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Research Article

Digital Extroversion: The Role of Perceived Anonymity, Online Comfort, and Digital Cue Adaptation Among Senior High School Students

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ABSTRACT

This study was geared towards finding out the effect of perceived anonymity, online comfort, and digital cue adaptation on the extent of digital extroversion of grade 12 students of a selected University in Metro Manila (n=114). The research used in this study was explanatory in a quantitative paradigm. The convenience sampling method was used in selecting the target population of this study. The data were collected through an online survey and analysed by descriptive statistics, Spearman's rho and multiple linear regression. The participants used social media or integrated it in their lives "Very High" (Md = 5.00) as shown in descriptive statistics. They had a "High" average rating of digital cue adaptation (Md = 4.00), "Low" average rating of perceived anonymity (Md = 2.50), "Moderate" average rating of online comfort (Md = 3.25) and "Moderate" average rating of digital extroversion (Md = 3.25). A correlational analysis was used to see the correlations between the variables, and the analysis showed that the digital extroversion variable was positively correlated with the variable Online Comfort ($\rho = .426, p < .001$). The relationship between digital extroversion and digital cue adaptation was found to be "Weak Positive" ($\rho = .176, p = .062$). Online Comfort seemed to explain the 16.7% of variance in the unique manner ($p < .001, \beta = 0.343$). The results of this study extended the understanding of students' online behaviors with evidence that challenges the main tenet of the online disinhibition hypothesis. Finally, it can be said that the students in this study were "digital pragmatists", in contrast to the "anonymous" that was hypothesized in the online disinhibition theory.

Keywords: Adolescent identity, Computer-mediated communication, Hyperpersonal Model, Self-presentation, Social media behavior

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Introduction

Digital communication technologies have revolutionized the ways in which people construct and present their identities on the Internet. The use of communication technologies enables people to build their “digital selves” that may differ from their “real selves” in terms of the way they interact with one another, how they are represented, and how they are anonymous (Lai & Burke, 2019; Pérez-Torres, 2024). Turkle (1984) suggested that in the virtual world, participants would develop a “second self”, a representation of their identity online; and Suler (2004) introduced the concept of disinhibition effects in online communication, which lead to “more open and free” representations of one’s identity in online environment than in FtF settings.

These can be particularly evident in senior high school (SHS) students whose age is when they are expected to explore and determine their social roles and identities (Avci et al., 2024; Soh et al., 2024). They are active users of a range of on-line services, which can help to explore ideas on social media and through text-based communication (Towner et al., 2022). This phenomenon of online self-representation and the influence of anonymity, level of comfort and adaptation to a de-emphasis on social cues has been previously reported as an influence on pro-social or anti-social behaviors (Clark-Gordon et al., 2019; Joinson, 2001; De Souza, 2021; Misoch, 2015). These studies, however, mostly employed Western population participants and the need to study anonymity/disinhibition effects among adolescents in the Philippines was not studied, this being the main focus of this study.

Even though the concept of digital extroversion is not yet well established in communication literature, its close relationship to self-promotion tendencies and extroversion characteristics suggest that there are theoretical underpinnings for analyzing digital extroversion. Digital extroversion, which describes personality traits relating to social media (SM) behaviors, has been associated with other variables like frequency of SM use, number of communication partners, and self-promotion on the internet (Bowden-Green et al., 2020; Seidman, 2013; Zhou et al., 2017). The concept of digital extroversion in the current paper is defined as

a state-based construct that is manifested in online interactions conditional to one’s personality. Therefore, digital extroversion can be distinguished from one’s general level of extroversion by being a behavior that is activated through increased anonymity and comfort of text-based SM communication. This reflects the findings from earlier research, which indicate that there are distinctions between adolescents’ online and offline behaviours (Bunker & Kwan, 2021; Gosling et al., 2011).

Based on this, the following hypotheses were set: (1) Perceived anonymity will be positively correlated to digital extroversion among Filipino SHS students; (2) Comfort will be positively correlated to digital extroversion among Filipino SHS students; and (3) Decreased social cues will be positively correlated with digital extroversion among Filipino SHS students. The present paper operationalized digital extroversion expressions as behaviors that would indicate openness and social activation components of identity, irrespective of offline levels (Bowden-Green et al., 2020; Seidman, 2013). The objective of the study was to investigate if the use of the online communication platform can provide comfort and promote adolescents’ pro-social and socially active behaviors. The topic was deemed significant because of the general rise in online communications and socializing amongst adolescents in the current digital environment (Meier & Reinecke, 2020) and the desire to grasp adolescents’ behavioral patterns and tendencies, for the purposes of creating recommendations.

Material and Methods

Methodology

The research design used in this study was quantitative explanatory research which aimed to test the hypotheses regarding the relationship of perceived anonymity, online comfort, and digital cue adaptation with digital extroversion of the Filipino Grade 12 Senior High School students. This study was based on the theoretical framework of the Hyperpersonal Model, which explains how characteristics of CMC affect self-presentation and interpersonal behavior (Scott & Fullwood, 2020). In particular, this study examined the predictive validity for the understanding of digital extroversion of the perceived anonymity, online comfort, and

digital cue adaptation. The explanatory research design was suitable as it enabled the researchers to determine if there are differences in the dependent variable based on the independent variables.

