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Proceedings of the International Conference on Research in Education, Teaching and Learning
Vol. 2, Issue. 2, 2025, pp. 17-31
DOI: https://doi.org/10.33422/icetl.v2i2.1651

ISSN: 3030-0770 online

Generational Perspectives in Post-Pandemic Education: A Comparative Study of Behavioral Intentions across Age Groups using UTAUT2

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Abstract

COVID 19 pandemic drastically altered the global educational landscape, forcing institutions to adopt online and hybrid modalities. While students adapted to virtual learning environments, transiting again to face to face (F2F) education has uncovered nuanced differences in attitudes and behaviours across age groups. This study explores behavioural intentions (BI) of tertiary students aged 16-30 resuming face-to-face (F2F) mode of study post-COVID-19, focusing on generational comparisons. Using Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model, augmented with Trust, Commitment, and Comfortability as additional variables, this research investigates differences in perceptions among key age brackets (16-20- and 21–30-year-old students) in Pacific region. A survey of 369 students from a regional university formed the dataset, analysed through Covariance-Based Structural Equation Modelling. Findings highlight significant disparities: younger students (16-20) show minimal support for tested hypotheses, whereas older students (21-30) exhibit stronger associations between behavioural intention (BI) and factors like Social Influence, Hedonic Motivation, and Commitment. However, moderating role of COVID-19 fear on BI and usage behaviour (USEB) is significant for younger group only. This study contributes to literature on generational dynamics in post-pandemic educational environments, offering insights for policy development and education strategies in resource-constrained regions.

Keywords: COVID, UTAUT2, student behavioural intention

1. Introduction

COVID 19 pandemic drastically altered the global educational landscape, forcing institutions to adopt online and hybrid modalities. While students adapted to virtual learning environments, the transition back to face-to-face (F2F) education has uncovered nuanced differences in attitudes and behaviours across age groups. This study examines these

differences among tertiary students aged 16-30, focusing on behavioural intentions (BI) to resume F2F learning. By analysing these two key age brackets, 16-20 years and 21-30 years, this research highlights the role of generational differences and pandemic-related disruptions in shaping educational preferences. Higher education predominantly comprises of students in the 16-30 age range, with 16-20 years representing traditional undergraduate entrants and 21-30 years including advanced undergraduates and early postgraduate students. Studies confirm these groups as major cohorts in tertiary education, accounting for over 70% of student populations globally (UNESCO Institute for Statistics, 2022). Focusing on these two groups allows for targeted insights into their unique perspectives and needs, particularly in a post-pandemic context.Generational differences also play a crucial role. Generation Z (16-20 years old), characterised as digital natives, has grown up immersed in technology, which shapes their expectations of flexibility and instant accessibility in education (Ali, 2018).

In contrast, older Millennials (21-30 years) often value interpersonal engagement and structured educational experiences, making them more likely to embrace traditional F2F learning (Al-Adwan & Al-Debei, 2024).

Previous studies on post COVID education, such as Cantero-Garlito et al. (2021) and Martinez-Lorca et al. (2020), have explored students' intentions to return to F2F learning, reporting significant concerns about safety and adaptability but did not compare BI across age groups. Similarly, while Narayan and Naidu's (2024) research addresses BI in tertiary students, it treats all students as a homogenous group. Our study bridges this gap by offering a comparative analysis of these two key age cohorts.

The UTAUT2 framework provides the foundation for this research. While extensively applied to technology adoption, few studies have explored its application to age-specific behaviours in F2F education, post COVID. For instance, studies like Venkatesh et al. (2012) highlight its effectiveness in understanding BI but focus primarily on technological contexts rather than post-pandemic educational settings. This study extends UTAUT2 by incorporating Trust (TR), Commitment (COMT) and Comfortability (COMF) variables particularly relevant in rebuilding confidence in F2F education during pandemic recovery phases.

This research contributes to post-pandemic educational literature in several ways. First, it justifies inclusion of 16-20 and 21-30 age groups as critical cohorts in a higher education institute (The University of the South Pacific - USP), offering a nuanced understanding of their differing BI towards F2F learning. USP offers an ideal context for exploring post-pandemic education, particularly in terms of age-based differences in BI to resume F2F learning. It serves as a diverse educational body from across the Pacific region, which includes island nations with distinct technological and educational challenges. This diversity is critical as it allows for the examination of generational and regional differences in students' return to F2F education. Moreover, the USP setting is particularly relevant as it reflects the unique context of higher education in resource-constrained areas, where access to technology and infrastructure varies widely. While similar studies (e.g., Cantero-Garlito et al., 2021; Martinez-Lorca et al., 2020) have been conducted in developed nations like the United States, the United Kingdom, and Australia, fewer studies (e.g., Narayan & Naidu, 2024) have focused on the South Pacific region, making USP a valuable case study for understanding how students in these regions respond to post-pandemic educational shifts.

