

A Quantitative Study on the Role of Emotional Regulation and Coping Strategies in Predicting Smartphone Overuse among Malaysian Young Adults in Klang Valley

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Abstract

This paper investigates the role of emotional regulation and coping strategies in predicting smartphone overuse among Malaysian young adults in Klang Valley. A quantitative study was done among 191 Malaysian young adults between the age 18 to 25. Multiple linear regression analyses were conducted to explore the relationship and predictive effects of emotion-oriented coping, task-oriented coping, avoidance-oriented coping, cognitive reappraisal and expressive suppression on smartphone overuse. Smartphone overuse was found to be significantly positively correlated with emotion-oriented and avoidance-oriented coping. However, only emotion-oriented coping was found to significantly predict smartphone overuse ($\beta = .40$, $p < .001$), while task-oriented coping, avoidance-oriented coping, cognitive reappraisal and expressive suppression were not significant predictors. These findings imply that emotion-oriented coping may be especially applicable to excessive smartphone usage among Malaysian young adults and it underlines the need of encouraging adaptive coping strategies and healthier approaches managing emotional discomfort.

Keywords: Smartphone Overuse, Emotional Regulation, Coping Strategies

Introduction

According to Hardy (2021), there were an approximately 3.6 billion people that were smartphone users in the year 2020 and it will continue to steadily increase in the following years. Digital technology is inseparable from our lives, changing the way individuals work, communicate and manage stress daily. Kemp (2023) reported that Malaysia has around 33.03 million Internet users. 70.7% of internet users in Malaysia are college or university students, and approximately 25.8% of these users engage in heavy internet use such as 13 hours or more daily (MCMC, 2022).

One of the reasons for the rising popularity of smartphones are due to the ease of access to the internet, gaming applications and social medias. Internet Gaming Disorder has been included as a non-substance addiction in the Diagnostic and Statistical Manual for Mental Disorders (DSM-5) as it has strong possibility of addiction in 2014 (Xie et al., 2016, as cited in Candussi et al., 2023). There are various benefits that smartphones offer which are information being able to instantly access, individuals can exchange information and efficiently communicate with each other (Wheatly et al., 2019, as cited in Irimiás et al., 2021). However, excessive smartphones usage has been associated with poorer sleep, heightened anxiety and depression and decrease in academic performance (Cleary et al., 2020; Sapci et al., 2021).

Arnett (2010) mentioned that emerging adulthood one of the stages of life which occurs between adolescence and emerging adulthood with distinctive psychological traits that are social, demographic and subjective. Individuals between the ages of 18 and 25 represent this stage, especially when they become more independent economically through education and or training (Hochberg & Konner, 2020). In this study's context, emerging adults in Malaysia may face academic and financial stressors, social comparison and employment uncertainty (Aun, 2020; Satara & Ibrahim, 2023; Yusoff et al., 2021). This highlights the importance of understanding how stress and emotions will affect how these individuals use their smartphones.

One of the reasons behind smartphone overuse (SO) is that individuals may rely on smartphones to cope with their emotions and stress (Ibrahim, 2024). Coping is a few various actions and behaviours that an individual can utilize to manage psychological distress which includes anxiety, stress and fatigue (Skinner et al., 2003, as cited in Rossi et al., 2023). There are three different ways to deal with stress. One of them is emotion-oriented coping, which the individual focuses on managing emotional responses towards the problem. Besides that, task- or problem-oriented coping is when an individual actively solves the problem. avoidance-oriented coping involves an individual trying to escape the situation or problem by turning to the community and another person or by starting a new activity (Skinner et al., 2003, as cited in Bourdon et al., 2019). Saeedi et al. (2023) has also mentioned that avoidance-oriented (AO) and emotion-oriented coping (EO) are recognized as maladaptive coping whereas task-oriented coping (TO) is regarded as adaptive style to cope with stressors. Even though AO and EO may provide short-term gratification, it can reinforce maladaptive patterns as individuals rely on smartphones as a coping mechanism, which can possibly lead to smartphone overuse (David & Roberts, 2024). Thus, it is hypothesized that smartphone usage could be an indication of maladaptive coping strategies such as venting or distraction.

Emotional regulation (ER) involves the motivation to modify the emotion-generative process which impacts emotion formation (Gross et al., 2011, as cited in Nozaki, 2020). The Gross's Process Model included techniques such as cognitive reappraisal (CR) and expressive suppression (ES) can be used to regulate emotions (Gross & Thompson, 2007). Cognitive reappraisal is the reframing stressful situations or circumstances to change their emotion effects which usually result into a more favourable psychological outcome. In contrast, expressive suppression involves the inhibition of one's emotion, which can lead to emotional exhaustion and maladaptive coping patterns (Walker et al., 2021).

Emotional regulation techniques are important in moderating stress responses, whereas maladaptive coping strategies often provide temporary relief and fails to address the root causes of stress (Bondarchuk et al., 2024). Moreover, cognitive reappraisal is one of the usage adaptive emotion regulation techniques has been linked to improved stress management (Thomas & Zolkoski, 2020). While CR has been associated to resilience, ES predicts higher depression, anxiety and stress levels as individuals need to use a huge amount of mental effort to contain their negative emotions and thoughts (Musa et al., 2025; Liao et al., 2022; Riepenhausen et al., 2022). Therefore, this study aims to examine whether ER and CS predict smartphone overuse.

A recent meta-analysis revealed that in Eastern Mediterranean region and the South-East Asia region has a particularly high prevalence of smartphone overuse compared to global averages (Meng et al., 2022). In the Malaysian context, the MCMC (2018) Handphone Survey reported that the largest percentage of smartphone users in Malaysia were between the ages of 20 and 34 (87%) (Rahim et al., 2020). This is followed by a study conducted by Puaad et al. (2024) where they reported that there is a significant association found between excessive smartphone use, depression, and suicidal ideation among Malaysian university students. Besides that, dysregulation of emotions can lead to maladaptive impulsive behaviours, depressive symptoms and generalized anxiety disorder (Lewczuk et al., 2021; Miller & Racine, 2020). Lastly, maladaptive coping styles can lead to severe consequences such as neuroticism liability which can predict higher suicide attitude (Thomas et al., 2021; Ibrahim et al., 2020). These factors draw attention to the possible psychological risks that could be affect young adults in Malaysia young adults that are using smartphones excessively.

