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Problematic Social Media Use among Young People in Wales: Findings from The SHRN Student Health and Well-being Survey 2025

Research Brief, October 2026



RhwYdwaith Ysgolion Cymru
sŷn Hybu Iechyd a Lles
Welsh Network of Health and
Well-being Promoting Schools



Centre for Development, Evaluation, Complexity
and Implementation in Public Health Improvement
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Iechyd Cyhoeddus
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HEALTH BEHAVIOUR IN
SCHOOL-AGED CHILDREN



Llywodraeth Cymru
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At a Glance

- Around 1 in 10 learners aged 11 to 16 years in Wales met the criteria for problematic social media use (PSMU) in 2025.
- PSMU was more common among girls, learners identifying as neither a boy nor a girl, and those from low affluence families.
- The most reported experiences were using social media to escape negative feelings and unsuccessful attempts to reduce use.
- Poorer mental health, bullying victimisation, school pressure, and sleep difficulties, were associated with a higher likelihood of PSMU.
- Greater school belonging, perceived social support, and physical activity, were associated with a lower likelihood of PSMU.

Executive Summary

- This report presents data on problematic social media use (PSMU) obtained from the 2025 SHRN Student Health and Well-being Survey, completed by 130,361 learners aged 11-16 in 201 schools across Wales.
- PSMU was assessed using the 9-item Social Media Disorder (SMD) scale. Multilevel logistic regression was used to explore associations with other factors.
- In 2025, 10.7% (95% CI 10.5%-10.9%) of learners reported PSMU.
- PSMU prevalence ranged from 7.7% among learners in Year 7 to 11.7% among learners in Year 11. Prevalence was higher among girls (13.1%) than boys (7.8%) and highest among learners identifying as neither a boy nor a girl (20.9%). PSMU was more common among learners from low-affluence families.
- Among boys and girls, the two most reported experiences during the past 12 months were using social media to escape negative feelings and unsuccessful attempts to spend less time on social media.
- Mental health, social support, sleep, and physical activity were all associated with PSMU. Poorer mental health, greater school pressure, bullying victimisation and difficulty sleeping were associated with increased odds of problematic use. Conversely, greater school belonging, stronger family and friend support, and higher levels of physical activity were associated with reduced odds. These patterns were broadly consistent for boys and girls.
- Continued monitoring and future evaluation will be needed to assess whether the planned social media age restrictions reduce PSMU and whether any effects differ across population groups.

Background

Social media is embedded in the everyday lives of children and young people, providing opportunities to maintain friendships, access information, express themselves and find support. However, some young people may also experience harmful content, cyberbullying, social comparison or problematic patterns of use. Such patterns have been associated with poorer mental well-being, sleep difficulties, and behavioural problems¹²; although these relationships are complex and likely bidirectional, with social media use affecting and being affected by a young person's well-being.

Growing concerns about these risks have prompted policy responses internationally. Australia became the first country to introduce a national minimum age of 16 for designated social media platforms³. In the UK, the Online Safety Act 2023 places duties on relevant online services to protect children from illegal, harmful, and age-inappropriate content⁴. The UK Government has also announced plans to prevent social media platforms from offering services to children under 16 from spring 2027⁵. Together, these measures aim to reduce children's exposure to online harms and problematic patterns of social media use.

Problematic social media use (PSMU) refers not simply to frequent use but to an addiction-like pattern characterised by difficulties regulating use and resulting negative impacts on everyday functioning⁶. Given this evolving policy landscape, understanding the prevalence of PSMU among young people in Wales and its associations with different aspects of their lives is increasingly important.

1. Ahmed O, Walsh EI, Dawel A, Alateeq K, Espinoza Oyarce DA, Cherbuin N. Social media use, mental health and sleep: a systematic review with meta-analyses. *Journal of Affective Disorders*. 2024;367:701-12.

2. Sala A, Porcaro L, Gómez E. Social media use and adolescents' mental health and well-being: an umbrella review. *Computers in Human Behavior Reports*. 2024;14:100404.

3. Australian eSafety Commissioner. Social media age restrictions [Internet]. Canberra: eSafety Commissioner; [cited 2026 Aug 27]. Available from: <https://www.esafety.gov.au/about-us/industry-regulation/social-media-age-restrictions>

4. Department for Science, Innovation and Technology. Online Safety Act explainer [Internet]. London: UK Government; [cited 2026 Aug 27]. Available from: <https://www.gov.uk/government/publications/online-safety-act-explainer/online-safety-act-explainer>

5. Department for Science, Innovation and Technology. Growing up in the online world: government response [Internet]. London: UK Government; 2026 [cited 2026 Sep 8]. Available from: <https://www.gov.uk/government/consultations/growing-up-in-the-online-world-a-national-consultation/outcome/growing-up-in-the-online-world-government-response-july-2026>

6. van den Eijnden RJM, Lemmens JS, Valkenburg PM. The Social Media Disorder Scale. *Computers in Human Behavior*. 2016;61:478-487. doi:10.1016/j.chb.2016.03.038.

The School Health Research Network

Established in 2013, [SHRN](https://shrn.org.uk) is a policy-practice-research partnership between Welsh Government, Public Health Wales, and Cardiff University. SHRN aims to improve children and young people's health and well-being in Wales by collaborating with schools in both primary and secondary education settings to generate and use high-quality evidence for health and well-being improvement.