Data Collection and Instrumentation

Efficient data collection was organized using a self-administrated questionnaire that was conducted online through google forms. This instrument was adopted in order to measure the variables pertinent to the study, namely; perceived anonymity, online comfort, digital cue adaptation, and digital extroversion expression. Following the study's conceptual framework, five parts comprise the questionnaire. The first part aimed to acquire background information on the respondents such as gender, age, academic strand and social media exposure. These were followed by items that measure perceived anonymity, online comfort, digital cue adaptation, and digital extroversion expression, accordingly.

The questionnaire used has been modified from a previously created and validated questionnaire that have been utilized in related peer-reviewed literature. Items measuring anonymity were adapted from Robertson (2014) and Zhang et al. (2022), whereas the online comfort and digital cue adaptation instruments were adapted from Joinson (2001), Misoch (2015) and Angelini & Gini (2023). Items measuring digital extroversion expression were derived from Fullwood, James & Chen-Wilson (2016) which measures the respondents' ideal self, multiple selves, consistent self and online presentation preference. The overall draft was critiqued for content, relevance and applicability to the context of Philippine senior high schools by the research adviser prior to the administration of the questionnaires. All items were measured on a 5-point Likert Scale ranging from "Strongly Disagree" to "Strongly Agree". The only possible language for the questionnaire was English, and the respondents were assured that all answers will remain confidential and voluntary to encourage real self-expression.

Internal consistencies were computed by Cronbach's alpha and were reported to range from $= .52$ to $= .91$. In general, these showed acceptable to excellent internal consistency for

the questionnaire. Most sub-sections showed adequate reliability $= .70$. For two of the sub-sections namely, Digital Cue Adaptation, and Digital Extroversion Expression these showed a somewhat lower reliability which is why additional precautions were applied during their interpretation as Cronbach's alpha tends to be an unreliable estimate of reliability when the number of items is low. Additional item work may be used in future to improve reliability in these areas. As the findings are based on self-report, social desirability and common method bias may be factors affecting interpretation. These sources of bias may have been decreased by ensuring to the participants that all responses will be anonymous and confidential, and will be voluntary.

Population and Sampling Method

One hundred and sixty (160) students from the selected university's SHS in the study constituted the population of the study. Krejcie and Morgan (1970) table was only considered as a guideline and considered that 113 respondents would be adequate for the population of this size (Bukhari, 2021). The study was designed to explore the relationships among variables of a relative study accessible sample of students (current grade 12 and age 18 or above), hence, the type of sampling used was nonprobability convenience sampling with purposive inclusion criteria. This was a total of 114 students, which is slightly above the benchmark. The authors are aware that the Krejcie-Morgan table was designed for probability sampling, and so are reported as a measure of sample adequacy, not as the basis for inferring to the population; the convenience-based recruitment is used as a limitation to the generalizability of the findings, and not as a basis for population-level inference. The majority of respondents were aged 18 (97.4%) with 2.6% aged 19 years. In terms of gender, 51.8% identified as female, 47.4% identified as male and 0.9% did not identify. The majority were from the STEM strand (55.3%), followed by ABM (30.7%), HUMSS (13.2%), and ADT (0.9%). Social media use was very high ($Mdn = 5.00$): most students reported that they "always" use social media (75.4%), followed by "often" (21.1%) and "sometimes" (3.5%) with none choosing "rarely" or "never."

Data Analysis

Responses that were incomplete or duplicated were excluded from the analysis and data was analyzed in Jamovi and Google Sheets. Data were summarized using descriptive statistics such as frequencies, percentages, medians, and interquartile ranges. Cronbach's alpha was used to determine the internal consistency of the study measures. Alpha values for the subscales were between $\alpha = .52$ and $.91$, suggesting that there was some variability in internal consistency within the subscales. It was noted that the lower coefficients were specifically in the shorter subscales of the Digital Cue Adaptation and Digital Extroversion Expression subscales, and may be partially because of fewer items. The lower reliability values were kept and explicitly mentioned as a limitation in interpretation of the results. Since the variables were measured on an ordinal level of measurement (Likert scales), bivariate relationships were examined using Spearman's rank-order correlation and the effect size analysis was conducted according to the recommendations of Cohen (1988). The multiple linear regression model was tested to see if perceived anonymity, online comfort and digital cue adaptation predicted digital extroversion at the 0.05 level of significance, where R^2 represented the amount of variance that was explained. Intercorrelations among the predictors were checked before interpretation of the regression model; the low correlation values were found (see Table 5) and multicollinearity was not a problem (Kim, 2019).

Results and Discussion

The findings are presented and discussed within the framework of the Online Disinhibition Effect (Suler, 2004), the Hyperpersonal Model (Walther, 1996; Walther, 2011a) and the literature on online self-presentation. Generally, students' social media usage turned out very high ($Mdn = 5.00$), reflecting substantial engagement yet their patterns of usage appeared to be structured and selective instead of being characterized by free expression. The results are organized under four descriptive themes: minimal reliance on anonymity, selective comfort in communication, digital cue adaptation and identity continuity. The model, despite being considered significant, leaves roughly 81.1% of the variance in digital extroversion unexplained. The remaining variance may be attributed to factors beyond those examined in this study. A possible reasoning may be adolescents' motivation for using social media as they differ and influence their willingness to engage expressively online (European Commission, 2026). Additionally, prior negative online experiences such as being excluded from group chats or receiving criticism may condition young people to limit their expressive behavior (Lin et al., 2024). The contextual demands of digital spaces also matter (Afable et al., 2022; Arcinas, 2022). The expectations associated with public profiles greatly differ from those of private platforms and students likely adjust their behavior according to the platform's established norms. These considerations, taken altogether, point to a more complex picture of digital extroversion than a single model can capture.