There are empirical studies that have investigated the relationship between smartphone addiction with general well-being and academic performances (Ismail et al., 2020; Rathakrishnan et al., 2021). Moreover, past studies on ER and CS were conducted in a Western and East Asian setting which involves participants such as adolescents and adults (Lu et al., 2021; Squires et al., 2020). This shows that there has been little research done on both ER and CS as predictive models of smartphone overuse among emerging adults, with heightened pressure in Malaysia. Furthermore, coping mechanisms and emotional regulation may be different from Western populations as Malaysia is a collectivistic culture with close family ties and significant social or academic pressures (Kawakami et al., 2020; Weiss et al., 2021). Furthermore, limited studies have explored the underlying psychological mechanisms through emotional regulation and coping strategies which can contribute to smartphone overuse. This highlights the need for a more integrative theoretical approach. Therefore, this study aims to address the gap that was not sufficiently explored on Malaysian young adults.

Significance of Study

Further research on this topic could provide valuable insights into the specific types of emotional regulation and coping styles that may influence smartphone overuse. Theoretically, this study seeks to integrate two theoretical frameworks which are Self-regulation Theory and Compensatory Internet Use Theory to deepen the understanding on how ineffective, or lack of emotional regulation and maladaptive coping mechanisms may lead individuals to rely on smartphones due to psychological distress. Although prior research has often examined these frameworks separately, limited existing studies have integrated them within the context of smartphone overuse, particularly among Malaysian young adults.

Practically, the findings of this study may offer useful insights for policymakers, especially Malaysian government bodies such as the Malaysian Communications and Multimedia Commissions (MCMC) and the Ministry of Communications and Digital (KKD). This is because the findings from this study can serve as a guideline to develop national digital well-being initiatives, policy frameworks and awareness campaigns about smartphone overuse.

Additionally, mental health professionals may utilize the findings from the study to create suitable targeted interventions catered towards young adults that adopts unhealthy coping style which may underlie smartphone overuse. Moreover, this study may benefit educational institutions as it enables academic advisors to incorporate findings from the study to development workshops or psychoeducation modules to allow students to learn effective coping strategies and stress management techniques.

Lastly, the study may also encourage digital users and communities by increasing the public's understanding of how everyday emotional regulation difficulties and maladaptive coping styles can contribute to excessive smartphone use. This increased awareness can empower individuals to recognise unhealthy digital habits within themselves and their social networks, including family, peer groups and university students.

It would allow them to adopt more adaptive coping strategies and healthier emotion regulation practices. These changes will lead to an outcome of more resilient individuals as they improve their daily functioning and promote more mindful engagement with digital technology.

Research Objective

RO 1: To investigate if cognitive reappraisal predicts smartphone overuse among Malaysian young adults in Klang Valley.

RO 2: To investigate if expressive suppression predicts smartphone overuse among Malaysian young adults in Klang Valley.

RO 3: To examine if task-oriented coping predicts smartphone overuse among Malaysian young adults in Klang Valley.

RO 4: To explore if emotion-focused coping predicts smartphone overuse among Malaysian young adults in Klang Valley.

RO 5: To investigate if avoidance-oriented coping predicts smartphone overuse among Malaysian young adults in Klang Valley.

Research Question

RQ 1: Does cognitive reappraisal predict smartphone overuse among Malaysian young adults in Klang Valley?

RQ 2: Does expressive suppression predict smartphone overuse among Malaysian young adults in Klang Valley?

RQ 3: Does task-oriented coping predict smartphone overuse among Malaysian young adults in Klang Valley?

RQ 4: Does emotion-oriented coping predict smartphone overuse among Malaysian young adults in Klang Valley?

RQ 5: Does avoidance-oriented coping predict smartphone overuse among Malaysian young adults in Klang Valley?

Hypothesis

H1: Cognitive reappraisal significantly predicts lower smartphone overuse among Malaysian young adults in Klang Valley.

H2: Expressive suppression significantly predicts higher smartphone overuse among Malaysian young adults in Klang Valley.

H3: Task-oriented coping significantly predicts lower smartphone overuse among Malaysian young adults in Klang Valley.

H4: Emotion-oriented coping significantly predicts higher smartphone overuse among Malaysian young adults in Klang Valley.

H5: Avoidance-oriented coping significantly predicts higher smartphone overuse among Malaysian young adults in Klang Valley.

Definitions of Terminology

Conceptual Definition

Emotional Regulation

According to Cambridge Dictionary (n.d.), emotional regulation is the action to control emotions. ER also refers to the effort that one uses to manage emotions in oneself or in others (McRae and Gross, 2020). Not only that, but emotional regulation is also known as how people alter their physiology, expressions, and emotional experiences to function in their everyday lives (Zhylin et al., 2024).

Cognitive Reappraisal

In the Cambridge Dictionary (n.d.), “cognitive” relates to the processes of thinking or a mental process, while “reappraisal” is the reassessment of something or someone. When the two words are combined, cognitive reappraisal can be understood as how an individual will reevaluate an experience to change its emotional impact.

Based on a study done, cognitive reappraisal is defined as an emotion regulation method where individuals reinterpret a situation to alter their emotional responses (Sheppes & Gross, 2011, as cited in Wang & Yin, 2023). Another definition of cognitive reappraisal is that it refers to how an individual will modify their emotional reactions by recontextualizing stressful scenarios, frequently resulting in more favourable psychological outcomes (Gross, 2002, as cited in “The Oxford Handbook of Emotional Development,” 2022).

