes to body dissatisfaction, beyond traditional media. Fardouly et al. (2017) found that upward comparisons on social media are associated with worse body image outcomes compared to in-person comparisons and worse mood than comparisons made in traditional media. These studies thus suggest that social media may have unique effects compared to traditional media, but future work should investigate this question further with uniform methodologies and outcome measures.

In conclusion, although there is evidence that social media use is associated with body dissatisfaction among girls, whether this is due to increased visual social comparison is still under consideration. Furthermore, the potential causal link is likely moderated by individual factors. Future research should more directly investigate the relationship between social

media and visual social comparison, paying particular attention to moderating variables and whether social media's impact extends beyond that of traditional media or in-person interactions.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 124 accuracy ratings, with a combined accuracy score of 96.5%, and no critical comments. See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

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Claim 18. Social media increases perfectionism among adolescent girls.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 49.04%; Probably False: 14.42%; Don't know: 36.54% (N=104). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 2.17%; Support: 41.30%; Mixed: 19.57%; Unaware: 36.96% (N=192). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 23.61%; Correlational: 63.89%; Causal limited: 27.78%; Causal field: 9.72%; Replicated causal field: 5.55%; Wide-scale causal: 5.55% (N=72). Experts provided a total of 33 references regarding this claim (see Table S9 for full list).

For example, one survey of high school students found that upward social comparison was associated with higher levels of perfectionism, affecting both boys and girls similarly (Danielsen et al., 2024). Another study of undergraduate students found that self-reported Instagram addiction was positively correlated with concerns about physical imperfections and negatively correlated with body esteem among female students (Simon et al., 2022). Similarly, another survey reported that problematic Instagram and Facebook uses were both linked to perfectionism (Harren et al., 2021).

However, experts provided no evidence from experimental studies directly manipulating social media exposure to measure its effect on perfectionism. A longitudinal study offered weak evidence that exposure to seemingly superior individuals on social media increases perfectionism (Vanhoffelen et al., 2025). Moreover, experts provided no evidence suggesting that social media uniquely increases perfectionism in adolescent girls compared to other sources of perfectionism. Broader research shows that perfectionism—particularly socially prescribed perfectionism, based on social pressure to be perfect—has been rising steadily over time, with young people reporting increasing unhealthy pressure to perform at high levels in school, a trend dating back to at least 1990 (Curran & Hill, 2019).

Experts also noted that upward social comparisons may have positive effects, inspiring people to improve and achieve better results (Meier & Schäfer, 2018; Meier et al., 2020). This may be particularly true for women, even if it is sometimes accompanied by increased anxiety. Social media may increase young girls' exposure to positive role models who can in turn motivate them to succeed and pursue positions of authority, power, and accomplishment. All of this may increase performance-related expectations for oneself, which could result in increased anxiety and a sense of inadequacy, without being intrinsically bad. Additionally, it has been noted that the impact of social media on perfectionism is likely bidirectional (Casale et al., 2024), depends on individual factors (Fioravanti et al., 2024), and varies across social media platforms (Lee, 2022). Furthermore, research that examines perfectionism tends to define perfectionism in different ways, with different subscales associated with psychopathology (Smith et al., 2022). It has been argued that only perfectionism associated with a need to be perfect for others is associated with negative affect (Frost et al., 1993)—and accordingly, research has found that most of the increase in perfectionism over time is

associated with high scores on subscales linked to perceived parental criticism, parental expectations, and peer expectation (Curran & Hill, 2022). Exposure to social media may be secondary to the rise in perfectionism, or media exposure may indirectly increase perfectionism through peers and parents' use of social media.

In conclusion, while social media may be associated with perfectionism among girls, future studies should explore potential causal links, unpack various forms of perfectionism, and consider various moderating factors.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 118 accuracy ratings, with a combined accuracy score of 96.9%, and one non-evidence-based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 19. Social media increases relational aggression among adolescent girls, for example by providing tools for cyberbullying and exclusion.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 50.00%; Probably False: 10.38%; Don't know: 39.62% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 1.05%; Support: 41.05%; Mixed: 26.32%; Unaware: 31.58% (N=95). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 19.72%; Correlational: 69.01%; Causal limited: 30.99%; Causal field: 8.45%; Replicated causal field: 1.41%; Wide-scale causal: 4.23% (N=71). Experts provided a total of 47 references regarding this claim (see Table S9 for full list).

Some experts noted that evaluating this claim was particularly challenging because of the multidimensional nature of relational aggression, which encompasses various specific behaviours. The most closely related suggested reference is Marinoni et al. (2023), who found that during the pandemic, girls were more vulnerable to cyberbullying and cybervictimization than boys. Experts also pointed to a meta-analysis of 33 studies including surveys, longitudinal, and experimental studies, revealing that exposure to relational aggression – defined as hurtful manipulation of relationships and/or damaging a target's social position – strongly predicted relationally aggressive behaviors (Martins & Weaver, 2019). This suggests a possible self-reinforcing mechanism that could be triggered if social media effectively increases relational aggression. However, no experts provided experimental evidence establishing a causal link between social media use and increased relational aggression.

Several experts observed that higher pro-social social media use (i.e., exposure to body positivity posts and posting positive appearance comments) is positively related to increased prosocial behaviours (i.e., appearance-related prosocial tendencies) (Kvardova et al., 2025). This highlights the varied potential effects of social media, including both antisocial and prosocial behaviours. Additionally, it was noted that the potential negative effects of social media on relational aggression could apply to boys as well. Relatedly, experts have noted the importance of distinguishing girl-girl aggression from forms of aggression with girls as victims.

Some experts argued that social media platforms—with their unique features such as anonymity, persistent visibility, and wide reach—may amplify the effects of relational aggression, making it potentially more harmful than in-person bullying, even if the overall prevalence of bullying has not necessarily increased (Hinduja & Patchin, 2014). A laboratory study among adults shows that lack of eye contact can contribute to disinhibition, fostering toxic behavior (Lapidot-Lefler et al., 2012). Nevertheless, several experts contended that social media likely serves as a tool for those already predisposed to aggression, rather than creating new bullies.

In conclusion, the evidence that social media use increases relational aggression among adolescent girls is preliminary. Future studies should more thoroughly investigate the effect of social media on various forms of relational aggression, examining both girls and boys as perpetrators and victims. Such studies should also consider a wider range of behaviours, including prosocial and antisocial actions, both online and offline.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 116 accuracy ratings, with a combined accuracy score of 93.9%, one evidence-based critical comment (reported in Table 2), and two non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 20. Among adolescent girls, social media increases exposure to other people displaying or discussing their mental disorders.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 77.36%; Probably False: 1.89%; Don't know: 20.75% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 1.03%; Support: 59.79%; Mixed: 8.25%; Unaware: 30.93% (N=97). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 18.06%; Correlational: 69.44%; Causal limited: 27.78%; Causal field: 12.50%; Replicated causal field: 9.72%; Wide-scale causal: 8.33% (N=72). Experts provided a total of 57 references regarding this claim (see Table S9 for full list).

Evidence from Alho et al. (2024) suggests that mental disorders may be socially transmitted within adolescent peer networks: adolescents with classmates who have a mental disorder are at a higher risk of developing mental disorders later in life. While this study was not conducted on social media, it raises the possibility that if social media increases exposure to mental illness, it could similarly elevate risks of mental disorders, through social contagion. Regarding social media specifically, several experts highlighted literature reporting that functional tic-like behaviours, similar to the relatively rare Tourette's syndrome, appear to be spreading through social media platforms like TikTok (Frey et al., 2022; Giedinghagen, 2023; Haltigan et al., 2023; Hull et al., 2021; Olvera et al., 2021). Research on Twitter suggests reciprocal behavior in self-disclosure of mental illnesses, with users responding to others' disclosures in kind (Ernala et al., 2018). Another study found that exposure to self-harm content was associated with a greater likelihood of having urges and engaging in self-harm among adolescents (Hamilton et al., 2025).

However, no experts provided references for a direct causal link between social media use and increased exposure to mental disorders, highlighting a significant gap in the literature. Furthermore, no experts provided evidence to determine whether any such effect, if it exists, disproportionately affects girls or differs in magnitude between girls and boys. Moreover, no research has been provided that compares exposure to mental disorders on social media with traditional mass media (e.g., television, film), books, or in-person interactions, for example at school. Additionally, experts emphasized that in many cases, conversations about mental health issues may be protective. For example, Ali et al. (2024) analyzed direct messages about self-harm and suicide among Instagram users aged 13 to 21, finding significant helping behavior when a friend was perceived to be in danger.