The SHRN Student Health and Well-being Survey in Secondary Schools

The SHRN Student Health and Well-being (SHW) Survey in Secondary Schools is a nationally representative survey of 11-16-year-olds living in Wales, UK⁷. The survey is school-based and completed anonymously during school hours. All learners attending state-maintained secondary schools (n=205) and those from a small number of independent ('private') schools (n=7) are eligible for inclusion. Consent to participate in the survey is required from schools and learners. Parents and carers are informed of the survey and can opt their child out of participation if they wish. Learners are provided with information about the survey and informed that participation is voluntary and they can withdraw at any time. Learners can opt not to answer any question (except for year group), by selecting, 'I do not want to answer'.

In 2025, 130,361 learners from 201 schools (representing 95% of eligible schools) participated in the survey between September and December. See Table A1 for a breakdown of learner sociodemographic characteristics. Ethical approval for the 2025 survey was obtained from Cardiff University School of Social Sciences Research Ethics Committee (SREC/748).

This report focuses on learners who completed the Social Media Disorder (SMD) scale. Social media platforms in this report refer broadly to online services through which users can create or share content and interact with others. Examples include TikTok, Instagram,

7. Page N, Liu S, Morgan K, Angel L, Ogada E, Roberts C, et al. Data Resource Profile: The School Health Research Network (SHRN) Student Health and Well-being (SHW) survey of 11-16-year-olds (2017-2023). *International Journal of Epidemiology*. 2024;53(6):dyae161.

Snapchat, YouTube and X. The SMD scale is a 9-item, self-report instrument designed to assess problematic or disordered social media use.⁸ It comprises nine items that ask about the following experiences over the past year: [*During the past year have you...*] i) regularly found that you can't think of anything else but the moment that you will be able to use social media again, ii) regularly felt dissatisfied because you wanted to spend more time on social media, iii) often felt bad when you could not use social media, iv) tried to spend less time on social media, but failed, v) regularly neglected other activities (e.g. hobbies, sport) because you wanted to use social media, vi) regularly had arguments with others because of your social media use, vii) regularly lied to your parents or friends about the amount of time you spend on social media, viii) often used social media to escape from negative feelings, ix) had serious conflict with your parents, brother(s) or sister(s) because of your social media use (response options: 'yes', 'no'). Item responses are assigned a numerical score (yes=1; no=0) and summed to derive an overall score (range: 0-9). An overall score of 6 or higher is indicative of problematic use.

This report provides prevalence estimates for PSMU among 11-16-year-olds in Wales. Estimates are presented overall and by gender, school year, and household affluence, based on the six-item Family Affluence Scale⁹. Multilevel logistic regression is used to examine associations with internalising and externalising difficulties (measured via the Strengths and Difficulties Questionnaire¹⁰), friend and family support, school belonging, school pressure, bullying victimisation, difficulty sleeping, and physical activity, adjusting for learner sociodemographic characteristics and including school-level random intercepts (see Table A2 for a description of measures). All data presented here were collected at a single point in time, meaning estimates from multilevel models represent associations rather than causal effects.

8. van den Eijnden RJJM, Lemmens JS, Valkenburg PM. The Social Media Disorder Scale. *Computers in Human Behavior*. 2016;61:478-87.

9. Torsheim T, Cavallo F, Levin KA, Schnohr C, Mazur J, Niclasen B, Currie C; FAS Development Study Group. Psychometric validation of the revised Family Affluence Scale: a latent variable approach. *Child Indic Res*. 2016;9(3):771-784. doi:10.1007/s12187-015-9339-x.

10. Goodman R, Meltzer H, Bailey V. The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version. *Eur Child Adolesc Psychiatry*. 1998;7(3):125-130. doi:10.1007/s007870050057.

Findings

Problematic social media use items and score distribution

Figure 1 presents responses to the SMD scale by gender. Learners were not required to have completed all nine items to be included. Gender-specific percentages are calculated for boys and girls. Percentages represent the proportion of learners answering yes when asked about experiences over the last 12 months. Corresponding counts and 95% confidence intervals are provided in Table A3. Descriptive item-level estimates for learners identifying as neither a boy nor a girl are also provided.

For each item, the percentage answering “Yes” was higher among girls than boys. The most frequently reported items for both genders were having used social media to escape from negative feelings (49.3% of girls and 35.2% of boys) and having failed to spend less time on social media (49.2% and 35.6%, respectively). Conflict with family was the least frequently reported item (13.9% of girls and 9.5% of boys).

Figure 1. Experiences reported by learners over the previous 12 months (%)