Expressive Suppression

Based on the Cambridge Dictionary (n.d.), expressive suppression refers to stopping emotions from being shown or expressed. ES can be also understood as the inhibition of emotional facial expression which is an emotion-expressive behaviour (Sikka et al., 2022). ES is considered as a type of maladaptive emotion management technique as it represses one’s emotions to avoid being displayed outwardly (Yu et al., 2023).

Coping Strategies

Coping is the ability to effectively handle challenging circumstances or challenges (Cambridge Dictionary, n.d.). It is one of the adaptive responses that are either subliminal or unconscious with the intent to decrease or endure stress (Algorani & Gupta, 2023). To deal with the demands of a stressful situation, CS is the ideas and actions employed to deal with it, both internally and externally (Stephenson & DeLongis, 2020).

Task-oriented coping

An individual will attempt to solve a difficult situation by using task-oriented coping (Inguglia et al., 2020). Based on APA Dictionary of Psychology (2023), a few examples of TO includes of creating potential solutions to a problem, engaging in different actions and hold individuals accountable which are connected to the stressor. Similarly, Ihara et al. (2024) mentions TO aims to resolve an issue by modifying the situation or by cognitive reconfiguration of the problem with the intent of task-focused endeavours.

Emotion-oriented coping

According to the APA Dictionary of Psychology (2023), instead of addressing the stressor directly, the individual attempts to manage emotions through various cognitive and behavioural strategies, such as meditation, relaxation techniques, prayer, positive reframing, wishful thinking, avoidance methods, self-blame, seeking social support (or alternatively, withdrawing socially), and conversing with others, including mental health professionals. Building on this, by controlling emotions and discomfort is a one of the techniques for emotion-focused coping (Endler & Parker, 1990a, 1990b, as cited in Ho & Liang, 2021).

Avoidance-oriented coping

The APA Dictionary of Psychology (2018) defined avoidance coping is any strategy used to manage challenging situations by withdrawing from the issue and diverting attention instead of confronting it. Consistent with this, it is any behavioural or cognitive coping mechanisms adopted by a person to evade or elude a painful stimulus (Zeidner & Endler, 1995 as cited in Haskell et al., 2020). Darabos et al. (2021) also conceptualize avoidance-oriented coping to avoid adverse emotional stimulation.

Operational Definition*Smartphone Overuse*

In this study, it is operationalized as a score obtained from the Smartphone Addiction Scale – Short Form (SAS-SF) scale. Males are considered addicted if the total score is higher than 31, whereas the cut-off value for females is 33 (Wong et al., 2023).

Emotional Regulation

In this study, it is a score obtained through Emotional Regulation Questionnaire (ERQ; Gross and John, 2003). Higher scores indicate greater use of respective regulation strategy such as cognitive reappraisal and expressive suppression.

Coping Strategies

For coping strategies, it will be operationalized by scores obtained through the Coping Inventory Coping Inventory for Stressful Situations – Short Form (CISS-21; Endler & Parker, 1999). Higher total scores in each subscale show higher reliance on that specific coping styles.

Literature Review*Emotional Regulation and Smartphone Overuse*

Reducing unpleasant feelings and enhancing well-being requires efficient regulation of emotions (Restubog et al., 2020). When individuals experience negative emotions, it increases an individual's desire to become more vulnerable to external temptations and heightened sensitivity to immediate rewards. This can lead to increased chances of failure in self-control

behaviours (Wagner et al., 2014, as cited in Zhong et al., 2025). For instance, in a study conducted by Shi et al. (2022), when participants want to deal with negative emotions such as boredom and tension, they would turn towards cell phone use for mood management. Since impulsivity and emotional dysregulation are complex processes with different impacts, it is found to be linked to the development and maintenance of smartphone overdependence (Cho & Kim, 2025).

Multiple studies have found that there is positive association between ES and SO. For example, Fortes et al. (2020) discovered that when ES is connected to entertainment consumption, it greatly intensifies the moderating impact between SO and functional impairment. Another study done by Apriani et al. (2021) reported a positive significant relationship between ES and problematic smartphone use. Similarly, Rozgonjuk and Elhai (2019) observed that expressive suppression is connected to SO severity.

In contrast, CR is considered an adaptive strategy as it had a moderating effect between SO and psychological well-being, which weakens the relationship between SO, especially when it was associated to communication purposes (Fortes et al., 2020). This buffering effect may occur due to individuals who engage in cognitive reappraisal are more likely to use smartphones to seek social support. The access to social support has been associated with increased resilience, reduced stress and enhanced psychological well-being thus nullifying the negative effects of smartphone overuse (Hardiningrum et al., 2025). However, it is important to note that literature presented mixed findings.

A study conducted by Elhai and Contractor (2018) observed no correlation between ER and greater smartphone use. In the same study, individuals with high CR were found to have higher smartphone overuse. This inconsistency highlights the need to investigate further in a Malaysian context on Malaysian young adults.

Coping Strategies and Smartphone Overuse

Individuals will resort to smartphone use to deal with stress by coping (Gu & Mao, 2023). While negative coping aims to cope with stressful situations by adopting negative thoughts and poor behaviour such as ranting or avoiding situations, positive coping help to alleviate tension by finding solutions and conducting positive evaluations (Liu et al., 2022). Undergraduates and young adults in Malaysia turn to self-distraction, self-blame and venting (Ismail et al., 2016; Masiran et al., 2018). This shows that Malaysian young adults prefer to use EO and AO coping, which leads to higher smartphone usage.

In today's digital context, individuals rely on social media to vent their emotions or seek distractions by streaming videos or engage in excessive online interactions to temporarily relieve negative emotions (Gu et al., 2022; Yang et al., 2021). This is consistent with a finding by Flynn et al. (2020) as they found that the utilization of smartphones for coping was correlated with smartphone dependency, which in turn was significantly linked to avoidance and emotion-focused coping strategies. The participants (Canadian university students) also mentioned that to manage stress, they would converse with friends and family or listen to music through their smartphones (Flynn et al., 2020).