In conclusion, while social media may contribute to increased exposure to mental disorders, future studies should explore potential causal links, paying particular attention to how social media might uniquely exacerbate this issue beyond traditional media or in-person socializing. Such research should also examine both the positive and negative downstream effects to provide a more comprehensive understanding of its impact.

Accuracy rating of the consensus statement:

In Survey, this consensus statement received 120 accuracy ratings, with a combined accuracy score of 96.4%, and two evidence-based critical comments (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Hull, M., & Parnes, M. (2021). Tics and TikTok: functional tics spread through social media. Movement Disorders Clinical Practice, 8(8), 1248-1252.

Olvera, C., Stebbins, G. T., Goetz, C. G., & Kompoliti, K. (2021). TikTok tics: a pandemic within a pandemic. Movement Disorders Clinical Practice, 8(8), 1200-1205.

Claim 21. Social media increases sexual predation and harassment of adolescent girls, for example by providing predators with access to potential victims.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 71.15%; Probably False: 5.77%; Don't know: 23.08% (N=104). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 4.12%; Support: 50.52%; Mixed: 6.19%; Unaware: 39.18% (N=97). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 28.81%; Correlational: 52.54%; Causal limited: 13.56%; Causal field: 5.08%; Replicated causal field: 3.39%; Wide-scale causal: 11.86% (N=59). Experts provided a total of 44 references regarding this claim(see Table S9 for full list).

For example, a survey by Common Sense Media revealed that nearly six in ten girls aged 11 to 15 who use Instagram (58%) and Snapchat (57%) reported being contacted by strangers in ways that made them uncomfortable (Nesi et al., 2023). Other experts shared journalistic investigations documenting that teen girls are frequent targets of sexual harassment on social media (Wall Street Journal, 2024a) and that these platforms facilitate opportunities for illegal sexual behavior, including enabling networks of pedophiles to operate (Wall Street Journal, 2023). One expert shared an internal survey from Meta that found that one in eight teen girls reports experiencing unwanted sexual advances every week (Instagram, 2021) and a recent internal study from Snap found that about 10,000 cases of sextortion are reported on their platform every month (Wall Street Journal, 2024b). Additionally, one correlational study was shared that found an association between Facebook use and online harassment (Bratton et al., 2020).

However, no experts provided experimental studies manipulating social media usage and measuring its effect on harassment or sexual predation. One expert provided a quasi-experimental study, which used potentially exogenous variations in internet use (not specifically social media), finding that increased internet access was associated with a substantial rise in various sex crimes, including rape. This effect was not attributed to changes in reporting behavior but was potentially linked to increased pornography consumption (Bhuller et al., 2013). Social media may exacerbate sex crimes through unique mechanisms, such as anonymous profiles, direct messaging, and the broad reach of these platforms, which provide predators with opportunities to access and groom potential victims.

Some experts highlighted that most sexual abuse happens offline (Ståhl & Dennhag, 2021). They also suggested it is important to note that social media may also provide new and potent avenues to denounce sexual abuse (Andalibi et al., 2016; Alaggia & Wang, 2020), as exemplified by the #MeToo movement. Additionally, one expert pointed out that the term "sexual predation" was not well-defined in the claim, and that different forms of sexual abuse may be affected differently by social media.

In conclusion, while social media may in some cases contribute to sexual predation and harassment of adolescent girls, future studies should investigate whether a causal link exists between social media use and various forms of sexual abuse. Future studies should focus on investigating whether and how social media uniquely impacts each of these forms of sexual abuse compared to other digital or in-person contexts. This topic is inherently sensitive, emphasizing the urgent need for rigorous research.

Accuracy rating of the consensus statement:

In Survey, this consensus statement received 113 accuracy ratings, with a combined accuracy score of 94.0%, one evidence-based critical comment (reported in Table 2) and one non-evidence based critical comment (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Bhuller, M., Havnes, T., Leuven, E., & Mogstad, M. (2013). Broadband internet: An information superhighway to sex crime?. Review of Economic Studies, 80(4), 1237-1266.

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Claim 22. At least one third of US college students would prefer for social media platforms to simply not exist.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 34.62%; Probably False: 20.19%; Don't know: 45.19% (N=104). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 3.23%; Support: 29.03%; Mixed: 13.98%; Unaware: 53.76% (N=93). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 33.33%; Empirical: 53.33%; Field: 10.00%; Replicated Field: 1.67%; Wide-scale: 0% (N=86). Experts provided a total of 14 references regarding this claim (see Table S9 for full list).

The primary evidence originates from a recent study conducted by the Harris Poll (2024), which surveyed a representative group of 1,006 US adults aged 18–27. The survey revealed that 40% of participants agreed (11% strongly) with the statement, "I wish social media had never been invented". However, a limitation of this evidence is that the claim pertains specifically to college students, whereas not all 18–27-year-olds are college students, and not all college students fall within the 18–27 age range. An additional piece of evidence comes from Bursztyn et al. (2023), who found that 57% and 58% of US college students (including users and non-users) prefer to live in a world without TikTok and Instagram, respectively. However, this has limitations, as it surveyed students who volunteered to deactivate their accounts, introducing a self-selection bias likely to overestimate dissatisfaction.

Additionally, some experts pointed to evidence contrary to the claim, such as data showing that a majority of adolescents hold more positive than negative opinions about social media (Michikyan et al., 2015; Nesi et al., 2023; Rosič et al., 2024; Villanti et al., 2017). In one sample, 81% of teens agreed that social media makes them feel more connected to their friends, and over two-thirds agreed such communication gives them a sense of social support through "tough times" and that it helps them interact with more diverse groups of people (Anderson & Jiang, 2018). In another sample, a majority of teenage respondents said that social media had either a positive or neutral effect on them and their peers, with only 9% saying that social media has personally affected them negatively and 32% saying that social media has affected people their age negatively (Anderson et al., 2022).

Moreover, several experts noted that there could be a large difference between "simply not exist" and "not exist in its current form" and speculated that responses would greatly vary across platforms. Furthermore, responses may depend on the wording of the question itself, of the preceding questions, and could be influenced by demand effects. It was also noted that

college students may struggle to answer such questions accurately, as they lack firsthand memory of a world without social media.

In conclusion, the evidence regarding this claim is mixed. The limited and methodologically constrained data highlight the need for future research. Specifically, studies should investigate the robustness of the findings across different question framings, social media platforms, and population subgroups to provide a more comprehensive understanding of user perspectives.

Accuracy rating of the consensus statement:

In Survey, this consensus statement received 121 accuracy ratings, with a combined accuracy score of 94.2%, and two non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 23. Most US parents would like to delay the age at which their children receive smartphones.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 60.38%; Probably False: 8.49%; Don't know: 31.13% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 2.11%; Support: 43.16%; Mixed: 10.53%; Unaware: 44.21% (N=95). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 31.82%; Empirical: 59.09%; Field: 13.64%; Replicated Field: 3.03%; Wide-scale: 4.54% (N=66). Experts provided a total of 13 references regarding this claim (see Table S9 for full list).

No expert provided evidence that directly tested the claim. The closest suggested evidence comes from a Pew Research Center (2020) survey of 3,640 U.S. parents with at least one child aged 17 or younger. The survey found that 78% of parents do not think it is acceptable for a child under the age of 12 to own a smartphone. Additionally, 71% of parents expressed concerns about their children potentially spending excessive time in front of screens. Furthermore, 66% of parents said parenting is harder today than it was 20 years ago, with about half attributing this difficulty to technology or social media. In a related study, the Common Sense Media Census reported that 56% of parents worry about their children becoming addicted to technology. Over 80% of parents stated that monitoring children's use of technology is crucial, and two-thirds prioritized this over respecting children's privacy (Lauricella et al., 2016).

However, experts noted that a Harris Poll (2024) offers a more nuanced perspective, reporting that 52% of parents are generally happy with their decision to give their children smartphones, although 73% regret granting access to social media apps. Relatedly, various polls have reported that children are getting their smartphones sooner in childhood with each passing year indicating that parents are, in fact, accelerating and not delaying the age at which they give their child a smartphone (Rideout et al., 2022; Sapien Labs, 2025). This discrepancy suggests that parents may be more willing to postpone social media access than smartphone use, possibly due to the practical advantages of smartphones. Moreover, parents have the ability to set appropriate limits on smartphone use for specific purposes.

In conclusion, there is considerable uncertainty about whether most parents are concerned about the age at which children receive smartphones. Future research should investigate parents' attitudes toward delaying smartphone access and distinguish between different smartphone uses (e.g., social media versus entertainment).

