

Social media flow and academic procrastination (SoMe FIAP) project across cultures: A protocol for measurement and structural modeling in three regions

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Highlights:

- Social media habits of youth in Türkiye, Ghana, and Hong Kong are examined cross-culturally.
- The project aims to establish cross-cultural measurement invariance of digital well-being scales.
- Modeling social media flow's transition into maladaptive behaviors like phubbing and academic procrastination.
- The mediating roles of FoMO, smartphone addiction, and digital pressure are tested.

Abstract

Background: Although social media flow is often viewed as an ideal state marked by deep absorption, its potential to develop into dysregulated behaviors, such as phubbing and academic procrastination, remains a vital yet under-studied area, especially in non-Western settings. It is unclear whether these harmful outcomes mainly stem from a failure of self-regulation or from a separate pathological pathway driven by fear of missing out (FoMO) and addictive behaviors. Additionally, the lack of measurement tools validated across cultures hinders accurate comparisons of these psychological processes across societies. This protocol presents a multinational project (i.e., Social Media Flow and Academic Procrastination [SoMe FIAP] Project) aimed at addressing these gaps by establishing measurement invariance and testing theory-based structural models in regions (Türkiye, Ghana, and Hong Kong) with diverse cultures. **Methods:** The project will use a multifactorial, complex, predictive correlational design with a cross-sectional survey approach. A target sample of 1500 youths (i.e., 18 years and older) will be recruited through convenience sampling from higher education institutions (N = 500 per region). Data will be collected via a secure, web-based platform (i.e., REDCap) or on printed paper. The assessment set will include culturally adapted measures of the Social Media Flow Scale, the Social Media-Focused FoMO Scale, the Bergen Social Media Addiction Scale, the Smartphone Application-Based Addiction Scale, the Generic Scale of Phubbing, Social Digital Pressure Scale, the Social Overload Scale, Social Network Site Exhaustion Scale, Social Media Continuance Scale, Brief Self-

- Findings will guide culturally sensitive educational strategies to enhance youth digital resilience.

Control Scale, and Academic Procrastination Scale. **Analysis Plan:** The analytical strategy will be structured around two complementary workstreams. Workstream One aims to establish cross-cultural measurement invariance (configural, metric, and scalar) for all constructs using Multi-Group Confirmatory Factor Analysis (MG-CFA). Workstream Two will employ Hayes' Process macro to test four specific hypothetical models: (1) a moderated mediation model connecting flow to phubbing through FoMO and smartphone addiction; (2) a model exploring the buffering effect of self-control on the relationship between flow and academic procrastination; (3) a moderated mediation model examining how social digital pressure and overload influence discontinuation intentions; and (4) a model assessing the particular pathological pathway from flow to academic procrastination mediated by addiction symptoms. Additionally, other explorative analyses will be done, including Latent Profile Analysis (LPA) to identify distinct psychosocial user profiles. **Discussion/Implications:** This project aims to create a strong, culturally validated psychometric toolkit to assist future studies on digital well-being in Türkiye, Ghana, and Hong Kong. By clearly distinguishing between regulatory deficits and compulsive behaviors, the findings will provide detailed insights into the causes of digital dysregulation. The results will guide the development of culturally appropriate educational and clinical strategies to promote digital resilience among youth in different cultural contexts.

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1. Introduction

Social media platforms have become key sources for adolescents and young adults to interact socially, present themselves, and seek information. Along with these advantages, growing evidence indicates that some users develop persistent, unregulated patterns of social media use that are linked to impaired functioning and lower well-being (Andreassen, 2015; Andreassen et al., 2017). Reviews also highlight that problematic engagement should be seen not only as a matter of time spent, but as a complex pattern driven by motivational, emotional, and self-control factors (Kuss & Griffiths, 2011). Cross-cultural evidence further indicates that rates of problematic or addictive social media use vary significantly across societies, suggesting that sociocultural contexts and digital environments influence both the risk of such use and its manifestations (Cheng et al., 2021).