Table 1. Level of Perceived Anonymity among Senior High School Students (n=114)

Items	Median	Qualitative Interpretation
I sometimes use false information (e.g., gender, age, or location) on online platforms.	4	High
I typically use my real name on online social-networking sites.	4	High
I let friends I meet online know my true identity.	3	Moderate
I use a username on social-networking sites that has nothing to do with my real identity.	3	Moderate
I am used to using my real photos as avatars on social platforms	3	Moderate
I like to express different or unpopular opinions online while remaining anonymous.	3	Moderate

Items	Median	Qualitative Interpretation
I prefer to use online service platforms that require a real-name account.	3	Moderate
I use an anonymous identity to participate in online social discussions.	3	Moderate
I mostly use my real identity when discussing social topics online.	2	Low
I am more comfortable using my real name when discussing different opinions with others online.	2	Low
Perceived Anonymity	2.50	Low

Legend:

1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 – 4.20	High
4.21 – 5.00	Very High

Controlled Self-Disclosure and Minimal Reliance on Anonymity

The perceived-anonymity results (see Table 1) indicate an overall low level of anonymity (Mdn = 2.50). Although respondents reported occasional use of false information and generally used real names online, most items reflected low-to-moderate levels of anonymity, particularly in identity concealment, and students were least comfortable using their real identities when expressing opinions or engaging in online discussions. This points to selective caution rather than blanket disclosure. Suler (2004) identified several mechanisms of online disinhibition – dissociative anonymity, invisibility, asynchronicity, and minimization of authority – that could allow for the loosening of self-presentational constraints; and the present pattern seems to indicate that, in this case, dissociative anonymity proved to be limited.

Instead of using anonymity as a means of self-expression, students had online identities and limited disclosure in specific contexts when needed. This fits with the findings of meta-analysis that the effect of anonymity on self-disclosure is not consistent (Clark-Gordon et al., 2019) and the observations of identity management that happen with multiple audiences in the same platform (Ma et al., 2016). Furthermore, the findings provide limited support for Suler's (2004) Online Disinhibition Effect, as anonymity was not a statistically significant factor in the expression of digital extroversion. Contrary to earlier perspectives that portrayed the internet as a space for anonymity and identity experimentation (McKenna & Bargh, 2000; Turkle, 1984), the present findings suggest that contemporary adolescents generally maintain consistent and recognizable identities across both online and offline contexts.

Table 2. Level of Online Comfort among Senior High School Students (n=114)

Items	Median	Qualitative Interpretation
I find it easier to change topics on social media than in face-to-face encounters.	4	High
I hear more new information on social media than in face-to-face encounters.	4	High
I learn more about different topics on social media than in face-to-face encounters.	4	High
I find it easier to talk about different topics on social media than in face-to-face encounters.	3	Moderate
Breadth of Online Communication	3.50	High

Items	Median	Qualitative Interpretation
I find it easier to talk about my feelings on social media than in face-to-face encounters.	3	Moderate
I find it easier to talk about my concerns on social media than in face-to-face encounters.	3	Moderate
I find it easier to talk about being in love on social media than in face-to-face encounters.	3	Moderate
I find it easier to talk about secrets on social media than in face-to-face encounters.	2	Low
Depth of Online Communication	2.50	Low
I usually use emoticons or GIFs to express how I am feeling on social media.	4	High
I express my emotions through social media.	3	Moderate
I let my social media contacts know whether I am happy or sad.	3	Moderate
My social media profile reflects how I feel in different situations.	2	Low
Online Emotional Expression	3.00	Moderate
I perceive the emotions of my contacts on social media to help me think.	3	Moderate
I express my feelings on social media when I have to do something important.	3	Moderate
I express my emotions on social media to improve my relationships with contacts.	3	Moderate
I express my emotions on social media to overcome difficulties.	3	Moderate
I change the emotion I express on social media to explore new possibilities.	3	Moderate
I use the emotions expressed by others on social media to make decisions.	3	Moderate
Facilitating Use of E-Motions	3.00	Moderate
Overall Online Comfort	3.25	Moderate

Legend:

1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 – 4.20	High
4.21 – 5.00	Very High

Selective Self-Disclosure and Identity Management

Online comfort was higher for breadth of communication than for depth, with the lowest scores for sharing secrets and for expressing opinions under one's real identity (see Table 2). This implies that social media was used more as a medium for information sharing than for sharing emotional material, and that it is likely that more intimate material was shared in private places. The pattern is consistent with the low level of perceived anonymity reported earlier: students tended to communicate under

their real names, and selectively limit their exposure in sensitive situations. This is in line with research that finds that adolescents adjust emotional disclosure to platform characteristics (Angelini & Gini, 2023) and to concerns about social anxiety (Angelini & Gini, 2023), as well as that visual and self-awareness conditions affect the amount of disclosure (Joinson, 2001; Misoch, 2015). However, the findings only partially support the Online Disinhibition Effect (Suler, 2024) as respondents reported moderate online comfort while remaining cautious in disclosing highly personal information.