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 116 accuracy ratings, with a combined accuracy score of 94.1%, and two non-evidence-based critical comments (reported in Supplementary Section S7). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

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Claim 24. If most parents waited until their children were in high school to give them their first smartphones, it would benefit the mental health of adolescents overall. (Parents would give only basic phones or flip phones before high school).

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 67.92%; Probably False: 11.32%; Don't know: 20.75% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 3.92%; Support: 28.43%; Mixed: 15.69%; Unaware: 51.96% (N=102). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 50.68%; Correlational: 39.73%; Causal limited: 26.03%; Causal field: 8.22%; Replicated causal field: 2.74%; Wide-scale causal: 5.48% (N=93). Experts provided a total of 45 references regarding this claim (see Table S9 for full list).

For example, Dempsey et al. (2020) found no significant links between early mobile phone ownership and various psychosocial outcomes including happiness, satisfaction with life, and freedom from anxiety. A subsequent study by Vaterlaus et al. (2021) reported that the age at which individuals obtained their first smartphone had little to no predictive value for later well-being outcomes, including measures of depression, loneliness, life satisfaction, interpersonal communication, and phone addiction. Gerosa et al. (2024) observed contrasting relationships depending on gender: while early smartphone ownership was positively associated with life satisfaction for girls, the association was negative for boys, resulting in an overall null relationship. By contrast, a large-scale survey of 27,969 individuals aged 18–24 found that mental health outcomes were associated with a later age of first smartphone or tablet ownership, with the effect being more pronounced among females compared to males

(Sapien Labs, 2024). A longitudinal investigation by Sun (2023), which tracked 263 children and their parents over five years starting in 2012, found no significant associations between the age of phone acquisition and outcomes such as depressive symptoms, academic performance, or sleep (both self-reported and objectively measured).

Some experts noted that a potential limitation of these correlational and longitudinal studies is their focus on individual-level relationships. If only one adolescent in a social group does not have a smartphone while others do, that adolescent may feel excluded. In contrast, if most parents delayed giving their children smartphones until high school, group-level effects might emerge. When an entire group of adolescents refrains from using smartphones, young people would not be the only ones disconnecting from the online world, and would be less likely to feel left out[1]. However, due to limited data, we do not know the effects of group-level interventions.

Some experts noted that certain segments of youth, such as LGBTQ+ individuals, may use smartphones to access support networks and foster community connections (Coyne et al., 2023). Some experts argued that it is important to consider how smartphones are used at different developmental stages and that researchers should account for individual differences. Some experts have proposed "scaffolding" as an alternative approach, where younger children are introduced to smartphones in a structured, parent-mediated manner. This method allows parents to guide usage and help children develop healthy habits over time, potentially mitigating risks while promoting benefits (Wisniewski et al., 2017).

In conclusion, the evidence is insufficient to draw conclusions about this claim. Future research should investigate whether collective delays in smartphone ownership might yield positive outcomes by fostering shared activities. Additionally, studies should differentiate between various smartphone uses and examine their effects across developmental stages, with a particular focus on individual differences that might moderate their impact. Furthermore, research into scaffolding techniques may offer a promising middle-ground approach, balancing the risks and benefits of early smartphone use.

Accuracy rating of the consensus statement:

In Survey, this consensus statement received 117 accuracy ratings, with a combined accuracy score of 95.4%, and one evidence-based critical comment (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

Coyne, S. M., Weinstein, E., Sheppard, J. A., James, S., Gale, M., Van Alfen, M., ... & Banks, K. (2023). Analysis of social media use, mental health, and gender identity

[1] The final consensus statement included the phrasing "would be less likely to feel the fear of missing out of being left out", which is grammatically incorrect. This phrasing was replaced with "would be less likely to feel left out" during the review of the paper. This proposed change was shown to all co-authors, and no one objected.

among US youths. JAMA Network Open, 6(7), e2324389-e2324389.
Dempsey, S., Lyons, S., & McCoy, S. (2020). Early mobile phone ownership: influencing the wellbeing of girls and boys in Ireland?. Journal of Children and Media, 14(4), 492-509.
Gerosa, T., Losi, L., & Gui, M. (2024). The age of the smartphone: An analysis of social predictors of children's age of access and potential consequences over time. Youth & Society, 0044118X231223218.
Sapien Labs (2023). https://sapienlabs.org/wp-content/uploads/2023/05/Sapien-Labs-Age-of-First-Smartphone-and-Mental-Wellbeing-Outcomes.pdf
Sun, X., Haydel, K. F., Matheson, D., Desai, M., & Robinson, T. N. (2023). Are mobile phone ownership and age of acquisition associated with child adjustment? A 5‐year prospective study among low‐income Latinx children. Child development, 94(1), 303-314.
Vaterlaus, J. M., Aylward, A., Tarabochia, D., & Martin, J. D. (2021). "A smartphone made my life easier": An exploratory study on age of adolescent smartphone acquisition and well-being. Computers in Human Behavior, 114, 106563.
Wisniewski, P., Ghosh, A. K., Xu, H., Rosson, M. B., & Carroll, J. M. (2017, February). Parental control vs. teen self-regulation: Is there a middle ground for mobile online safety?. In Proceedings of the 2017 ACM conference on computer supported cooperative work and social computing (pp. 51-69).

Claim 25. Imposing (and enforcing) a legal minimum age of 16 for opening social media accounts would benefit the mental health of adolescents overall.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 56.19%, Probably False: 18.10%; Don't know: 25.71% (N=105). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 3.03%; Support: 22.22%; Mixed: 18.18%; Unaware: 56.57% (N=98). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 70.59%; Correlational: 26.47%; Causal limited: 10.29%; Causal field: 2.94%; Replicated causal field: 2.94%; Wide-scale causal: 5.88% (N=68). Experts provided a total of 26 references regarding this claim (see Table S9 for full list).

Experts provided no references that were strictly related to the claim, but a significant number of them consider the claim plausible even without specific evidence. Experts who reported that the claim is likely true cited research linking social media to decreased mental health among adolescents (Twenge & Campbell, 2018), especially for young adolescents (Orben et al., 2022). However, it is important to highlight that the impact of social media on adolescent mental health is currently under consideration. A meta-analysis by Ferguson

(2024) found no significant mental health differences between experimental participants who temporarily abstained from social media and those in a control group. A subsequent re-analysis suggests that the duration of social media reduction may play a critical role: reductions exceeding one week had positive effects on mental health, whereas shorter reductions had negative effects (Thrul et al., 2025). Given the preliminary nature of these results, expert responses about the veracity of this claim should be interpreted as opinions rather than definitive, evidence-based conclusions.

Furthermore, experts highlighted several practical, legal, and ethical issues regarding the proposed ban. Practical challenges include the risk of circumvention through VPNs, difficulties in implementing effective age verification, ambiguities in defining which platforms would be affected, and complexities in enforcing the regulation. Legal issues, at least in the US, include the potential unconstitutionality of such a ban, as it could violate First Amendment rights by restricting access to information, as well as parental rights to make decisions about their children's upbringing. Ethical concerns include privacy risks if verification systems rely on biometrics or identity data and the potential to push children into less regulated online spaces, potentially exposing them to greater harm.

Experts also noted that focusing on platform accountability might be a more effective approach than relying instead on individual age restrictions. Recent legislative efforts, such as the UK Online Safety Bill and the California Age-Appropriate Design Code Act, emphasize the responsibility of social media companies in creating safer online environments. These initiatives prioritize platform-level changes, such as implementing features that promote user well-being, rather than restricting access based solely on age (Burton et al., 2022; Altieri & Sanchez, 2022). As in the previous claim, some experts argued that digital literacy education could represent a more effective way to support adolescent mental health.

In conclusion, the available evidence is insufficient to support or challenge the claim that imposing (and enforcing) a legal minimum age of 16 for opening social media accounts would benefit the mental health of adolescents overall. Future efforts should prioritize evidence-based strategies, comparing or combining restrictive measures with less restrictive approaches that focus on platform accountability or digital literacy education, with a broad view that includes practical, legal, and ethical issues.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 120 accuracy ratings, with a combined accuracy score of 93.7%, and one evidence-based critical comment (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

Altieri, C., & Sanchez, B. (2022, October). Policy Brief: An Analysis of the California Age-Appropriate Design Code. In Future of Privacy Forum.

Burton, A., Soames, M., & Cohen, A. (2022). The Online Safety Bill 2022. Solic. J., 165, 58.
Ferguson, C. J. (2024). Do social media experiments prove a link with mental health: A methodological and meta-analytic review. Psychology of Popular Media.
Orben, A., Przybylski, A. K., Blakemore, S. J., & Kievit, R. A. (2022). Windows of developmental sensitivity to social media. Nature Communications, 13(1), 1649.
Thrul, J., Devkota, J., AlJuboori, D., Regan, T., Alomairah, S., & Vidal, C. (2025). Social media reduction or abstinence interventions are providing mental health benefits—Reanalysis of a published meta-analysis. *Psychology of Popular Media*, *14*(2), 207.
Twenge, J. M., & Campbell, W. K. (2018). Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. Preventive medicine reports, 12, 271-283.

