Print ISSN 2094-1064
Online ISSN 2244-0437

Liceo Journal of Higher Education Research
doi: http://dx.doi.org/10.7828/ljher.v19i1.1608

Digital Inclusion among Educators: An Examination of Salience in Public and Private Schools within City Centers in Metro Manila

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ABSTRACT

This research explores the online and offline characteristics of educational workers and ascertains whether digital inequality is evident in their skills, use, and the outcome in online activities. This study extends the Internet skills framework of Van Deursen et al. (2017) by examining the same parameters in the local educational settings and by incorporating the use of devices and its ramifications to the digital inclusion and exclusion literature. Online skills of educators in both private and public institutions of learning in Metro Manila and other city centers are elicited during the tail end of the pandemic wherein their online presence is essential. The selection of the research locale is strategic because access to the Internet is assured to represent the upper "have access" group. The model's association and impact are validated using partial least square regression to the data obtained. The test revealed that Internet skills affect educational usage in varying degrees with the latter affecting the offline outcome positively. The results provide evidence that

online skills have educational consequences contributing to digital inclusion and/or exclusion.

Keywords: Digital inequality, digital inclusion, educational technology innovation

INTRODUCTION

The information age is centered on the unprecedented growth of mobile technology and Internet access. During the late period of the 20th century, only a few percent of the world's population were Internet users (Internet World Stats, 2019) or owners of cellular phones (Roser et al., 2015). The advent of 3G networks in the 1990s gave rise to smartphones which can navigate the Internet seamlessly and these fusions revolutionize information production and usage which sets the stage of what the 21st century will be (Jackson, 2010, International Telecommunication Union, 2021).

The exponential growth of digital information is the backbone of modern economies and what emerging economies are aspiring for (Silver, 2019). This phenomenon is also a petri dish in which the digital equivalent of societal issues such as addiction (Parasuraman et al., 2017, Wallace, 2016) and inequality can be observed. Research on digital inequality revolves around how various social groupings access technologies and how its use contributes to a positive or negative impact in their life (Chen, 2013). The Internet is founded on the design principles of openness, access, and end-to-end which are the cornerstone for its pervasiveness and ubiquity (Krasner, 1983). The World Wide Web (or the Web) is a subset of the Internet that retrieves a vast array of interconnected hypermedia and documents. The sources and providers of these mediums, as well as the Internet infrastructure it operates on, are designed to "bring people together and make knowledge freely available" (Contractfortheweb, 2019). Even with a common digital agenda, differences in the culture, practice, restriction, geography (among the many variables) will provide different outcomes for different people. These outcomes (or results) are necessary to understand how the access to the web and the use of the Internet contributes to improving one's life in terms of economic, cultural, social, and personal measures from which the evidence of digital inequalities or inclusion are present.

Digital inclusivity or inclusion pertains to the activities and abilities of individuals and groups to have access to and use of information and communication technologies (OCLC, 2011) as opposed to digital inequality or digital divide

defined by Organization for Economic Co-operation and Development (OECD) as the chasm between "individuals, households, businesses and geographic areas of different socio-economic levels with regard to both their opportunities to access information and communication technologies and to their use of the Internet for a wide variety of activities" (OECD, 2001).

RELATED LITERATURE

There are three (3) levels of digital divide with the first centering on the individuals' access to Internet infrastructure, the second level pertaining to the skills and usage patterns, and the third focusing on the tangible outcomes achieved from the use of the Internet (Van Deursen et al., 2017). Extant literature on the first-level digital divide focuses on the access and the use of the Internet and its impact on the economy, education, and the society at large (e.g., OCLC, 2011, Lee et al., 2015, Steele, 2019, Van Deursen & Van Dijk, 2019).

As presented by Van Deursen et al. (2015), there are two theoretical underpinnings in studies about digital inequality's enduring outcomes. First is the normalization hypothesis which posits that resources drops down from people with high status to those with low status; and the stratification hypothesis which suggest that the existing social inequalities are replicated in the use of the Internet because the medium itself replicate the offline structure; and that the human capital offline (in the actual) are carried over to the online world.