Table 3. Level of Digital Cue Adaptation among Senior High School Students (n=114)

Items	Median	Qualitative Interpretation
I notice that social media interactions may lack certain aspects of communication, such as tone of voice, gestures, or facial expressions.	5	Very High
Absence of Non-verbal Cues and Communication Signals	5	Very High
I take time before answering during interactions on social media.	4	High
I sometimes wait a while to receive a response during social media interactions.	4	High
Asynchronous Nature of Online Communication	4.00	High
I use photos and videos on social media to express myself.	4	High
I find communication through photos and videos important on social media.	4	High
Emotional Expression through Visual Media	4.00	High
Overall Digital Cue Adaptation	4.00	High

Legend:

1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 – 4.20	High
4.21 – 5.00	Very High

Digital Cue Adaptation as a Compensatory Strategy

Table 3 shows that students exhibited high digital cue adaptation (Mdn = 4.00), most notably in recognizing the absence of nonverbal cues (Mdn = 5.00) and in using asynchronous communication and visual media such as photos and videos (Mdn = 4.00). This reflects clear awareness of the limitations of computer-mediated communication, especially the loss of tone, gesture, and facial expression (Riordan, 2010; Walther, 2011b). The COVID-19 pandemic has made it clear that much online communication lacks critical nonverbal elements that are important to interpreting others' thoughts and feelings, and compensatory

strategies are needed (Schroeder, 2020). Students used emojis, images and electronic delays to compensate for the decrease in cues. Emojis are considered "quasi-nonverbal cues" and the receiver can determine the intensity and direction of emotional, attitudinal, and attentional expression (as cited in Dormehl, 2023; Ratner, 2020). In the hyperpersonal model, students coped with the lack of cues by adapting the communication to it, with the aim of making it clearer, rather than through disinhibited expression, and showed communicative competence in adapting, not disinterring, the communication (Scott & Fullwood, 2020; Walther, 1996).

Table 4. Level of Digital Extroversion Expression among Senior High School Students (n=114)

Items	Median	Qualitative Interpretation
I feel more comfortable behaving how I want to online.	3	Moderate
I can demonstrate my strengths online.	3	Moderate
Being online allows me to express myself.	3	Moderate
I present myself online differently from how I do in real life.	3	Moderate
Communicating online allows me to say the things I cannot say offline.	3	Moderate
I like going online because it allows me to be different.	3	Moderate
I can be my ideal self online.	3	Moderate

Items	Median	Qualitative Interpretation
I can escape from myself online	3	Moderate
I can talk to people who would not usually talk to me in the real world.	3	Moderate
Ideal Self	3.50	High
Being online allows me to create a new identity.	3	Moderate
I am a different person depending on which online space I am in.	3	Moderate
I often act out different personas in certain online spaces.	2	Low
I regularly use different personas online.	2	Low
I enjoy acting out different identities online.	2	Low
Multiple Selves	2.50	Low
I am the same person online as in real life.	4	High
I am my true self online.	3	Moderate
I am always my true self online.	3	Moderate
I cannot really be myself online.	2	Low
Consistent Self	3.00	Moderate
I find it easier to communicate in face-to-face contexts.	4	High
I prefer being online to being offline.	3	Moderate
I find it difficult to be myself in the real world.	2	Low
Online Presentation Preferences	3.00	Moderate
Overall Digital Extroversion Expression	3.25	Moderate

Legend:

1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.40	Moderate
3.41 – 4.20	High
4.21 – 5.00	Very High

Identify Continuity and the Rejection of Multiple Selves

Digital extroversion expression was moderate overall (Table 4). The results indicate low identity fragmentation: the Multiple Selves dimension was the lowest-scoring facet, whereas students agreed that they remained the same person online and offline. This indicates that self-presentation is a more common feature than identity experimentation, which may be influenced by the context collapsing of digital environments where multiple social audiences converge, resulting in a unified self (Ma, Susie, Draehling, Thomas Owen, & Hsieh, 2016; Pérez-Torres, 2024). Context collapse can

influence a preference for a unified self in digital contexts, where audiences are mixed and blended and a unified impression of the self is desired over multiple identities (Bunker & Kwan, 2021). Concurrently, the relatively high Ideal Self facet indicates that students employed online space to present an aspirational, but familiar version of themselves, rather than to build new personas (Fullwood et al., 2016; Lai & Burke, 2019). This self-enhancement is within the context of identity continuity, which aligns with the hyperpersonal model's assumption that users optimise self-presentation within acceptable limits of maintaining recognisable selfhood (Scott & Fullwood, 2020).

Table 5. Spearman Correlation among Perceived Anonymity, Online Comfort, Digital Cue Adaptability, and Digital Extroversion Expression (n=114)

		Perceived Anonymity	Online Comfort	Digital Cue Adaptation	Digital Extroversion Expression
Perceived Anonymity	Spearman's rho	—			
	df	—			
	p-value	—			
Overall Online Comfort	Spearman's rho	0.121	—		
	df	111	—		
	p-value	0.202	—		
Overall Digital Cue Adaptation	Spearman's rho	0.076	0.152	—	
	df	111	111	—	
	p-value	0.424	0.109	—	
Overall Digital Extroversion Expression	Spearman's rho	0.151	0.426***	0.176	—
	df	111	111	111	—
	p-value	0.111	<.001	0.062	—

Legend:

* p < 0.05
 ** p < 0.01
 *** p < 0.001

Associations Among the Study Variables

Table 5 shows that a significant moderate positive correlation ($\rho = .426$, $p < .001$) was found between digital extroversion and online comfort, with the higher the level of digital extroversion, the higher the level of online comfort. However, perceived anonymity did not directly relate to digital extroversion ($\rho = .151$, $p = .111$) or to digital cue adaptation ($\rho = .176$, $p = .062$), indicating that there was no clear

relationship between adaptation skill and expressiveness. Predictors were also only moderately correlated but not significantly. The data confirms that online comfort is the main correlate to expressive online behavior, in line with literature which shows that this is related to the feeling of communicative safety, and not to total anonymity, as the latter is a more abstract construct (Bowden-Green et al., 2020; Nitschinsk et al., 2023).