Conversely, in a Malaysian study done by Rehman et al. (2024) found no significant association found between escapism (AO coping) and stress. This means that using media entertainment as distractions does not reduce or increase the participants' stress levels.

Theoretical Framework

Self-Regulation Theory

Self-regulation is defined as how individuals oversee and modify their own thoughts and behaviours to achieve a certain goal in any situation (Baumeister & Vohs, 2007, as cited in Heatherton et al., 2015). Baumeister and Heatherton (1996) explain two main types of self-regulation failures which are underregulation and misregulation. Underregulation is individuals become either incapable or unable to exercise self-control due to insufficient strength to overcome unwanted thoughts, emotions or impulses. Misregulation refers to the inefficient or maladaptive ways of regulating one's behaviour due to false assumptions, which means individuals will believe that what works once for an emotion will work for other emotions. This theory further proposes a strength model of self-regulation, which asserts that self-control is a finite psychological resource that can be exhausted by prolonged effort (Baumeister & Heatherton, 1996).

In the context of this study, individuals that experience emotional distress or have limited capacity of regulation may resort to smartphone overuse as a maladaptive coping mechanism such as EO, AO and ES, reflecting either misregulation (ineffective emotional management) or underregulation (loss of control). Underregulation is evident in a study conducted by Zhang et al., (2022) as they found that college students who experienced elevated stress levels exhibited diminished self-control, which subsequently correlated with increased behaviours indicative of mobile phone addiction. In contrast, cognitive reappraisal represents successful regulation of emotions as emotions could be controlled when it is employed (Gutentag et al., 2016). Hence, lower CR leads to higher smartphone overuse. The Figure 1 below illustrates a better understanding of how failures in self-regulation can lead to smartphone overuse.

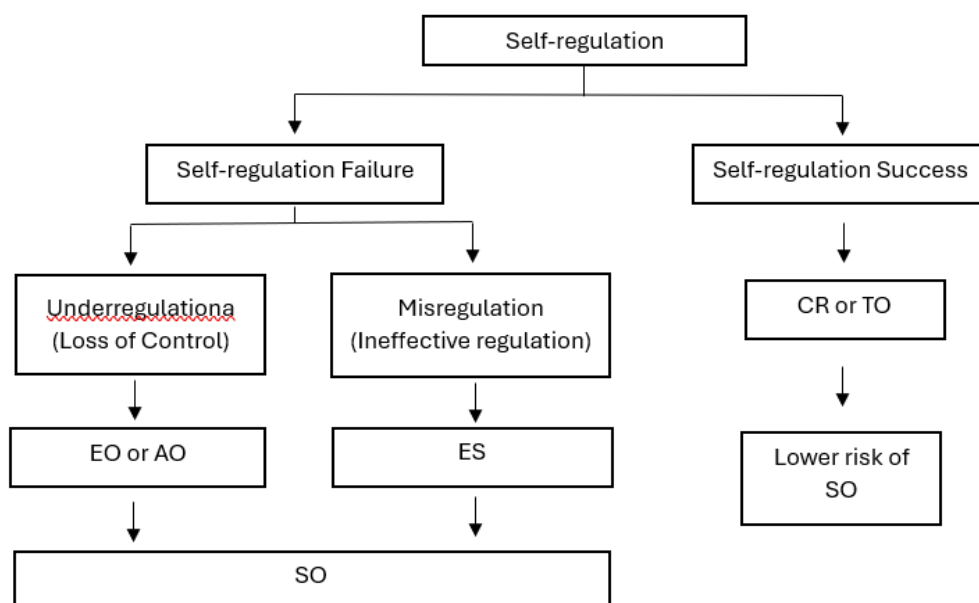


Figure 1 Application of Self-Regulation Theory on Smartphone Overuse

Compensatory Internet Use Theory

According to Kardefelt-Winther (2013), Compensatory Internet Use Theory (CIUT) explains how the problem stems from the person's response to their unfavourable circumstances in life, which is made possible by online application on the phone or the internet. This may lead to individuals resorting to internet so that they can fulfil desires that they are unable to, so they will use internet as a coping mechanism or escape when they are unable to adequately express their negative emotions in real life. This might eventually result in internet addiction (Kardefelt-Winther, 2014a, as cited in Hu & Huang, 2024). Instead of perceiving smartphone overuse solely as an addiction, this theory emphasizes its role as a compensatory activity intended to mitigate distress or discontent (Kardefelt-Winther, 2013). This associates to the study as it is hypothesized that individuals that experience heightened stress will excessively use their smartphones.

Empirical evidence supports this theoretical view. For instance, Kircaburun et al. (2021) found that watching mukbang on YouTube is deemed as a maladaptive coping strategy for certain individuals, particularly those exhibiting significant loneliness. Watching videos by using YouTube as a platform is considered as a type of avoidance-oriented coping as a form of digital escape (Chen et al., 2025). Additionally, another study showed that perceived stress moderated the relationship between escapism motivation and problematic smartphone use among college students (Wang et al., 2015, as cited in Shen, 2020). This further proves that stress induces avoidance-oriented coping which can lead to smartphone overuse.

