ACADEMIC INTRINSIC MOTIVATION AND LEARNING ENGAGEMENT IN MATURE STUDENTS IN PRIVATE HIGHER EDUCATION INSTITUTIONS IN THE SOUTH OF ENGLAND

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Abstract:
The non-traditional experience for mature students can sometimes be challenging as they connect to the college/university later in life. A new avenue for career growth achieved through higher education can be advantageous for those at a career transition phase. The present research aimed to study the academic intrinsic motivation and learning engagement of mature students in private higher education institutions. The contemporary literature has found a higher intrinsic motivation for learning in mature students than the regular traditional students. Also, student engagement is correlated to success factors such as increased retention, high impact and lifelong learning, social and personal growth and development and student wellbeing. A survey research design was employed to collect primary data (N=300) from full-time undergraduate mature students studying in the private higher education institutions in the South of England, aged 21 years and above. The data was analysed using SPSS version 26.0 and AMOS version 23.0. The bivariate analysis results showed a positive correlation between intrinsic academic motivation and different learning engagements. The non-traditional students who were intrinsically motivated tend to participate more in academic-related activities in private higher education to experience efficacious learning. Furthermore, the result of

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exploratory factor analysis yielded a three-factor solution for the 15-item study motivation questionnaire with a reliability of 0.93. The result of confirmatory factor analysis confirmed the hypothesised three-factor model structure of the 15-item university student engagement inventory on mature students with a reliability of 0.85. Hence, both scales confirmed high psychometric properties. The academic needs of mature students must be considered. Colleges/universities should organise non-traditional programmes to enhance their motivation for personal and professional growth through higher studies later in life.

**Keywords:** intrinsic motivation, learning engagement, mature students, private higher education

1. **Introduction**

The demand for Higher Education (HE) worldwide is growing phenomenal (Middlehurst and Fielden, 2011). According to Fortune Business Insights (2021), the surprisingly growing market will hit $2,367.51 Billion by 2027. As the demand for higher education has been proliferating, the public sector’s lack of financial resources and inability to rapidly expand their provision to meet surprisingly increasing demand has become even more apparent. As a result of the massification of higher education, Private Higher Education has grown in popularity (Qureshi and Khawaja, 2021), and the presence of Private Higher Education Institutions (PrHEIs) is fueling the growth of HE worldwide (Fortune Business Insights, 2021).

A significant change has been witnessed globally in the higher education sector, resulting in an increasing number of students enrolling on different courses. Not all higher education institutions are the same in terms of quality, and ranking this diversification distinguishes HEIs in performance into best and worse (Ziegele & Vught, 2020). This distinction created the image of the HEI, and high ranking and reputed HEIs attract more students than less reputed HEIs. The surprisingly increasing demand for higher education, especially when mature students also want to study. In that context, it becomes unfeasible for most existing public institutions to fulfil increasing demand (Shah & Nair, 2016). The growth of the private higher education (PrHE) provision across many countries has been remarkable (Levy, 2009), and in terms of comparison with public HEIs, the number of students in private institutions is growing faster than in publicly-owned and funded HEIs (Middlehurst and Fielden, 2011). The several factors are responsible for the growth of PrHEIs, such as lack of public funds resulting in unfulfillment of the demands and challenging the public sector to augment its quality by introducing competition from privately funded bodies (Middlehurst, 2016).

An accretion of governing bodies across the globe is designed to affect higher education providers’ comportment (Xiaoying & Abbott, 2016). At times, the government policies have significant support in executing the foundation of private higher education providers. For example, the PrHEIs play a significant role in easy access and encourage
students’ participation in developing countries. In contrast, many other countries have an increasing number of private HEIs; for example, a decade ago, there was only one private university (The University of Buckingham) in the UK, and now more than ten private universities with awarding powers (Qureshi and Khawaja, 2021). Besides, small private higher education institutions without awarding powers were 674 in 2011 and increased to 732 in 2014, with students between 245,000 and 295,000 students (Shury et al. 2016). The growth of the private HE sector has merely created competition for their public counterparts (Shah & Nair, 2016).

Over the last few years, there has been an increase in mature entrants enrolled in full-time undergraduate courses by 24 per cent for courses starting in 2021 than their part-time counterparts. Also, new female students were found to be mature (26%) compared to (20%) of mature male students (Hubble & Bolton, 2021). Similarly, the academic year 2019/20 reveals the interesting facts about mature students.