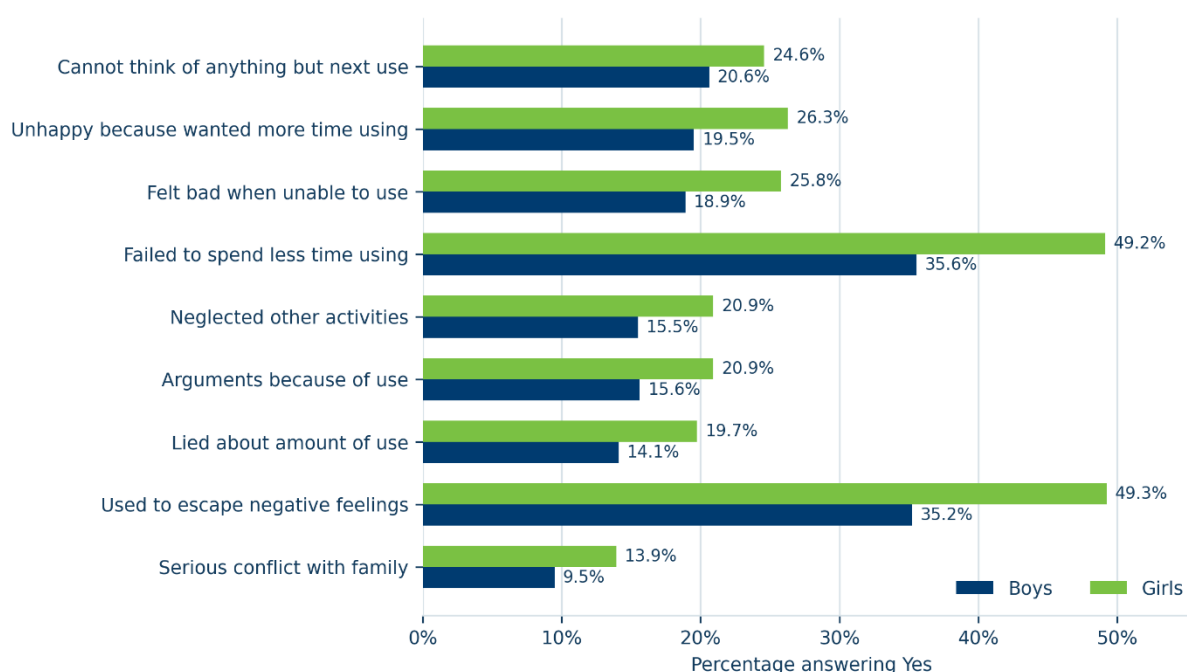
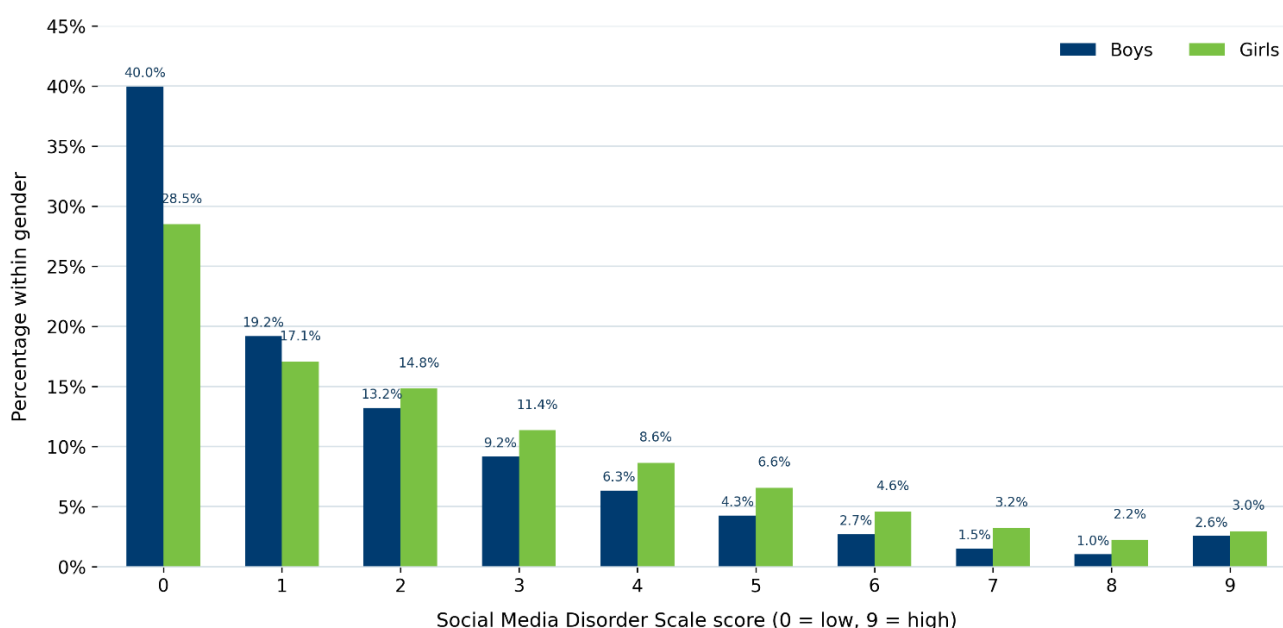


Figure 2 presents the distribution of SMD scale scores by gender. Only learners who provided valid responses to all nine items are included. Percentages may not sum to 100% due to rounding.

The overall distribution is right-skewed with a higher proportion of responses at the lower end of the scale. Overall, 72.4% of boys scored between zero and two, compared with 60.4% of girls. A score of 6 or higher is indicative of problematic use.

Figure 2. Distribution of complete-case SMD scale scores by gender



Demographic prevalence and adjusted associations

Two methods for computing PSMU from the SMD scale have previously been employed: (a) complete case – where only respondents who complete all nine items are retained; and (b) partial completion – where respondents answering 'Yes' to at least six items are classified as problematic users and those answering 'No' to at least four items are classified as non-problematic users; all other incomplete responses are treated as missing. The two methods produced very similar prevalence estimates (Table 1). To maximise the available sample for analyses, the partial completion method was used to estimate PSMU prevalence and explore associations with other factors.