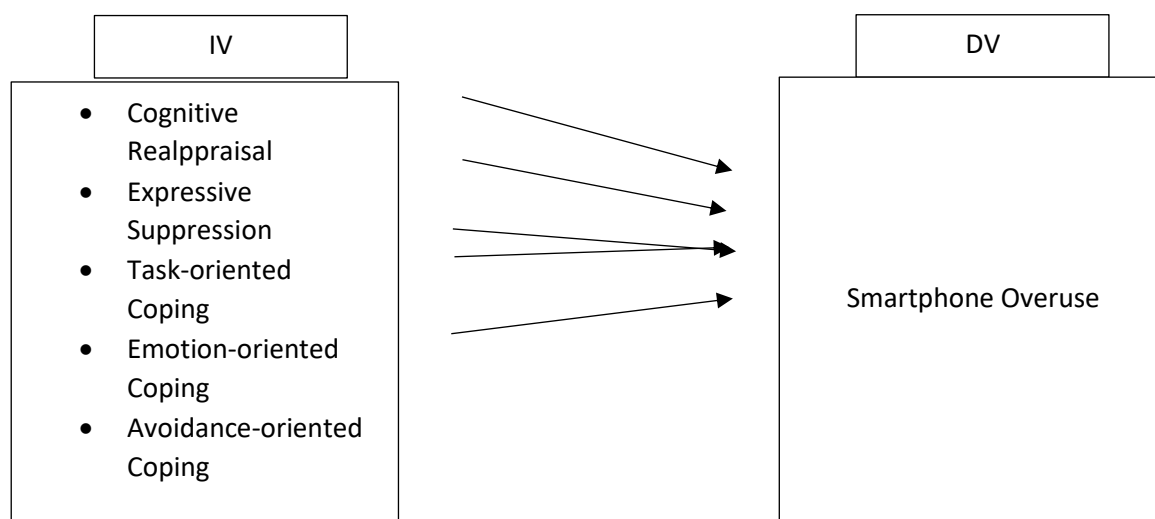
By using the CIUT as a guide, it explains how individuals use smartphones to manage psychological distress and fulfil unmet emotional needs. Therefore, this study aims to integrate these theories to deepen the understanding of how emotional regulation and coping strategies predicts smartphone overuse.

Conceptual Framework

The conceptualized framework is displayed below in Figure 1 provides a comprehensive visualization of the study. It proposes the five independent variables which are "cognitive reappraisal", "expressive suppression", "task-oriented coping", "emotion-oriented coping" and "avoidance-oriented coping" serving as predictors of the dependent variable which is "smartphone overuse" among young Malaysian adults. As mentioned previously, CR and TO pose as adaptive strategies which reduces the likelihood of smartphone overuse. However, ES, EO and AO are considered as maladaptive strategies which will result individuals to resort to smartphone usage.

Figure 2

The conceptualized framework of how emotional regulation (cognitive reappraisal and expressive suppression) and coping strategies (task-oriented, emotion-oriented and avoidance oriented coping) predicts the likelihood of smartphone overuse.



Methodology

Research Design

The study employs a cross-sectional quantitative research method to investigate how emotional regulation and coping strategies predict smartphone overuse among Malaysian young adults in Klang Valley.

Sampling Method & Sample Size Calculation

Non-probability purposive sampling, specifically purposive and snowball sampling, will be utilized in this study due to the need of access to a population with the inclusion criteria. These methods were chosen as to allow the ease of access to participants who met the inclusion criteria which allow for examination of the relationship between the variables rather than to generalize the entire population. Purposive sampling is the intentional selection of participants that fits the inclusion criteria (Tajik et al., 2024). By incorporating social medias such as Instagram, WhatsApp and Facebook, snowball sampling will also be used as it is a recognized technique that helps researchers to recruit study participants that are not known or easily obtainable (Leighton et al., 2021). Due to time constraints with the high numbers of participants, this study will therefore use these techniques instead of randomized sampling. By using G*Power 3.1.9.7 A Priori power analysis (refer to Appendix A), it is determined that the required sample size of this study will be 208 Malaysian young adults in Klang Valley with 10% attrition rate. This is to detect a small to medium effect size ($f^2 = 0.7$) based on Cohen's (2013) guidelines for multiple regression with five predictors, ensuring sufficient statistical power to detect meaningful relationships between emotional regulation, coping styles and smartphone overuse.

Participants

The inclusion criteria will be Malaysian young adults aged between 18-25 with smartphones and able to understand the questionnaire in English while residing in the Klang Valley region. Due to the modern lifestyle and urbanization of Klang Valley, it has the most percentage of smartphones ownership across Malaysia (Tila, 2025). Participants with clinically diagnosed

psychiatric or neurological disorders will be excluded in this study to avoid confounding variables as they often have different emotional regulation patterns and coping styles.

A data of 410 participants was collected across all social media platforms (Instagram, WhatsApp and Facebook). However, after screening the responses and removing cases that did not meet the inclusion criteria, it resulted to only 191 being in the final analysis.

Procedure and Materials

The data will be collected using self-administered online questionnaire created through Google Forms. The survey link will include consent form, ensuring participants understand the purpose of the study, their rights to withdraw and confidentiality. Following that, participants will be required to fill in four sections. The sections include demographic details, SAS-SV, ERQ and CISS-21 questionnaires (refer to appendix B). The survey is expected to be completed within 10-15 minutes. There will be a service and debrief sheet attached at the end of the survey to assist participants if they would like to reach out for emotional support. Once data collection period has ended, responses will be entered into SPSS for statistical analysis.

Demographic Information Form

Demographic sheet will be included to obtain details of the participant's age, gender, nationality, ethnicity, marital status, program of study or field that they are currently working in and if they reside in Klang Valley as a form of descriptive data.

Informed Consent Form

A consent form that will be included in the Google Form questionnaire, which will be sent out to participants to obtain consent from the participants prior to their participation in the study.

Study Information Sheet

The Google Form questionnaire will include the study information sheet included in to help participants to understand the title and purpose of the study, the benefits and risks posed to the participants.

Smartphone Overuse

In this study, the severity of smartphone overuse will be measured using the Smartphone Addiction Scale - Short Version (SAS-SV; Kwon et al., 2013). Participants are required to respond to 10 items rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Higher total scores will indicate greater levels of smartphone overuse, with males over the score 31 and females over the score 33 represents addiction. The internal consistency and concurrent validity of SAS were confirmed with a Cronbach's alpha of 0.911 (Kwon et al., 2013). The SAS-SV has demonstrated good internal consistency (Cronbach's $\alpha=0.939$) among Malaysian undergraduate students (Wong et al., 2023).