Second, it incorporates insights from studies such as Cantero-Garlito et al. (2021) and Narayan and Naidu (2024), providing a comparative perspective missing in literature. Very few researchers have examined university students' BI as well as USEB when returning to F2F study mode, post COVID, except for Narayan and Naidu's (2024) study which does not focus on age-based comparisons. Hence, age comparisons of two key age groups of the present study

makes it different from this 2024 study and further builds on it. Most prior studies have investigated e-learning experiences of students, before or at the time of pandemic situations and while there are several studies on university students, UTAUT2 framework with other variables, and studies before and at the time of COVID, three variables of trust, comfortability, and commitment extending UTAUT2, are rare. Furthermore, while TR construct has been investigated as a BI mediator in various contexts of blended learning and during COVID, studies have only made few deliberations on comfortability and commitment, variables.

Third, the study extends the UTAUT2 framework by validating the role of pandemic-relevant variables such as trust, comfortability, and commitment, particularly in age-specific contexts. This approach provides actionable insights for institutions seeking to tailor educational strategies to different age groups, especially in resource-constrained environments like the Pacific region.

Finally, this study sheds light on moderating effects of COVID 19 fear, addressing a significant but under-explored factor in educational transitions. While Narayan and Naidu's (2024) research did discuss moderating effects of COVID 19 fear, it did not do so for different age groups. Influence of COVID 19 fear in the context of UTAUT2 remain scarce. By understanding how this fear influences younger and older students differently, institutions can implement targeted interventions to support students' return to F2F learning effectively. Studies like Iqbal et al. (2022), largely conducted in better developed countries suggest that fear of virus is a critical variable influencing students' educational preferences. Yet, this moderating effect remains under-explored in the context of age-based cohorts. By incorporating this variable, particularly in the unique setting of USP, this study will extend current literature and provide targeted insights into the role of fear in the educational recovery process in the South Pacific.

2. Theoretical Underpinnings and Hypotheses

The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) is an extension of the original UTAUT model developed by Venkatesh et al. (2003). UTAUT2 was developed to better explain customer acceptance and usage of technology in a consumer environment by including new constructs of hedonic motivation, price value and habit. This extended paradigm reflects at increasing complexity of technology adoption (Venkatesh et al., 2012). As per UTAUT2, seven essential factors of performance expectancy, social influence, effort expectancy, enabling situations, habit, hedonic incentive, price value and influence behavioural intention as well as use behaviour. These factors are foundational to understanding technology adoption and are consistently validated across various studies. However, this paper did not include habit since it is still too early to gauge whether students have developed a habit towards F2F mode, after COVID, given fear of COVID (Narayan & Naidu, 2024). UTAUT2 can be used to analyse voluntary technology use. The robustness of UTAUT2 has been proven by empirical research in a variety of contexts. For instance, Oliveira, (2016) used UTAUT2 to study the adoption of mobile banking and discovered that hedonic motivation, performance expectancy and effort expectancy were important indicators of intention to use. UTAUT2's adaptability is further supported by the results of Alalwan et al. (2017), whose study on the adoption of social media marketing emphasised the significance of habit and hedonic incentive. The theory's adaptability in explaining technology adoption in various contexts is supported by these investigations (Herrero, 2017; Venkatesh et al., 2012). The model also stresses the moderating effects of age, gender, and experience on these correlations, making it adaptable across demographic contexts (Venkatesh et al., 2012; Trachuk, 2017).Resurgence of F2F tertiary education following COVID has been influenced by a variety of behavioural intention elements, particularly when comparing different age groups. UTAUT2 constructs have

received widespread validation, making it a valuable tool for scholars and practitioners. However, it has drawbacks despite above advantages. Critics argue that by concentrating primarily on quantitative metrics, the approach may oversimplify the complicated process of technology adoption (Dwivedi, 2017). Nonetheless, there is potential for improvement as the model does not specifically address cultural and contextual elements, which have a significant influence on technology adoption (Dwivedi, 2017; Tarhini, 2015). Suggestions are for future studies to look at incorporating cultural and contextual components to overcome its shortcomings and broaden its applicability (Alalwan et al., 2017; Dwivedi, 2017; Venkatesh et al., 2012). To improve the framework's explanatory power and generalisability across various socio-cultural contexts, academics have urged its integration. Accordingly, the present study has extended UTAUT2, incorporating Trust (TR), Commitment (COMT) and Comfortability (COMF) for better applicability and explanatory power in an educational setting.

Performance Expectancy (PE) - extent to which a user believes that utilising technology helps them achieve performance related gains. In situations of post pandemic F2F studies, PE will be students' belief that attending F2F classes will improve their academic and learning outcomes, especially those who do not own needed technologies and depend on university labs. Previous research indicates that younger students generally perceive F2F learning as more successful for obtaining practical skills than online learning, whereas older students may prefer convenience over perceived performance gains. For instance, Tarhini et al. (2015) found that PE exerts a substantial effect on students' technology acceptance, while age reduces its effects. Similarly, Trachuk & Linder (2017) stated that younger learners expect greater direct benefits of educational technology than their older counterparts. Other studies, such as those by Venkatesh et al. (2012), confirm critical impact of PE in altering BI across age groups.

Therefore, the following hypothesis:

H1a. PE has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and

H1b. PE has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID.