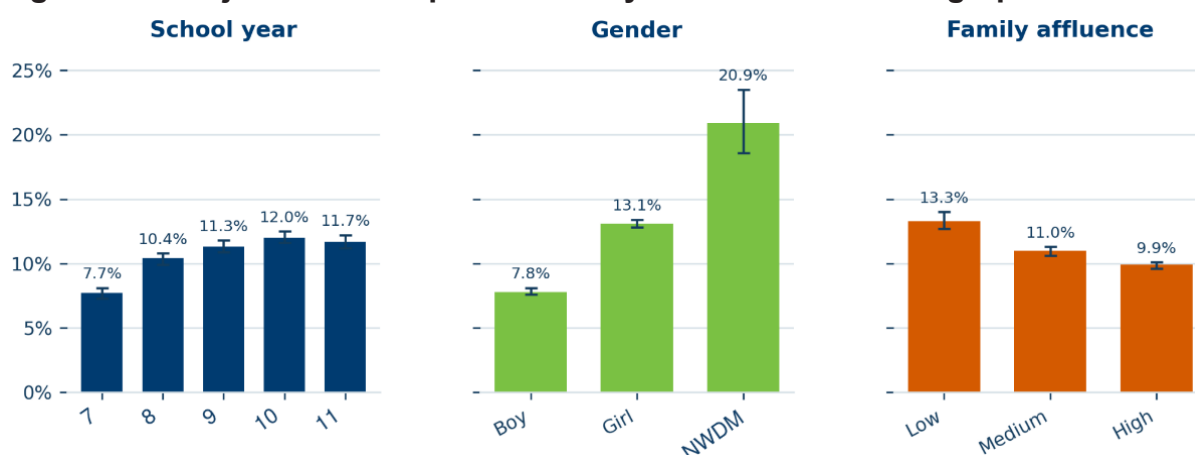
Table 1. Unadjusted PSMU prevalence among 11-16-year-olds

Method	N	Cases	Prevalence	95% CI
Complete case	86,092	9,127	10.6%	10.4%-10.8%
Partial completion	92,613	9,872	10.7%	10.5%-10.9%

Note: CI=confidence interval

Figure 3 shows unadjusted PSMU prevalence by year group, gender, and family affluence. Prevalence ranged from 7.7% in Year 7 to 11.7% in Year 11. Prevalence was higher among girls, learners who identified themselves as neither a boy nor a girl, and those from low affluence families (see Table A4 for sample sizes and 95% confidence intervals).

Figure 3. Unadjusted PSMU prevalence by learner socio-demographics



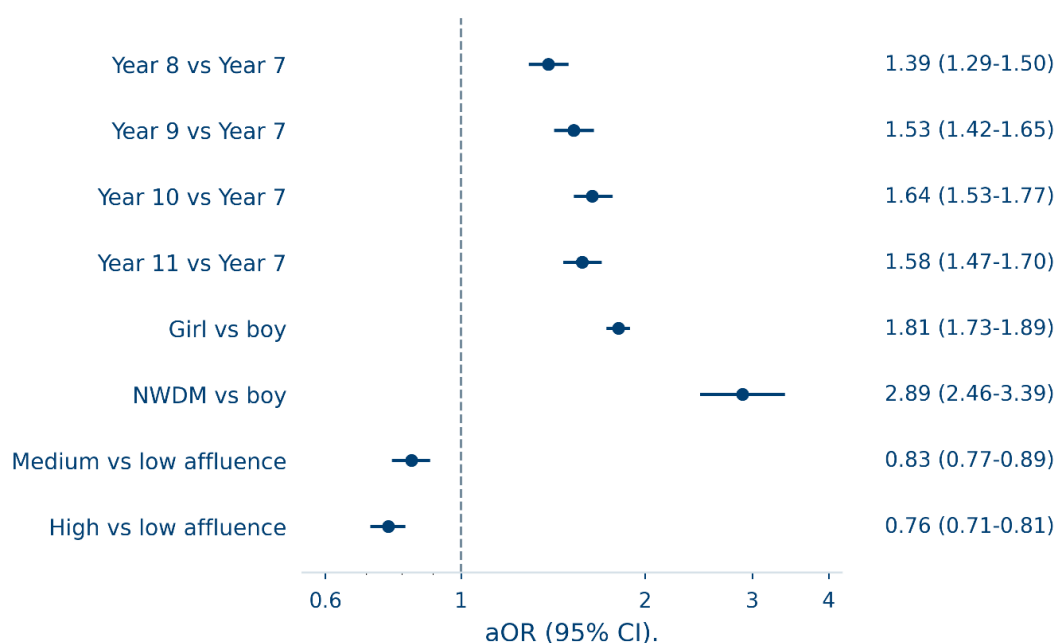
Note: NWDM=neither word describes me

Figure 4 presents adjusted odds ratios (aOR)¹¹ and 95% confidence intervals from a multilevel logistic regression examining associations between school year, gender, family affluence, and PSMU. Values above 1 indicate greater odds of PSMU compared with the reference group, while values below 1 indicate lower odds.

11. Odds ratios show whether an outcome is more or less likely in one group compared with another. For example, an odds ratio of 2 means one group has about twice the odds of the outcome compared with the reference group, while an odds ratio of 0.5 means it has about half the odds. Adjusted odds ratios make this comparison after accounting for other relevant factors, such as age and gender.

After adjusting for gender and family affluence, learners in Years 8 to 11 were more likely to report PSMU than those in Year 7. Gender differences were also evident: after accounting for year group and family affluence, girls were almost twice as likely as boys to report PSMU, while learners who identified as neither a boy nor a girl were nearly three times as likely to do so. Family affluence was inversely associated with PSMU. Compared with learners from low affluence families, those from medium affluence families were less likely to report PSMU, and those from high affluence families were less likely still, after adjusting for gender and school year.