Emotional Regulation

The Emotional Regulation Questionnaire (ERQ; Gross and John, 2003) will be used to assess the use of cognitive reappraisal and expressive suppression as emotion regulation strategies. This 10-item self-report questionnaire measures the two ER strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). Respondents are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on cognitive reappraisal

subscale indicates a greater tendency to reinterpret emotions, whereas higher scores on expressive suppression subscale indicates a greater tendency to inhibit emotional responses.

The ERQ has demonstrated good alpha reliability with 0.79 for CA and 0.73 for ES (Gross & John, 2003). In a Malaysian study by Hafiz (2015), the ERQ has a reliability of CR ($\alpha = .850$) and ES ($\alpha = .686$) of internal consistency among undergraduate students in Malaysia.

Coping Strategies

The three coping strategies, namely task-oriented, emotion-oriented and avoidance-oriented coping will be measured using Coping Inventory for Stressful Situations – Short Form (CISS-SF; Endler & Parker, 1999). The CISS consists of 21 items rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much) and assesses three primary coping dimensions that could be used in specific stressful situations: task-oriented coping, emotion-oriented coping and avoidance-oriented coping. This results in 7 item per subscale. Higher scores in each subscales represents greater reliance on that specific coping style. According to Endler and Parker (1999), the CISS-21 has a reliability of TO ($\alpha = .0.9$), EO ($\alpha = 0.91$) and AO ($\alpha = 0.87$) internal consistency. All CISS-SF subscales exhibited moderate to high internal reliability, with Cronbach's alphas ranging from .80 to .92 (Amy, 2025).

Data Analysis

All data will be analysed through IBM SPSS version 28. Descriptive data analyses, including means, standard deviation, descriptive information will be used to summarize the demographic characteristics of the participants and the main study variables. Inferential analysis which consists of five linear regression analyses will be conducted to investigate the prediction of independent variables (CR, ES, EO, TO and AO) towards the dependent variable (smartphone overuse) among Malaysian young adults in Klang Valley.

According to Kim (2019), four regression assumptions of linear regression were assessed. By using linearity, this study will ensure that all five independent variables relate to smartphone overuse showed approximately linear relationships. Moreover, independence assumption indicated no substantial autocorrelation among residuals. Additionally, histogram of residuals shown an approximately normal distribution which verified the normality of distribution of the subpopulation. Lastly, the dispersion displayed a random scatter pattern which suggested that equality of variance was met.

Addressing Ethical Concerns

Ethical approval will also be obtained from the ethics committee of IMU University after submitting the research grant. The survey will consist of consent forms for the participants to fill in as well as the questionnaire items. Not only that, but the survey will also not include any sensitive questions that may harm the participants. The participants will have the right to withdraw at any moment of this study. Besides that, the collected data will also be confidential and private, with the participants' names being anonymous to protect their privacy and rights.

Analysis

Introduction

In this section, descriptive statistics, Pearson correlation, multiple linear regression as well as Cronbach's alpha were used to analyse the data collect and were interpreted accordingly.

Reliability Testing

Table 1

Cronbach's Alphas for Multiple Instruments and Their Respective Subscales (n=191)

Instrument	Items	Cronbach's α	Interpretation
Smartphone Addiction Scale	10	.82	Good
Emotional Regulation Questionnaire	10	.74	Acceptable
Cognitive Reappraisal	6	.78	Acceptable
Expressive Suppression	4	.72	Acceptable
Coping Strategies	21	.68	Questionable
Task-oriented Coping	7	.68	Questionable
Emotion-oriented Coping	8	.76	Acceptable
Avoidance-oriented Coping	6	.69	Questionable

In the present study, three instruments were used to assess the participants' level of smartphone use, emotional regulation and coping strategies. The SAS-SV was found to be highly reliable ($\alpha = .82$). Following that, the ERQ was found to have good reliability ($\alpha = .74$). The CR subscale consisted of 6 items ($\alpha = .77$) and ES consisted of 4 items ($\alpha = .72$). Lastly, the CISS-SF was found to have an overall Cronbach's alpha of .68, indicating a questionable internal consistency. According to Schmitt (1996), even though this value falls under the conventional .70 threshold, it is still acceptable as it is under exploratory research. The TO, EO and AO subscales demonstrated Cronbach's alpha coefficients of .68, .76 and .69 respectively.

Descriptive Statistics

Table 2

Descriptive statistics of SO, TO, EO, AO, ES and CR (n=191)

Variable	Min.	Max.	M	SD
SO	13.00	57.00	33.91	9.07
TO	16.00	35.00	25.83	3.77
EO	11.00	39.00	26.44	5.80
AO	9.00	30.00	18.55	4.46
ES	5.00	28.00	16.92	4.41
CR	16.00	42.00	29.96	5.33

Table 2 displays the descriptive statistics of SO, TO, EO, AO, ES and CR. The study has a moderate mean score of SO (M=33.91), TO (M = 25.83), EO (M =26.44), AO (M =18.55), ES (M =16.92) and CR (M = 29.96). SO has the highest standard deviation (SD = 9.07) whereas TO has the lowest standard deviation (SD = 3.77).

Table 3

Demographics of the participants from the sample (n= 191)

Variable	n	Percentage	Min.	Max.	M	SD
Age			18	25	22.76	1.80
Gender						
Female	130	68.1%				
Male	57	29.8%				
Prefer not to say	4	2.1%				
Ethnicity						
Chinese	127	66.5%				
Malay	40	20.9%				
Indian	18	9.4%				
Others	6	3%				
Relationship Status						
Single	134	70.2%				
Currently Dating	48	25.1%				
Married	2	1%				
Divorced	7	3.7%				
Employment/Student Status						
Student	128	67%				
Working	49	25.7%				
Unemployed	12	6.3%				
Working while studying	2	1%				

Participants range in age between the age 18 to 25 ($M = 22.76$, $SD = 1.80$). The most represented age was age 22 with 41 participants (21.5%), whereas 18-year-olds constituted the smallest age group which is 5 participants (2.6%).