There are two important mechanisms in the stratification hypothesis. First is the amplification law which suggests that the Internet magnifies the existing social stratification or categorization. In short, when inequality in society is up, the Internet reinforces this situation. The second mechanism in the stratification hypothesis is the power law which is a statistical law that suggests groupings between the increasing use of high-quality devices in increasing varied purposes and the increasing use of low-quality devices which will be slow for the same purposes because of the device's performance. Concisely, the Internet delivers more when one's capacity is greater which leads to the widening gap between the have and the have nots (Helsper, 2012).

Common digital inequalities are observed in gender studies, social settings, and universal access (ITU, 2019). Often, digital inequalities are attributed to education, income levels, geographical restrictions, digital literacy, and motivation and general interest in computers and the Internet as its main causes (Hilbert, 2010; Wilson, 2004). Digital inequality impacts the economy (Guillen & Suárez,

2005), education (Hilbert, 2011), society in general (Steele, 2019) and varies among different nations (Fox, n.d.).

From its original economic, cultural, and social domain, the theory of capital based on Pierre Bourdieu's seminal work in 1986 that is influential in the sociology of education (Kingston, 2001) are adjusted to include personal characteristics as its fourth domain of exclusion in the digital world (Helsper, 2012). According to Van Deursen et al. (2015), economic capital is the resources that provide the opportunity to acquire income, jobs, and wealth. Indicators such as income, employment, financial assets, and education are related to capital and wealth which when measured, will provide evidence to its contribution to the presence or absence of digital divide.

Operationalizing personal resources such as interest, aptitude, IQ, and well-being (psychological and physical) constitutes the personal capital theorized in Anthony Giddens's structuration theory. Giddens argues that an "individual's autonomy is influenced by structure" and that "structures are maintained and adapted through the exercise of agency" (Gibbs, 2017).

The examination of the multi-faceted factors that involves motivation (the attitude and motives for (not) using the Internet, access (the quality, quantity, and ubiquity of digital media), skills (referring to the medium itself and content-related elements of the medium), and use (the engagement with and the creation of digital content) are the second-level digital divide that is reported by some of the landmark researches (e.g., DiMaggio et al., 2004, Hargittai & Hinnant, 2008, Lee et al., 2015, Robinson et al., 2015, Van Deursen & Van Dijk, 2015).

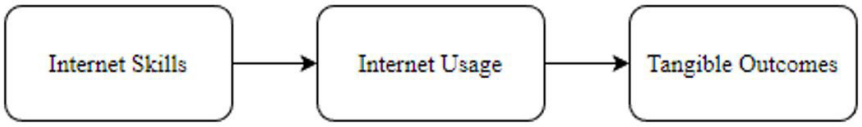
One of the areas that is generating limited information is the study of the third-level digital divide which highlights the benefits that one gets resulting from the use of the Internet and how the user benefits in accordance with a wide-ranging real-life, offline, or actual outcome (Van Deursen & Helsper, 2015). The Philippines, with almost 58 million Internet users is one of the nations with the highest mobile phone subscriptions in 2019 (Roser et al., 2019). It is touted as the current social media capital of the world with 78.5 million users in 2020 and is projected to have 91 million users in the year 2026 (Statista, 2021). Despite this distinction, the Philippines is still grappling with a very significant digital divide as reported by the National Economic Development Authority and the World Bank (World Bank, 2020; Conoza, 2021). This study will extend the Internet skills framework of Van Deursen et al. (2017) by examining the same in the local perspective and by incorporating and identifying the use of devices and its contribution to the digital inequality literature among the educational workers.

FRAMEWORK

This study's encompassing goal is to examine the widening chasm between the digital have and the digital have-nots that are exacerbated during the pandemic that impacts most institutions and enterprises severely (ADB, 2020). It examines how Internet skills affect Internet usage, and the tangible outcomes of individuals by posing the central question of "How does Internet skills affect the use and creation of educational content and its resulting online or real-life outcomes?" summarized in Figure 1.

