

Social Sciences Spectrum

A Double-Blind, Peer-Reviewed, HEC recognized Y-category Research Journal

E-ISSN: 3006-0427 **P-ISSN:** 3006-0419
Volume 05 **Issue** 04, 2026
Web link: https://socialsciencesspectrum.com/index.php/sss

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The Interplay of Expressive Suppression, Mental Well-Being, and Perceived Social Support in Smartphone Addiction

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Article Information [YY-MM-DD]

Received 2026-08-01 **Revised** 2026-09-06 **Accepted** 2026-10-01

Citation (APA):

Ahsan, H & Zeb, R (2026). The interplay of expressive suppression, mental well-being, and perceived social support in smartphone addiction. *Social Sciences Spectrum*, *5*(4), 95-110. https://doi.org/10.71085/sss.05.04.607

Abstract

The association between expressive suppression and smartphone addiction was examined through the mediation of mental well-being, and the moderating role of perceived social support in Peshawar, Pakistan, among a group of young adults. Purposive convenience sampling technique was used and the instruments were filled out by a sample of 311 smartphone users aged between 18 to 30 (M = 21.83; SD = 1.89). Results showed that the expressive suppression significantly and positively predicted smartphone addiction (B = .41, p < .001). Interestingly, expressive suppression was also positively related to mental wellbeing, and was found to be a significant predictor (B = .18, p < .001) as well. The results of the mediation analysis using the process Model 4 found no support for an indirect relationship between expressive suppression and smartphone addiction mediated by mental wellbeing (Indirect effect = 0.002, Boot SE = 0.02, 95% Boot CI = [-0.04, 0.04]). The results of the Model 1 analysis showed that this association between expressive suppression and mental wellbeing was significantly moderated by perceived social support (ΔR2 = .029, p = .001). Expressive Suppression was positively correlated with mental wellbeing when social support was low (B = .27; p < .001) and average (B = .11; p = .030) and not with mental wellbeing when social support was high (B = -.01; p = .869), as demonstrated by the conditional effects.

Keywords: Expressive Suppression, Smartphone Addiction, Perceived Social Support, Mental Wellbeing, Conditional Effects.

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Introduction

In the recent era emotion regulation has become one of the key framework in understanding mental health through its impact on coping abilities, social functioning, psychological adjustments, and stress responses (Balzarotti et al., 2020; Compare et al., 2014; Vally & Ahmed, 2020). This is especially important for young adults as during this phase of life there are major shifts related to social roles, emotional needs, and technology usage. The relationship of problems in emotion regulation and greater emotional distress with an increased risk of problematic digital behaviours such as smartphone addiction, has been reported by Pellini et al., (2022). They found that children who experience more problems in emotion regulation were at higher risk for smartphone addiction. Studies indicated that emotion regulation problems are associated with higher emotional distress and higher risk of problematic digital behaviours including smartphone addiction (e.g. Huang et al., 2022; Shahidin et al., 2022; Zhu et al., 2025).

Expressive suppression has garnered much attention in emotion regulation research.

Expressive suppression is an approach for the regulation of emotions which is different from other emotion regulation approaches, for instance, cognitive reappraisal. Compared to a suppression model, which is used at a later stage of the response once the emotional response has been triggered, reappraisal is used earlier, before the emergence of an emotional response by changing the interpretation of an emotionally relevant situation (Gross & John, 2003; Compare et al., 2014). It is a technique applied once the emotional state has appeared and involves an attempt to manipulate outwardly the expression of the emotion. Suppression does not aim to change the others' emotional experience; it is rather used to regulate the emotional expression in the external behavior, that is on the face, words, movements, etc. (Gross, 1998; Gross & John, 2003). Key theoretical and empirical literature has linked the tendency to suppress emotions with enhanced physiological responses and consequent psychological consequences (Balazarotti et al., 2020; Richards & Gross, 1999). This has led to the broad perception that suppression can be beneficial in the social environment by keeping things under control, while compromising on our psychological state if it happens on a daily basis.

This traditional view has been generally corroborated by empirical evidence. In a college sample the relationship between the emotional and instrumental coping mechanisms and their association with the suppression and reappraisal coping strategies was assessed. Findings indicated that expressive suppression was more strongly correlated with negative affect and less with both emotional and instrumental coping, while reappraisal was more strongly associated with better adaptive relationships (Vally & Ahmed, 2020). Likewise, the evidence from the meta-analyses has found that there is a strong and consistent relationship, albeit somewhat ambiguous, between emotion regulation strategies such as suppression and mental health indicators in different contexts and outcomes (Hu et al., 2014). Contrary findings have been reported in the study of non-clinical samples between suppression and wellbeing (e.g., Levasseur et al., 2026).

There is also recent evidence to support the link between having a poor emotional regulation and smartphone problems. According to results of a systematic review and meta-analysis, emotion regulation problems may be linked to detrimental smartphone behaviors, thus suggesting that emotion regulation processes could be involved in the abnormal development of digital dependence (Shahidin et al., 2022). Likewise, the positive correlation between expressive suppression and smartphone addiction has been stated in young adults' studies; that people who tend to suppress their emotions might be more likely to use their smartphones as a way to cope (Apriani et al., 2021; Hamza & Jaya, 2026).

Cultural differences put the idea into question that all expressive suppression is bad. As emotion regulation does not exist independently from social values, i.e., which emotions are accepted as appropriate or problematic, under what conditions emotions are allowed to be expressed and whether restraint in emotional expression is acceptable or not varies across cultures (Ford & Mauss, 2015). Cultures with a stronger emphasis on interdependence, on relational responsibilities and on social harmony could be seen to curtail emotional expression not only as a symptom of avoidance or psychological disturbance, but as part of an interpersonal function. Expressive suppression may have fewer psychological costs, for those who support interdependent cultural norms, particularly when it accomplishes culturally congruent objectives like preserving interpersonal peace. However, the setting and motivation may determine how adaptive it is, suggesting that in certain situations and for certain individuals, suppression may be useful (Ford & Mauss, 2015; Su et al., 2015).