Regarding genders, there is a total of 130 females (68.1%) being the most participants in this study, followed by male participants ($n = 57$, 29.8%).

There is a total of 127 Chinese participants (66.5%), which takes up most participants in this study followed by 40 Malay participants (20.9%).

In terms of relationship status, most of the participants were single ($n = 134$, 70.2%) while 48 participants (25.1%) reported being in a relationship. The remaining 9 participants (4.7%) are either divorced or married.

Regarding the current employment or student status, many participants were students ($n = 128$, 67%), whereas 49 participants (25.7%) reported being employed. The remaining participants are unemployed ($n = 12$, 6.3%) and working while studying ($n = 2$, 1%). Demographics for the participants are shown in Table 3.

Correlational Analysis

Table 4

Correlation between SO, TO, EO, AO, ES and CR (n=191)

Variable	1	2	3	4	5	6
1. Smartphone Overuse	-	-.049	.402**	.215**	-.058	-.023
2. Task-Oriented Coping	-.049	-	-.134*	-.018	.130*	.428**
3. Emotional-Oriented Coping	.402**	-.134*	-	.222**	.156*	-.121*
4. Avoidance-Oriented Coping	.215**	-.018	.222**	-	-.056	-.007
5. Expressive Suppression	-.058	.130*	.156*	-.056	-	-.202**
6. Cognitive Reappraisal	-.023	.428**	-.121*	-.007	-.202**	-

Note: *p <0.05 (one-tailed), **p <0.01 (one-tailed)

Table 4 shows that SO is significantly correlated with EO ($r = .40$, $p < .001$) and AO ($r = .22$, $p = .001$). TO is weakly negatively correlated to EO ($r = .13$, $p = .033$) whereas TO weakly correlated to ES ($r = .13$, $p = .037$). TO is also significantly correlated with CR ($r = .43$, $p < .001$). EO is significantly correlated with AO ($r = .22$, $p = .001$). EO is also weakly correlated with ES ($r = .16$, $p = .016$) and negatively correlated with CR ($r = -.12$, $p = .048$). Lastly, ES negatively correlated with CR ($r = -.20$, $p = .003$).

Even though this study's primary goal was to investigate prediction, correlation analysis was employed to ascertain the direction and strength of the bivariate relationships between variables. Multiple regression was conducted to determine the distinct predictive contribution of each independent variable. Thus, correlation analysis provided an initial evaluation of the relationships that supports the regression analysis that followed

Coefficients

Table 5

Multiple linear regression of the predictions of TO, EO, AO, ES and CR on SO (n= 191)

Variable	B	95% CI	β	t	p
(Constant)	14.521	[2.559, 26.482]		2.395	.018
TO	.002	[-.346, .351]	.001	.014	.989
EO	.627	[.411, .843]	.401	5.721	<.001
AO	.243	[-.030, .516]	.120	1.755	.081
ES	-.256	[-.537, .025]	-.124	-1.798	.074
CR	.086	[-.164, .336]	.051	.680	.498

Note. R^2 adjusted = .171 (n=191, $p < .001$). CI = confidence interval for B.

In table 5, multiple linear regression analysis was conducted to examine whether TO, EO, AO, CR, ES predicted SO. Overall, the model was statistically significant, $R^2 = .19$, R^2 adjusted = .17, $F(5, 185) = 8.84$, $p < .001$. 19% of the variance of SO was explained by our model based on the whole sample.

EO significantly predicted SO, $B = .63$, $SE = .11$, $\beta = .40$, $t(185) = 5.72$, $p < .001$, 95% CI [.41, .84]. This implies that the more an individual utilizes EO as a coping mechanism, smartphone overuse will increase by 0.63 points.

TO does not predict SO, $B = .00$, $SE = .18$, $\beta = .00$, $t(185) = .01$, $p < .989$, 95% CI [-.35, .35]. AO also does not predict SO, $B = .24$, $SE = .14$, $\beta = .12$, $t(185) = 1.76$, $p < .081$, 95% CI [-.03, .52]. Additionally, ES does not predict SO, $B = -.26$, $SE = .14$, $\beta = -.12$, $t(185) = -1.80$, $p < .074$, 95% CI [-.54, .03]. Lastly, CR does not predict SO, $B = .09$, $SE = .13$, $\beta = .05$, $t(185) = .680$, $p < .498$, 95% CI [-.16, .34].

Overall, EO was the only significant predictor of smartphone overuse in the multiple linear regression model. There were no significant predictive effects from the remaining variables (AO, TO, CR and ES).

Hypothesis Testing

Based on the results, 131 out of 191 participants (68.6%) in this study have been proven to have high SO based on the cut-off score. It was concluded that EO significantly predicts higher SO hence accepting H4. However, ES AO, TO and CR do not significantly predict SO which leads to the rejection of H1, H2, H3 and H5.

Discussion

Coping Strategies and Smartphone Overuse

The results demonstrated that EO significantly predicted higher SO. Young adults face significant life changes and stressful situations such as job search, academic stress and can pose a threat to individual's identity and identity integration (Mitchell et al., 2021). Thus, individuals use smartphones to seek solace through games, entertainment and social interaction, indicating that individuals who cope with stress through emotional response are also more likely to rely on emotional-based coping strategies (Pan et al., 2025). Instead of addressing the source of stress directly, smartphones may become a temporary solution to ease negative emotions, thereby increasing smartphone overuse. These findings also align with Compensatory Internet Use Theory which proposes that individuals engage in smartphone use to regulate negative emotions through compensation and managing psychological distress.