One core motivational mechanism that may help explain persistent engagement is flow, namely the intrinsically rewarding state of deep absorption that can arise during optimally challenging activities (Csikszentmihalyi, 1990). Social media environments are designed to facilitate continuous feedback loops that may support flow-like experiences, and empirical work suggests that stronger platform-related flow is associated with more compulsive, addiction-like social media use patterns (Brailovskaia et al., 2018; Brailovskaia et al., 2020). From a reinforcement perspective, flow may function as a pathway through which gratification and immersion increase the intensity of use and undermine reflective self-regulation (Andreassen et al., 2016; Brailovskaia et al., 2018; Brailovskaia et al., 2020).

A second, closely related motivational factor is fear of missing out (FoMO), defined as the widespread fear that others might be enjoying rewarding experiences to which one is not part (Przybylski et al., 2013). FoMO has been linked to increased engagement and more frequent checking behaviors, and online-specific FoMO has been identified as a direct risk factor for problematic online communication patterns (Wegmann et al., 2017). Recent measurement research also highlights that FoMO can be understood and measured in platform-specific ways, making measurement more relevant to social media contexts (Çelik & Özkara, 2022).

Beyond intrapersonal mechanisms, problematic engagement appears in interpersonal behaviors such as phubbing, which is the act of ignoring a person nearby by focusing on one's phone. Phubbing has been viewed

as both a result of compulsive smartphone use and a social norm that can increase device checking and online vigilance (Chotpitayasunondh & Douglas, 2016). Scale development and validation studies indicate that behaviors related to phubbing can be measured reliably, enabling theory-based modeling of their causes and effects (Chotpitayasunondh & Douglas, 2018). In a broader risk framework, tendencies toward smartphone addiction may also serve as a nearby behavioral indicator of poorly regulated mobile engagement (Csibi et al., 2018).

Self-regulation is another essential area of explanation. Trait self-control, as measured by widely used tools, correlates with adaptive functioning and a lower risk of impulsive or compulsive behaviors (Tangney et al., 2004). In educational settings, failures in self-regulation often happen alongside academic procrastination, which is strongly linked to student performance and well-being outcomes (Steel, 2007). Evidence also indicates that procrastination affects students' academic life satisfaction and emotional well-being (Balkis & Duru, 2016), making it an important downstream outcome when social media use conflicts with goal-oriented academic tasks (Üztemur, 2020). Meanwhile, social media engagement is driven by perceived social demands and pressures. Concepts such as social overload highlight the stress caused by excessive social support demands on social networking sites, which can lead to exhaustion and a desire to cut back (Maier et al., 2015). Similarly, digital inequality frameworks argue that “overuse” is not just an individual choice but is influenced by social patterns and shaped by an abundance of communication and contextual demands (Gui & Büchi, 2021). These dynamics support the idea that social media burnout and exhaustion are accumulative outcomes that may push individuals toward withdrawal and discontinuation intentions (Han, 2018).

To address the issues of social media measures across cultures, we proposed the Social Media Flow and Academic Procrastination (SoMe FIAP) Project. In particular, as the proposed project is explicitly cross-cultural, valid comparisons require more than just translating instruments. Best-practice guidelines in test adaptation emphasize linguistic and cultural equivalence as well as psychometric comparability (Hambleton & Patsula, 1999). Additionally, cross-group comparisons demand explicit testing of measurement invariance, with recommended procedures and decision rules extensively discussed in the methodological literature (Vandenberg & Lance, 2000; Chen, 2007; Putnick & Bornstein, 2016). Without at least scalar-level equivalence, mean comparisons across regions can be misleading, and structural comparisons may be affected by measurement artifacts. Building on this background, the present cross-cultural project investigates how motivational immersion (social media flow) and social pressure mechanisms (FoMO, digital expectations, and overload) lead to maladaptive outcomes that affect everyday functioning and well-being (Brailovskaia et al., 2018; Brailovskaia et al., 2020; Przybylski et al., 2013). Importantly, many tools and explanatory models in this area have been developed and validated within limited cultural contexts, leaving questions about construct equivalence and the generalizability of structural relationships across different sociocultural settings. To address this gap, we will gather harmonized survey data in Türkiye, Ghana, and Hong Kong.