Figure 1

Internet skills framework



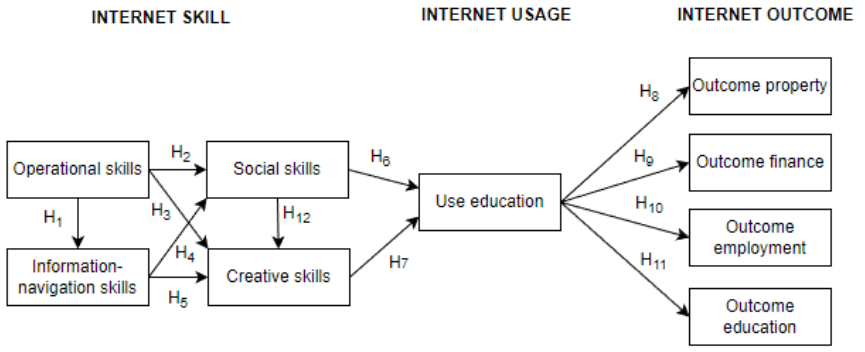
This vital orienting question takes up the challenge of identifying potential associations between the different levels of digital divide and whether this relationship is an instance of compound or sequential digital deprivation. Compound digital exclusion is manifested when a person deficient in a certain digital resource is also deficient in other digital resources of the same type while sequential digital deprivation happens when a person's exclusion of one type causes exclusion of a different type (van Deursen et al., 2017). The lack of Internet connection leading to the absence of Internet use is an example of compound digital deprivation that operates in the first and second levels while a lack of skills in finding the price online which results in buying marked up products is an example of sequential deprivation in the second and third levels.

Internet skills form a key part of digital inclusion by mediating digital activities and engagements. The relationship of operational (OPNSKL), information-navigation (INFONAV), social (SOCSKL), and creative (CREASKL) skills which is the antecedent to the examination of Internet usage for educational purposes (EDUCUSE) and its outcomes for property (PROPOUT), finance (FINOUT), employment (EMPOUT), and education (EDUCOUT) are scrutinized.

The following hypotheses are presented and summarized in Figure 2:
H1: Operational skills directly affects Information-navigation skills
H2: Operational skills directly affects social skills
H3: Operational skills directly affects creative skills
H4: Information-navigation skills directly affects social skills
H5: Information-navigation skills directly affects creative skills
H6: Social skills directly affects creative skills
H7: Creative skills directly affects Use education
H8: Use education directly affects Outcome property
H9: Use education directly affects Outcome finance
H10: Use education directly affects Outcome employment
H11: Use education directly affects Outcome education
H12: Creative skills directly affects Use education

Figure 2

Model for Internet Skills, Internet Use, and Economic Outcome



METHODOLOGY

Sample and Measure

An online survey was conducted over a period of 2 months (April and May) in 2022 using Google Forms. The respondents are all educational workers involved in public and private education sectors and recruited using convenience sampling.

They were given the link where their skills, use, and the outcome of their online activities are measured using a 20-item Internet skills instrument developed by Van Deursen et al. (2016) using a 5-point agreement scale (1 = strongly disagree, 5 = strongly agree). Its psychometric properties are reliable and valid for operational (α = .84), information-navigation (α = .88), social (α = .87), and creative skill (α = .89) which also exhibits high internal consistency.

The 3-items measure for the Internet Usage by Van Deursen et al. (2017) is mapped for the tangible outcomes and activities for education (α = .93) using a 5-point scale (1 = never, 5 = daily) ordinal-level measure. Outcomes in the four domains are the focus of the Internet outcome scale which is designed as the only direct result of a particular type of online use (e.g., use of Internet for education). While the Use of the Internet clearly always precedes a tangible outcome, the possibility that there are unintended benefits for the use of the Internet for the education domain to other unrelated domain might occur so the crisscrossing lines between Use and Outcomes are examined using a 7-items using a 6-point agreement scale (1 = strongly disagree, 5 = strongly agree) as an ordinal-level measure with 0 corresponding to outcome variables which the respondent has never engaged with (Van Deursen et al., 2017). The demographic characteristics of the sample are presented in Table 1 where it can be learned that the majority of the respondents are from privately owned institutions of learning (n=126, 59.4%) and are within the 31-45 years old age range (n=106, 50%). Respondents are mostly female education workers (n=146, 69%) reporting that they spend less than 3 hours/day (n=51, 24%), 4-8 hours/day (n=93, 44%), and more than 8 hours/day (n=68, 32%) online. Academic credentials are heavy with those with master's degree (n=99, 47%) and bachelor's degree (n=97, 46%).