Interestingly, despite the significant correlation that showed AO and SO were related, the non-significant regression suggested that AO did not significantly predict SO. This may indicate that multicollinearity may have weakened the statistical power of the model which lowers the precision of estimated coefficients (Vatcheva & Lee, 2016). This finding also contrasted with previous study as it highlights that individuals use smartphones to temporary avoid unpleasant feelings or prevent stress which may lead to a vicious cycle of problematic and addiction use (Soraci et al., 2025).

This may also indicate that AO does not necessarily involve increased smartphone use, especially when smartphones are perceived as increased stress due to unwanted information and social judgement. This interpretation is supported by Bursuc and Pohl (2025) as participants that scored higher on avoidance used their phone lesser as they fear bad news, judgement and avoid social media for privacy and security reasons.

In addition, TO does not significantly predict SO among Malaysian young adults. It contrasts with a study done by Ardiah et al. (2026) that TO is associated with higher psychological well-being and reduced levels of stress, anxiety and academic burnout, highlighting its role as an adaptive strategy. With lesser psychological distress, individuals are less likely to develop smartphone addiction (Hossain, 2025).

There may be one possible explanation to this finding, which is TO focuses on finding solutions to address the cause of stress, whereas smartphone overuse is the obsessive and unchecked use of smartphones that leads to negative consequences (Holzgang et al., 2023; Marino et al., 2021). Individuals may use TO to manage stress while still using smartphones for work or academic purposes (Kivunge et al., 2026). Therefore, frequent use of smartphones does not necessarily indicate that individuals use smartphones as a coping mechanism.

Emotional Regulation and Smartphone Overuse

The present study shown that CR does not significantly predict lower SO among Malaysian young adults. Previous research demonstrated that psychological resilience and adaptive emotional regulation strategy was associated to CR, resulting the reduction of individual's reliance on smartphones as a coping mechanism for stress and negative emotions (Xie et al., 2023; Yanzeng et al., 2025). Similarly, previous studies shown that CR is associated with

reduced negative emotions and lower levels of mental health symptoms (Liu et al., 2026; Mohammed et al., 2021).

One possible explanation for the present findings is that smartphone overuse is multifaceted behaviour that may be influenced by cultural and individual factors such as social norm and bonds, conflict resolution and sleep characteristics which were not examined in this study (Ndayambaje & Okereke, 2025). Therefore, the contribution of CR to predict SO may become non-significant when the aforementioned additional factors are taken into account.

Moreover, the results of this study concluded that expressive suppression does not significantly predict higher SO. This is contrary to past meta-analytic finding which discovered that ES has a weak yet positive correlation to problematic smartphone usage (Shahidin et al., 2022). A plausible explanation is that individuals who use ES are less likely to seek social support or vent emotions in other more logical ways (Zou et al., 2024). Therefore, individuals that utilize ES may not use smartphones to regulate emotions.

Implications and Future Directions

Based on the study's findings, clinical professionals and education institutions can implement psychoeducation intervention such as teaching individuals to practice mindfulness to reduce emotion coping strategy by developing moment-by-moment awareness and behavioural orientation based on wise responsibility rather than automatic and irrational reactions (Ghanizadeh et al., 2026; Zandi et al., 2021). While implementing these interventions, it is also important to consider the cultural differences between Western, European and Asian countries.

As EO was found to significantly predict SO, parents should recognise that excessive smartphone use may be an indicator of underlying emotional distress instead of purely excessive screentime. Parents may encourage their children to develop healthy stress management techniques such as physical activity while supporting them emotionally and having open communication.

This study also greatly contributed to existing literature and further supported the Compensatory Internet Use Theory compared to Self-Regulation Theory in explaining SO. Nevertheless, the Self-Regulated Theory is still partially supported as EO emerged as the only significant predictor to SO due to lack of self-control among Malaysian young adults.

There are a few limitations that are present in this study. Firstly, there is a demographic bias towards Chinese, female participants, full-time students that are also not in a relationship. This may be due to the sampling method that mostly accessed the Chinese female student population. To avoid that, future research should ensure fair representation across population by recruiting a more diverse sample by including participants of all ages and a balance of genders.

Future researchers should also investigate other additional factors that may influence smartphone usage such as personality traits, fear of missing out and impulsivity. By employing hierarchical multiple regression, future researchers can have a more comprehensive understanding of SO. This is because hierarchical regression allows a clearer analysis of how

demographical variables, emotional regulation and coping strategies can contribute to the prediction of SO.

Additionally, it was discovered that the internal consistency of CISS-SF is questionable. Reduced reliability suggests that the items in these subscales may not accurately assess the intended coping constructs. It may also mean that participants' interpretation on concepts of coping strategies may vary depending on their different cultural backgrounds. As a result, precaution is needed when interpreting the non-significant results of TO and AO. By assessing the psychometric qualities of CISS-SF among young adults in Malaysia by improving or modifying items with lower internal consistency or adapting the scale for this population may improve accuracy of the findings.

Moreover, the cross-sectional design restricts the capacity to establish causal relationships between SO, emotional regulation and coping strategies. Longitudinal studies can be used to assess these variables across three time-points to establish causality of these variables and determine whether smartphone usage predicts emotional regulation and coping strategies.

Conclusion

Overall, the findings demonstrated that EO significantly predicted smartphone overuse whereas TO, AO, CR and ES were not. This implied that Malaysian young adults have the tendency to react emotionally to stress which may play a more prominent role in explaining smartphone overuse than adaptive emotional regulation or problem-focused coping strategies.

Smartphones are unavoidable in our daily lives as we use it for work, studies and entertainment. However, the detrimental effects of excessive smartphone use must be addressed. The psychological well-being and appropriate smartphone use can be strengthened by encouraging adaptive coping strategies as well as healthier emotional regulation of young adults in Malaysia.

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