The SoMe FIAP project aims to produce two complementary lines of research: (1) a series of psychometric validation studies that establish measurement invariance, and (2) theory-driven modeling studies. First, we will create four distinct methodological papers to confirm that the measures used function equivalently across the three cultures. Considering the large-scale nature of the SoMe FIAP project, several studies will be examined separately after data collection. Specifically, Psychometric Study One will evaluate the validity of the engagement and motivation scales, Social Media Flow, Social Media Focused FoMO, and Social Media Continuance, using addiction (BSMAS) and self-regulation (Brief Self-Control Scale [BSCS], Academic Procrastination Scale-Short Form [APS]) measures to assess concurrent validity. Psychometric Study Two will test the measurement invariance of problematic use behaviors, specifically Smartphone Application-Based Addiction (SABAS), Generic Scale of Phubbing (GSP), and Social Media Addiction (BSMAS), with continuance and self-control scales acting as concurrent validity checks. Psychometric Study Three will validate the measurement of digital stress factors, Social Digital Pressure, Social Overload, and SNS Exhaustion, using continuance intentions for concurrent validity. Psychometric Study Four will confirm the cross-cultural equivalence of academic and regulatory outcome measures, APS, and BSCS, ensuring accurate assessment in educational contexts.

After establishing measurement invariance, we will conduct a series of theory-driven modeling studies. In Modeling Study One, we will examine the pathway from rewarding immersion to interpersonal costs in the immediate social environment. We will test whether social media flow is associated with phubbing through sequential mechanisms involving social media-focused FoMO and addiction-like tendencies, and whether these indirect relations differ by gender (Brailovskaia et al., 2020; Çelik & Özkara, 2022; Chotpitayasunondh & Douglas, 2018). In Modeling Study Two, we will extend the same motivational core (flow) to academic self-

regulation outcomes by examining whether social media flow predicts academic procrastination via social media-focused FoMO, and whether trait self-control buffers or amplifies these indirect relations (Steel, 2007; Tangney et al., 2004; Przybylski et al., 2013). In Modeling Study Three, we will shift focus from intrinsically rewarding immersion to externally imposed demands and accumulated strain by testing a serial mediation model where social digital pressure influences discontinuous use through social overload and social media exhaustion. We will also evaluate the role of FoMO-related motivational processes in sustaining use despite strain (Dhir et al., 2018; Gui & Büchi, 2021; Han, 2018; Maier et al., 2015) as well as the role of the regions as moderators. In Modeling Study Four, we will return to the context of academic impairment to examine the underlying pathological mechanisms in greater depth; specifically, we will test whether the relationship between social media flow and academic procrastination is sequentially mediated by FoMO and social media addiction (Andreassen et al., 2016). Across all studies, we will rely on the validated structures established in the initial psychometric phase to determine whether both parameter estimates and indirect effects replicate across Türkiye, Ghana, and Hong Kong (Chen, 2007; Putnick & Bornstein, 2016; Vandenberg & Lance, 2000). This protocol paper formalizes these aims and predefines the analytical approach, thereby enhancing transparency and knowledge accumulation.

2. Objectives and Research Questions

2.1. Objectives

The main goal of the SoMe FIAP project is to explore the psychological processes that turn healthy social media use into problematic behavior, and to understand how these patterns affect academic and social life among youth (adolescents and young adults) in Türkiye, Ghana, and Hong Kong. Specifically, the project aims to:

1. Establish the cross-cultural measurement invariance of a comprehensive set of constructs related to social media motivation, addiction, digital stress, and self-regulation across three distinct cultural settings.
2. Test a series of theory-driven models to identify the mediating pathways (e.g., FoMO, addiction, social overload) and moderating conditions (e.g., gender, self-control, and regions) that link social media flow and digital pressure to maladaptive outcomes such as phubbing, academic procrastination, and discontinuous use.