Table 6. Multiple Regression Predicting Digital Extroversion Expression from Perceived Anonymity, Online Comfort, and Digital Cue Adaptability (n = 114)

Predictor	B	SE	t	Sig.	β	R ²	Adjusted R ²
						0.189	0.167
Intercept	1.6121	0.3676	4.39	<.001			
Perceived Anonymity	0.0790	0.0571	1.32	0.188	0.116		
Overall Online Comfort	0.2768	0.0710	3.90	<.001	0.343		
Overall Digital Cue Adaptation	0.1440	0.0758	1.90	0.060	0.165		

Legend:

* p < 0.05
 ** p < 0.01
 *** p < 0.001

Online Comfort as the Strongest Correlate and Predictor of Digital Extroversion

The regression model accounted for a small amount of variance ($R^2 = .189$; adjusted $R^2 = .167$) in digital extroversion. Of those predictors, only Online comfort was statistically significant ($\beta = .343$, $p < .001$), with the others not reaching significance. (see Table 6)

Conclusion

Based on the findings of this study, it can be concluded that perceived anonymity, online comfort and digital cue adaptation predict digital extroversion of senior high school students in grade 12. The results showed that respondents were very active on social media, yet they tended to present themselves consistently across platforms, with little reliance on their anonymity. Additionally, they showed adaptability in their digital communication; particularly, in their use of visual cues and their handling of asynchronous exchanges online.

When the three predictors were analyzed altogether, however, only online comfort retained statistical significance. Students that reported greater ease and higher confidence in online interactions were more likely to engage in socially expressive behaviors. The other variables did not add meaningful explanatory power.

The results of this study point to psychological comfort mattering more for online self-expression than the ability to manipulate cues or the option to remain anonymous. The study extends the Hyperpersonal Model to a Filipino SHS context and offers data that future research on digital behavior could build on.

For educators, guidance counselors, and other fields dealing with adolescents, these implications are practical. If comfort is the key variable then the priority should be on promoting online environments where students could feel at ease and not just safe. The overall goal is to support healthy communication and a ground sense of identity for all. These are not abstract ideals, but everyday challenges for adolescents navigating social life online.

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References

- Azucar, D., Marengo, D., & Settanni, M. (2018). Predicting the Big 5 personality traits from digital footprints on social media: A meta-analysis. *Personality and Individual Differences*, 124, 150–159. <https://doi.org/10.1016/j.paid.2017.12.019>
- Afable, T. M. M., Lamberto, J. C. D., Ng, T. A. N. P., & Umandap, A. N. S. (2022). SHS Students' Engagement in Online Synchronous Collaborative Learning Activities: Correlations with Self-efficacy, Peer's Social Support, Well-being and Academic Performance.
- Amelia, L. T. D., & Balqis, N. R. (2023). Changes in communication patterns in the digital age. *ARRUS Journal of Social Sciences and Humanities*, 3(4), 544–556. <https://doi.org/10.35877/soshum1992>
- Ambady, N., Bernieri, F. J., & Richeson, J. A. (2000b). Toward a histology of social behavior: Judgmental accuracy from thin slices of the behavioral stream. In *Advances in experimental social psychology* (pp. 201–271). [https://doi.org/10.1016/s0065-2601\(00\)80006-4](https://doi.org/10.1016/s0065-2601(00)80006-4)
- Angelini, F., & Gini, G. (2023b). Differences in perceived online communication and disclosing e-motions among adolescents and young adults: The role of specific social media features and social anxiety. *Journal of Adolescence*, 96(3), 512–525. <https://doi.org/10.1002/jad.12256>
- Arcinas, M. M. (2022). Design of machine learning based model to predict students' academic performance. *Electrochemical Society Transactions*, 107(1), 3207–3214.
- Avci, H., Baams, L., & Kretschmer, T. (2024b). A Systematic review of social media use and adolescent Identity development. *Adolescent Research Review*, 10(2), 219–236. <https://doi.org/10.1007/s40894-024-00251-1>