Table 1

Demographic Profile of Respondents (n=212)

	Sample		Female		Male	
	n	%	n	%	n	%
# hours online						
<4 hours/day	51	24.1	48	22.6	3	1.4
4-8 hours/day	93	43.9	63	29.7	30	14.2
> 8 hours/day	68	32.1	35	16.5	33	15.6
Age (years)						
20-30 years old	43	20.3	28	13.2	15	7.1
31-45 years old	106	50.0	67	31.6	39	18.4
46-60 years old	60	28.3	49	23.1	11	5.2
60 years old and above	3	1.4	2	0.9	1	0.5
School Type						
Private Owned	126	59.4	74	34.9	52	24.5
Public/Government	86	40.6	72	34.0	14	6.6
Education						
Associate degree	1	0.5	1	0.5	0	0.0
Bachelor's degree	97	45.8	74	34.9	23	10.8
Master's degree	99	46.7	62	29.2	37	17.5
Professional degree	4	1.9	3	1.4	1	0.5
Doctorate degree	11	5.2	6.0	2.8	5.0	2.4

Table 2 summarizes the utilization of the different gadgets with majority of the respondents reporting that they own the smartphone they use to go online (n=201, 95%), tablet (n=94, 44%), laptop (n=170, 80%), personal computers (n=77, 36%), and smart TV (n=103, 49%). Majority of the respondents reported that they do not utilize gaming consoles for Internet connection (n=130, 61%). As reported by the respondents, institutions that provide gadgets to the educational workers are very minimal: smartphone (n=2, 1%), tablet (n=11, 5%), laptop (n=24, 11%), personal computers (n=49, 23%), smart TV (n=9, 4%), and gaming console (n=3, 1%).

Table 2

Gadgets utilization profile

	Smartphone				Tablet				Laptop				PC				Smart TV				Game Console			
	O	B	P	N	O	B	P	N	O	B	P	N	O	B	P	N	O	B	P	N	O	B	P	N
Gender																								
Female	140	1	1	4	66	15	9	56	116	6	20	4	58	18	28	42	71	11	8	56	36	23	3	84
Male	61	0	1	4	28	2	2	34	54	3	4	5	19	3	21	23	32	1	1	32	14	6	0	46
School Type																								
Private Owned	116	0	2	8	53	2	6	65	103	5	9	9	40	3	40	43	50	0	5	71	23	4	1	98
Public/Government	85	1	0	0	41	15	5	25	67	4	15	0	37	18	9	22	53	12	4	17	27	25	2	32
Age (years)																								
20-30 years old	42	0	0	1	16	4	4	19	33	0	7	3	12	5	11	15	19	4	5	15	12	8	2	21
31-45 years old	102	0	1	3	47	5	6	48	86	7	12	1	42	8	19	37	53	3	2	48	26	10	1	69
46-60 years old	56	0	1	3	29	8	1	22	48	2	5	5	21	8	19	12	30	5	2	23	11	11	0	38
60 years old and above	1	1	0	1	2	0	0	1	3	0	0	0	2	0	0	1	1	0	0	2	1	0	0	2
Education																								
Associate degree	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Bachelor's degree	94	0	0	3	43	6	5	43	72	3	16	6	35	12	19	31	54	5	4	34	29	12	3	53
Master's degree	93	0	2	4	40	11	6	42	85	4	7	3	33	9	29	28	42	7	5	45	16	17	0	66
Professional degree	4	0	0	0	3	0	0	1	4	0	0	0	3	0	0	1	2	0	0	2	2	0	0	2
Doctorate degree	9	1	0	1	7	0	0	4	9	1	1	0	6	0	1	4	5	0	0	6	3	0	0	8

Legends: **O** - Owned **B**- Borrowed **P** - Provided by the school/institution **N** - N/A

Statistical Analysis

SEM-PLS was used to determine the association between the Internet skills, uses, and outcome variables for the hypothesized relationships. SMART PLS 3.3.7 (Ringle, Wende, & Becker, 2015) is used to test the model for t-tests, correlation, path analysis, and to evaluate the equation model.