Claim 26. Phone-free schools would benefit the mental health of adolescents overall.

Consensus statement:

Experts' answers to the question "What do you think about this claim?" were Probably True: 69.81%; Probably False: 8.49%; Don't know: 21.70% (N=106). Experts' answers to the question "To the best of your knowledge, how does the empirical evidence align with this claim?" were Against: 0.97%; Support: 37.86%; Mixed: 31.07%; Unaware: 30.10% (N=103). Experts' answers to the question "To the best of your knowledge, what is the level of evidence regarding this claim?" were No evidence: 28.57%; Correlational: 44.16%; Causal limited: 25.97%; Causal field: 16.88%; Replicated causal field: 2.60%; Wide-scale causal: 11.69% (N=77). Experts provided a total of 41 references regarding this claim (see Table S9 for full list).

The evidence regarding this claim is very limited and recent. A few studies have explored the impact of smartphone bans on different outcomes. Böttger and Zierer (2024) performed a meta-analysis of five studies investigating the influence of school-imposed smartphone bans on academic achievement and social well-being. Their analysis revealed a small but statistically significant overall effect, with the most notable benefits observed in social well-being, such as a reduction in bullying, compared to non-statistically significant effects on academic performance. Conversely, a recent pre-registered study conducted in Australia, which was not included in the meta-analysis, found no meaningful changes in problematic phone use, student engagement, and feelings of school belonging following the implementation of a phone ban (King et al., 2024). A scoping review by Campbell et al. (2024) – which includes more studies than the Böttger and Zierer (2024) meta-analysis - highlighted critical limitations in the existing research, emphasizing the lack of randomized controlled trials. The current evidence is derived from a small number of studies employing diverse methodologies, samples, definitions of smartphone bans (e.g., partial or total restrictions), and outcome measures, making it difficult to draw conclusions from existing studies. Despite these limitations, Campbell et al. (2024) found that a small majority of studies reported positive effects on bullying and cyberbullying, while a similarly small majority found no significant impact on student mental health and well-being. However,

because the review was not a meta-analysis, it did not compute overall effect sizes and did not account for differences in sample sizes, further complicating the interpretation of findings. A recent meta-analysis comparing students' mental health and school performance across 20 schools with restrictive smartphone policies and 10 schools with permissive policies found no significant differences in either of the measures (Goodyear et al., 2025). However, only four of the twenty schools with restrictive policies fully implemented a phone-free policy, limiting the sample size and its representativeness to draw conclusions about the claim (Haidt, Rausch, & McLean, 2025).

Experts have also raised concerns that banning smartphones in schools may have unintended negative consequences. For example, school bans could lead to increased suspensions, particularly among students who struggle to comply with the rules (Ferguson, 2024).

Furthermore, the difficulty of enforcing smartphone bans consistently across schools may also contribute to variability in outcomes. Moreover, the effectiveness of smartphone bans is likely influenced by contextual factors such as school culture and socio-economic demographics. The current evidence does not adequately address these nuances, making it difficult to determine whether the already limited observed effects of bans are generalizable across settings.

In conclusion, the available evidence is too limited and inconsistent to draw conclusions about whether phone-free schools would benefit the mental health of adolescents overall. Future research should examine the effect of bans across various dimensions of student well-being and consider how socioeconomic backgrounds influence these outcomes.

Accuracy rating of the consensus statement:

In Survey 4, this consensus statement received 119 accuracy ratings, with a combined accuracy score of 93.6%, and two evidence-based critical comments (reported in Table 2). See Supplementary Table S8 and Figure S4 for the distribution of responses to the accuracy question.

References

Böttger, T., & Zierer, K. (2024). To ban or not to ban? A rapid review on the impact of smartphone bans in schools on social well-being and academic performance. Education Sciences, 14(8), 906.

Campbell, M., Edwards, E. J., Pennell, D., Poed, S., Lister, V., Gillett-Swan, J., ... & Nguyen, T. A. (2024). Evidence for and against banning mobile phones in schools: A scoping review. Journal of Psychologists and Counsellors in Schools, 34(3), 242-265.

Ferguson, C. J. (2024). https://grimoiremanor.substack.com/p/cellphone-bans-in-schools-may-harm

Goodyear, V. A., Randhawa, A., Adab, P., Al-Janabi, H., Fenton, S., Jones, K., ... & Pallan, M. (2025). School phone policies and their association with mental wellbeing, phone use, and social media use (SMART Schools): a cross-sectional

observational study. The Lancet Regional Health–Europe.
Haidt, J., Rausch, Z., McLean, A. (2025). https://www.afterbabel.com/p/lancet-study-flaws
King, D. L., Radunz, M., Galanis, C. R., Quinney, B., & Wade, T. (2024). "Phones off while school's on": Evaluating problematic phone use and the social, wellbeing, and academic effects of banning phones in schools. Journal of Behavioral Addictions.

Section S6. Detailed results of Survey 4

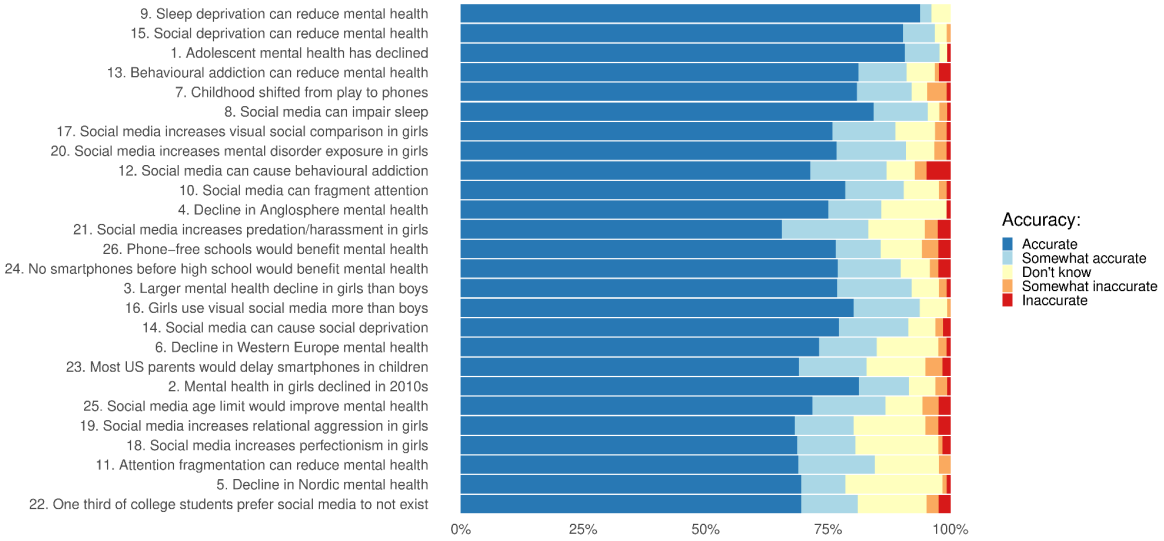

Figure S4. Accuracy of the finalized consensus statement from Survey 4.

Table S8. Responses to the "accuracy" question in Survey 4, without any restriction, dividing participants between those who were personally invited to take one of our surveys vs those who were not, dividing participants who took Survey 4 anonymously vs those who did not, dividing the participant who reported having a PhD (in Survey 1) or not, and dividing participant who declared being parents (in Survey 1) or not. Note that there are only 5 participants who completed Survey 4, without being invited to join the project, and only 4 participants who took Survey 4 anonymously. In the first column of the table, we do not report the wording of the claim to avoid confusion: the accuracy ratings refer to the consensus statements about a claim, not to the claim itself.

