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Sudharsini S

M.Sc. (Agri.) Scholar,
 Department of Agricultural
 Extension Education, College
 of Agriculture, Parbhani,
 VNMKV, Parbhani,
 Maharashtra, India

PS Kapse

Professor (CAS), Department of
 Agricultural Extension
 Education, College of
 Agriculture, Parbhani, VNMKV,
 Parbhani, Maharashtra, India

RP Kadam

Professor and Head,
 Department of Agricultural
 Extension Education, College
 of Agriculture, Parbhani,
 VNMKV, Parbhani,
 Maharashtra, India

AS Lad

Assistant Professor,
 Department of Agricultural
 Extension Education, College
 of Agriculture, Parbhani,
 VNMKV, Parbhani,
 Maharashtra, India

RF Thombre

Assistant Professor,
 Department of Agricultural
 Economics, College of
 Agriculture, Parbhani, VNMKV,
 Parbhani, Maharashtra, India

Corresponding Author:

Sudharsini S

M.Sc. (Agri.) Scholar,
 Department of Agricultural
 Extension Education,
 College of Agriculture,
 Parbhani, VNMKV,
 Parbhani, Maharashtra,
 India

Strategies suggested by agriculture students for improving smartphone digital wellbeing

Sudharsini S¹, PS Kapse², RP Kadam³, AS Lad⁴, RF Thombre⁵

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ABSTRACT

Most digital wellbeing interventions are designed from the outside in, built by researchers, institutions or technology designers and then offered to students, with comparatively little attention paid to what students themselves consider workable. The present study was undertaken to elicit and rank the strategies that postgraduate agriculture students themselves suggest for improving their smartphone digital wellbeing, at the College of Agriculture, Parbhani, a constituent college of Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharashtra. An ex-post facto research design was followed on a proportionate sample of one hundred and fifty-five postgraduate students, comprising one hundred and twenty-four Master of Science and thirty-one Doctor of Philosophy scholars, and open-ended suggestions were collected through a pre-tested structured schedule and ranked by frequency and percentage. The findings revealed that the majority of respondents suggested following healthy practices such as taking regular breaks and avoiding late-night smartphone use, ranked first, followed by preferring offline group discussions and peer learning, ranked second, and maintaining a daily routine with phone-free study time, ranked third. Other widely endorsed suggestions included setting phones to silent or do-not-disturb mode during study hours, turning off non-essential notifications, limiting entertainment and social media use, and using built-in digital wellbeing tools such as app timers and focus mode. Suggestions such as institutional workshops, strict app timers and occasional digital fasting received comparatively lower, though still majority, endorsement. The findings indicate that agriculture students favour simple, self-directed behavioural strategies over restrictive or purely institutional measures, and offer a practical, student-informed basis for designing digital wellbeing interventions in agricultural higher education.

Keywords: Smartphone, Digital wellbeing, Agriculture students, Strategies, Student-centred intervention

1. Introduction

Interventions meant to improve how students use their smartphones are, more often than not, designed for students rather than with them. Researchers, institutions and technology companies have proposed a wide range of such measures, from screen-time dashboards and app-blocking features built into the device itself to campus workshops and curricular adjustments (Al-Mansoori *et al.*, 2023; Monge Roffarello *et al.*, 2019; Feerrar, 2020) [1, 2, 3], yet an older and still relevant line of theory reminds us that users do not passively receive media and technology but actively select and use them to meet specific needs (Katz *et al.*, 1973) [4], implying that students are rarely blank recipients of whatever intervention is handed to them. If this is so, then what a student is actually willing to adopt and sustain may differ meaningfully from what a designer or administrator assumes will work.