It has been reported in the past (2011-2012) that the UK has more than 650 PrHEIs wherein 50.5 per cent are located in London, 20 per cent in South East of England and 30 per cent covers other areas of the UK (Hughes et al., 2013). Also, the PrHEI’s choice of student category to be engaged and institutions’ educational facilities that students experience were given more importance. More full-time international students were enrolled in business, and administrative studies (66%) than the local UK students (25.1%), and more than 50% of part-time business and administrative students enrolled in PrHEIs. In addition, a significant proportion of mature students over the age of 25 years (65.3%) was reported in the survey-specific study wherein over 60% were already employed (Hughes et al., 2013).

Apparently, the student population in PrHEIs is fairly diverse and inclusive, including students belonging to varied ethnic and age groups getting enrolled in different courses/disciplines (Hughes et al., 2013). The latest data from Higher Education Statistics Agency (HESA) records regarding mature students aged 21 years and above reveals that in the year 2019-2020, approximately 59% of student population covered up the UK member institutions, 44.3 % were enrolled in first undergraduate degree course and Black, Asian and minority ethnic (BAME) student group accounted for approximately 25% as UK permanent residents. It has been reported that young British people from BAME backgrounds have been more likely than their White British peers to join HE for more than three decades (Modood, 1993). It has been also reported that in recent year 2019, 45% Black British young people, 50% British South Asians and 68% British Chinese participated for HE which was a higher rate as compared to White British ethnic group who covered 30% in HE participation (UCAS, 2021).

Focusing mainly on the mature students possessing additional financial onuses and prior academic experiences, most PrHEIs are substantially flexible regarding their admission norms.

The reasons behind restarting studies after a long period can be different from the usual career perspective of the non-traditional students and are exceptionally challenging. The choice of PrHEIs may be popular among mature students as these
institutions provide multiple intakes with fast admission process and quick admission decisions.

Public Higher Education Institution (PuHEIs) usually have one or two intakes, and their admission procedures are lengthy and slow. For some top British HEIs like Cambridge, Oxford, University College London, London School of Economics, London School of Business and Imperial College London, their admission process takes more than a year to finalise the admission. The situation in other normal PuHEIs is not competitive to PrHEIs. For example, Arden University completes admission within a couple of weeks, while London School of Commerce has six (6), and their admission procedures are fast and quick.

Table 1: Number of Intakes in Private Higher Education Institutes in the South of England

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Private Higher Education Institute</th>
<th>No of Intakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>London School of Commerce</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Kaplan International College London</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Oxford Business College (OBC)</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>BPP University</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>The University of Buckingham</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Arden University</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>The University of Law</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>University of Greenwich International College</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Amity University London</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Global Banking School (GBS)</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Authors

The participation of mature students in HE is their individual choice and therefore became a primary focus of most researchers to figure out the motivations and inevitable pitfalls involved in their resilient decisions. The quantified data from HEA in recent years (2019/2020) reports that the plausibility of mature students to join HE is via part-time study. Also, it was reported that mature students aged between 23 to 29 years study full-time at the university whereas those aged between 50 to 59 years study part-time in HEIs. The data also depicts that both male and female mature students participate in HE in an almost equal ratio.

The present research aims to study the academic intrinsic motivation and learning engagement of mature students in private higher education institutions in the South of England. The recent rapid expansion of the public and private higher education sectors in the South of England has motivated the researchers to analyse academic intrinsic motivation and learning engagement in mature students in private higher education institutions in the south of England. This region was chosen because the South of England, including London, is the first choice for home and international students. Many British Universities have established their campuses in London. According to Study London (2019), nearly fifty universities in London have more than 10,000 courses on offer. In addition, this region, including London, is the hub of economic activities. According to Trade Union Congress (TUC 2017), the UK economy is being lapped into two regions-
London and the South-East with both prosperous regions accounting for forty per cent (40%) of national output by the end of 2022.

In addition, this paper intends to assess and discuss the marginalised group—mature students concerning their overall study motivation and proactive engagement in the PrHEIs at the behavioural, emotional and psychological levels.