2.2. Study Packages and Workstreams

To achieve these objectives systematically, the project is organized into two parallel workstreams: Workstream One focuses on psychometric validations, while Workstream Two tests modeling hypotheses.

2.2.1. Workstream One: Cross-Cultural Psychometric Validation

This workstream focuses on the urgent need for culturally appropriate measurement tools by establishing construct validity, internal consistency, and measurement invariance (configural, metric, and scalar) of the project's instruments across the three participating nations/regions. To ensure a thorough psychometric assessment, this workstream is divided into four separate validation studies:

- **Psychometric Study One (Motivation and Engagement Constructs):** This study will establish the cross-cultural validity of the Social Media Flow Scale, the Social Media Focused FoMO Scale, and the Social Media Continuance Scale. To assess concurrent validity, we will examine the associations between these constructs and the Bergen Social Media Addiction Scale (BSMAS), the BSCS, and the APS.
- **Psychometric Study Two (Problematic Use Behaviors):** This study focuses on the psychometric evaluation of maladaptive usage patterns by validating the SABAS, the GSP, and the BSMAS. The Social Media Continuance Scale and the BSCS will be utilized to test concurrent validity.
- **Psychometric Study Three (Digital Stressors):** This study aims to validate the measurement of digital environmental pressures, specifically the Social Digital Pressure Scale, the Social Overload Scale, and the SNS Exhaustion Scale. The Social Media Continuance Scale will be included to assess concurrent validity, given the theoretical link between stress and discontinuance intentions.
- **Psychometric Study Four (Academic and Regulatory Outcomes):** The final psychometric study will examine the cross-cultural equivalence of the APS and the BSCS to ensure accurate assessment in educational contexts. The BSMAS will be used as a criterion measure for concurrent validity.

2.3.2. Workstream Two: Modeling

Following the establishment of measurement invariance, this workstream will use the validated measures to test four specific hypothetical models of the antecedents and consequences of social media use.

- **Modeling Study One: Flow and Interpersonal Neglect (Phubbing)**
 - *Objective:* To examine the transition from flow to social neglect.
 - *Hypotheses:* The study posits that social media flow is positively associated with phubbing. It is hypothesized that this relationship is serially mediated by social media-focused FoMO and smartphone addiction tendencies, and that these direct and indirect associations are moderated by gender.
- **Modeling Study Two: Flow and Academic Self-Regulation**
 - *Objective:* To explore the interaction between motivational drives and self-regulatory traits in an academic context.
 - *Hypotheses:* It is hypothesized that higher social media flow predicts higher academic procrastination via increased social media-focused FoMO. Crucially, trait self-control is expected to function as a moderator, buffering the strength of the relationship between flow/FoMO and procrastination.
- **Modeling Study Three: Digital Pressure and Discontinuance**
 - *Objective:* To investigate the cumulative impact of social demands on user retention.
 - *Hypotheses:* The study hypothesizes that social digital pressure positively predicts discontinuous use intentions. This relationship is expected to be serially mediated by social overload and SNS exhaustion. Conversely, FoMO is hypothesized to negatively predict discontinuous use, acting as a retaining factor that keeps exhausted users online. Lastly, these direct and indirect associations will be moderated by the regions.
- **Modeling Study Four: The Pathological Pathway to Procrastination**
 - *Objective:* To identify the specific addiction-based mechanism underlying academic neglect.
 - *Hypotheses:* Distinct from the self-control model in Study Two, this study focuses on pathology. It is hypothesized that the relationship between social media flow and academic procrastination is sequentially mediated by FoMO and Social Media Addiction (BSMAS), representing a dysregulated behavioral pathway.