Claim	Answer	Sample restriction								
		No restriction	Invited	No invited	Anonymous	No anonymous	PhD	No PhD	Parent	No parent
1	Inaccurate	0.78%	0.82%	0%	33.33%	0%	0%	0%	0%	0%
	Somewhat inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Don't know	1.56%	0.82%	0%	33.33%	0.80%	1.49%	0%	2.22%	0%

Claim	Answer	Sample restriction								
		No restriction	**Invited**	**No invited**	**Anonymous**	**No anonymous**	**PhD**	**No PhD**	**Parent**	**No parent**
	Somewhat accurate	7.03%	5.74%	40%	33.33%	6.40%	2.99%	9.09%	4.44%	2.94%
	Accurate	90.62%	92.62%	60%	0%	92.80%	95.92%	90.91%	93.33%	97.06%
2	Inaccurate	0.78%	0.83%	0%	25.00%	0%	0.00%	0%	0%	0%
	Somewhat inaccurate	2.34%	2.48%	0%	0%	2.42%	2.99%	0%	2.22%	3.03%
	Don’t know	5.47%	4.96%	0%	25.00%	4.84%	4.48%	0%	2.22%	6.06%
	Somewhat accurate	10.16%	9.09%	40.00%	25.00%	9.68%	10.45%	0%	8.89%	9.09%
	Accurate	81.25%	82.64%	60.00%	25.00%	83.06%	82.09%	100.00 %	86.67%	81.82%
3	Inaccurate	0.80%	0.85%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	1.60%	1.69%	0%	0%	1.65%	0%	9.09%	0%	3.12%
	Don’t know	5.60%	5.08%	0%	25.00%	4.96%	6.25%	0%	4.55%	6.25%
	Somewhat accurate	15.20%	14.41%	40.00%	25.00%	14.88%	9.38%	18.18%	9.09%	12.50%
	Accurate	76.80%	77.97%	60.00%	25.00%	78.51%	84.38%	72.73%	86.36%	78.12%
4	Inaccurate	0.83%	0.88%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Don’t know	13.33%	12.39%	20%	25.00%	12.93%	9.84%	33.33%	12.50%	12.90%
	Somewhat accurate	10.83%	10.62%	20%	25.00%	10.34%	9.84%	11.11%	7.50%	12.90%
	Accurate	75.00%	76.11%	60%	25.00%	76.72%	80.33%	55.56%	80.00%	74.19%
5	Inaccurate	0.83%	0.88%	0%	25.00%	0%	0.00%	0%	0%	0%
	Somewhat inaccurate	0.83%	0.88%	0%	0%	0.85%	1.64%	0%	2.44%	0%
	Don’t know	19.83%	18.42%	0%	50.00%	18.80%	13.11%	40.00%	19.51%	16.13%
	Somewhat accurate	9.09%	9.65%	40.00%	0%	9.40%	13.11%	10.00%	7.32%	19.35%
	Accurate	69.42%	70.18%	60.00%	25.00%	70.94%	72.13%	50.00%	70.73%	64.52%
6	Inaccurate	0.84%	0.89%	0%	25.00%	0%	0.00%	0%	0%	0%
	Somewhat inaccurate	1.68%	1.79%	0%	0%	1.74%	3.39%	0%	5.13%	0%
	Don’t know	12.61%	10.71%	40.00%	50.00%	11.30%	6.78%	20.00%	10.26%	9.68%
	Somewhat accurate	11.76%	12.50%	0%	0%	12.17%	11.86%	10.00%	10.26%	12.90%
	Accurate	73.11%	74.11%	60.00%	25.00%	74.78%	77.97%	70.00%	74.36%	77.42%
7	Inaccurate	0.80%	0.85%	0%	25.00%	0%	0.00%	0%	0%	0%
	Somewhat inaccurate	4.00%	3.39%	20.00%	0%	4.13%	1.54%	10.00%	0%	6.45%
	Don’t know	3.20%	2.54%	0%	25.00%	2.48%	4.62%	0%	2.22%	6.45%
	Somewhat accurate	11.20%	11.02%	20.00%	25.00%	10.74%	12.31%	0%	11.11%	9.68%
	Accurate	80.80%	82.20%	60.00%	25.00%	82.64%	81.54%	90.00%	86.67%	77.42%
8	Inaccurate	0.79%	0.83%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	1.57%	0.83%	20.00%	25.00%	0.81%	1.52%	0%	0%	3.30%

Claim	Answer	Sample restriction								
		No restriction	**Invited**	**No invited**	**Anonymous**	**No anonymous**	**PhD**	**No PhD**	**Parent**	**No parent**
	Don't know	2.36%	1.67%	0%	25.00%	1.63%	3.03%	0%	2.22%	3.03%
	Somewhat accurate	11.02%	10.83%	20.00%	0%	11.38%	10.61%	0%	8.89%	9.09%
	Accurate	84.25%	85.83%	60.00%	25.00%	86.18%	84.85%	100.00 %	88.89%	84.85%
9	Inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Somewhat inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Don't know	3.94%	3.33%	0%	25.00%	3.25%	3.03%	0%	2.27%	2.94%
	Somewhat accurate	2.36%	2.50%	0%	25.00%	1.63%	1.52%	0%	2.27%	0%
	Accurate	93.70%	94.17%	100%	50.00%	95.12%	95.45%	100.00 %	95.45%	97.06%
10	Inaccurate	0.80%	0.85%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	1.60%	0.85%	20.00%	25.00%	0.83%	0%	0%	0%	0%
	Don't know	7.20%	6.78%	0%	0%	6.61%	6.06%	0%	2.22%	9.38%
	Somewhat accurate	12.00%	11.86%	20.00%	25.00%	12.40%	9.09%	10.00%	8.89%	9.38%
	Accurate	78.40%	79.66%	60.00%	25.00%	80.17%	84.95%	90.00%	88.89%	81.25%
11	Inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Somewhat inaccurate	2.46%	1.74%	20.00%	0%	2.54%	1.59%	0%	0%	3.23%
	Don't know	13.11%	13.04%	0%	50.00%	11.86%	9.52%	10.00%	11.63%	6.45%
	Somewhat accurate	15.57%	16.52%	0%	0%	16.10%	12.70%	30.00%	11.63%	19.35%
	Accurate	68.85%	68.70%	80.00%	50.00%	69.49%	76.19%	60.00%	76.74%	70.97%
12	Inaccurate	4.92%	5.17%	0%	25.00%	4.24%	3.12%	10.00%	6.82%	0%
	Somewhat inaccurate	2.46%	1.72%	25.00%	25.00%	1.69%	3.12%	0%	0%	6.45%
	Don't know	5.74%	5.17%	0%	25.00%	5.08%	6.25%	0%	2.27%	9.68%
	Somewhat accurate	15.57%	16.38%	0%	0%	16.10%	15.62%	0%	15.91%	9.68%
	Accurate	71.31%	71.55%	75.00%	25.00%	72.88%	71.88%	90.00%	75.00%	74.19%
13	Inaccurate	2.46%	2.61%	0%	25.00%	1.69%	0%	9.09%	2.33%	0%
	Somewhat inaccurate	0.82%	0.87%	0%	0%	0.85%	1.59%	0%	0%	3.12%
	Don't know	5.74%	5.22%	0%	25.00%	5.08%	4.76%	9.09%	4.65%	6.25%
	Somewhat accurate	9.84%	9.57%	20.00%	0%	10.17%	9.52%	9.09%	6.98%	12.50%
	Accurate	81.15%	81.74%	80.00%	50.00%	82.20%	84.13%	72.73%	86.05%	78.12%
14	Inaccurate	1.57%	0.83%	20.00%	50.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	1.57%	1.67%	0%	0%	1.63%	1.52%	0%	0%	3.12%
	Don't know	5.51%	5.00%	0%	25.00%	4.88%	4.55%	10.00%	2.22%	9.38%
	Somewhat accurate	14.17%	14.17%	20.00%	0%	14.63%	16.67%	10.00%	17.78%	12.50%