Figure 4. Adjusted odds ratios with 95% confidence intervals



Note: NWDM=neither word describes me; aOR=adjusted odds ratio; CI=confidence interval

Multilevel models exploring associations with PSMU

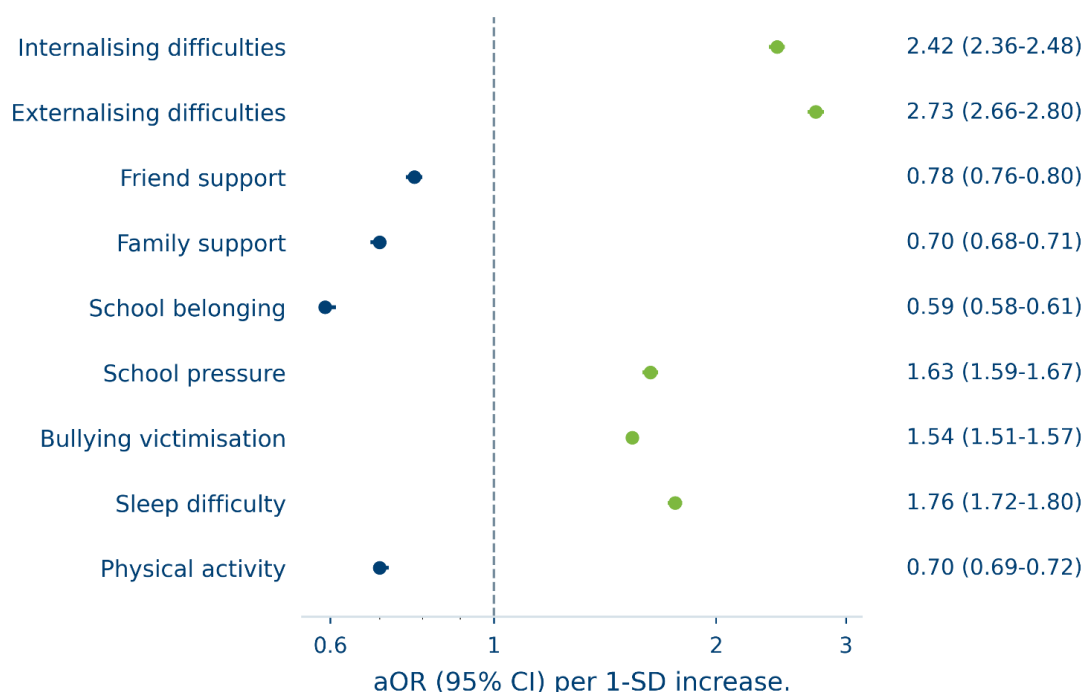
The nine factors examined covered mental health, social support, experiences at school, sleep, and physical activity. Figure 5 shows the relationship between each factor and PSMU using nine separate multilevel logistic regression models (see Table A5 for sample

sizes). Predictors were standardised, so each aOR represents the change associated with a one standard deviation increase.

All nine factors were significantly associated with PSMU ($p < 0.001$). The strongest positive associations were found for externalising difficulties (such as acting out or rule-breaking), followed by internalising difficulties (such as anxiety or low mood), sleep problems, feeling under pressure at school, and being bullied.

Several factors were associated with a lower likelihood of PSMU, with school belonging showing the strongest association. Learners who felt more connected to their school, had stronger support from family or friends, or were more physically active were less likely to experience PSMU.

Figure 5. Adjusted odds ratios for factors associated with PSMU



Note: aOR=adjusted odds ratio; CI=confidence interval; SD=standard deviation

Gender differences in factors associated with PSMU

Table 2 presents associations between PSMU and the nine factors separately for boys and girls. The overall pattern was very similar for both groups. Among boys and girls, externalising difficulties showed the strongest positive association with PSMU, while school belonging was most strongly associated with a lower likelihood of PSMU.

To test whether the strength of these associations differed significantly for boys and girls, an interaction term was added to each of the multilevel models presented in Figure 5. The positive association between internalising difficulties and PSMU was stronger for boys. In contrast, the inverse associations with family support, school belonging and physical activity, and the positive associations with school pressure and sleep difficulty, were stronger for girls. No significant gender differences were found for externalising difficulties, friend support, or bullying victimisation.

Table 2. Gender-stratified estimates adjusted for school year and family affluence

Factor	Boys: N; aOR (95% CI)	Girls: N; aOR (95% CI)	P for interaction
Internalising difficulties	42,497; 2.54 (2.45-2.63)	44,744; 2.34 (2.27-2.42)	.014
Externalising difficulties	42,511; 2.69 (2.58-2.80)	44,786; 2.77 (2.68-2.87)	.092
Friend support	42,058; 0.78 (0.75-0.81)	44,233; 0.77 (0.75-0.79)	.566
Family support	40,968; 0.76 (0.73-0.79)	43,202; 0.65 (0.64-0.67)	<.001
School belonging	42,153; 0.64 (0.62-0.67)	44,169; 0.56 (0.55-0.58)	<.001
School pressure	42,559; 1.57 (1.51-1.63)	44,774; 1.66 (1.61-1.71)	.001
Bullying victimisation	41,793; 1.54 (1.49-1.58)	43,674; 1.55 (1.51-1.59)	.617
Sleep difficulty	42,223; 1.70 (1.64-1.77)	44,487; 1.80 (1.75-1.86)	.008
Physical activity	41,716; 0.76 (0.73-0.79)	43,262; 0.67 (0.65-0.69)	<.001

Note: N = sample size; aOR = adjusted odds ratio; CI = confidence interval; P = p-value

Standardised mean differences

Figure 6 compares learners classified as problematic and non-problematic social media users across nine domains of health and well-being. Cohen's d expresses each difference in a common unit, allowing comparison across domains measured using different scales.