Effort Expectancy (EE) - simplicity of using a given technology. Studies confirm that younger learners adjust more readily to the technological and logistical difficulties of F2F education, whereas older students may encounter challenges, especially after long periods of distant learning. Venkatesh et al. (2012) found that EE is more influential for beginner or inexperienced users, which is consistent with findings of Dwivedi (2017), who identified age as a significant moderating factor in adoption ease. Tarhini et al. (2015) stated that older learners may require more help when returning to F2F education, particularly in institutions that incorporate blended or hybrid aspects. Furthermore, Herrero (2017) revealed that the transition's perceived simplicity often determines older students' willingness to re-engage in F2F learning environments.

Therefore, the following hypothesis:

H2a. EE has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H2b. EE has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Social influence (SI) reflects at the effect of others' perceptions on an individual's decision (Venkatesh et al, 2012). In the educational context, it can be the impact of peer, institutional and cultural expectations in changing students' BI to return to F2F mode of study. Because of

their active peer networks, younger students are more likely to feel socially pressured into attending in-person classes, whereas older students may rely on institutional encouragement more. Venkatesh et al. (2012) reported that SI is much more evident in early phases of adoption and frequently varies with age-related social dynamics. Alalwan et al. (2017) found that younger people are more likely to be influenced by peer opinions. Gupta as al. (2018) reported that older learners prioritise professional or familial input. Dwivedi, (2017) also claimed that social impact is less important for older generations, who may base their decisions on personal and practical reasons than SI. When resuming F2F mode post COVID, younger students often demonstrate higher BI, motivated by academic interest and peer influences, whereas older students frequently base their intention on job advancement and institutional support. In the context of resuming F2F mode post COVID, younger students often demonstrate higher BI, motivated by academic interest and peer influences, whereas older students frequently base their intention on job advancement and institutional support. Trachuk & Linder (2017) reported a significant positive association between BI and social impact among younger learners. Dwivedi, (2017) also claimed that social impact is less important for older generations, who may base their decisions on personal and practical reasons rather than social influences. Hence, the following hypothesis:

Hence, the following hypothesis:

H3a. SI has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H3b. SI has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Facilitating Conditions (FC) - perceived availability of resources and assistance in enhancing performance. In an educational setting, actual usage behaviour heavily depends on facilitating factors which are availability of resources and support, particularly in situations where users may encounter difficulties gaining access to or learning new technology (Dwivedi, 2017; Oliveira et al., 2016). Apparently, younger students often benefit more from institutional support systems such as campus facilities and peer networks, while older students frequently require particular accommodations such as flexible scheduling. Venkatesh et al. (2012) highlighted relevant supportive conditions in transforming BI into actual usage, a conclusion supported by Oliveira et al. (2016). Tarhini et al. (2015) found that impact of FC varies dramatically with age group, with older students placing a higher value on institutional assistance.

Therefore, the following hypothesis:

H4a. FC has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H4b. FC has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Hedonic Motivation (HM) highlights importance of emotional and experiential dimensions in driving user behaviour. In an education setting, it is the enjoyment or pleasure obtained from F2F learning situations including utilising readily available technology, which varies greatly by age group. It appears that younger students frequently express increased HM due to their desire for interactive and social learning environments, whereas older students may be satisfied with the structured and disciplined aspect of F2F learning. Venkatesh et al. (2012) mentioned that HM has a major impact on technology adoption, particularly in younger groups. It has been demonstrated that HM significantly affects BI, particularly for entertainment-oriented technologies (Herrero, 2017; Venkatesh et al., 2012). Herrero (2017) also reported that age

moderates relationship between enjoyment and intention, with younger cohorts preferring more engaging activities. Oliveira et al. (2016) emphasises the importance of HM in affecting students' readiness to switch from online to in-person schooling.

Therefore, the following hypothesis:

H5a. HM has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H5b. HM has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Price Value (PV) refers to affordability affecting user decisions – trade-off between perceived benefits and cost of technology (Dwivedi, 2017; Oliveira et al., 2016). In educational settings, it is the trade-off between the benefits of F2F learning and its associated expenses which is especially relevant in higher cost of living post-pandemic conditions. Younger students may be more concerned with perceived educational value whereas older students frequently prioritise financial and time investments. Venkatesh et al. (2012) and Trachuk & Linder (2017) both underline that PV is an important predictor of BI, particularly for cost-sensitive learners. Furthermore, Tarhini et al. (2015) highlighted that older students are more sensitive to cost-related issues, such as commuting or tuition costs, than their younger colleagues.

Hence, the following hypothesis:

H6a. PV has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H6b. PV has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Trust (TR) - confidence a user has in institutional and interpersonal reliability. Trust can have a substantial impact on students' inclinations to resume F2F courses post COVID-19. Younger students are more likely to trust the institution's ability in providing quality education while adhering to safety regulations, whereas older students frequently prioritise trust in the institution's ability in meeting their various requirements. Trust is also essential in minimising uncertainty and establishing positive BI (Dwivedi, 2017). Dwivedi (2017) argues that age influences BI, with older students requiring more institutional trust and effort anticipation. Herrero (2017) found that trust-building methods such as transparent communication have a substantial impact on older students. Similarly, Trachuk & Linder (2017) reported that perceived trust moderates BI across age groups, with older students requiring more assurance of institutional commitment.