The impact emotional suppression bears on interpersonal relationships is even more complicated. For example, reduced emotional expression may lead to difficulties with disclosure and perceived social connection. Prospective studies indicate that suppression over time will predict less social satisfaction, and less interpersonal closeness (Balzarotti et al., 2020; Srivastava et al., 2009). However, in contexts where others might be threatened by emotional expressiveness or emotional openness could engender interpersonal conflict, then restraint might have protective interpersonal properties by minimizing interpersonal conflict and ensuring relational stability (Ford & Mauss, 2015). Therefore, it would be inappropriate to interpret such restrictive behaviour as being beneficial or harmful by itself. The links between suppression and health shown in existing literature may seem to conflict, as the new cross-cultural research suggests that the psychological impact of suppression can differ depending on the experiences of the suppresser and his or her social and cultural context. This distinction is significant in the study of young adults in collectivist cultures, as emotional restraint used as a communicative tool to create harmony may bear an emotional price leading to mental health problems.

Mental wellbeing is a broader concept than a lack of mental health problems, and describes positive psychological functioning. It encompasses what each person feels (positive affect), experiences (psychological functioning) and does (vitality, competence, and successfully meets demands at their day-to-day level) (Vally & Ahmed, 2020; Levasseur et al., 2026). This approach has the added value in the analysis of expressive suppression – the effects of controlling emotional expression are not always just manifested as psychological suffering. Rather, suppression could impact on more overarching markers of function, such as emotional regulation and subjective wellbeing.

Past studies have repeatedly shown that a correlation between expressive suppression and less favorable mental health and adjustment outcomes. According to the results of the meta-analyses, emotion regulation strategies are significantly related to mental health outcomes, but there may be differences between strategies, cultural contexts, and outcomes (Hu et al., 2014). Likewise, research has shown that increased suppression is linked to decreased wellbeing and less coping skills in adults (Levasseur et al., 2026; Qiu et al., 2023). An emotion regulation perspective suggests that suppression could impact wellbeing with the process of restricting outward expression of emotion but not necessarily changing how the emotion is experienced internally (Gross & John, 2003). However, increasing research on the cultural dimension of emotional

restraint suggests that studies of cultural variation in this emotional constraint–well-being relationship are needed.

In the modern era it might lead to more use of digital platforms to regulate emotions. Compensatory Internet Use Theory is a proposed theory that suggests that problematic use of the internet may occur when there are emotional or psychological challenges where individuals resort to problematic internet use to "cope" with it, or where online use becomes a maladaptive way of managing undesirable emotions or experiences (Kardefelt-Winther, 2014). Likewise, the I-PACE model indicates that problematical use of technology emerges as a result of the interactions among personal characteristics, mood, thoughts, and coping behaviors, especially when use of digital media is geared to obtaining immediate emotional relief (Brand et al., 2019; Apriani et al., 2021; Qiu et al., 2023; Shahidin et al., 2022).

Evidence for the relationship between suppression, wellbeing and the relationship between smartphone addition and wellbeing has been largely examined in isolation, but the potential role of mental wellbeing is less concrete. Previous studies have clearly linked smartphone addiction to negative emotional experiences, deficits in life satisfaction, and mental health problems (Linh et al., 2026; Tng & Yang, 2023; Zhu et al., 2025). Considering mental wellbeing as a mediator, however, would thus allow to investigate whether suppression has any indirect effects on smartphone addiction by altering some positive psychological functioning. However, given their culturally specific nature, emotional suppression is a path that needs to be explored and distinct from what was assumed.

Perceived amount of social support is a personal interpretation of the availability of socially meaningful and reliable support when needed. Perceived social support is a subjective assessment of how much emotional, practical, and relational resources can be drawn from others, as opposed to objective measures of the size of a social network (Li et al., 2023).

Stress-buffering hypothesis offers a crucial framework for psychological adjustment in the context of social support. From this standpoint, supportive relationships can have a positive effect on the person in dealing with stressful experiences by providing emotional support and helpful resources; this enhances their coping capacity and equips them better to deal with stressors (Cohen & Wills, 1985). Importantly, the effect of social support is not always the same and may be contingent on the type of stressor and coping strategies adopted by the person.

There has been recent research that shows the importance of social support in relation to emotional wellbeing and problematic communication. Longitudinal studies have shown that greater perceived social support was related to better psychological functioning partly through decreased measures of loneliness and negative self-evaluations (Yang et al., 2023). In the same vein, the study of smartphones addiction suggests that social support can curb the problematic smartphone use by both emotional and self-regulatory routes. Partial mediation accounted for part of this relationship between social support and smartphone addiction; that is, social support was negatively correlated with smartphone addiction, partly through the correlation between social support and negative emotions and the correlation between self-control and smartphone addiction (Zhong, et al., 2025). Perceived social support was calculated for the Chinese college students, which was negatively related to smartphone addiction with loneliness as influence factor (Liu et al., 2025). Similarly, social support was linked to reduced prevalence of psychological problem-related to internet use (depression, loneliness) among the total of Vietnamese health science students (Linh et al., 2026). Social support may also affect the perceptions and responses to emotional regulation demands beyond its direct impact. However, the presence of supportive

relationship(s) can be the critical factor in whether the strategy of emotional suppression is a benefit or psychologically costly for someone who adopts it for coping.