RESULTS AND DISCUSSION

Reliability and Validity Analysis

Table 3 shows that the constructs exhibit internal consistency and reliability because the values are all higher than the set target of > 0.70 (Hair et al., 2021; Ketchen, 2013). The relationship between the item and the construct should be equal to or greater than 0.50 (Kock, 2015) emphasizing that the parameters for confirmatory factor analysis have been validated for this study.

Table 3

Construct Reliability, Validity, and Loadings

	CREASKL	EDUCOUT	EDUCUSE	EMPOUT	FINOUT	INFONAV	OPNSKL	PROPOUT	SOCSKL	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
CreaSkl1	0.907									0.854	0.889	0.9	0.693
CreaSkl2	0.853												
CreaSkl4	0.745												
CreaSkl5	0.817												
EcoOutEduc1		1.000								1.000	1.000	1.000	1.000
EconUseEduc1			0.927							0.892	0.892	0.933	0.822
EconUseEduc2			0.911										
EconUseEduc3			0.882										
EcoOutEmp2				1.000						1.000	1.000	1.000	1.000
EcoOutFin1					1.000					1.000	1.000	1.000	1.000
InfNavSkl1						0.884				0.899	0.911	0.93	0.768
InfNavSkl2						0.908							
InfNavSkl3						0.848							
InfNavSkl4						0.863							
OpSkill4							0.966			0.935	0.94	0.968	0.939
OpSkill5							0.972						
EcoOutProp2								1.000		1.000	1.000	1.000	1.000
SocSkl3									0.946	0.887	0.888	0.947	0.899
SocSkl5									0.950				

In Table 4, heterotrait-monotrait ratio of correlations (HTMT) is used to test for discriminant validity between two reflective constructs. According to Henseler, Ringle, & Sarstedt (2015), a value below 0.90 implies that the measure's discriminant validity has been established.

Table 4

Discriminant Validity Using Heterotrait-Monotrait Ratio of Correlations (HTMT)

	CREASKL	EDUCOUT	EDUCUSE	EMPOUT	FINOUT	INFONAV	OPNSKL	PROPOUT
EDUCOUT	0.18							
EDUCUSE	0.25	0.28						
EMPOUT	0.14	0.26	0.35					
FINOUT	0.33	0.21	0.38	0.33				
INFONAV	-0.26	-0.09	-0.05	-0.03	-0.16			
OPNSKL	0.32	-0.05	0.16	0.01	0.19	0.03		
PROPOUT	0.04	0.24	0.21	0.38	0.28	0.05	0.01	
SOCSKL	0.54	0.04	0.14	-0.09	0.24	-0.16	0.45	-0.10

Structural Model and Hypothesis Result

A subsample of 5000 is set in the bootstrapping process to validate the inner model in testing the hypotheses (Hair et al., 2011). The significance of each path coefficient is accepted if the t-value is greater than 1.95.

Before testing the structural model, fit adjustment with standardized root mean

square residual (SRMR) value was evaluated. The result (SRMR=0.053, Chi-Square = 522.223) indicates a good fit adjustment because a value less than 0.10 or of 0.08 for SRMR are considered a good fit (Hu & Bentler, 1999; Henseler et al., 2014). Table 5 shows the path coefficients and the t-value for each path in accordance with the hypothesized relation.

Table 5

Path Coefficients and Hypotheses results

Hypothesis	Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
H1	OPNSKL→INFONAV	0.029	0.025	0.067	0.436	0.66	Not Supported
H2	OPNSKL→SOCSKL	0.452	0.447	0.079	5.696	0.00	Supported
H3	OPNSKL→CREASKL	0.115	0.116	0.056	2.065	0.04	Supported
H4	INFONAV→SOCSKL	-0.177	-0.180	0.072	2.447	0.01	Supported
H5	INFONAV→CREASKL	-0.189	-0.194	0.065	2.879	0.00	Supported
H6	SOCSKL→EDUCUSE	-0.003	0.000	0.071	0.042	0.97	Not Supported
H7	CREASKL→EDUCUSE	0.255	0.257	0.085	2.992	0.00	Supported
H8	EDUCUSE→PROPOUT	0.210	0.210	0.069	3.070	0.00	Supported
H9	EDUCUSE→FINOUT	0.384	0.385	0.063	6.135	0.00	Supported
H10	EDUCUSE→EMPOUT	0.349	0.350	0.065	5.393	0.00	Supported
H11	EDUCUSE→EDUCOUT	0.282	0.281	0.070	4.032	0.00	Supported
H12	SOCSKL→CREASKL	0.461	0.455	0.068	6.823	0.00	Supported