Claim	Answer	Sample restriction								
		No restriction	**Invited**	**No invited**	**Anonymous**	**No anonymous**	**PhD**	**No PhD**	**Parent**	**No parent**
	Accurate	77.17%	78.33%	60.00%	25.00%	78.86%	77.27%	80.00%	80.00%	75.00%
15	Inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Somewhat inaccurate	0.81%	0.86%	0%	0%	0.84%	1.59%	0%	0%	3.03%
	Don't know	2.44%	1.72%	0%	25.00%	1.68%	1.59%	9.09%	2.38%	3.03%
	Somewhat accurate	6.50%	6.03%	20.00%	25.00%	5.88%	4.76%	0%	4.76%	3.03%
	Accurate	90.24%	91.38%	80.00%	50.00%	91.60%	92.06%	90.91%	92.86%	90.91%
16	Inaccurate	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Somewhat inaccurate	0.79%	0.83%	0%	0%	0.82%	1.52%	0%	0%	3.03%
	Don't know	5.56%	5.00%	0%	50.00%	4.10%	3.03%	18.18%	4.44%	9.09%
	Somewhat accurate	13.49%	13.33%	25.00%	0%	13.93%	15.15%	0%	11.11%	15.15%
	Accurate	80.16%	80.83%	75.00%	50.00%	81.15%	80.30%	81.82%	84.44%	72.73%
17	Inaccurate	0.81%	0.85%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	2.42%	2.56%	0%	0%	2.50%	1.56%	9.09%	2.33%	3.03%
	Don't know	8.06%	6.84%	20.00%	50.00%	6.67%	7.81%	18.18%	6.98%	12.12%
	Somewhat accurate	12.90%	12.82%	20.00%	0%	13.33%	9.38%	9.09%	6.98%	12.12%
	Accurate	75.81%	76.92%	60.00%	25.00%	77.50%	81.25%	63.64%	83.72%	72.73%
18	Inaccurate	1.69%	1.79%	0%	25.00%	0.88%	0%	0%	0%	0%
	Somewhat inaccurate	0.85%	0.89%	0%	0%	0.88%	1.67%	0%	2.44%	0%
	Don't know	16.95%	16.07%	25.00%	50.00%	15.79%	6.67%	36.36%	7.32%	19.35%
	Somewhat accurate	11.86%	11.61%	25.00%	0%	12.28%	13.33%	9.09%	9.76%	16.13%
	Accurate	68.64%	69.64%	50.00%	25.00%	70.18%	78.33%	54.55%	80.49%	64.52%
19	Inaccurate	2.59%	1.82%	25.00%	50.00%	0.89%	0%	0%	0%	0%
	Somewhat inaccurate	2.59%	1.82%	25.00%	0%	2.68%	1.64%	0%	0%	3.33%
	Don't know	14.66%	14.55%	0%	25.00%	14.29%	9.84%	33.33%	9.76%	20.00%
	Somewhat accurate	12.07%	12.73%	0%	0%	12.50%	9.84%	11.11%	9.76%	10.00%
	Accurate	68.10%	69.09%	50.00%	25.00%	69.64%	78.69%	55.56%	80.49%	66.67%
20	Inaccurate	0.83%	0.88%	0%	25.00%	0%	0%	0%	0%	0%
	Somewhat inaccurate	2.50%	0.88%	40.00%	25.00%	1.72%	0%	0%	0%	0%
	Don't know	5.83%	5.31%	0%	25.00%	5.17%	4.92%	9.09%	4.76%	6.45%
	Somewhat accurate	14.17%	15.04%	0%	0%	14.66%	18.03%	9.09%	16.67%	16.13%
	Accurate	76.67%	77.88%	60.00%	25.00%	78.45%	77.05%	81.21%	78.57%	77.42%
21	Inaccurate	2.65%	1.87%	25.00%	50.00%	0.92%	0%	0%	0%	0%
	Somewhat inaccurate	2.65%	2.80%	0%	0%	2.75%	1.72%	10.00%	2.44%	3.57%

Claim	Answer	Sample restriction								
		No restriction	**Invited**	**No invited**	**Anonymous**	**No anonymous**	**PhD**	**No PhD**	**Parent**	**No parent**
	Don't know	11.50%	11.21%	0%	25.00%	11.01%	10.34%	30.00%	12.20%	17.86%
	Somewhat accurate	17.70%	17.76%	25.00%	0%	18.35%	13.79%	20.00%	9.76%	21.43%
	Accurate	65.49%	66.36%	50.00%	25.00%	66.97%	74.14%	40.00%	75.61%	57.14%
22	Inaccurate	2.48%	2.61%	0%	25.00%	1.71%	1.59%	0%	0%	3.33%
	Somewhat inaccurate	2.48%	2.61%	0%	0%	2.56%	3.17%	0%	0%	6.67%
	Don't know	14.05%	13.04%	25.00%	50.00%	12.82%	12.70%	20.00%	15.91%	13.33%
	Somewhat accurate	11.57%	11.30%	25.00%	0%	11.97%	11.11%	10.00%	9.09%	13.33%
	Accurate	69.42%	70.43%	50.00%	25.00%	70.94%	71.43%	70.00%	75.00%	63.33%
23	Inaccurate	1.72%	1.83%	0%	25.00%	0.89%	0%	0%	0%	0%
	Somewhat inaccurate	3.45%	3.67%	0%	0%	3.57%	5.08%	0%	0%	10.71%
	Don't know	12.07%	11.01%	20.00%	50.00%	10.71%	8.47%	22.22%	12.20%	10.71%
	Somewhat accurate	13.79%	13.76%	20.00%	0%	14.29%	11.86%	11.11%	9.76%	14.29%
	Accurate	68.97%	69.72%	60.00%	25.00%	70.54%	74.58%	66.67%	78.05%	64.29%
24	Inaccurate	2.56%	1.80%	25.00%	50.00%	0.88%	0%	0%	0%	0%
	Somewhat inaccurate	1.71%	1.80%	0%	0%	1.77%	3.28%	0%	0%	6.67%
	Don't know	5.98%	5.41%	0%	25.00%	5.31%	6.56%	10.00%	4.76%	10.00%
	Somewhat accurate	12.82%	12.61%	25.00%	0%	13.27%	8.20%	30.00%	11.90%	10.00%
	Accurate	76.92%	78.38%	50.00%	25.00%	78.76%	81.97%	60.00%	83.33%	73.33%
25	Inaccurate	2.50%	1.75%	25.00%	50.00%	0.86%	0%	0%	0%	0%
	Somewhat inaccurate	3.33%	3.51%	0%	0%	3.45%	4.84%	10.00%	4.65%	6.67%
	Don't know	7.50%	7.02%	0%	25.00%	6.90%	4.84%	30.00%	6.98%	13.33%
	Somewhat accurate	15.00%	15.79%	0%	0%	15.52%	16.13%	10.00%	18.60%	10.00%
	Accurate	71.67%	71.93%	75.00%	25.00%	73.28%	74.19%	50.00%	69.77%	70.00%
26	Inaccurate	2.52%	1.77%	25.00%	50.00%	0.87%	0%	0%	0%	0%
	Somewhat inaccurate	3.36%	3.54%	0%	0%	3.48%	3.17%	10.00%	2.38%	6.25%
	Don't know	8.40%	7.96%	0%	25.00%	7.83%	9.52%	10.00%	9.52%	12.50%
	Somewhat accurate	9.24%	9.73%	0%	0%	9.57%	7.94%	0%	7.14%	6.25%
	Accurate	76.47%	76.99%	75.00%	25.00%	78.26%	79.37%	80.00%	80.95%	75.00%

Section S7. List of critical comments to the finalized consensus statements

This section reports the full list of critical comments received by each consensus statement in the Survey 4.

Claim 1. Over the last two decades, there has been a decline in mental health among adolescents in the USA.

1) See Michael Scheeringa's recent work...adolescent self-report is unreliable. New CDC data also points to improvements in adolescent wellness and suicide in last few years.

Claim 2. The decline in mental health among girls in the USA began in the early 2010s.

1) Once again, see recent work by Michael Scheeringa and the CDC.
2) The claim and summary statement do not adequately address the nuanced interaction between gender and ideology. It is not the case that mental health struggles changed for teenage girls starting in the early 2010s. It would be more accurate to claim that liberal girls' mental health declined starting in the early 2010s, followed by liberal boys, followed by conservative boys, and then followed by conservative girls. This claim makes it seem as if the mental health of girls moved in the negative direction in a uniform way. See claim 3.

Claim 3. The decline in mental health among girls in the USA since the early 2010s is more pronounced than the decline among boys during the same period.

1) No, CDC suggests suicide rose more quickly for males, before decreasing. These questions are worded in a misleading way, not recognizing recent improvements in data.
2) The role of ideology is based on 1 cross-sectional study from Gimbrone et al. (2022), providing very limited evidence that ideology has a causal effect on mental health, independently of the other factors described here (differences in detection, access to care, etc.). Highlighting this factor in the conclusion gives it disproportionate visibility given the limited evidence base and the fact that the other factors are much more commonly recognized and discussed in the literature.

Claim 4. Over the last two decades, there has been a decline in mental health among adolescents in the Anglosphere (Australia, Canada, Ireland, UK, New Zealand).

1) No, cross-national suicide data do not support this statement. And as Scheeringa found, self-report is unreliable.

Claim 5. Over the last two decades, there has been a decline in mental health among adolescents in the Nordic countries (e.g., Denmark, Finland, Iceland, Norway, Sweden).

1) There is no evidence for this statement.
2) I think the conclusion in this consensus statement overstates the evidence that there has been a decline in adolescent mental health in Nordic countries. Even *if*

there is some evidence to support this claim, the trends are not similar to the trends in North America (i.e., the movement is not uniform across all measures of well-being) so we are likely not dealing with the same psychological phenomenon across those regions of the world.