- Bluteau, J. M. (2025c). Crafting the Digital Self: Exploring Instagram Self-Portraiture as an anthropological endeavor. *Journal of Contemporary Ethnography*, 54(4), 506–533. <https://doi.org/10.1177/08912416251339677>
- Bowden-Green, T., Hinds, J., & Joinson, A. (2020b). How is extraversion related to social media use? A literature review. *Personality and Individual Differences*, 164, 110040. <https://doi.org/10.1016/j.paid.2020.110040>
- Bukhari, S. A. (2021). Sample size determination using Krejcie and Morgan table. <https://doi.org/10.13140/RG.2.2.11445.19687>
- Bunker, C., & Kwan, V. S. Y. (2021). Do the offline and social media Big Five have the same dimensional structure, mean levels, and predictive validity of social media outcomes? *Cyberpsychology Journal of Psychosocial Research on Cyberspace*, 15(4). <https://doi.org/10.5817/cp2021-4-8>
- Chen, F. (2025). The relationship between digital literacy and college students' academic achievement: the chain mediating role of learning adaptation and online self-regulated learning. *Frontiers in Psychology*, 16, 1590649. <https://doi.org/10.3389/fpsyg.2025.1590649>
- Chua, H. C. P., Cruz, A. M. A., & Labro, M. K. Z. (n.d.). *Self-presentation of extroverts and introverts among Facebook friends*. Animo Repository. https://animorepository.dlsu.edu.ph/etd_bachelors/11035/
- Clark-Gordon, C. V., Bowman, N. D., Goodboy, A. K., & Wright, A. (2019). Anonymity and Online Self-Disclosure: A Meta-Analysis. *Communication Reports*, 32(2), 98–111. <https://doi.org/10.1080/08934215.2019.1607516>
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9780203771587>
- De Souza, R., Parveen, R., Chupradit, S., Lovella, G. V., Arcinas, M., Tabuena, A. C., ... & Ventayen, R. J. M. (2021). Language teachers' pedagogical orientations in integrating technology in the online classroom: Its effect on students motivation and engagement. *Turkish Journal of Computer and Mathematics Education*, 12.
- Dormehl, L. (2023b, April 25). *Psychologists say that using emojis is more important than ever. Seriously - Digital Trends*. Digital Trends. <https://www.digital-trends.com/cool-tech/use-more-emojis-working-from-home/>
- European Commission. (n.d.). *Eurobarometer*. <https://europa.eu/eurobarometer/surveys/detail/3686>
- Ezenwa, M. E., & Achieng, L. (2022). Social media usage among students of public day secondary schools in Eldoret Urban, Uasin Gishu County, Kenya. *Scholars Journal of Arts, Humanities and Social Sciences*, 10(7), 370–376. <https://doi.org/10.36347/sjahss.2022.v10i07.001>
- Forest, A. L., & Wood, J. V. (2012b). When social networking is not working. *Psychological Science*, 23(3), 295–302. <https://doi.org/10.1177/0956797611429709>
- Fullwood, C., James, B. M., & Chen-Wilson, C. (2016b). Self-Concept clarity and online Self-Presentation in adolescents. *Cyberpsychology Behavior and Social Networking*, 19(12), 716–720. <https://doi.org/10.1089/cyber.2015.0623>
- Fullwood, C., Morris, N., & Eftekhari, A. (2014b, August 1). *Capturing personality from Facebook photos and photo-related activities: How much exposure do you need?* <https://eprints.glos.ac.uk/11777/>
- Getenet, S., Cantle, R., Redmond, P., & Albion, P. (2024b). Students' digital technology attitude, literacy and self-efficacy and their effect on online learning engagement. *International Journal of Educational Technology in Higher Education*, 21(1). <https://doi.org/10.1186/s41239-023-00437-y>
- Gonzales, A. L., & Hancock, J. T. (2010b). Mirror, Mirror on my Facebook Wall: Effects of Exposure to Facebook on Self-Esteem. *Cyberpsychology Behavior and Social*

- Networking, 14(1-2), 79-83. <https://doi.org/10.1089/cyber.2009.0411>
- Gosling, S. D., Augustine, A. A., Vazire, S., Holtzman, N., & Gaddis, S. (2011). Manifestations of personality in online social networks: Self-Reported Facebook-Related behaviors and observable profile information. *Cyberpsychology Behavior and Social Networking*, 14(9), 483-488. <https://doi.org/10.1089/cyber.2010.0087>
- Hayes, A. F., & Coutts, J. J. (2020). Use Omega Rather than Cronbach's Alpha for Estimating Reliability. *But. . . Communication Methods and Measures*, 14(1), 1-24. <https://doi.org/10.1080/19312458.2020.1718629>
- Joinson, A. N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31(2), 177-192. <https://doi.org/10.1002/ejsp.36>
- Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, 72(6), 558-569. <https://doi.org/10.4097/kja.19087>
- Koeneman, S. H., & Cavanaugh, J. E. (2024). A novel bootstrap goodness-of-fit test for normal linear regression models. *ASTA Advances in Statistical Analysis*, 109(3), 443-461. <https://doi.org/10.1007/s10182-024-00517-y>
- Kondo, M., Harminto, D., Wang, Y., Xie, Y., & Al Yousif, B. (2024, August 22). *In-person vs. digital communication styles among classmates*. Languaged Life, UCLA. <https://languagedlife.ucla.edu/sociolinguistics/in-person-vs-digital-communication-style-among-classmates/>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Lai, C. K., & Burke, M. (2019). Self-presentation and identity expression on social media. *Current Opinion in Psychology*, 31, 59-63. <https://doi.org/10.1016/j.copsyc.2019.07.025>
- Lin, S., Longobardi, C., Fabris, M. A., & Settanni, M. (2024). Being kicked out of a WhatsApp group: Frequency and association with adolescents' psychosocial well-being and School Achievement. *Journal of Social and Personal Relationships*, 42(1), 318-336. <https://doi.org/10.1177/02654075241298148>
- Lee, D., & LaRose, R. (2011). The impact of personalized social cues of immediacy on consumers' information Disclosure: A Social Cognitive approach. *Cyberpsychology Behavior and Social Networking*, 14(6), 337-343. <https://doi.org/10.1089/cyber.2010.0069>
- Ma, X., Hancock, J. T., & Naaman, M. (2016). *Anonymity, intimacy and self-disclosure in social media*. In Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (pp. 3857-3869). Association for Computing Machinery. <https://doi.org/10.1145/2858036.2858414>
- Mainzer, R., Moreno-Betancur, M., Nguyen, C., Simpson, J., Carlin, J., & Lee, K. (2023). Handling missing data with multiple imputation in observational studies addressing causal questions: Protocol for a scoping review. *BMJ Open*, 13(2), e065576. <https://doi.org/10.1136/bmjopen-2022-065576>
- Mathew, B., Dutt, R., Maity, S. K., Goyal, P., & Mukherjee, A. (2019). Deep Dive into Anonymity: Large Scale Analysis of Quora Questions. *Lecture Notes in Computer Science*, 35-49. https://doi.org/10.1007/978-3-030-34971-4_3
- McKenna, K. Y. A., & Bargh, J. A. (2000). Plan 9 from Cyberspace: The Implications of the Internet for Personality and Social Psychology. *Personality and Social Psychology Review*, 4(1), 57-75. https://doi.org/10.1207/s15327957pspr0401_6
- Meier, A., & Reinecke, L. (2020). Computer-Mediated Communication, Social Media, and Mental Health: A Conceptual and Empirical Meta-Review. *Communication Research*, 48(8), 1182-1209.