Several intervention strategies have been proposed and, in some cases, evaluated in the literature: built-in digital wellbeing features and usage-limit tools (Ambike *et al.*, 2023; Parry *et al.*, 2023) [5, 6], institutional awareness workshops and campus-wide programming (Feerrar, 2020) [3], curricular and pedagogical adjustments embedded within technology-enhanced learning (Adomaitienė *et al.*, 2024) [7], and participatory approaches in which students themselves help shape the intervention rather than simply receive it (Lister *et al.*, 2022) [8]. A technology-acceptance perspective further suggests that any such tool or practice is more likely to be sustained when users perceive it as both useful and easy to use (Davis, 1989) [9], a condition that is best judged by asking users directly rather than inferring it on their behalf.

Despite this, agriculture students, a population whose academic workload already combines classroom instruction, laboratory work and field-based research, have rarely been asked directly which strategies they themselves consider practical for managing their own smartphone use. The present study was therefore undertaken to elicit, compile and rank the strategies suggested by postgraduate agriculture students of

Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, for improving their own smartphone digital wellbeing, so as to provide a student-informed, rather than purely designer-led, basis for future intervention.

2. Materials and Methods

The present enquiry formed the concluding part of a wider investigation into smartphone digital wellbeing conducted at the College of Agriculture, Parbhani, a constituent college of Vasantrao Naik Marathwada Krishi Vidyapeeth, on a proportionate sample of one hundred and fifty-five postgraduate students, comprising one hundred and twenty-four students enrolled in the Master of Science (Agriculture) programme and thirty-one enrolled in the Doctor of Philosophy programme, selected under an ex-post facto research design.

Respondents first completed a structured schedule covering their personal profile and their responses to a standardised Digital Wellbeing Scale; at the close of this schedule, each respondent was presented with a single open-ended prompt asking them, in their own words, what they would suggest to improve smartphone digital wellbeing among students like themselves. No predetermined list of options was offered, so as to avoid steering respondents toward any particular category of strategy and to allow strategies to emerge directly from the respondents' own experience. The schedule had been pre-tested before use, and was administered through Google Forms as well as through in-person visits to hostels and the college campus; participation was voluntary throughout, and informed consent was obtained from every respondent before the schedule was administered.

Once collected, the free-text suggestions were read in full, grouped into a working set of recurring statements, and the number and percentage of respondents whose response matched each statement were computed. The statements were then arranged in descending order of the percentage of respondents endorsing them, yielding a rank order running from the most to the least frequently suggested strategy.

3. Results

The suggestions offered by respondents for improving smartphone digital wellbeing, ranked by the percentage of respondents endorsing each, are presented in Table 1 (placed after the references).

Following healthy practices such as taking regular breaks and avoiding late-night smartphone use was suggested by the largest proportion of respondents (97.42%) and secured the first rank, followed by preferring offline group discussions and peer learning (96.77%, rank second) and maintaining a phone-free study routine (96.13%, rank third). Balancing practical knowledge, textbooks and digital sources (95.48%) and setting phones to silent mode or turning off notifications during study hours (94.19% each) were ranked fourth and fifth respectively. Restricting smartphone use mainly to academic and agricultural purposes and limiting entertainment and social media use were each suggested by 93.55 percent of respondents, followed by the use of built-in digital wellbeing tools (92.26%), institutional workshops (89.03%), strict app timers (85.16%) and occasional digital fasting (83.87%), the last four securing the seventh to tenth ranks respectively.

Table 1. Suggestions of respondents for improving smartphone digital wellbeing, ranked by percentage ($N = 155$)

Sr. No.	Suggestion	Frequency	Percentage	Rank
1	Students should follow healthy practices such as taking regular breaks and avoiding late-night smartphone use.	151	97.42	I
2	Students should prefer group discussions and offline learning activities with peers.	150	96.77	II
3	Students should maintain a daily routine that includes phone-free study time.	149	96.13	III
4	Students should balance practical knowledge, textbooks, and digital sources.	148	95.48	IV
5	Students should set their phones to 'Do Not Disturb' mode during study hours.	146	94.19	V
6	Students should turn off all non-essential push notifications.	146	94.19	V
7	Students should use smartphones mainly for academic and agriculture-related purposes.	145	93.55	VI
8	Students should limit the usage of entertainment apps and social media.	145	93.55	VI
9	Students should use digital wellbeing tools such as app timers and Focus mode.	143	92.26	VII
10	College should arrange workshops on smartphone digital wellbeing.	138	89.03	VIII
11	Students should use strict app timers for regulating smartphone usage.	132	85.16	IX
12	Students should practice digital fasting occasionally.	130	83.87	X