Claim 6. Over the last two decades, there has been a decline in mental health among adolescents in Western Europe overall, although with variation across countries.

1) No, this is not what the evidence suggests and the authors here are guilty of selective citation.
2) I think the conclusion in this consensus statement overstates the evidence that there has been a decline in adolescent mental health in Western Europe. Even *if* there is some evidence to support this claim, the trends are not similar to the trends in North America (i.e., the movement is not uniform across all measures of well-being) so we are likely not dealing with the same psychological phenomenon across those regions of the world.

Claim 7. Play-based childhood has shifted towards phone-based childhood (i.e., time with friends and total time playing away from screens has decreased).

1) No, this is actually a very silly statement, more a meme or "headline grabber" than anything scientific.
2) The following statement is not accurate in my opinion:

"Some experts also pointed out that key terms such as “play-based childhood” and “phone-based childhood” were not explicitly defined."

I was one of the respondents who expressed concerns about this. My concern is more than a lack of explicit definition. I believe that contrasting play-based and phone-based childhood creates a false dichotomy -- a logical fallacy -- that encourages a catastrophic view of the effect of phones.

3) The claim implies the displacement theory when increasing evidence shows a much more nuanced and complex relationship as noted in the discussion.
4) I think it is inaccurate to use the term "phone-based childhood" when you really mean all screen devices.

Claim 8. Heavy daily use of smartphones and social media can cause sleep deprivation.

1) No, and in fact some of the citations used here are misused as supporting a link, when their effect sizes are too weak to do so (e.g. Ahmed et al.)
2) The CDC's 2021 and 2023 YRBS's show that teens' sleep deprivation is far more reliably related to the completely ignored issue of parental abuse and troubled behaviors, which confound surveys since abused and depressed adolescents also

use social media more.[2] See https://nccd.cdc.gov/youthonline/App/Results.aspx?OUT=0&SID=HS&QID=QNDAYEVP&LID=LL&YID=RY and https://www.cdc.gov/mmwr/volumes/73/su/su7304a5.htm?s_cid=su7304a5_w

Claim 9. Chronic sleep deprivation can cause a decline in mental health.

The consensus statement for this claim received no critical comments.

Claim 10. Heavy daily use of smartphones and social media can cause attention fragmentation.

1) Again, the CDC's 2021 and 2023 YRBS's show that teens' sleep deprivation[3] is far more reliably related to the completely ignored issue of parental abuse and troubled behaviors, which confound surveys since abused and depressed adolescents also use social media more. See https://nccd.cdc.gov/youthonline/App/Results.aspx?OUT=0&SID=HS&QID=QNDAYEVP&LID=LL&YID=RY and https://www.cdc.gov/mmwr/volumes/73/su/su7304a5.htm?s_cid=su7304a5_w

Claim 11. Attention fragmentation can cause a decline in mental health (possibly through mediating factors such as its negative impact on social relationships).

The consensus statement for this claim received no critical comments.

Claim 12. Heavy daily use of smartphones and social media can cause behavioral addiction.

1) This statement remains highly problematic, not least because there's no agreement among scholars that "behavioral addiction" is even a thing (see Aarseth et al., 2017 for instance).
2) The statement "no experts provided experimental evidence about this claim" is inaccurate; Allcott (2022) is a randomized experiment. The statement "experimental evidence is virtually absent" is inaccurate for the same reason.
3) There exist validated tools to measure social media addiction in adolescents: The Bergen Social Media Addiction scale has been validated in various adolescent populations worldwide, and I think it needs to be mentioned/included in the text.

References:

[2] Some experts noted that the citations provided in this critical comment are not relevant to sleep deprivation, as the term is not mentioned even once. For this reason, the comment was removed from Table 2 in the main text. All experts were given the possibility of commenting on this decision, and no one raised any objections.
[3] This comment is identical to the comment already included under Claim 8 and is unrelated to the content of Claim 10 (attention fragmentation), suggesting it was likely a copy-and-paste error. For this reason, it was removed from Table 2. All experts were given the opportunity to comment on this decision, and no objections were raised.

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). Bergen Social Media Addiction Scale (BSMAS) [Database record]. APA PsycTests. https://doi.org/10.1037/t74607-000

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. Psychology of Addictive Behaviors, 30(2), 252–262. https://doi.org/10.1037/adb0000160

Zarate D, Hobson BA, March E, Griffiths MD, Stavropoulos V. Psychometric properties of the Bergen Social Media Addiction Scale: An analysis using item response theory. Addict Behav Rep. 2022 Dec 6;17:100473. doi: 10.1016/j.abrep.2022.100473. PMID: 36536822; PMCID: PMC9758518.

Abiddine, F.Z.E., Aljaberi, M.A., Alduais, A. et al. The Psychometric Properties of the Arabic Bergen Social Media Addiction Scale. Int J Ment Health Addiction (2024). https://doi.org/10.1007/s11469-024-01297-x

Rouleau, R.D., Beauregard, C. & Beaudry, V. A rise in social media use in adolescents during the COVID-19 pandemic: the French validation of the Bergen Social Media Addiction Scale in a Canadian cohort. BMC Psychol 11, 92 (2023). https://doi.org/10.1186/s40359-023-01141-2

Brailovskaia J, Margraf J. Addictive social media use during Covid-19 outbreak: Validation of the Bergen Social Media Addiction Scale (BSMAS) and investigation of protective factors in nine countries. Curr Psychol. 2022 May 21:1-19. doi: 10.1007/s12144-022-03182-z. Epub ahead of print. PMID: 35615694; PMCID: PMC9122809.

Lin, C., Broström, A., Nilsen, P., Griffiths, M. D., & Pakpour, A. H. (2017). Psychometric validation of the Persian Bergen Social Media Addiction Scale using classic test theory and Rasch models. Journal of Behavioral Addictions, 6(4), 620-629. https://doi.org/10.1556/2006.6.2017.071

4) I have seen no compelling evidence to indicate any kind of addiction - correlational evidence is not sufficient. The use of the word addiction further fuels moral panic around the use of technology and is unhelpful at best (and actively damaging at worst) in understanding the relationship we have with technology in the 21st century. I would reword:

In conclusion, while there is some preliminary correlational evidence SUGGESTING the claim that heavy daily use of smartphones and social media MAY cause SYMPTOMS SIMILAR TO WHAT WE RECOGNIZE AS behavioral addiction, the experimental evidence is virtually absent and the underlying mechanisms are at times controversial. Future work should test this hypothesis with standardized definitions and consistent methodologies.

5) This statement is not correct: "no experts provided experimental evidence about this claim". Using an RCT with around 2,000 US adults, Allcott et al (2022) provides experimental evidence on self-control problems and habit formation. There may be disagreements about the definition of "social media addiction", but it is clear that self-control problems and habit formation are two forces that are central to classic addictive goods.
6) A consensus of studies shows around 10% or fewer of teens and adults engage in problematic social media use. See https://mikemales.substack.com/p/researchers-agree-on-a-solid-consensus

Claim 13. Behavioral addiction can cause a decline in mental health.

The consensus statement for this claim received no critical comments.

Claim 14. Heavy daily use of smartphones and social media can cause social deprivation, such as isolation and lack of formative social experiences.

1) No, evidence does not support this.
2) For the large majority of teens and adults, this is not true. Good online relationships predict good offline relationships. See https://www.sciencedirect.com/science/article/pii/S0747563224001031 and https://www.pewresearch.org/internet/2022/11/16/connection-creativity-and-drama-teen-life-on-social-media-in-2022/

Claim 15. Chronic social deprivation can cause a decline in mental health.

1) "The evidence is not based on controlled experiments that deprive individuals of social interactions – for obvious ethical reasons – therefore causality cannot be conclusively established. " I agree that these experiment using social isolation should not have been carried out for ethical reasons, but they have been done, and indeed show very negative effects on mental health. Stating that causality was not/cannot be established is simply inaccurate.

Claim 16. Adolescent girls use visual social media platforms (e.g., TikTok and Instagram) more than adolescent boys.

The consensus statement for this claim received no critical comments.

Claim 17. Social media increases visual social comparisons among adolescent girls.

The consensus statement for this claim received no critical comments.

Claim 18. Social media increases perfectionism among adolescent girls.

1) The concluding statement doesn't appear to adequately capture the nuance of the preceding discussion. Why doesn't it say something like, "In conclusion, while social media may be associated with perfectionism among girls, some studies point to rising perfectionism before the advent of social media and other factors may play a larger role than social media in predicting perfectionism? Future studies should explore potential causal links, unpack various forms of perfectionism, and consider various moderating factors."

Claim 19. Social media increases relational aggression among adolescent girls, for example by providing tools for cyberbullying and exclusion.