Rationale

Even though the field of emotion regulation and smartphone addiction is somewhat developed, there are several critical gaps that need to be filled. Existing literature has mainly emphasized the role of the maladaptive strategy of expressive suppression in psychological outcomes and limited investigation was given to the potential cultural differences in its effects. The majority of the evidence has come from western populations; therefore, little is known about how suppression operates within a collectivistic culture where emotional suppression may be a social and interpersonal practice. There have been a few studies that have explored the connection between emotion regulation difficulties and smartphone addiction, but the way in which these two relate has not yet been well understood. Specifically, research has not yet examined if the pathway between the two variables of expressive suppression and smartphone addiction can be explained by the presence of mental wellbeing. Furthermore, social support has been the primary focus of study for its protective role for psychological distress and problematic technology use. It is less known if the effects of expressive suppression are changed by perceived social support itself. Socially contextualizing the role emotional suppression plays as an adaptive or maladaptive strategy for young adults may therefore yield a more nuanced understanding of when emotional suppression plays a role as an adaptive or maladaptive strategy.

Objectives

1. To examine the relationships of expressive suppression with mental wellbeing and smartphone addiction among young adults.
2. To investigate whether mental wellbeing mediates the relationship between expressive suppression and smartphone addiction.
3. To determine whether perceived social support moderates the relationship between expressive suppression and mental well-being.

Hypotheses

Hypothesis 1 (H1): Expressive suppression will significantly predict lower mental wellbeing and higher smartphone addiction among young adults.

Hypothesis 2 (H2): Mental wellbeing will mediate the relationship between expressive suppression and smartphone addiction.

Hypothesis 3 (H3): Perceived social support will moderate the relationship between expressive suppression and mental wellbeing.

Method

Sample

The present study took the correlational non-experimental design approach to investigate the relationship between the following variables: expressive suppression, smartphone addiction, mental wellbeing, and perceived social support. The participants were 311 young adults aged from 18 to 30 (M = 21.83; SD = 1.89) , who owned and used smartphone regularly. This age group is the emergence of adulthood and early adulthood aimed at individuals in the process of developing new emotional patterns, social roles and behaviors in technology use.

A purposive-convenience sampling technique was used to recruit participants from Peshawar (Pakistan). Data were gathered using paper surveys and online surveys. Data collection for university students was done on campus, and participants in the community, especially young professionals were approached via online community networks. The same battery of questionnaires was completed by all participants. The final sample included 165 females (53.1%) and 146 males (46.9%). Participants gave their informed consent were included. To improve the state of the data, it was subjected to checking for completeness and appropriate patterns of responses before the data analysis is carried out.

Instruments

Demographic Sheet

Initial information included the age, and gender, of the respondent, their education or occupation, family structure (nuclear or extended) and self-reported socioeconomic status.

Expressive Suppression Subscale of ERQ

Expressive suppression was measured using the Expressive Suppression subscale of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) which consisted of 4 items. The subscale examines the tendency to restrain or hide one's outward expression of emotion from becoming post-experiential and disturbing. The scale contained Likert format with 7 options, where 1 means "strongly disagree" and 7 indicates "strongly agree". Higher scores reflect a greater tendency to use expressive suppression to regulate emotional expression. Previous research has demonstrated acceptable reliability for this subscale, with Cronbach's alpha values generally falling between .68 and .76. The subscale also proved convergent validity with other measures of emotion regulation and has been distinguished from cognitive reappraisal.

Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS)

The Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS) measured mental wellbeing in the current study. The seven positively worded items assess positive dimensions of mental health, including positive functioning, psychological resilience, and emotional wellbeing. Individuals have to choose an option from 1to 5 showing how often they went through each statement past two weeks. SWEMWBS has shown greater reliability across student and community samples, that ranges from .79 to .88. Evidence of construct validity has also been reported, including positive relationships with measures of psychological functioning and quality of life.

Smartphone Addiction Scale – Short Version

The Smartphone Addiction Scale – Short Version (SAS-SV; Kwon et al., 2013) was administered to assess smartphone addiction. The SAS-SV is a 10-item self-report measure that measures several features associated with smartphone addiction, including disruption to daily life, withdrawal symptoms, tolerance, and excessive involvement in smartphone use. Respondents choose an option on a Likert scale between 1 to 6. Higher scores indicate greater smartphone addiction tendencies. SAS-SV has demonstrated high Cronbach's alpha values between .84 to .91 in previous studies. It also manifested convergent evidence by correlations with related measures of smartphone dependence and behavioural addiction.

Multidimensional Scale of Perceived Social Support (MSPSS)

To assess the level of social support one experiences, the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) was used. The MSPSS is composed of 12 statements which assess perceived accessibility and appropriateness of receiving support from family, friends, and significant others. Each source is measured by 4 items. Likert type with a range of 1 to 7 shows the response. High total indicates higher amount of social support one experiences. Previous studies have found good internal consistency for the MSPSS, generally alpha coefficients over .85 for the entire scale and .80 for the sub-scales. In addition, the scale has demonstrated its validity by embodying known three-factor structure and correlating with the related psychological outcomes.

Procedure

Data were collected using both paper-based and online survey formats. University students completed paper-and-pencil questionnaires during on-campus sessions, while other eligible participants completed the same questionnaire battery through an online survey platform. To minimize potential order effects, four versions of the questionnaire were prepared, with each version containing a different sequence of the study measures (ERQ, MSPSS, SAS-SV, and SWEMWBS). Participants were then randomly allocated to one of the four questionnaire versions. Participation was voluntary, and responses were collected anonymously. Participants were informed about the study and after they consented questionnaires were distributed among them. The questionnaire required approximately 10 - 15 minutes to complete.