Larger absolute values indicate bigger differences between the two groups. As a general guide¹², values around 0.2 indicate a small difference, 0.5 a moderate difference and 0.8 or above a large difference. Positive values mean that the PSMU group had higher scores, while negative values mean that this group had lower scores.

The largest standardised differences were found for externalising and internalising difficulties, indicating substantially higher difficulty scores among problematic users. Moderate differences were found for school belonging, sleep difficulty, bullying victimisation, and school pressure. Differences in family support and physical activity were smaller, while friend support showed the smallest difference.

Figure 6. Cohen's d with 95% confidence intervals for all nine factors



12. Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. Hillsdale (NJ): Lawrence Erlbaum Associates; 1988.

Conclusion

PSMU was reported by around one in ten secondary school-aged learners in Wales, with higher prevalence among girls, learners reporting a non-binary gender, and those from lower-affluence families. PSMU was associated with a range of mental health, social, and school-related factors: higher levels of internalising and externalising difficulties, sleep difficulties, school pressure, and bullying victimisation were linked to a greater likelihood of PSMU, whereas stronger school belonging, supportive family and friend relationships, and higher levels of physical activity were linked to a lower likelihood.

These findings suggest that PSMU should be understood within the broader context of young people's well-being and school experiences rather than solely in relation to time spent online. However, as data are cross-sectional, the direction of these associations cannot be determined. While planned restrictions on social media use among under-16s may alter patterns of use and associated harms, 16-year-olds will remain able to access social media platforms; notably, PSMU remained common in Year 11, which includes some 16-year-olds, with a prevalence of 11.7%. Continued monitoring before and after implementation of these restrictions, alongside evaluation of impacts across age, gender, and family-affluence groups, will be important.

Future SHRN reports drawing on both primary- and secondary-school data could improve understanding of how digital behaviours and experiences change across different stages of childhood and adolescence. Further longitudinal research is also needed to clarify how PSMU and related well-being factors influence one another and to inform effective and equitable policies and interventions for young people in Wales.

Acknowledgements

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Citation

Liu, S., Page, N., Angel, L., Ogada, E., Ouerghi, S., Young, H., Morgan, K. (2026). Problematic Social Media Use among Young People in Wales: Findings from the SHRN Student Health and Well-being Survey 2025. Cardiff University, Cardiff, UK.

Appendix

Table A1. Sample characteristics

		% excluding non-response
Gender, % (n)		
• Boy	49.9 (65,057)	50.4
• Girl	47.8 (62,249)	48.2
• Neither word describes me	1.3 (1,721)	1.3
• Missing	1.0 (1,334)	-
Year group, % (n)		
• 7	21.6 (28,221)	21.6
• 8	20.7 (27,020)	20.7
• 9	20.9 (27,267)	20.9
• 10	19.4 (25,248)	19.4
• 11	17.3 (22,605)	17.3
Family affluence, % (n)		
• Low	11.1 (14,413)	11.8
• Medium	32.5 (42,306)	34.7
• High	50.1 (65,333)	53.5
• Missing	6.4 (8,309)	-
Friend support, mean (SD)		
• Friends try to help	4.85 (1.99)	-
• Can count on friends	4.76 (2.03)	-
• Friends with whom to share joys and sorrows	4.95 (2.05)	-
• Can talk about problems with friends	4.65 (2.14)	-
Family support, mean (SD)		
• Family tries to help	5.30 (2.12)	-
• Receive emotional help from family	4.99 (2.15)	-
• Can talk about problems with family	4.89 (2.21)	-
• Family helps with making decisions	5.21 (2.11)	-
School belonging, % (n)		
• Strongly agree	15.5 (20,194)	17.3
• Agree	33.2 (43,290)	37.1
• Neither agree nor disagree	25.8 (33,613)	28.8
• Disagree	7.4 (9,659)	8.3
• Strongly disagree	7.6 (9,890)	8.5
• Missing	10.5 (13,715)	-
School pressure, % (n)		
• Not at all	13.2 (17,153)	14.0
• A little	34.0 (44,333)	36.1
• Some	24.9 (32,525)	26.5
• A lot	22.0 (28,640)	23.4
• Missing	5.9 (7,710)	-

		% excluding non-response
Bullying victimization, % (n)		
• Have not been bullied	56.6 (73,770)	65.1
• Once or twice	17.3 (22,541)	19.9
• Two or three times a month	4.8 (6,216)	5.5
• About once a week	3.5 (4,537)	4.0
• Several times a week	4.8 (6,234)	5.5
• Missing	13.1 (17,063)	-
Sleep difficulty, % (n)		
• About every day	20.8 (27,161)	21.7
• More than once a week	13.9 (18,171)	14.5
• About every week	11.5 (14,972)	12.0
• About every month	13.9 (18,137)	14.5
• Rarely or never	35.9 (46,823)	37.4
• Missing	3.9 (5,097)	-
Physical activity, % (n)		
• 0 days	3.6 (4,682)	3.9
• 1	4.7 (6,184)	5.2
• 2	9.5 (12,378)	10.4
• 3	13.9 (18,086)	15.1
• 4	16.8 (21,892)	18.3
• 5	16.2 (21,055)	17.6
• 6	10.0 (13,093)	10.9
• 7 days	17.1 (22,263)	18.6
• Missing	8.2 (10,728)	-

Note. For friend and family support, items were rated from 1 to 7, with higher scores indicating greater support. Percentages may not sum to 100 due to rounding. SD = standard deviation.