2.3. Exploratory Aims

Complementing the variable-centered analyses in Workstream Two, the project also includes an exploratory, person-centered goal. For example, using LPA, we aim to identify distinct subgroups of youth across Türkiye, Ghana, and Hong Kong who share similar patterns of social media use, addiction symptoms, and self-regulatory skills. This will help characterize "at-risk" versus "engaged but functional" user profiles.

3. Method

3.1. Study Design, Setting, and Participants

The current project will use a multifactorial, complex, predictive correlational design to systematically analyze the relationships among social media flow, addiction, digital pressure, and self-regulatory outcomes across diverse cultural settings. The research will be organized as a cross-sectional survey conducted simultaneously in Türkiye, Ghana, and Hong Kong. The three regions are intentionally chosen to represent diverse sociocultural environments with different levels of digital infrastructure and educational systems, helping to test cross-cultural applicability. The target population will include adolescents and young adults aged 18 years and older who are enrolled in higher educational institutions. To achieve sufficient statistical power for the SoMe FIAP project's analyses (e.g., Hayes' Process macro and multi-group invariance analysis), the project plans to gather about 1500 participants, aiming for 500 from each region. A convenience sampling method will be employed, with Principal Investigators and local research teams distributing recruitment materials, such as posters and flyers, at partner university campuses.

3.2. Measures

The study will employ well-established self-report tools to evaluate key constructs. To measure motivation and engagement, the 11-item Social Media Flow Scale (Brailovskaia et al., 2020) will be used to assess absorption and time distortion (rated on a 5-point Likert scale), while the 9-item Social Media-Focused FoMO Scale (Çelik & Özkara, 2022) will measure specific anxiety about missing online experiences using a 7-point Likert scale. Discontinuation intentions will be assessed with the 4-item Social Media Continuance Scale (Han, 2018), rated on a 7-point Likert scale and reverse-coded for analysis. Regarding problematic use and addiction, the project uses the 6-item BSMAS (Andreassen et al., 2016) rated on a 5-point scale (1 = very rarely to 5 = very often), and the 6-item SABAS (Csibi et al., 2018) rated on a 6-point scale to assess addiction symptoms. Interpersonal neglect will be measured using the 15-item GSP (Chołpitayasunondh & Douglas, 2018), rated on a 7-point scale ranging from never to always. To capture digital environmental stressors, the study will include the 3-item Social Digital Pressure Scale (Gui & Büchi, 2021) rated on a 5-point Likert scale, the 6-item Social Overload Scale (Maier et al., 2015) rated on a 7-point Likert scale, and the 4-item SNS Exhaustion Scale (Maier et al., 2015) rated on a 7-point scale. Academic and self-regulatory outcomes will be assessed using the 5-item APS (McCloskey, 2011) and the 13-item BSCS (Tangney et al., 2004), both rated on a 5-point Likert scale. Finally, sociodemographic variables including age, gender, and educational level will be collected to serve as covariates and moderators in the subsequent analyses.

3.2. Cross-Cultural Adaptation and Data Collection Procedures

Ensuring the linguistic and conceptual equivalence of measures is crucial for this cross-cultural project. Therefore, all instruments will go through a thorough translation and adaptation process. For measures not already validated in the local languages, a standard forward-back translation method will be used, followed by a review by bilingual experts to confirm cultural relevance. Data collection will be conducted exclusively through secure web-based platforms REDCap (Research Electronic Data Capture) and SurveyMonkey, or on paper. Participants will access the survey via QR codes embedded in the recruitment materials, which will direct them to a mobile-friendly landing page containing the information sheet and electronic informed consent form. The data collection system is set up to require responses to all items, preventing incomplete surveys and eliminating missing data. Regarding participant compensation, incentive structures will be adapted to local regulations and norms: participants in Hong Kong will receive supermarket coupons (HK100) upon completion, while participants in Türkiye and Ghana will voluntarily contribute without financial compensation.