As such, the following hypothesis:

H7a. TR has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H7b. TR has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Commitment (COMT): Venkatesh et al. (2012) reports that commitment frequently overlaps with PE in determining intention, especially among mature students. In the present study, it can indicate students' emotional and practical motivation to resume F2F mode post COVID-19. Younger students are more likely to display commitment, motivated by peer relationships and academic engagement, while older students are more likely to demonstrate commitment, motivated by career and long-term objectives. Trachuk & Linder (2017) supports importance of commitment in connecting intention and action, particularly among older learners while

Dwivedi (2017) stresses that older students are more resilient and dedicated when confronted with challenges. Alalwan et al. (2017), however, found that commitment strengthens educational intentions across age groups.

Therefore, the following hypothesis: H8a. COMT has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H8b. COMT has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Comfortability (COMF) relates to users feeling at ease when engaging in certain activities. Herrero (2017) mentions that younger learners are more adaptive and benefit from socially stimulating F2F contexts. Older students value comfort in terms of small class numbers and flexible schedule (Trachuk & Linder 2017). Tarhini et al. (2015) found that institutions that address comfort-related concerns, such as accessible facilities and less physical strain, encourage greater involvement among older students. Dwived (2017) report that comfortability has a direct relationship with BI across all age groups.

Therefore, the following hypothesis:

H9a. COMF has a positive relationship with 16–20-year-old students' BI to return to F2F study mode, post COVID and,

H9b. COMF has a positive relationship with 21–30-year-old students' BI to return to F2F study mode, post COVID

Behavioural Intention (BI) is an individual's likelihood of engaging in a certain type of behaviour and in turn it has a significant impact on **Use Behaviour** (USEB) (Narayan & Naidu, 2024). Similarly, Venkateshet al. (2012) emphasised on the importance of BI as a prelude to actual conduct (USEB), focusing on demographic-specific motivators. Additionally, Venkatesh et al. (2012) demonstrated that BI significantly predicts technology and non-technology-related decisions across diverse educational settings.

Hence, the following hypothesis: H10a. BI has a positive relationship with 16–20-year-old students' USEB to return to F2F study mode, post COVID and,

H10b. BI has a positive relationship with 21–30-year-old students' USEB to return to F2F study mode, post COVID

COVID 19 Fear

Being afraid of another outbreak while resuming F2F studies and fearing the impact this will have on their education can adversely affect minds of students in post-pandemic situation when resuming F2F mode of study (Narayan and Naidu, 2024). Studies like Iqbal et al. (2022) stated that COVID-related concerns, such as fears of contagion, significantly impact students' decisions to return to F2F learning. These studies, largely conducted in developed countries, suggest that fear of the virus is a critical variable influencing students' educational preferences. While Narayan and Naidu's (2024) research did discuss moderating effects of COVID 19 fear, it did not do so for different age groups, finding it insignificant. Further, effect of COVID 19 fear in UTAUT2 remains scarce, warranting further research.

As such, the following hypothesis:

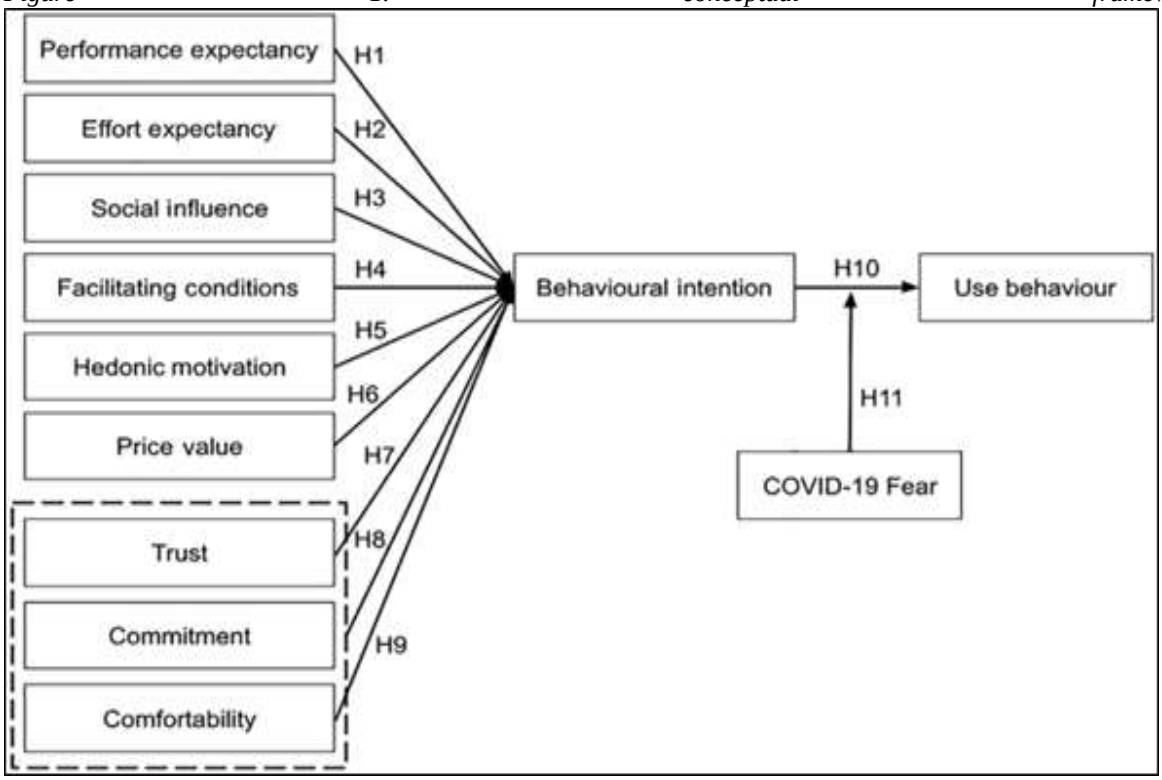
H11a. COVID-19 fear will have moderating effect on the relationship between 16–20-year-old students' BI and their USEB when returning to F2F study mode, post COVID and,