Table A2. Description of measures

Variable	Questions or items	Measure
Gender	Are you a boy or a girl? • Boy • Girl • Neither word describes me	Analysed as a categorical variable.
School year	What year are you in? • Year 7 • Year 8 • Year 9 • Year 10 • Year 11	Analysed as a categorical variable.
Family Affluence Scale (FAS)¹³	Does your family own a car, van or truck? • No • Yes, one • Yes, two or more Do you have your own bedroom for yourself? • No • Yes How many computers does your family own (including PCs, Macs, laptops and tablets, not including game consoles and smart phones)? • None • One • Two • More than two Does your family have a dishwasher at home? • No • Yes How many bathrooms (room with a bath/shower or both) are in your home? • None • One • Two • More than two How many times did you and your family travel out of Wales for a holiday/vacation last year? • Not at all • Once • Twice • More than twice	Item scores were combined into a Family Affluence Scale score ranging from 0 to 13 and categorised as low (0–6), medium (7–9), or high (10–13). A score was not calculated if any component item was missing.

13. Torsheim T. HBSC Family Affluence Scale Coding Guidance (V1): HBSC Methods Note 1. Bergen: HBSC Data Management Centre, University of Bergen; 2018.

Variable	Questions or items	Measure
Strengths and Difficulties Questionnaire (SDQ)¹⁴	Strengths and Difficulties Questionnaire © Robert Goodman, 2005. Licensing restrictions prohibit replication of content in hardcopy. For details regarding question content, please see: https://www.sdqinfo.org/ .	The emotional symptoms and peer problems subscales were added to produce an internalising difficulties score ranging from 0 to 20. The conduct problems and hyperactivity subscales were added to produce an externalising difficulties score ranging from 0 to 20 ¹⁵ . Higher scores indicate greater difficulties. Both component subscales were required for each score.
Sleep difficulty¹⁶	In the last 6 months: how often have you had the following...? Difficulties in getting to sleep - About every day - More than once a week - About every week - About every month - Rarely or never	Responses were reversed to produce a score from 1 to 5, with higher scores indicating more frequent sleep difficulty.
Physical activity¹⁷	Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? 0 days 1 2 3 4 5 6 7 days	Analysed as a continuous variable.

14. Goodman R. The Strengths and Difficulties Questionnaire: a research note. *Journal of Child Psychology and Psychiatry*. 1997;38(5):581–586.

15. Goodman A, Lamping DL, Ploubidis GB. When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): data from British parents, teachers and children. *Journal of Abnormal Child Psychology*. 2010;38(8):1179–1191.

16. Haugland S, Wold B. Subjective health complaints in adolescence: reliability and validity of survey methods. *Journal of Adolescence*. 2001;24(5):611–624.

17. Prochaska JJ, Sallis JF, Long B. A physical activity screening measure for use with adolescents in primary care. *Archives of Pediatrics & Adolescent Medicine*. 2001;155(5):554–559.

Variable	Questions or items	Measure
Bullying victimisation¹⁸	How often have you been bullied at school in the past couple of months? - I have not been bullied at school in the past couple of months - It has happened once or twice 2 or 3 times a month - About once a week - Several times a week	Responses were scored in ascending order. Higher scores indicate more frequent bullying victimisation.
Friend support¹⁹	My friends really try to help me I can count on my friends when things go wrong I have friends with whom I can share my joys and sorrows I can talk about my problems with my friends - Very strongly disagree 1 2 3 4 5 6 - Very strongly agree 7	The mean of all four items was calculated, with higher scores indicating greater friend support. All four items were required.
Family support	My family really tries to help me I get the emotional help and support I need from my family I can talk about my problems with my family My family is willing to help me make decisions - Very strongly disagree 1 2 3 4 5 6 - Very strongly agree 7	The mean of all four items was calculated, with higher scores indicating greater family support. All four items were required.
School belonging²⁰	I feel like I belong at this school - Strongly agree - Agree - Neither agree nor disagree - Disagree - Strongly disagree	Responses were reversed to produce a score from 1 to 5, with higher scores indicating a stronger sense of school belonging.

18. Solberg ME, Olweus D. Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggressive Behavior*. 2003;29(3):239–268.

19. Zimet GD, Dahlem NW, Zimet SG, Farley GK. The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*. 1988;52(1):30–41.

20. Inchley J, Currie D, Samdal O, Jåstad A, Cosma A, Nic Gabhainn S, editors. *Health Behaviour in School-aged Children (HBSC) Study Protocol: background, methodology and mandatory items for the 2021/22 survey*. Glasgow: MRC/CSO Social and Public Health Sciences Unit, University of Glasgow; 2023.

Variable	Questions or items	Measure
School pressure	How pressured do you feel by the schoolwork you have to do? • Not at all • A little • Some • A lot	Responses were scored from 1 to 4, with higher scores indicating greater school pressure.

Note. Each question includes the response option “I do not want to answer”.