4. Statistical Analysis Plan

4.1. Data Screening and Psychometric Validation

Statistical analyses will be conducted using SPSS, JASP, R software, JAMOVI or Mplus for appropriate analyses. The significance level for all tests will be set at $p < .05$. Prior to hypothesis testing, the dataset will be screened for normality using skewness and kurtosis, with values within ± 2 considered acceptable. Given that all data are self-reported, common method bias (CMB) will be assessed using Harman's one-factor test; if a single factor accounts for less than 40% of the variance (Podsakoff et al., 2003), CMB will not be considered a pervasive threat.

The first phase of analysis (Workstream One) focuses on establishing the psychometric properties of the scales within each region. Confirmatory Factor Analysis (CFA) will be conducted to verify factor structures, evaluating model fit via standard indices (comparative fit index [CFI] $> .90$, Tucker-Lewis index [TLI] $> .90$, root mean square error of approximation [RMSEA] $< .08$, standardized root mean square residual [SRMR] $< .08$) (Byrne, 2010). Internal consistency will be assessed using both Cronbach's alpha (Cronbach, 1951) and McDonald's omega coefficients (McDonald, 1999), while convergent and discriminant validity will be examined using Average Variance Extracted (AVE) and Fornell-Larcker criteria, respectively (Fornell & Larcker, 1981). Following within-region validation, Multi-Group CFA (MG-CFA) will be performed to test measurement invariance at the configural, metric, and scalar levels (Vandenberg & Lance, 2000), using the CFI and RMSEA criteria proposed by Cheung and Rensvold (2002).

4.2. Modeling and Profiling

Once the measurement models are established, the second phase (Workstream Two) will involve testing the proposed relationships using modeling. The analysis will include four specific studies. Modeling Study One

will examine a moderated mediation model exploring the pathway from social media flow to phubbing via FoMO and smartphone addiction, with gender as a moderator. Modeling Study Two will explore the mediating role of FoMO and the buffering role of self-control in the relationship between flow and academic procrastination. Modeling Study Three will analyze the moderated mediation of social overload and exhaustion in the connection between digital pressure and discontinuance with regions as moderator. Modeling Study Four will investigate the pathological pathway from flow to procrastination through addiction. For all mediation analyses, bootstrapping with 5000 resamples will be used to estimate the significance of indirect effects. Moreover, further exploratory analyses would be conducted based on current literature so as to comprehensively understand social media situations among youths across the regions.

5. Ethics and Dissemination

5.1. Ethics Approval and Oversight

The study protocol has been developed in strict accordance with ethical principles outlined in the Declaration of Helsinki and the American Psychological Association (APA) guidelines. Primary ethical approval will be obtained from the Human Research Ethics Committee (HREC) at The Education University of Hong Kong (EdUHK), which acts as the coordinating institution for this multinational/regional project. After receiving primary approval, the Principal Investigators in Türkiye and Ghana will submit the approved protocol to their respective institutional review boards (IRBs) to obtain local ethical clearance. Any changes to the protocol (such as modifications to recruitment procedures or survey items) will be submitted to the relevant ethics committees for review and approval prior to implementation.

5.2. Informed Consent Process

Given the online nature of the data collection, a strict electronic informed consent (e-consent) process will be used through the REDCap and SurveyMonkey platforms. Before accessing the survey, potential participants will be shown a detailed Information Sheet in English or their local language. This document will clearly describe the study's purpose, procedures, the voluntary nature of participation, and the right to withdraw at any time. Therefore, all participants will provide their consent by e-signing a space provided on the consent form page.