H11b. COVID-19 fear will have moderating effect on the relationship between 21–30-year-old students' BI and their USEB when returning to F2F study mode, post COVID.

3. Methodology

This research explores the BI of tertiary students aged 16-30 to return to F2F learning post-COVID with a specific focus on generational/age group comparisons between age groups of 16-20 and 21-30 years. The conceptual model is depicted in Figure 1 below.

Figure 1. conceptual framework



This study is premised at a regional university, the University of the South Pacific. A five-point Likert scale questionnaire was prepared which ranged from strongly disagree (1) to strongly agree with three to six scale items. Measurement scale items for PE, EE, SI, FC, BI and USEB were sourced from Sitar-Taut & Mican (2021) and Venkatesh et al. (2003, 2012). Items for TR were adopted from Slade et al. (2015); COMT items sourced from Sanchez-Franco and Thien et al. (2014) whereas COMF items were sourced from Lin (2004). The study employed non-probability sampling including convenience sampling technique. A pilot test was first carried out with 20 respondents some of whom expressed some confusion which led changes to the questionnaire. The survey link to the amended questionnaire was then emailed to undergraduate students in October 2021, collecting 369 responses by January 2022.

A five-point Likert scale questionnaire was prepared. Survey link to questionnaire was emailed to undergraduate students, collecting 369 responses by January 2022. From 369 participants, 66.4% are females and 33.6%, males. 28.5% are aged 16-20 years, while 71.5% were between 21-30 years.

4. Results

This research utilised SPSS v25/AMOS v23 to analyse and perform Structural Equation Modelling. The dataset was first checked for missing values and outliers using frequency tests that showed some missing values which were removed. Skewness and kurtosis were then computed for data normality and values were within the acceptable range (Bryne, 2010), indicating data normality. Variance Inflation Factor (VIF) results of <10 and tolerance (t) being >0.1 confirmed that multicollinearity is non-issue. Harman's single factor test was

48.7%<50%, thus common method bias has not affected this paper's findings. Additionally, a five-point Likert scale with up to six scale items including some indirect questions (Fisher, 1993) and online surveys allowing self-completion and anonymity, helped reduce social desirability bias also.

Cronbach's alpha tests revealed very good internal reliability of > 0.7, being 0.924 for PE, 0.917 for EE, 0.836 for SI, 0.915 for FC, 0.938 for HM, 0.902 for PV, 0.900 for TR, 0.832 for COMT and 0.908 for COMF, 0.967 for BI, 0.951 for USEB, overall being, 0.980. Convergent validity was confirmed and within range of AVE >0.5 (Hair et al., 2016). Composite reliability (CR) scores were also > 0.60 (Fornell and Larcker, 1981). Maximum Shared Variance (MSV) and Average Shared Squared Variance (ASV) were less than AVE, with square roots of AVE greater than the inter-construct correlations, confirming discriminant validity. See table 1 below.

Table 1. Validity Analysis

	CR	**AVE**	**MSV**	**ASV**	**PE**	**EE**	**SI**	**FC**	**HM**	**PV**	**TR**	**COMT**	**COMF**
PE	0.949	0.690	0.533	0.500	**0.830**								
EE	0.950	0.593	0.578	0.548	0.849**	**0.770**							
SI	0.968	0.860	0.325	0.289	0.537**	0.564**	**0.927**						
FC	0.950	0.596	0.578	0.445	0.654**	0.688**	0.489**	**0.772**					
HM	0.955	0.803	0.578	0.501	0.659**	0.674**	0.505**	0.595**	**0.896**				
PV	0.901	0.753	0.518	0.504	0.584**	0.561**	0.442**	0.542**	0.643**	**0.868**			
TR	0.937	0.636	0.563	0.538	0.640**	0.667**	0.517**	0.683**	0.630**	0.580**	**0.797**		
COMT	0.860	0.515	0.504	0.401	0.615**	0.625**	0.484**	0.592**	0.691**	0.624**	0.684**	**0.718**	
COMF	0.933	0.728	0.706	0.605	0.677**	0.688**	0.483**	0.604**	0.774**	0.635**	0.659**	0.735**	**0.853**