1) There is no research indicating that relational aggression actually increases among girls (as claim states), but rather it may change forms (the mode of relational aggression may have changed). Wording change in claim is suggested here to improve accuracy.
2) This is an irresponsible claim given the lack of specificity of social media use (platform, frequency, context) and aggression. I question whether readers will get past the main claim to read the statement.
3) Social media provides a buffered environment. Families, schools, etc. provide far more direct opportunities for aggression, both relational and violent, as the CDC surveys and analyses clearly show. https://www.cdc.gov/yrbs/data/index.html

Claim 20. Among adolescent girls, social media increases exposure to other people displaying or discussing their mental disorders.

1) The statement overlooks the potential for social media to increase mental health literacy. (e.g. Pretorius, C., McCashin, D., & Coyle, D. (2022). Mental health professionals as influencers on TikTok and Instagram: What role do they play in mental health literacy and help-seeking? Internet Interventions, 30, 100591. https://doi.org/https://doi.org/10.1016/j.invent.2022.100591)
2) Again, everything in society causes exposure to people discussing and (far more importantly) displaying mental disorders. 30% of girls report addicted parents, and 40% severely mentally troubled parents, on the 2023 CDC survey: https://www.cdc.gov/yrbs/data/index.html That's far more harmful exposure than anything social media affords; in fact, exposure to discussion may help girls deal with family issues.

Claim 21. Social media increases sexual predation and harassment of adolescent girls, for example by providing predators with access to potential victims.

1) Meta's internal data seems to me to be conclusive and damning. There is no other environment in which adolescents participate regularly in which unwanted sexual

advances are experienced with anything approaching the frequency reported by Meta. Parents would pull kids instantly from any such IRL experience.

2) This is complete misdirection. I hate to keep repeating this, but families, churches, schools, athletics, youth programs, law enforcement, etc., are far, far more direct and dangerous exposers of teen girls to violent and sexual predators than the buffered environment of social media. Again, see girls' own answers on the CDC surveys at https://www.cdc.gov/yrbs/data/index.html

Claim 22. At least one third of US college students would prefer for social media platforms to simply not exist.

1) Concluding that the evidence is "mixed" is an overstatement. I would say that the evidence provided above in favor is weak to non-existent while the evidence against is much stronger.
2) these weak surveys should be presented as weaker evidence

Claim 23. Most US parents would like to delay the age at which their children receive smartphones.

1) I think there is overwhelming evidence that parents are concerned. The main piece of "contrary" evidence is that parents are buying smartphones for their younger children. That doesn't mean they're not concerned. It means they are bowing to societal pressure. Don't overinterpret that piece of data.
2) these weak surveys should be presented as weaker evidence

Claim 24. If most parents waited until their children were in high school to give them their first smartphones, it would benefit the mental health of adolescents overall. (Parents would give only basic phones or flip phones before high school).

1) This statement is founded in a cesspool of misinformation. Not only is social media access (especially by teens younger than 16) connected to lower suicide and self-harm rates among girls, see https://www.cdc.gov/yrbs/data/index.html , abused and depressed teens use social media more to obtain connections and help. See not only https://www.cdc.gov/yrbs/data/index.html , but also research summaries https://www.pewresearch.org/internet/2022/11/16/connection-creativity-and-drama-teen-life-on-social-media-in-2022/ and https://mikemales.substack.com/p/a-major-mystery-on-teens-suicide

Claim 25. Imposing (and enforcing) a legal minimum age of 16 for opening social media accounts would benefit the mental health of adolescents overall.

1) Again -- This statement is founded in a cesspool of misinformation. Not only is social media access (especially by teens younger than 16) connected to lower suicide and self-harm rates among girls, see https://www.cdc.gov/yrbs/data/index.html , abused and depressed teens use social media more to obtain connections and help. See not only

https://www.cdc.gov/yrbs/data/index.html , but also research summaries https://www.pewresearch.org/internet/2022/11/16/connection-creativity-and-drama-teen-life-on-social-media-in-2022/ and https://mikemales.substack.com/p/a-major-mystery-on-teens-suicide

Claim 26. Phone-free schools would benefit the mental health of adolescents overall.

1) I think the evidence for the negative impact of smartphone use during the school day is much more compelling than what is reviewed here. See for example Felisoni, D. D., & Godoi, A. S. (2018). Cell phone usage and academic performance: An experiment. Computers & Education, 117, 175-187. which clearly established a strong link between class time phone use and poorer academic performance, using objective measures of phone usage. Moreover, the association between smartphone use, social media use, academic distraction and poor objective academic outcomes has also been well established. (e.g. Dontre, A. J. (2021). The influence of technology on academic distraction: A review. Human Behavior and Emerging Technologies, 3(3), 379-390.) While there may not be very many compelling experimental studies of what happens when you ban cell phones in schools, the link between phone use, academic distraction and poor outcomes is well established.
2) Yet again, no research data supports this. To cite just one finding: https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(25)00003-1/fulltext

Section S8. Further readings

Table S2 reports the full list of further readings suggested by the experts during the Delphi method. The references are organized by the claim they were associated with. This means some references may appear more than once if they were proposed for multiple claims. Additionally, some references may not be directly related to the specific claim, as they were mentioned during the broader discussion.

Table S9. Full list of further readings by claim.

Claim	Further readings
1. Over the last two decades, there has been a decline in mental health among adolescents in the USA.	1. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBS_Data-Summary-Trends_Report2023_508.pdf 2. Disease Control and Prevention. (2020). Youth risk behavior surveillance data summary & trends report: 2009-2019. 3. Keyes, K. M., Gary, D., O'Malley, P. M., Hamilton, A., & Schulenberg, J. (2019). Recent increases in depressive symptoms among US adolescents: trends from 1991 to 2018. Social psychiatry and psychiatric epidemiology, 54, 987-996. 4. https://www.cdc.gov/children-mental-health/data-research/?CDC_AAref_Val=https://www.cdc.gov/childrensmentalhealth/data.html 5. https://media.uhfnyc.org/filer_public/61/92/6192cd92-0fc3-4dc7-8a36-eda9531354a3/ripple_effects_adolescent_behavioral_health_chartbook_report.pdf 6. Askari, M. S., Belsky, D. W., Olfson, M., Breslau, J., Mojtabai, R., Kajeepeta, S., ... & Keyes, K. M. (2024). An integrative literature review of birth cohort and time period trends in adolescent depression in the United States. *Social psychiatry and psychiatric epidemiology*, *59*(6), 899-915. 7. Patel, V., Flisher, A. J., Hetrick, S., & McGorry, P. (2007). Mental health of young people: a global public-health challenge. *The lancet*, *369*(9569), 1302-1313. 8. Twenge, J. M., & Campbell, W. K. (2019). Media use is linked to lower psychological well-being: Evidence from three datasets. *Psychiatric Quarterly*, *90*, 311-331. 9. Bommersbach, T. J., McKean, A. J., Olfson, M., & Rhee, T. G. (2023). National trends in mental health–related emergency department visits among youth, 2011-2020. *JAMA*, *329*(17), 1469-1477. 10. GBD 2019 Mental Disorders Collaborators. (2022). Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. *The Lancet Psychiatry*, *9*(2), 137-150. 11. Goodwin, R. D., Weinberger, A. H., Kim, J. H., Wu, M., & Galea, S. (2020). Trends in anxiety among adults in the United States, 2008–2018: Rapid increases among young adults. *Journal of psychiatric research*, *130*, 441-446. 12. https://www.cdc.gov/nchs/products/databriefs/db330.htm 13. https://www.cdc.gov/nchs/products/databriefs/db471.htm#section_1 14. Mercado, M. C., Holland, K., Leemis, R. W., Stone, D. M., & Wang, J. (2017). Trends in emergency department visits for nonfatal self-inflicted injuries among youth aged 10 to 24 years in the United States, 2001-2015. *Jama*, *318*(19), 1931-1933. 15. 2022 National Healthcare Quality and Disparities Report, https://www.ncbi.nlm.nih.gov/books/NBK587174/ 16. Shanahan, L., Steinhoff, A., Bechtiger, L., Murray, A. L., Nivette, A., Hepp, U., ...

& Eisner, M. (2022). Emotional distress in young adults during the COVID-19 pandemic: evidence of risk and resilience from a longitudinal cohort study. *Psychological medicine*, *52*(5), 824-833.

17. Tausch, A., e Souza, R. O., Viciana, C. M., Cayetano, C., Barbosa, J., & Hennis, A. J. (2022). Strengthening mental health responses to COVID-19 in the Americas: A health policy analysis and recommendations. *The Lancet Regional Health–Americas*, *5*.
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