In the examination of the associations within the different Internet skills. The result summarized in Figure 3 shows that Operational skills' positive direct effect on Social skill is significant at (OPNSKL→SOCSKL=0.452, t-value = 5.696). The Operational skills' positive direct effect on Creative skill is significant at (OPNSKL→CREASKL=0.115, t-value = 2.065). Information-Navigation skills' negative direct effect on Social skill is significant at (OPNSKL→SOCSKL=-0.177, t-value = 2.447). Information-Navigation skills' negative direct effect on Creative skill is significant at (OPNSKL→CREASKL=-0.189, t-value = 2.879). Social skills' positive direct effect on Creative skill is significant at (SOCSKL→CREASKL=0.461, t-value = 6.823).

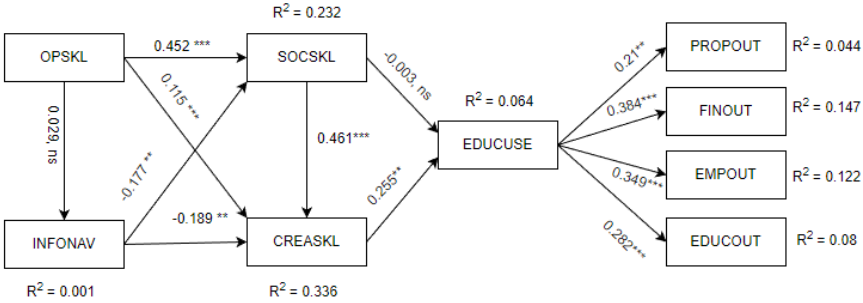
In the second-level examination of the effect of Internet skills to Internet Usage for Education, only the Creative skills' positive direct effect on Educational use is significant at (SOCSKL→EDUCUSE=0.255, t-value = 2.992), social skill has no significant effect.

In the third-level examination of the effect of Internet Usage for Education on the Outcome received from the Internet, educational usage's positive direct effect on Property outcome is significant at (EDUCUSE → PROPOUT=0.21, t-value = 3.07). Educational usage's positive direct effect on Financial outcome

is significant at (EDUCUSE → FINOUT=0.384, t-value = 6.135). Educational usage's positive direct effect on Employment outcome is significant at (EDUCUSE → EMPOUT=0.349, t-value = 5.393). Educational usage's positive direct effect on Educational outcome is significant at (EDUCUSE → EDUCOUT=0.282, t-value = 4.032).

Figure 3

Result of a structural model



To answer the question of how the different Internet skills affect the use and creation of educational content and its resulting online or real-life outcomes, the result summarized in Table 6 shows the significant interaction between these variables. For the first and second-level examinations, the Operational skill has a positive indirect effect on Creative Skill via Social Skill (OPNSKL→ SOCSKL→CREASKL=0.208, t-value=3.981). Information-navigation skill has a negative indirect effect on Creative skill via Social skill (INFONAV→SOCSKL→CREASKL=-0.082,t-value=2.339). Information-navigation skill has a negative indirect effect on Internet use for Education via Creative skill (INFONAV→CREASKL→EDUCUSE=-0.048,t-value=1.972). Operational skill has a positive indirect effect on Internet use for Education via Social skill and Creative skill (OPNSKL→SOCSKL→CREASKL→EDUCUSE =0.053,t-value=2.284). Social skill has a positive indirect effect on Internet use for Education via Creative skill (SOCSKL→CREASKL→EDUCUSE=0.118,t-value=2.688).