Sqrt of AVE are the boldfaced diagonal scores

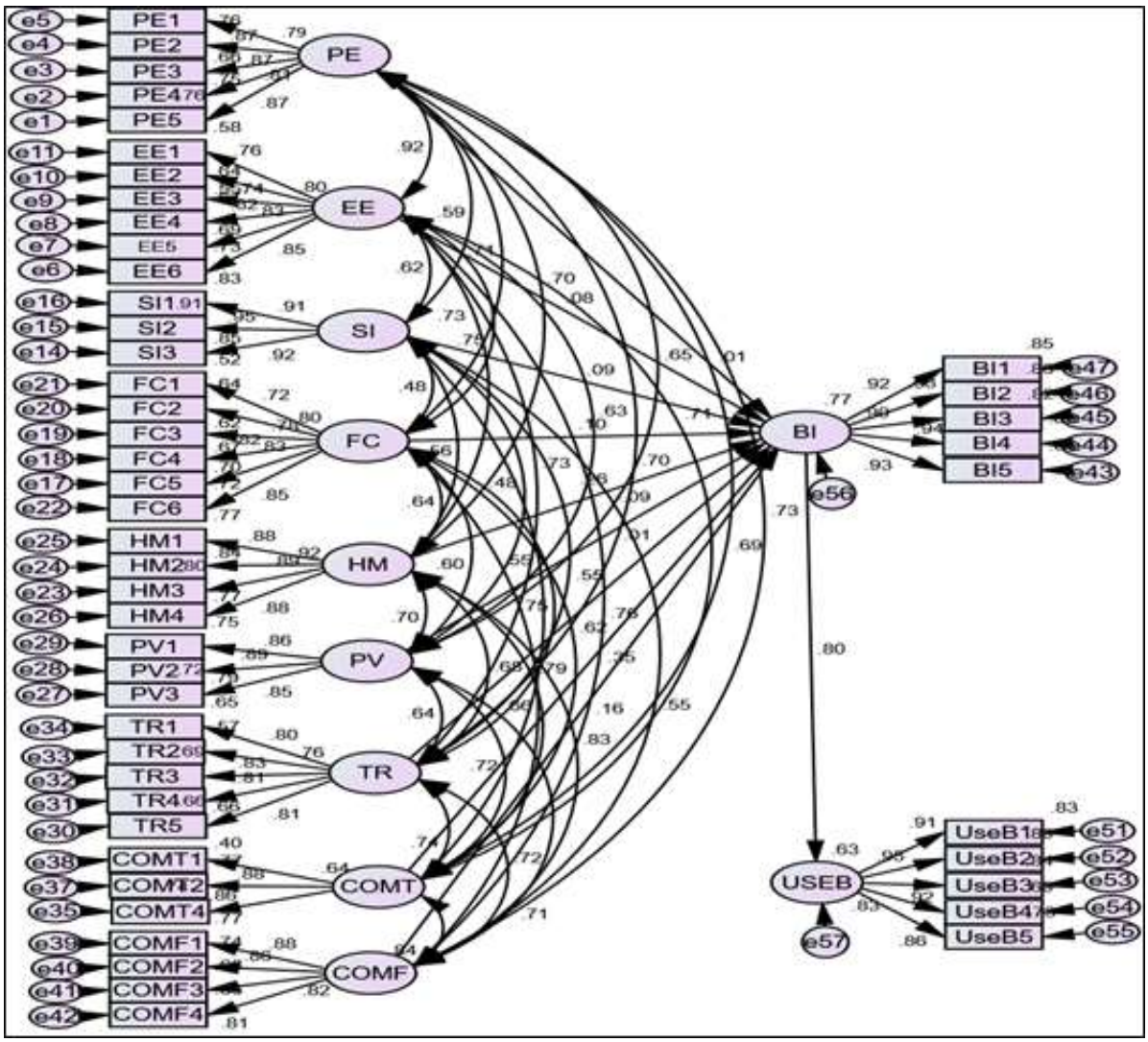
PE=Performance Expectancy, EE=Effort Expectancy, SI=Social Influence, FC=Facilitating Conditions

HM=Hedonic Motivation, PV=Price Value, TR=Trust, COMT=Commitment, COMF=Comfortability

To assess measurement model, a CFA was constructed first. Three observed variables with < 0.7 loadings of SI4, SI5 and COMT3 were dropped except COMT1 (0.648) since AMOS requires at least three observed variables per latent variable. Remaining loadings of > 0.7 confirm content validity. A good model fit was confirmed, upon slight modification as follows: (x^2 = 1725.12, df = 667, p < 0.001) x^2/df = 2.6, TLI = 0.9, IFI = 0.9, CFI = 0.9; PNFI = 0.8, PCFI = 0.828 and RMSEA = 0.066 < 0.08 (Schmitt 2011).

Structural Equation Model (SEM) was then constructed and also resulted in a good model fit with: (x^2 = 7611, df = 3243, p < 0.001) x^2/df = 2.3; IFI = 0.9, TLI = 0.9, CFI= 0.9; PNFI = 0.8 and PCFI = 0.8 and RMSEA = 0.04 < 0.08 (Schmitt, 2011). All hypothesized relationships were subsequently tested. The following figure 2 presents the SEM.