Results

Table 1: *Sociodemographic Characteristics of the Sample*

Characteristics	***f***	**%**
Gender		
Female	165	53.1
Male	146	46.9
Family System		
Nuclear	215	69.1
Joint	96	30.9
Socioeconomic Status		
Lower Class	4	1.3
Middle Class	288	92.6
Upper Class	19	6.1

Note: N = 311. Participants were on average 21.83 years old (SD = 1.89)

Table 1, the socio-demographic information is provided on 311 respondents. Females were slightly more numerous than males in the sample with 165 females (53.1%) and 146 males (46.9%). For the family system majority of the respondents were in nuclear family (215 cases, constituting 69.1%) and 96 cases were in joint family (30.9%). Socioeconomically, the majority of the respondents were middle class, which is 288 (92.6%) of the respondents. The number of respondents that considered themselves part of the upper class was 19 (6.1%) with the lower class

having a total of 4 respondents (1.3%). In summary, there was a relatively even gender breakdown, a mainly nuclear and a primarily middle class sample.

Table 2: *Psychometric Properties of ESS, SAS-SV, MSPSS, and SWEMWBS Scales*

Variable	No of Items	*M*	*SD*	Range	*α*
ESS	4	17.94	5.14	4 – 28	.707
SAS-SV	10	34.34	9.68	10 – 58	.819
MSPSS	12	55.48	13.51	17 – 84	.861
SWEMWBS	7	23.24	4.71	7 – 35	.689

Note: N = 311. ESS – Expressive Suppression Subscale, SAS-SV = Smartphone Addiction Scale – Short Version, MSPSS = Multidimensional Scale of Perceived Social Support, SWEMWBS = Short Warwick Edinburgh Mental Wellbeing Scale. α = Cronbach's alpha internal consistency coefficient.

Table 2, The ESS comprised 4 items and had a mean score of 17.94 (*SD* = 5.14), a range of 4–28 with acceptable internal consistency (α = .707), with item scores ranging from 4 to 28. The SAS-SV contained 10 items, with a mean of 34.34 (*SD* = 9.68), a range of 10–58, and good reliability (α = .819). There were 12 items for the MSPSS, and the mean was 55.48 (*SD* = 13.51); ranging from 17 to 84 and had good internal consistency (α = .861). Finally, the SWEMWBS consisted of 7 items, with a mean of 23.24 (*SD* = 4.71), a range of 7–35, and acceptable reliability (α = .689). Overall, the items exhibited moderate to high internal consistencies, with the MSPSS having the highest internal consistency from the measures.

Table 3: *Linear Regression Analysis Predicting Mental Wellbeing from Expressive Suppression*

Variable	*B*	*SE*	*β*	*t*	*P*	95% *CI*
Constant	19.90***	.95		20.88	<.001	
ESS	.18***	.05	.20	3.65	<.001	[.08, .28]
R^2	.04					
Adjusted R^2	.03					

Note: *N* = 311, ***p<.001, *B*=Unstandardized Coefficient, β=Standardized Coefficient, *SE*=Standard Error, ESS=Expressive Suppression Subscale, $F(1, 309)=13.34$, p<.001

Table 3, The regression coefficients (B = .18, *SE* = .05 with β = .20) show that expressive suppression was a significant positive predictor of mental wellbeing. This was statistically significant (t = 3.65, p < .001) and the 95% confidence interval indicated that higher expressive suppression was related to higher mental wellbeing in this sample; range from .08 to .28. Overall, the model accounted for 4% of the variance in mental wellbeing (R^2 = .04) with an adjusted R^2 of .03 indicating that expressive suppression contributed a small portion of the variance in mental wellbeing. In general, expressive suppression was found to be positively associated with mental wellbeing, with a fairly weak value, statistically significant.

Table 4: *Linear Regression Analysis Predicting Smartphone Addiction from Expressive Suppression*

Variable	*B*	*SE*	*B*	*t*	*P*	95% *CI*
Constant	26.84***	1.95		13.76	<.001	
ESS	.41***	.10	.22	4.00	<.001	[.21, .62]
R^2	.04					
Adjusted R^2	.04					

Note: *N* = 311, ***p<.001, *B*=Unstandardized Coefficient, β=Standardized Coefficient, *SE*=Standard Error, *ESS*=Expressive Suppression Subscale, $F(1, 309)=16.02$, p<.001

The results shown in Table 4 indicate that there is a significant predictive relationship between variables such as expressive suppression and smartphone addiction. The results revealed that the variable of expressive suppression was as a very strong positive predictor of smartphone addiction with $B = .41$, $SE = .10$ and $\beta = .22$. The correlation was statistically significant ($t = 4.00$, $p < .001$) with a 95% confidence interval of [.21, .62] and suggested a positive correlation between the two; that is, a higher amount of expressive suppression was correlated with a higher amount of smartphone addiction. The model accounted for 4% of the variance in smartphone addiction (squared multiple correlation or $R^2 = .04$; adjusted squared multiple correlation or adjusted $R^2 = .04$), which points to a relatively small effect.

Table 5: *Simple Mediation Analysis Testing Mental Wellbeing as a Mediator Between Expressive Suppression and Smartphone Addiction*

Path	*B*	*SE*	*t*	*P*	95%*CI*
ESS→SWEMWBS (a path)	.18	.05	3.65	<.001	[.08, .28]
SWEMWBS→SAS-SV (b path)	.01	.11	.13	.89	[-.21, .24]
ESS→SAS-SV (direct effect, c')	.41	.10	3.89	<.001	[.20, .62]
ESS→SAS-SV (total effect, c)	.41	.10	4.00	<.001	[.21, .62]

Note: *N*=311. ESS=Expressive Suppression Subscale, SAS-SV=Smartphone Addiction Scale-Short Version, SWEMWBS=Short Warwick Edinburgh Mental Wellbeing Scale, *B*=Unstandardized Coefficient, *SE*=Standard Error.