The complete examination of the three levels shows that the Creative skills have a positive indirect effect on Employment outcome via Internet use for Education (CREASKL→EDUCUSE→EMPOUT= 0.089,t-value= 2.424). Social skills have a positive indirect effect on Educational outcome via Creative skill and Internet

use for Education (SOCSKL→CREASKL→EDUCUSE→EDUCOUT=0.033 ,t-value= 2.019). Creative skills have a positive indirect effect on Financial outcome via Internet use for Education (CREASKL→EDUCUSE→FINOUT=0.098,t-value=2.387). Information-navigation skill has a negative indirect effect on Property outcome via Social skill, Creative skill, and Internet use for Education (INFONAV→SOCSKL→CREASKL→EDUCUSE→PROPOUT=-0.004,t-value= 1.441). Creative skills have a positive indirect effect on Educational outcome via Internet use for Education (CREASKL→EDUCUSE→EDUCOUT= 0.072,t-value= 2.141). Social skill's positive indirect effect on Employment outcome via Internet use for Education (SOCSKL→CREASKL→EDUCUSE→EMPOUT= 0.041,t-value= 2.264).

Table 6

Specific Indirect Effects

Indirect Effects	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
OPNSKL→ SOCSKL→CREASKL	0.208	0.205	0.052	3.981	0.000
INFONAV→SOCSKL→CREASKL	-0.082	-0.082	0.035	2.339	0.019
INFONAV→CREASKL→EDUCUSE	-0.048	-0.05	0.024	1.972	0.049
OPNSKL→SOCSKL→CREASKL→EDUCUSE	0.053	0.053	0.023	2.284	0.022
SOCSKL→CREASKL→EDUCUSE	0.118	0.117	0.044	2.688	0.007
CREASKL→EDUCUSE→EMPOUT	0.089	0.091	0.037	2.424	0.015
SOCSKL→CREASKL→EDUCUSE→EDUCOUT	0.033	0.034	0.016	2.019	0.044
CREASKL→EDUCUSE→FINOUT	0.098	0.101	0.041	2.387	0.017
INFONAV→SOCSKL→CREASKL→EDUCUSE→PROPOUT	-0.004	-0.004	0.003	1.441	0.150
CREASKL→EDUCUSE→EDUCOUT	0.072	0.074	0.034	2.141	0.032
SOCSKL→CREASKL→EDUCUSE→EMPOUT	0.041	0.041	0.018	2.264	0.024

Path analysis revealed that Information-navigation skills have negative direct and indirect effects on the relationships between Internet skills, use, and intended outcomes. Congruent with the results of Helsper et al.'s (2015) study on the tangible outcomes of Internet use, it was mentioned that information navigation is related to lower achievement levels in cultural, social, and personal outcomes. Moreover, the study of Khan et al. (2022) where they found that Information-navigation skill was not significantly related to digital literacy, academic achievement and employment among young professionals somewhat strengthens this claim.

Creative skill provides the highest load to Financial outcome, followed by Creative skill provides the highest load on employment outcomes. These findings are consistent with the data of Helper et al. (2015) supporting creative skills as an important factor to achieve outcomes from engagement with online activities.

Participants with higher education were more satisfied with economic and personal outcomes than those with lower counterparts, but this could be explained through their differences in creative and social skill levels. The achievement of outcomes was mostly explained by creative and information navigation skills.

CONCLUSIONS

Internet skills form a key part of digital inclusion and in this study, creative and information navigation skills are found to have the biggest direct and indirect impact on the financial and employment outcome among educators. It is therefore clear that creative and information navigation skills are important in achieving outcomes from engagement with online activities specially during and post pandemic where online transactions became the norm.

As the present study only examined Educational use as the mediator between Internet skills and Economic outcome, other researchers may test the other economic model (employment, finance, and property) as mediators to not only Economic outcome but the other offline outcomes as well (identity, belonging, formal and informal networks, political network, health, self-actualization, and leisure). They may also consider testing these models using multigroup analysis to test the structural models by age, gender, and educational attainment groups as this research did not consider the required observations for such analysis. Other scholars may also find interest in examining the same model in another locale, those with limited Internet access or target the student as this may yield interesting results.

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