Figure 2: Structural Equation Model

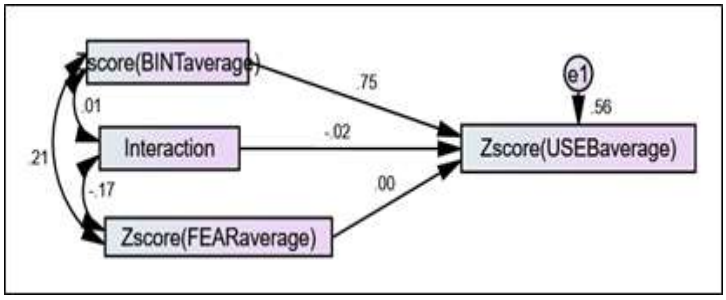


SEM was analysed in terms of each standardized path, corresponding to hypotheses (Raza et al., 2019) with *p* values <. 05 < .001 considered as significant. The higher the coefficient value (β/SRW), the stronger the impact. Results clearly differ much between the two age groups. For the younger age group 16-20 years, only one hypothesis - H10 is supported by the results ($p < 0.001$). For 16-20 year olds, only one hypothesis - H10 is supported ($p < 0.001$). For 21-30 year olds, five hypotheses - H3, H5, H8, H9 and H10 are supported, with p value being $< 0.05 < 0.001$. For both, results report strong positive as well as significant relationship between BI and USEB (H10) ($\beta = 0.824$ and 0.787, $p < 0.001$), respectively, more so for younger age group.

For 21–30-year olds, between independent variables and BI, strongest positive and significant relationship was observed with COMT ($\beta = 0.317$, $p < 0.001$, followed by COMF ($\beta = 0.288$, $p < 0.001$). Results show SI having a positive relationship with BI ($\beta = 0.112$, $p < 0.05$) and so has HM ($\beta = 0.149$, $p < 0.05$). PE, EE, FC, PV, TR did not report any significant impacts on BI ($p > 0.05$) for 21–30-year age group, while for 16–20-year-olds, only the relationship between USEB and BI is significant. In sum, H3, H5, H8, H9 and H10 are supported while H1, H2, H4, H6, and H7 are rejected for 21–30-year-olds because results suggest that PE, EE, PV, TR, and FC do not significantly influence BI. For 16–20-year-olds, only H10 is supported while rest are rejected, since results show that PE, EE, PV, TR, FC, COMF and COMT do not significantly influence BI.

For moderating factor of COVID 19 Fear, composite scores for BI, COVID 19 Fear and USEB were computed then transformed into z-scores in SPSS, followed by analysis of interaction effect. While effect of COVID 19 Fear on relationship between BI and USEB was statistically significant for both ($p < 0.001$), interaction between BI and COVID 19 Fear was only significant for 16–20-year group ($p < 0.05$). Effect of COVID 19 Fear on USEB was insignificant for both groups. Figure 3 present results. H11, hypothesising moderating impact of COVID Fear on relationship between BI and USEB, is only accepted for 16–20-year group.

Figure 3: Moderating Effects



5. Discussion

All in all, five of eleven hypotheses are accepted for 21–30-year-old students as results show that SI, HM, COMF, and COMT have positive as well as significant effect on BI, and BI in turn has a positive and significant impact on USEB. While for 16–20-year group, only two hypotheses are confirmed, BI reported a positive and significant effect on USEB and COVID fear has moderating impact on association between BI and USEB.

For 21–30-year group, empirical results report COMT as strongest construct, revealing strongest positive and significant impact on BI (H8). For younger group (16-20), this did not prove significant, and this can be explained as they are still new to university setting. It is likely that commitment comes with age as students get more serious towards studies. This result concurs with Al-Adwan & Al-Debei (2024) who explained that 16–20-year age group is less likely to be committed in traditional classroom settings. Results also agree with Dwivedi (2017) and Trachuk & Linder (2017) who reported older students having higher levels of COMT.

Results further show that COMF has significant and positive effect on BI (H9). 21–30-year-old students reported being comfortable while for 16–20-year age group, this was insignificant. This maybe because younger students are still new to university environment and have less experience with classmates, instructor, course materials, university technology and even new normal environment. For this age group, COVID-19 fear did show a moderating impact on their USEB. They may still not be at ease being physically present and interacting with others.

This finding is like past studies e.g., Singh et al., (2021) who highlighted younger generations' reluctance in engaging in traditional classroom settings after experiencing remote learning. The present study also agrees with Tarhini et al. (2015) who found that older students are more involved when institutions provide comfortable, accessible facilities with less physical strain. Our finding, however, disagrees with Herrero (2017) who argued that younger learners are more adaptive to socially stimulating F2F contexts. We also only partly agree with Dwived (2017) who reported direct relationship between COMF and BI across all age groups.

Empirical results also found HM reporting positive and significant impact on BI (H5) for older group, insignificant for younger group. This finding somewhat diverts from studies of Venkatesh et al. (2012) who found HM having a major impact in younger groups and Herrero (2017) who claims that age moderates relationship between enjoyment and intention, with younger cohorts preferring more engaging activities. However, finding supports Singh et al., (2021) argument, in that younger generations are reluctant to engage in traditional classroom settings. It maybe that post COVID, situation differs for younger students.

This study further reported significant and positive effect of social influence (SI) on BI (H3) for older students while was insignificant for younger group. The younger group may want to experiment with their own choices and interest than be affected by social influences. They may seek others' opinions but decide on their own. This finding does not concur with prior studies like that of Dwivedi, (2017) and Trachuk & Linder (2017) who found that younger people most likely are influenced by peers with social impact being less important for older generations. This maybe because older groups of prior studies may be older that older age group of this present study. This warrants further research.