5.3. Risks, Burdens, and Benefits

The study will involve minimal risk to participants, defined as risks no greater than those encountered in daily life or regular psychological assessments. The main burden is the time needed to complete the survey, which will take about 20–25 minutes. Considering that the survey will address topics such as addiction, anxiety (FoMO), and social pressure, some participants might experience mild, short-term emotional discomfort or increased awareness of their social media habits. To help with this, the debriefing page will provide contact information for local student counseling services and mental health hotlines in each region. Although there will be no direct benefits for individual participants, there will be broader societal benefits. The results will help improve understanding of digital well-being across cultures and could guide educational programs and policies aimed at reducing social media addiction and academic procrastination among youth.

5.4. Confidentiality and Privacy Protections

Data privacy will be safeguarded through strict pseudonymization and encryption methods. All data collected via REDCap will be transmitted over an encrypted SSL connection and stored on secure, firewall-protected servers hosted by The Hong Kong Polytechnic University.

- Anonymization: The survey responses will be de-identified. Any personal information collected for incentive distribution (e.g., email addresses in Hong Kong) will be stored in a separate database, linked to the survey data only via a randomly generated participant ID. This link will be destroyed immediately after the data collection and incentive distribution phases are complete.
- Data Access: Access to the raw dataset will be restricted to the core research team members who have signed confidentiality agreements. Data sharing for verification or secondary analysis will involve only fully anonymized datasets, ensuring that no individual participant can be re-identified.

5.5. Incentives and Undue Influence

To respect cross-cultural differences and local economic contexts, the incentive structure has been carefully calibrated to avoid undue influence or coercion. In Hong Kong, where student participation in research often involves compensation for time, participants will receive supermarket coupons (valued at HK\$100). This amount is deemed as a "token of appreciation" rather than a coercive financial inducement. In Türkiye and Ghana, in accordance with local academic norms and to prevent potential ethical conflicts, participation will be entirely voluntary and will not include monetary compensation. This differential approach has been justified to the ethics committees as a necessary adaptation to local cultural and institutional standards.

5.6. Dissemination Policy

The research team is dedicated to Open Science principles. We aim to publish the study results in high-impact, peer-reviewed international journals, emphasizing both the methodological (psychometric validation) and substantive (modeling analysis) findings. The results will be reported following the STROBE guidelines for cross-sectional studies. Additionally, de-identified datasets and statistical analysis syntax files will be shared in a public repository (e.g., OSF) after the primary manuscripts are accepted, supporting replication and cumulative science. Findings will also be shared with non-academic stakeholders, including participating schools and educational policymakers, through summary reports and policy briefs.

6. Discussion

6.1. Strengths and Scientific Contribution

The SoMe FIAP project has several unique strengths that fill important gaps in current research on digital well-being. Its main strength is its clear cross-cultural approach. Although the prevalence of problematic social media use varies worldwide, comparative studies have often been limited by the lack of comparable measurement tools (Cheng et al., 2021). By focusing on establishing measurement invariance (configural, metric, and scalar) across Türkiye, Ghana, and Hong Kong before testing structural hypotheses, this study makes sure that any differences seen in addiction or engagement are due to real cultural differences and not measurement issues (Chen, 2007; Putnick & Bornstein, 2016).

Second, the SoMe FIAP project goes beyond simple time-use models to examine the complex psychological mechanisms behind dysregulated use. By combining Flow Theory (Csikszentmihalyi, 1990) with the Stressor-Strain-Outcome framework (Dhir et al., 2018), the project offers a comprehensive view of how inherently rewarding experiences can unexpectedly lead to maladaptive outcomes. The difference between the regulatory pathway tested in Modeling Study Two, which focuses on self-control deficits (Tangney et al., 2004), and the pathological pathway tested in Modeling Study Four, which emphasizes addiction symptoms (Andreassen et al., 2016), marks a major theoretical improvement. This dual approach enables a more detailed understanding of why students neglect academic responsibilities in favor of social media, highlighting the distinction between regulation failure and compulsive behavior.