4. Discussion

That simple, self-directed behavioural practices, regular breaks, avoidance of late-night use and offline peer engagement, were ranked well above institutional or technology-based measures fits the view that sustainable change in digital habits depends on routine-based self-regulation rather than one-off monitoring (Monge Roffarello *et al.*, 2019; Zimmerman, 2000) [2, 10], and mirrors the emphasis placed on accessible, low-cost, routine-friendly components in digital mental health interventions reviewed by (Lattie *et al.*) [11]; it also resonates with participatory accounts of student wellbeing in which students themselves foreground peer-based and routine-based coping over imposed restriction (Lister *et al.*, 2022) [8].

The strong endorsement of phone-free study time and of restricting notifications or entertainment and social media use during study hours is consistent with evidence that habitual, frequent checking behaviour, rather than deliberate use, is what most erodes attention and wellbeing

(Oulasvirta *et al.*, 2012) [12], and with the documented association between heavier social media engagement and poorer psychological outcomes among young people (Roberts *et al.*, 2014; Twenge *et al.*, 2018; O'Day *et al.*, 2021) [13, 14, 15]; students' own preference for silencing notifications and ring-fencing study time suggests an intuitive recognition of this mechanism that aligns with calls for addressing habitual patterns of use directly rather than screen time alone (Monge Roffarello *et al.*, 2019) [2].

The comparatively high ranking given to built-in digital wellbeing tools such as app timers and focus mode supports survey evidence that such tools are adopted and valued once students are aware of them (Ambike *et al.*, 2023; Parry *et al.*, 2023) [5, 6], while the broader call for a balance between digital and conventional learning resources echoes recommendations for curricular and pedagogical adjustment within technology-enhanced learning environments (Adomaitienė *et al.*, 2024) [7] and the wider argument that digital wellbeing is best understood as a balanced, meaningful pattern of use rather than the mere minimisation of screen time (Thomas *et al.*, 2022) [16].

Institutional workshops on digital wellbeing, although endorsed by a large majority of respondents, were ranked below individually directed strategies, a pattern consistent with the observation that institutional and design-level measures are most effective as a complement to, rather than a substitute for, student self-regulation (Feerrar, 2020; Al-Mansoori *et al.*, 2023; Al-Raheme, 2025) [3, 1, 17]; a similar emphasis on combining institutional and individual-level awareness efforts was reported among postgraduate research scholars by (Pandey and Hassan) [18], and is in keeping with the broader recognition that connectivity, engagement and balanced application use together define the key dimensions along which learners' digital wellbeing should be supported (Bahar *et al.*, 2024) [19].

Finally, the comparatively lower ranking of stronger restrictive measures, strict app timers and occasional digital fasting, suggests that while students recognise their potential value, they regard them as less practical for everyday, sustained adoption than simpler behavioural adjustments; this is consistent with the caution that restrictive features are most useful when they are not easily bypassed and are paired with habit-formation support rather than imposed in isolation (Monge Roffarello *et al.*, 2019) [2], and with the view that institutions should support rather than impose students' own efforts to manage their digital engagement (Al-Raheme, 2025) [17].

5. Conclusion

The study concludes that agriculture students place the greatest value on simple, self-directed behavioural strategies, regular breaks, phone-free study routines and offline peer engagement, over more restrictive or purely institutional measures for improving their smartphone digital wellbeing. The comparatively strong endorsement of built-in digital wellbeing tools and institutional workshops indicates a continuing role for technology-assisted and institutional support, provided it complements rather than replaces individual self-regulation. Being derived directly from students rather than imposed upon them, these findings offer a practical, student-informed foundation for designing acceptable and effective digital wellbeing interventions in agricultural higher education.

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