Indirect Effect

Indirect Path	Effect	Boot *SE*	Boot *LLCI*	Boot *ULCI*
ESS→SWEMWBS→SAS-SV	.002	.02	-.04	.04

Note: *N*=311. ESS=Expressive Suppression Subscale, SAS-SV=Smartphone Addiction Scale-Short Version, SWEMWBS=Short Warwick Edinburgh Mental Wellbeing Scale. Bootstrap Sample=5,000.

Results from process Macro Model 4 indicated that expressive suppression significantly predicted mental wellbeing, *B*=.18, *SE*=.05, *t*=3.65, *p*<.001, 95%*CI* [.08, .28]. However, mental wellbeing did not significantly predict smartphone addiction after controlling for expressive suppression, *B*=.01, *SE*=.11, *t*=.13, *p*=.89, 95%*CI* [-.21, .24]. The direct effect of expressive suppression on smartphone addiction remained statistically significant, *B*=.41, *SE*=.10, *t*=3.98, *p*<.001, 95%*CI*

[.20, .62], which was almost identical to the total effect, *B*=.41, *SE*=.10, *t*=4.00, *p*<.001, 95%*CI* [.21, .62]. The indirect effect of expressive suppression on smartphone addiction through mental wellbeing was not statistically significant, effect=.002, Boot *SE*=.02, 95% Boot *CI* [-.04, .04], as the bootstrap confidence interval included zero.

Therefore, Hypothesis 2 was not supported, indicating that mental wellbeing did not significantly mediate the relationship between expressive suppression and smartphone addiction.

Table 6: *Moderation Analysis Testing Perceived Social Support as a Moderator of the Relationship Between Expressive Suppression and Mental Wellbeing*

Predictor	***B***	***SE***	***t***	***P***	**95%CI**
Constant	23.35	.25	91.86	<.001	[22.85, 23.85]
ESS	.13	.05	2.53	.012	[.03, .23]
Social Support	.08	.02	4.07	<.001	[.04, .11]
ESS × Social Support	-.01	.00	-3.22	.001	[-.02, -.00]

Model Summary: R^2=.121, *F*(3, 307)=14.02, *p*<.001.

Interaction Effect: ΔR^2=.029, *F*(1, 307)=10.39, *p*=.001.

Conditional effects of ESS on mental wellbeing at values of social support

Level of Social Support	***B***	***SE***	***t***	***P***	**95%*CI***
Low	.27	.06	4.45	<.001	[.15, .40]
Average	.11	.05	2.18	.030	[.01, .21]
High	-.01	.07	-.16	.869	[-.15, .13]

Note: *N*=311. ESS=Expressive Suppression Subscale. Social Support was measured using the Multidimensional Scale of Perceived Social Support. Continuous predictors were mean-centered before the analysis.

Overall the model was significant, *F*(3, 307)=14.02, *p*<.001, R^2=.121 in the model of mental well-being with moderation analysis done by PROCESS Macro Model I. Expressive suppression significantly predicted mental well-being, *B*=.13, *SE*=.05, *t*=2.53, *p*=.012, 95%*CI* [.03, .23], while perceived social support also emerged as a significant positive predictor, *B*=.08, *SE*=.02, *t*=4.07, *p*<.001, 95%*CI* [.04, .11].

The interaction between expressive suppression and perceived social support was significant, *B*=-.01, *SE*=.00, *t*=-3.22, *p*=.001, 95%*CI* [-.02, -.00], indicating that perceived social support moderates the relationship between expressive suppression and mental well-being. The interaction term accounted for an additional 2.9% of the variance in mental well-being, ΔR^2=.029, *F*(1, 307)=10.39, *p*=.001.

Conditional effects analysis showed that expressive suppression significantly and positively predicted mental well-being at low levels of perceived social support, *B*=.27, *SE*=.06, *t*=4.45,

p<.001, 95%*CI* [.15, .40], and at average levels of perceived social support, *B*=.11, *SE*=.05, *t*=2.18, *p*=.030, 95%*CI* [.01, .21]. However, at high levels of perceived social support, this relationship was no longer significant, *B*=.01, *SE*=.07, *t*=-.16, *p*=.869. 95%*CI* [-.15, .13].

Therefore, Hypothesis 3 was confirmed, mental wellbeing was significantly moderated by perceived social support between expressive suppression and mental wellbeing. Specifically, greater positive relationship between expressive suppression and mental wellbeing was found at lower levels of perceived social support and was not significant at higher levels of perceived social support.

Discussion

This study investigated the relationship between expressive suppression and smartphone addiction through mental wellbeing, while also exploring the moderating effect of social support among young adults in Peshawar, Pakistan. The empirical finding revealed some unexpected patterns. The 1st hypothesis showed mixed findings. Contrary to the proposed hypothesis that expressive suppression would negatively predict mental wellbeing, the current study findings revealed that expressive suppression significantly and positively predicted mental wellbeing (B = .18, SE = .05, β = .20, t = 3.65, p < .001, 95% CI [.08, .28]), $F(1, 309) = 13.34$, $p < .001$, $R^2 = .04$.). This finding contrasts with the existing literature's dominant pattern, where expressive suppression has generally been associated with emotional exhaustion, reduced life satisfaction, and poor mental wellbeing (Gross & John, 2003; Hu et al., 2024). These results, however, can better be explained and understood from a cultural perspective (Fors & Mauss, 2015).