6.2. Limitations

Despite its robust design, the SoMe FIAP project has certain limitations inherent to its methodology. The main limitation is the cross-sectional nature of the data collection. While the proposed mediation models rely on strong theoretical foundations to infer directionality, for example, flow leading to addiction (Brailovskaia et al., 2018), cross-sectional data prevent the establishment of temporal causality. Longitudinal designs would be necessary to definitively confirm whether digital pressure comes before exhaustion or whether exhausted users become more sensitive to pressure. Secondly, relying on self-report measures introduces the possibility of response biases, such as social desirability or recall bias, especially for sensitive topics such as addiction or phubbing. Although procedural remedies such as guaranteeing anonymity and conducting statistical checks for common method bias (Podsakoff et al., 2003) will be used, these biases cannot be completely eliminated. Thirdly, using convenience sampling within educational institutions limits how broadly the findings can be applied. While recruiting from universities includes a large portion of the youth population, the results may not fully reflect the experiences of non-student youth or those from lower socioeconomic backgrounds with limited access to formal education.

6.3. Theoretical and Practical Implications

The expected outcomes of this project have significant implications for both theory and practice. Theoretically, validating tools such as the Social Media Flow Scale and the Social Media-Focused FoMO Scale

(Çelik & Özkara, 2022) across three cultures will provide researchers with strong instruments for studying digital motivation globally. Additionally, explaining the serial mediation or moderated mediation mechanisms, specifically, how social digital pressure leads to discontinuation intentions through overload and exhaustion, will contribute to the literature on digital burnout, offering a new perspective beyond the common focus on addiction (Han, 2018; Maier et al., 2015).

Practically, the results will guide the development of targeted educational and clinical interventions. For example, if Modeling Study Two shows that self-control effectively buffers the negative impact of flow on procrastination (Balkis & Duru, 2016), interventions could focus on self-regulation training rather than strict abstinence. Conversely, if Modeling Study Four identifies a strong pathological pathway through addiction, more intensive psychological support may be necessary for students showing these symptoms. By pinpointing specific cultural and gender-related risk factors for phubbing and procrastination, the project aims to provide educators, policymakers, and mental health professionals in Türkiye, Ghana, and Hong Kong with the evidence needed to promote healthier digital habits among youth.

7. Conclusion

This protocol describes a rigorous, multinational/regional study aimed at understanding the complex relationships between social media use, addiction, and academic self-regulation among youth. By focusing on cross-cultural measurement invariance and using both variable-centered and person-centered analytical methods, the project seeks to overcome the limitations of earlier research. The expected results will clarify the different pathways, regulatory versus pathological, through which social media affects functioning, and will also produce a validated set of psychometric tools for future cross-cultural studies. Ultimately, this work aims to guide the development of culturally sensitive educational and clinical interventions to enhance digital well-being in an increasingly connected world.

8. Administrative Information

8.1. Funding and Support

This work is supported by the FEHD Internationalization Research and Writing Partnership Grant from The Education University of Hong Kong. The funding body plays no role in the study design, data collection, data analysis and interpretation, or manuscript writing.

8.2. Authorship and Contributions

The project involves international collaboration among researchers from Türkiye, Ghana, and Hong Kong. All principal investigators contributed to the development of the study design, the selection of measures, and the drafting of this protocol. Future manuscripts resulting from this project will adhere to standard authorship criteria (e.g., ICMJE guidelines), ensuring that all contributors who make significant intellectual contributions are recognized.

Statement of Researchers	Conceptualization: DKA, DO, AG, SÜ. Methodology: DKA, DO, AG, SÜ. Software: DKA, DO, AG, SÜ. Validation: DKA, DO, AG, SÜ. Investigation: DKA, DO, AG, SÜ. Resources: DKA, DO, AG, SÜ. Data Curation: DKA, DO, AG, SÜ. Writing – original draft: DKA, DO, AG, SÜ. Writing – review & editing: DKA, DO, AG, SÜ. Visualization: DKA, DO, AG, SÜ. Supervision: DKA, DO, AG, SÜ. Project administration: DKA, SÜ. All authors read and approved the final manuscript.
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Ethical Considerations:

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