Table A3. Social Media Disorder Scale item responses²¹

Item	Overall: n/N; % (95% CI)	Boys: n/N; % (95% CI)	Girls: n/N; % (95% CI)	NWDM: n/N; % (95% CI)
Cannot think of anything but next use	20,520/90,225; 22.7% (22.5%–23.0%)	8,970/43,489; 20.6% (20.2%–21.0%)	11,074/45,055; 24.6% (24.2%–25.0%)	319/1,074; 29.7% (27.0%–32.4%)
Unhappy because wanted more time using	21,535/92,999; 23.2% (22.9%–23.4%)	8,709/44,580; 19.5% (19.2%–19.9%)	12,272/46,681; 26.3% (25.9%–26.7%)	369/1,100; 33.5% (30.8%–36.3%)
Felt bad when unable to use	21,071/93,417; 22.6% (22.3%–22.8%)	8,458/44,730; 18.9% (18.5%–19.3%)	12,107/46,944; 25.8% (25.4%–26.2%)	339/1,102; 30.8% (28.0%–33.5%)
Failed to spend less time using	40,041/93,851; 42.7% (42.3%–43.0%)	15,937/44,823; 35.6% (35.1%–36.0%)	23,229/47,256; 49.2% (48.7%–49.6%)	569/1,114; 51.1% (48.1%–54.0%)
Neglected other activities	17,247/93,208; 18.5% (18.3%–18.8%)	6,905/44,585; 15.5% (15.2%–15.8%)	9,811/46,894; 20.9% (20.6%–21.3%)	352/1,092; 32.2% (29.5%–35.0%)
Arguments because of use	17,182/93,356; 18.4% (18.2%–18.7%)	6,976/44,655; 15.6% (15.3%–16.0%)	9,821/46,957; 20.9% (20.5%–21.3%)	267/1,101; 24.2% (21.7%–26.8%)
Lied about amount of use	16,012/93,317; 17.2% (16.9%–17.4%)	6,289/44,617; 14.1% (13.8%–14.4%)	9,273/46,964; 19.7% (19.4%–20.1%)	319/1,098; 29.1% (26.4%–31.7%)
Used to escape negative feelings	39,920/93,014; 42.9% (42.6%–43.2%)	15,679/44,499; 35.2% (34.8%–35.7%)	23,044/46,779; 49.3% (48.8%–49.7%)	789/1,102; 71.6% (68.9%–74.3%)
Serious conflict with family	11,050/92,970; 11.9% (11.7%–12.1%)	4,221/44,523; 9.5% (9.2%–9.8%)	6,508/46,709; 13.9% (13.6%–14.3%)	243/1,107; 21.9% (19.5%–24.4%)

Note. NWDM = neither word describes me. N = 130,361. Item-specific percentages exclude non-response, so N varies by item.

21. Van den Eijnden RJJM, Lemmens JS, Valkenburg PM. The Social Media Disorder Scale. Computers in Human Behavior. 2016;61:478–487.

Table A4. Unadjusted PSMU prevalence and adjusted odds ratios

Group	Cases/N	Prevalence (95% CI)	aOR (95% CI)
Year 7	1,361/17,612	7.7% (7.3%-8.1%)	1 (Ref)
Year 8	1,941/18,705	10.4% (9.9%-10.8%)	1.39 (1.29–1.50)
Year 9	2,271/20,044	11.3% (10.9%-11.8%)	1.53 (1.42–1.65)
Year 10	2,288/19,009	12.0% (11.6%-12.5%)	1.64 (1.53–1.77)
Year 11	2,011/17,243	11.7% (11.2%-12.2%)	1.58 (1.47–1.70)
Boy	3,467/44,406	7.8% (7.6%-8.1%)	1 (Ref)
Girl	6,080/46,483	13.1% (12.8%-13.4%)	1.81 (1.73–1.89)
NWDM	230/1,098	20.9% (18.6%-23.5%)	2.89 (2.46–3.39)
Low affluence	1,339/10,043	13.3% (12.7%-14.0%)	1 (Ref)
Medium affluence	3,383/30,782	11.0% (10.6%-11.3%)	0.83 (0.77–0.89)
High affluence	4,763/48,294	9.9% (9.6%-10.1%)	0.76 (0.71–0.81)

Note. NWDM = neither word describes me. Cases/N is the number classified with problematic social media use divided by the number with valid data for both that characteristic and the outcome. Adjusted models include school year, gender and family affluence, with a random intercept for school.

Table A5. Adjusted odds ratios for associations between PSMU and other factors

	N	aOR per 1-SD increase (95% CI)
Internalising difficulties	88,214	2.42 (2.36–2.48)
Externalising difficulties	88,271	2.73 (2.66–2.80)
Friend support	87,245	0.78 (0.76–0.80)
Family support	85,090	0.70 (0.68–0.71)
School belonging	87,269	0.59 (0.58–0.61)
School pressure	88,306	1.63 (1.59–1.67)
Bullying victimisation	86,394	1.54 (1.51–1.57)
Sleep difficulty	87,665	1.76 (1.72–1.80)
Physical activity	85,881	0.70 (0.69–0.72)

Note. Each factor was entered into a separate multilevel logistic regression model adjusted for school year, gender and family affluence, with a random intercept for school. Models included pupils whose PSMU status could be classified using the HBSC partial-information rule and who had complete data for the factor examined and all adjustment covariates. Consequently, the analytical sample size varied across models because of missing predictors or covariate data.



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