Values such as a sense of family, social harmony, and responsibility for others influence an individual's emotions and/or actions in traditional and collectivistic communities like Peshawar (Shahid et al., 2025; Zafar et al., 2021). For example, showing or displaying negative emotions like anger or frustration could, at times, have a negative effect on group harmony in these communities (Cui et al. 2022). Thus, emotional restraint can be viewed as a sign of maturity, respect, and socialization (Faran et al., 2021). People who manage their emotional responses to situations based on what is expected of them in their respective cultures seem to think that they have better mental wellbeing as a result because a dimension of the mental wellbeing scale is how well they can manage daily situations. So, in the contemporary cultural context, emotional suppression can be seen not exclusively as an emotional disconnection approach, but also as an approach to emotional stability and interpersonal balance that is reinforced by culture and shared norms (Su et al., 2015).

Though it helps to keep emotions under check for social harmony, it is a strain on the inside. In line with the second component of Hypothesis 1, expressive suppression significantly predicted higher smartphone addiction (B = .41, SE = .10, β = .22, t = 4.00, p < .001, 95% CI [.21, .62]), $F(1, 309) = 16.02$, $p < .001$, $R^2 = .04$. This finding is consistent with the theories of expressiveness that already existed indicating that expressive suppression does not remove the underlying emotional experience; instead, it may simply be maintained and perhaps increase subsequent psychological strains (Gross, 1998; Richards & Gross, 1999).

People who feel that expressing their emotions is not allowed to maintain interpersonal relationships and the social environment may develop other inner emotional regulation strategies (Cui et al., 2022). The smartphone might also be a coping mechanism or escape; it offers the person distractions or emotional escape (Brand et al., 2016; Kardefelt-Winther, 2014). Digital environments might provide a somewhat safe space for the release of emotion and the easing of

tension among peers and friends of young people, where emotional expression is socially valued, without influence in interpersonal relationships (Apriani et al., 2021; Shahidin et al., 2022).

As a whole, these results suggest that the impact of expressive suppression can have context-dependent effects. Though it was related to mental wellbeing in this sample, higher smartphone addictive behaviors were also related to it. Thus, Hypothesis 1 was partially confirmed. As predicted, the influence of expressive suppression was a positive correlation with mental wellbeing, although this was a significant predictor of increased smartphone addiction.

To test Hypothesis 2, a mediating effect was analyzed, applying PROCESS Model 4. The findings showed that mental well-being was not significantly inducted as a mediator of the relationship between the expressive suppressing and smartphone addiction. Although expressive suppression significantly predicted mental wellbeing (B = .18, SE = .05, t = 3.65, p < .001), mental wellbeing did not significantly predict smartphone addiction after controlling for suppression (B = .01, SE = .11, t = .13, p = .894). Still, the direct association between expressive suppression and smartphone addiction remained significant (B = .41, SE = .10, t = 3.89, p < .001), while the indirect path was completely non-significant (Effect = .002, Boot SE = .02, 95% Boot CI [-.04, .04]).

These findings differ from some previous literature, which suggests that poor mental wellbeing may contribute to problematic smartphone use among young adults (Zhu et al., 2025). This may be because smartphone addiction and mental wellbeing might reflect distinct aspects of individuals' experiences in this cultural context. Young adults may feel competent and well-adjusted, yet still use smartphones as a private means to distract themselves or regulate their emotions (Levasseur et al., 2026; Vally & Ahmed, 2020; Kardefelt-Winther, 2014). Thus, smartphone use in the current sample may not indicate a deficit in mental wellbeing, but rather as an additional coping strategy employed in otherwise functional daily lives. Thus, hypothesis 2 was not supported, as mental wellbeing did not significantly mediate the relationship between expressive suppression and smartphone addiction.

The third hypothesis proposed that perceived social support will moderate the relationship between expressive suppression and mental wellbeing. The moderation analysis conducted using PROCESS Model 1 supported this proposition, indicating that the association between expressive suppression and mental well-being varied across levels of perceived social support. The overall model was statistically significant, F(3, 307) = 14.02, p < .001, R^2 = .121. Both suppression (B = .13, SE = .05, t = 2.53, p = .012) and social support (B = .08, SE = .02, t = 4.07, p < .001) predicted wellbeing. Importantly, their interaction was significant (B = -.01, SE = .00, t = -3.22, p = .001, 95% CI [-.02, -.00]), explaining an extra 2.9% of the variance in wellbeing (ΔR^2 = .029, F(1, 307) = 10.39, p = .001). Simple slope analysis revealed that expressive suppression strongly predicted better wellbeing when social support was low (B = .27, SE = .06, t = 4.45, p < .001) and average (B = .11, SE = .05, t = 2.18, p = .030). However, when social support was high, hiding emotions had no connection to wellbeing at all (B = -.01, SE = .07, t = -.16, p = .869). This pattern suggests that emotional suppression may depend on the availability of perceived social support.

The current finding indicates that social facilitation is another factor at play in emotion's suppression: traditional stress-buffering theories predict that social support will typically buffer the negative effects of emotional suppression (Zimet et al., 1988), but the present finding suggests otherwise. Young adults who do not feel supported in their environment might find their vulnerability less visible or acceptable, or feel uncomfortable expressing it due to using emotional restraint to cope with emotional insecurity and to avoid interpersonal struggles (Kwon & Kim, 2019; Su et al., 2015). They may have safer places to express their feelings and, therefore, not have

to hide what they feel when they can better express their feelings in a secure and supportive relationship. This resulted in support of Hypothesis 3: Mental wellbeing is a function of perceived social support in the case of expressive suppression. In particular, results indicate that the relationship between expressive suppression and mental health might be conditional on the social context of emotional regulation.