- <https://doi.org/10.1177/0093650220958224>
- Misoch, S. (2015). Online self-disclosure and the role of visual anonymity. *Computers in Human Behavior*, 48, 331–342. <https://doi.org/10.1016/j.chb.2015.01.036>
- Newman, K., Wang, A. H., Wang, A. Z. Y., & Hanna, D. (2019). The role of internet-based digital tools in reducing social isolation and addressing support needs among informal caregivers: a scoping review. *BMC Public Health*, 19(1), 1495. <https://doi.org/10.1186/s12889-019-7837-3>
- Nitschinsk, L., Tobin, S. J., Varley, D., & Vanman, E. J. (2023). Why do people sometimes wear an anonymous mask? Motivations for seeking anonymity online. *Personality and Social Psychology Bulletin*, 51(7), 1099–1120. <https://doi.org/10.1177/01461672231210465>
- Papácharissi, Z. (2010). *A private sphere: Democracy in a digital age*. Polity Press.
- Pérez-Torres, V. (2024). Social media: a digital social mirror for identity development during adolescence. *Current Psychology*, 43(26), 22170–22180. <https://doi.org/10.1007/s12144-024-05980-z>
- Petronio, S., & Reiersen, J. (2015). Regulating the privacy of confidentiality: Grasping the complexities through communication privacy management theory. In S. Petronio (Ed.), *Uncertainty, information management, and disclosure decisions* (pp. 365–383). Routledge.
- Pettersson, F. (2021). Understanding digitalization and educational change in higher education. *Education and Information Technologies*, 26, 3893–3915. <https://doi.org/10.1007/s10639-021-10451-0>
- Prapotnik, T. (2015). From anonymity to self-disclosure: Recontextualization of communication in new media. *Innovative Issues and Approaches in Social Sciences*, 8(2).
- Rahardjo, W., Qomariyah, N., Hermita, M., Suhatri, R. J., Marwan, M. A., & Andriani, I. (2020). Online adolescents' self-disclosure as social media users: The role of extroversion personality, perception of privacy risk, convenience of relationship maintenance, and self-presentation. *Jurnal Psikologi*, 19(3), 219–232. <https://doi.org/10.14710/jp.19.3.219-232>
- Ratner, P. (2020, April 11). Use emojis in work communication, say psychologists. <https://bigthink.com/neuropsych/use-emojis-in-work-emails/>
- Riordan, M. A., & Kreuz, R. J. (2010). *Cues in computer-mediated communication: A corpus analysis*. *Computers in Human Behavior*, 26(6), 1806–1817. <https://doi.org/10.1016/j.chb.2010.07.008>
- Robertson, A. (2014). Measuring Perceived Anonymity: the development of a context-independent instrument. *Journal of Methods and Measurement in the Social Sciences*, 5(1). <https://doi.org/10.2458/v5i1.18305>
- Rodríguez-Ardura, I., & Meseguer-Artola, A. (2022). Social media provide a source of emotional comfort during the pandemic. *Universitat Oberta de Catalunya*. <https://www.uoc.edu/en/news/2022/074-social-media-pandemic>
- Sandberg, D. J., Frisén, A., Eriksson, P. L., & Syed, M. (2025). Who benefits most? Personality traits as predictors of identity intervention outcomes in adolescence. *Journal of Youth and Adolescence*, 54(8), 1879–1901. <https://doi.org/10.1007/s10964-025-02163-2>
- Sarathchandra, K. S. H., Nimeshi, G. K. S., Ranwala, R. S., Panditharathne, K. M., Kaushala, B. a. H., Wimalasiri, R. K. H. S., Ranasinghe, R. S. L. B., & Mallika, M. C. K. H. (2018). Antecedents of Facebook updates and the role of Facebook users' personality in Sri Lanka. *Kelaniya Journal of Management*, 7(1), 53–67. <https://doi.org/10.4038/kjm.v7i1.7554>
- Schroeder, J. (2020, April 17). *Online communication is a lifeline during a pandemic, but it lacks nonverbal cues, according to behavioral scientists*. CBC Radio. <https://www.cbc.ca/radio/spark/how-to-stay-in-touch-with-our-basic-senses->