While various studies like Tarhini et al. (2015),Venkatesh et al. (2012), Dwivedi (2017), Oliveira et al., 2016, Trachuk & Linder (2017) and Herrero (2017) found PE, FC, EE, PV and TR reporting positive and significant results on BI, this research did not show any significant association between these and BI (H1, H2, H4, H6, H7). This study's findings somewhat differ from Narayan and Naidu's (2024) findings which did not find PE, PV, EE, TR and COMF, significant while we also found FC insignificant but COMF significant. This maybe our study compared between age-groups, unlike their study. It may also be because USP, which is a regional higher education institution offered distance mode flexible learning from 1970 as well as online learning from 2000, allowing students to pursue courses in print, F2F, blended as well as online modes, affording students some experience with certain types of technology, being utilised in different modes (Narayan and Naidu, 2024). F2F learning appears more beneficial to those who do not have adequate learning conditions at home (Iqbal et al., 2022), this being common in smaller less developed island nations (Narayan and Naidu, 2024).

Moreover, while moderating analysis reported BI as having a significant effect on USEB for both age groups, H11, hypothesising moderation impact of COVID related Fear on relationship between BI and USEB, is only accepted for 16–20-year group, unlike Narayan and Naidu's (2024) insignificant findings which did not compare between age-groups. The present study's result somewhat concurs with some past research like Cantero-Garlito et al. (2021) who argued that when resuming F2F mode, 2nd and 3rd year students may experience less fear in

comparison to entire population. This study reported that COVID-19 fear was only evident for younger cohort of 16–20-year students, who are largely first year students.

6. Implications

This paper offers a few theoretical implications. First, this study is among first few empirical based studies, examining university students' BI and USEB towards F2F study after COVID, comparing two key age groups of 16-20 years and 21-30 years. Most studies (e.g. Iqbal et al., 2022) have only investigated behavioural intentions of students'. Extremely few scholars (like Cantero-Garlito et al., 2021; Narayan and Naidu, 2024) explored students' intention of resuming F2F learning post COVID-19 but did not compare between age groups.

Second, the study extended the UTAUT2 theory by adding three variables of TR, COMT and COMF. While Narayan and Naidu's (2024) paper used these same variables, it looked at students as a homogenous group, without making comparisons between age groups. In addition, our research also contributes in terms of moderating variable - COVID fear, which has rarely been used in UTAUT2. While Narayan and Naidu's (2024) research did discuss moderating effects of COVID related fear, it did not do so for different age groups.

Thirdly, this paper provides with empirical evidence, using a regional educational institution, adding to literature since much of past research are premised on better developed economies which are non regional.

Fourthly, findings reported strongest impact of COMT but insignificant influence of PE, PV, EE, TR and FC on BI (dissimilar to previous studies) and insignificant impact of COVID related Fear on USEB but negative and significant effect of relationship between BI and USEB on 16–20-year-old students only, pointing out that few variables that affect BI can affect students of different age groups, differently in other countries. Thus, such findings warrant further research.

This paper also presents various practical implications. First, results showed weak but positive and significant relationship of SI on 21–30-year-old students while insignificant for younger group. Universities thus should consider such variables and include family members of students' during orientation and open day functions. Additionally, for promotions, universities may feature families and friends supporting F2F courses, promoting these through social media platforms too. For younger groups, promotions can feature them as independent decision makers, those who may not always be affected by their social circle.

Secondly, findings further report that older students do like F2F mode and feel its a good idea, interesting and fun when compared to other modes (HM). HM was positive and significant for 21–30-year-old students but insignificant for younger students. Universities must make their courses comfortable and enjoyable with activities that interest both age groups even using social media platforms.

Lastly, findings reported COMT and COMF having strong significant and positive impact on BI on 21–30-year students but insignificant for 16–20-year-old students. USP has continued to promote COVID vaccination, practicing safety protocols during outbreaks, allowing for online sessions in addition to F2F ones. Such practices need to continue.

7. Conclusion, limitations, and future research directions

Empirical results report that SI, HM, COMF and COMT towards any university's F2F mode of study affect 21–30-year-old students' BI and their USEB. These impacts differ from that of younger students – 16-20 years. However, this research has a few limitations. First, this research does not offer a wholesome post COVID F2F situation. Sample includes more of 21–

30-year-old students, females and 300 level students. Notwithstanding, it encourages future researchers to examine same subject matter, making comparisons between universities or faculties, comparing different demographics using this same model to validate its results. Results show a few constructs reporting insignificant results, diverting from prior studies – these need further investigation. Secondly, we used convenience sampling which may have influenced generalisations. Scholars can use other data collection methods like longitudinal and/or experimental approaches. Thirdly, this study utilised quantitative approach only, researchers can combine approaches, including qualitative methods. Nonetheless, R^2 of the extended model was 69%, reflecting at high explanatory power, compared to the lower 65% of UTAUT2 theory alone and 63% of the three new variables. Future work could also investigate adding and/or combining variables of other relevant theories to further enhance the theoretical explanatory power. Future studies may also investigate into impacts of variables such as race, qualification level, gender, faculty, course levels and culture.

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