Conclusion

This research underscores the ambivalence role of expressive suppression in the developmental experiences of young adults in a collectivist culture. Expressive suppression was not always a maladaptive emotion regulation strategy; it actually was related to increased mental wellbeing as well as to increased smartphone addiction. The results of this study indicate that expressive suppression is a potentially adaptive mechanism for coping with expectations of others and for adjusting to these interpersonal contexts within the current cultural context. Concurrently, it may be associated with increased usage of their cellphones as a means of privately handling challenging emotional encounters.

Results also suggest that this correlates with mental well-being depends on the perceived level of social support. Conversely, mental wellbeing was related to suppression only in the lowest level of perceived social support but not in higher level perceived social support. The findings underscore the need to take a broader (social-cultural) perspective in the study of the psychological effects of expressive suppression. Future studies should also investigate emotion regulation in other cultures, babies, and young people, instead of assuming that strategies that are deemed adaptive or maladaptive in "Western" societies will be found to be the same in these different groups and cultures.

Limitations and Suggestions

- The non-experimental and cross-sectional nature of the study allows only limited conclusions about the causal relationship which can be overcome by longitudinal studies.
- The sample was mainly middle class young adults and purposive-convenience sampling was used, the location was urban Peshawar, Pakistan. This means that the results of this study may not apply to populations in rural areas, other socio-economic groups or other cultural contexts. Further research should use probability-based sampling strategies from various regions to determine if culture, socioeconomic and contextual factors affect these relationships.

The Short Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS) had moderate internal consistency of just below .70 with Cronbach's alpha in this sample being .689. This lesser degree of reliability could have impacted the accuracy in which the mental health constructs were measured, as well as perhaps distorted the relationship shown here (the non-significant mediation effect). To improve the reliability of the measures, further studies might also include other measures that reflect a broader mental well-being or look at these relationships with larger samples.

Conflict of Interest

The authors showed no conflict of interest.

Funding

The authors did not mention any funding for this research.

References

Apriani, I., Tiatri, S., & Mergal, B. B. (2021). The relationship between expressive suppression and problematic smartphone use. *Advances in Health Sciences Research*, *41*, 112–118. https://doi.org/10.2991/ahsr.k.211130.043

Balzarotti, S., Cesana, S., Biassoni, F., & Ciceri, M. R. (2020). Expressive suppression within task-oriented dyads: The moderating role of power. *Europe's Journal of Psychology*, *16*(4), 561–587. https://doi.org/10.5964/ejop.v16i4.1947

Brand, M., Young, K. S., Laier, C., Wölfling, K., & Potenza, M. N. (2016). Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders: An Interaction of Person-Affect-Cognition-Execution (I-PACE) model. *Neuroscience & Biobehavioral Reviews*, *71*, 252–266. https://doi.org/10.1016/j.neubiorev.2016.08.033

Compare, A., Zarbo, C., Shonin, E., Van Gordon, W., & Marconi, C. (2014). Emotional regulation and depression: A potential mediator between heart and mind. *Cardiovascular Psychiatry and Neurology*, *2014*, Article 324374. https://doi.org/10.1155/2014/324374

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*(2), 310–357. https://doi.org/10.1037/0033-2909.98.2.310

Cui, L., Tang, G., & Huang, M. (2022). Expressive suppression, confucian *Zhong Yong* thinking, and psychosocial adjustment among Chinese young adults. *Asian Journal of Social Psychology*, *25*(4), 715–730. https://doi.org/10.1111/ajsp.12529

Faran, M., Akram, U., Tahir, M., & Malik, S. (2021). Uses of music and flourish: Mediating role of emotion regulation in university students. *Journal of Behavioral Sciences*, *31*(2), 25–38.

Ford, B. Q., & Mauss, I. B. (2015). Culture and emotion regulation. *Current Opinion in Psychology*, *3*, 1–5. https://doi.org/10.1016/j.copsyc.2014.12.004

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, *2*(3), 271–299. https://doi.org/10.1037/1089-2680.2.3.271

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348

Hamza, A. J., & Jaya, A. T. (2026). The interplay between smartphone addiction, emotional regulation, and cognitive distortions among young adults in Kerala. *The International Journal of Indian Psychology*, *14*(1), 45–53. https://doi.org/10.25215/1401.040

Hoffman, S. N., Stein, M. B., & Taylor, C. T. (2024). The relationship between expressive suppression, therapeutic bond, and treatment outcomes of a positive affect intervention for adults with anxiety and/or depression. *Cognitive Behaviour Therapy*, *53*(4), 394–408. https://doi.org/10.1080/16506073.2024.2321891

Hu, T., Zhang, D., Wang, J., Mistry, R., Ran, G., & Wang, X. (2014). Relation between emotion regulation and mental health: A meta-analysis review. *Psychological Reports*, *114*(2), 341–362. https://doi.org/10.2466/03.20.PR0.114k14w0

Huang, W., Liang, F., & Alexander, S. (2022). Smartphone addiction and cross-cultural adjustment among overseas Chinese students: The role of emotion regulation beliefs and strategies. *Frontiers in Psychology, 13,* Article 1009347. https://doi.org/10.3389/fpsyg.2022.1009347

Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior, 31,* 351–354. https://doi.org/10.1016/j.chb.2013.10.059

Kwon, H., & Kim, Y.-H. (2019). Perceived emotion suppression and culture: Effects on psychological well-being. *International Journal of Psychology, 53*(6), 456–464. https://doi.org/10.1002/ijop.12486

Kwon, M., Kim, D.-J., Cho, H., & Yang, S. (2013). The smartphone addiction scale: Development and validation of a short version for adolescents. *PLOS ONE, 8*(12), e83558. https://doi.org/10.1371/journal.pone.0083558

Levasseur, M., Daoudi-Simison, S., & Stevenson-Young, L. (2026). The cost of being strong: Exploring the relationship between emotional suppression and wellbeing. *Journal of Happiness and Health, 6*(1), 34–40. doi:10.47602/johah.v6i1.141