- [in-isolation-1.5536243/online-communication-is-a-lifeline-during-pandemic-but-lacks-non-verbal-cues-behavioural-scientist-1.5536248](#)
- Scott, G. G., & Fullwood, C. (2020). Does recent research evidence support the hyperpersonal model of online impression management? *Current Opinion in Psychology*, 36, 106–111.
<https://doi.org/10.1016/j.copsyc.2020.05.005>
- Seidman, G. (2013). How personality influences social media use and motivations. *Personality and Individual Differences*, 54(3), 402–407.
<https://doi.org/10.1016/j.paid.2012.10.002>
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. John Wiley & Sons.
- Soh, S., Talaifar, S., & Harari, G. M. (2024). Identity development in the digital context. *Social and Personality Psychology Compass*, 18(2).
<https://doi.org/10.1111/spc3.12940>
- Stone, A., DeGroot, M., McVarnock, A., Cheng, T., Bowker, J. C., & Coplan, R. J. (2025). The Risks of Being a Wallflower: Exploring links between introversion, aspects of solitude, and Indices of Well-Being in Adolescence. *Behavioral Sciences*, 15(2), 108.
<https://doi.org/10.3390/bs15020108>
- Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior*, 7(3), 321–326.
<https://doi.org/10.1089/1094931041291295>
- Taj, A., Begum, N., Memon, P., Ullah, A., & Laghari, I. A. (n.d.). The influence of personality traits on social media use and online Self-Presentation among University Students: A Study of Extraversion and Neuroticism. *ACADEMIA International Journal for Social Sciences*, 4(3), 3565–3576.
<https://doi.org/10.63056/acad.004.03.0634>
- Tambun, T. (2024, March 9). *Extroverted introverts, introverted extroverts: digital anomaly?*
<https://www.linkedin.com/pulse/from-silence-expression-understanding-digital-toronata-tambun-pdiyc>
- Thomas, D., & Zubkov, P. (2023). Quantitative research designs. In P. Činčala, D. Penno, P. Zubkov, & S. Wa-Mbaleka (Eds.), *Introduction to quantitative research for practical theology* (pp. 103–114). Department of World Mission, Andrews University.
https://www.researchgate.net/publication/370630979_Quantitative_Research_Designs
- Towner, E., Grint, J., Levy, T., Blakemore, S., & Tomova, L. (2022). Revealing the self in a digital world: A systematic review of adolescent online and offline self-disclosure. *Current Opinion in Psychology*, 45, 101309.
<https://doi.org/10.1016/j.copsyc.2022.101309>
- Turkle, S. (1984). *The second self: Computers and the human spirit*. Simon & Schuster.
- Utz, S., & Krämer, N. C. (2009, November 1). *The privacy paradox on social network sites revisited: The role of individual characteristics and group norms*. <https://cyberpsychology.eu/article/view/4223>
- Walther, J. B. (1996). Computer-Mediated communication. *Communication Research*, 23(1), 3–43.
<https://doi.org/10.1177/009365096023001001>
- Walther, J. B. (2011). Theories of computer-mediated communication and interpersonal relations. In M. L. Knapp & J. A. Daly (Eds.), *The SAGE handbook of interpersonal communication* (4th ed., pp. 443–479). SAGE Publications.
- Walther, J. B. (2011b). Visual cues in computer-mediated communication: sometimes less is more. In Cambridge University Press eBooks (pp. 17–38).
<https://doi.org/10.1017/cbo9780511977589.003>
- Weidlich, J., Kreijns, K., & Bastiaens, T. J. (2021). Individual Differences in perceptions of social presence: Exploring the role of personality in online distance learning. *Open Education Studies*, 3(1), 188–201.
<https://doi.org/10.1515/edu-2020-0153>
- Williams, C., & Dedeo, M. (2023). Digital communication use before and during COVID among older adults living in residential

- settings. *Geriatric Nursing*, 53, 116–121. <https://doi.org/10.1016/j.geri-nurse.2023.07.005>
- Willmer, M., Jacobson, J. W., & Lindberg, M. (2019). Exploratory and confirmatory factor analysis of the 9-Item Utrecht Work engagement scale in a Multi-Occupational female sample: a Cross-Sectional study. *Frontiers in Psychology*, 10, 2771. <https://doi.org/10.3389/fpsyg.2019.02771>
- Winter, S., & Krämer, N. C. (2012). Selecting science information in Web 2.0: How source cues, message sidedness, and need for cognition influence users' exposure to blog posts. *Journal of Computer-Mediated Communication*, 18(1), 80–96. <https://doi.org/10.1111/j.1083-6101.2012.01596.x>
- Zhang, S., Su, W., Han, X., & Potenza, M. N. (2022). Rich Get Richer: Extraversion Statistically Predicts Reduced Internet Addiction through Less Online Anonymity Preference and Extraversion Compensation. *Behavioral Sciences*, 12(6), 193. <https://doi.org/10.3390/bs12060193>
- Zhou, Z., Xu, K., & Zhao, J. (2017, March 20). *Extroverts Tweet Differently from Introverts in Weibo*. arXiv.org. <https://arxiv.org/abs/1703.06637>