Li, G., Li, Y., Lam, A. I. F., Tang, W., Seedat, S., Barbui, C., Papola, D., Panter-Brick, C., van der Waerden, J., Bryant, R., Mittendorfer-Rutz, E., Gémes, K., Purba, F. D., Setyowibowo, H., Pinucci, I., Palantza, C., Acarturk, C., Kurt, G., Tarsitani, L., . . . Hall, B. J. (2023). Understanding the protective effect of social support on depression symptomatology from a longitudinal network perspective. *BMJ Mental Health, 26*(1), 1–7. https://doi.org/10.1136/bmjment-2023-300802

Linh, H. N., Tam, N. T., Thang, T. Q., Huong, N. T. L., Nguyet, N. B., & Hanh, H. D. (2026). Smartphone and internet addiction, social support, and mental health among health science students: A structural equation modeling approach. *Clinical Neuropsychiatry, 23*(1), 69–76. doi: 10.36131/cnfioritieditore20260107.

Liu J, Xu Z, Zhu L, Xu R, and Jiang Z (2022). Mobile phone addiction is associated with impaired cognitive reappraisal and expressive suppression of negative emotion. Front. Psychiatry 13:988314. doi: 10.3389/fpsyt.2022.988314

Liu, J., Zhang, Y., Zhang, Y., & Wang, Q. (2025). The relationship between social support and smartphone addiction among Chinese college students: The mediating role of loneliness and the moderating role of meaning in life. *Frontiers in Public Health, 13,* Article 1671800. https://doi.org/10.3389/fpubh.2025.1671800

Qiu H, Lu H, Pei J, Zhang Y, Ma Y, Xing C, Wang X, & Zhu X (2023). Effects of chronic stress on smartphone addiction: A moderated mediation model. Front. Public Health 11:1048210. doi: 10.3389/fpubh.2023.1048210

Richards, J. M., & Gross, J. J. (1999). Composure at any cost? The cognitive consequences of emotion suppression. *Personality and Social Psychology Bulletin, 25*(8), 1033–1044. https://doi.org/10.1177/0146167299251101

Shahid, M. S., Tariq, S., Sajjad, M., Nadeem, H. A., & Rahman, R. (2025). Parental emotional abuse and psychological well-being: The role of expressive suppression as a mediator and cognitive reappraisal as a moderator among adolescents in Pakistan. *Journal of Asian Development Studies, 14*(1), 524–535. https://doi.org/10.62345/jads.2025.14.1.41

Shahidin, S. H., Midin, M., Sidi, H., Choy, C. L., Nik Jaafar, N. R., Sahimi, H. M. S., & Che Roos, N. A. (2022). The relationship between emotion regulation and problematic smartphone use: A systematic review and meta-analyses. *International Journal of Environmental Research and Public Health*, *19*(23), Article 15848. https://doi.org/10.3390/ijerph192315848

Srivastava, S., Tamir, M., McGonigal, K. M., John, O. P., & Gross, J. J. (2009). The social costs of emotional suppression: A prospective study of the transition to college. *Journal of Personality and Social Psychology*, *96*(4), 883–897. https://doi.org/10.1037/a0014755

Su, J. C., Lee, R. M., Park, I. J. K., Soto, J. A., Chang, J., Zamboanga, B. L., Kim, S. Y., Ham, L. S., Dezutter, J., Hurley, E. A., Seol, K. O., & Brown, E. (2015). Differential links between expressive suppression and well-being among Chinese and Mexican American college students. *Asian American Journal of Psychology*, *6*(1), 15–24. https://doi.org/10.1037/a0036116

Tng, G. Y. Q., & Yang, H. (2023). Nuanced relationships between indices of smartphone use and psychological distress: distinguishing problematic smartphone use, phone checking, and screen time. *Behaviour & Information Technology*, *43*(1), 956–969. https://doi.org/10.1080/0144929x.2023.2196573

Vally, Z., & Ahmed, K. (2020). Emotion regulation strategies and psychological wellbeing: Examining cognitive reappraisal and expressive suppression in an Emirati college sample. *Neurology, Psychiatry and Brain Research*, *38*, 27–32. https://doi.org/10.1016/j.npbr.2020.09.001

Xu, L., Arshat, Z., Ismail, N., & Lulu, S. (2026). The mediating role of emotion regulation in the relationship between parental psychological control and psychological distress among students with smartphone addiction. *Frontiers in Psychiatry*, *17*, Article 1680811. https://doi.org/10.3389/fpsyt.2026.1680811

Yang, X., Ma, H., Zhang, L., et al. (2023). Perceived Social Support, Depressive Symptoms, Self-Compassion, and Mobile Phone Addiction: A Moderated Mediation Analysis. *Behavioral Sciences*, *13*(9), 769. https://doi.org/10.3390/bs13090769

Zafar, H., Debowska, A., & Boduszek, D. (2021). Emotion regulation difficulties and psychopathology among Pakistani adolescents. *Clinical Child Psychology and Psychiatry*, *26*(1), 121–139. https://doi.org/10.1177/1359104520969765

Zhong, G., Shu, Y., Zhou, Y., Li, H., Zhou, J., & Yang, L. (2025). The relationship between social support and smartphone addiction: The mediating role of negative emotions and self-control. *BMC Psychiatry*, *25*, Article 167. https://doi.org/10.1186/s12888-025-06615-8

Zhu, C., Li, S., & Zhang, L. (2025). The impact of smartphone addiction on mental health and its relationship with life satisfaction in the post-COVID-19 era. *Frontiers in Psychiatry*, *16*, Article 1542040. https://doi.org/10.3389/fpsyt.2025.1542040

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2.