2. Literature Review

The definition of a mature or non-traditional student has been in discussion to a great extent. The term 'mature student' refers to anyone going to college or university after some time out of full-time education (Qureshi et al. 2020). In other words, mature students refer to older students getting enrolled in undergraduate degree courses later than usual. Generally, this will indicate students over 21 years of age at the start of their undergraduate studies or over 25 years of age at the start of their postgraduate studies (UCAS, 2020) and up to pensionable age (NUS, 2012).

The non-traditional experience for adult learners can sometimes be challenging as they connect to the college/university later in life but may have a clear notion about their career interests. There is no specific age-wise classification when it comes to mature students, but they are markedly different from the traditional full-time students in terms of age, experiences and circumstances (Swain and Hammond, 2011). Some researchers have elucidated that college students over the age of 21 can be referred to as mature students or adult learners and others posit it to be 25 years. For example, in Ireland, the higher education authority (HEA, 2018) gives a fine definition for mature students as those aged 23 or above getting enrolled on higher education courses.

This under-represented group in higher education may have their own perceived educational experiences and intrinsic motivations to accomplish their academic goals.

The idea of intrinsic motivation is derived from the self-determination theory (SDT) by Deci and Ryan (1985), which suggests that individuals' intrinsically motivated behaviours tend to ensue when they successfully satisfy their autonomy and competence needs. Individuals may be intrinsically motivated for some activities but not for other activities. Academic intrinsic motivation refers to the enjoyment of educational learning and the performance of activities for one's own satisfaction, in which pleasure is inherent in the activity itself (Gottfried, 1990; Gottfried, Fleming, & Gottfried, 2001). The recent definition of student satisfaction also represents the concept of pleasure.

"Student satisfaction is the short-term pleasure of the academic journey and, in the long run, the pride of securing a job primarily based on the student’s academic qualification. (Qureshi, Khawaja and Zia, 2021, p. 15)

Academic intrinsic motivation is an essential factor for students to experience accomplishment in HEI. Moreover, intrinsically motivated individuals in education are more likely to overcome challenges and engage in academic activities such as completing
assignments on time, participating in group discussions, obtaining good test scores, etc., and feel more self-determined. In addition, studies have found that a higher level of intrinsic motivation for learning is found in mature students than the regular traditional students (Shillingford & Karlin, 2013; Bye, Pushkar, and Conway, 2007). Empirical research has shown that intrinsic motivation is associated with positive psychosocial adjustment. For example, intrinsically motivated students eager to learn have better academic performance and higher academic persistence than less intrinsically motivated students (Deci, Vallerand, Pelletier, & Ryan, 1991). Another study carried out by Pierce, Cameron, Banko, & So (2003) showed that positive effects of rewards enhance intrinsic motivation in individuals. Individuals who were rewarded for meeting a graded level of performance showed more intrinsic motivation than those receiving no rewards for performing.

Waterman (2005) examined the significance of effort as a differential factor in increasing the intrinsic motivation for activities that were enjoyed and were associated with intrinsic motivation as subjective experiences such as interests and feelings of expressiveness. The study concluded that higher levels of effort were reported to be more strongly associated with all forms of the subjective experiences of intrinsic motivation.

Krause (2011) augments the concept of engagement in the academic context by explaining that learning occurs in multiple settings, both within and beyond the formal curriculum. It involves developing relationships within the university, building on prior learning, and learning in the workplace and community settings. Thus, engagement develops connections with others and promotes connectedness.

Kuh (2009) has defined student engagement as “the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities” (p. 683)

Academic engagement is related to ‘effective learning’, and may be synonymous with or necessary for ‘deep’ (as opposed to the surface) learning (Ramsden, 2003, p. 97). Student engagement is considered to be a significant meta-construct in the educational setting. It is linked to student achievement, student satisfaction (Trowler & Trowler, 2010), student retention (Kuh, 2009) and is a valued measurable construct that helps to determine reasons for student attrition (Kahu, 2014). In HE, the widely used definition of student engagement focuses on the behavioural component, which includes the time and effort a student put into the study, following university norms, completing assignments on time, etc.

Student engagement consists of four distinct yet interconnected dimensions viz., behavioural engagement, emotional/affective engagement, cognitive engagement and social engagement (Bowden et al, 2017) that together motivate a student’s perseverance and retention within educational settings (Klem and Connell, 2004; Kuh, 2001, 2003). According to Bawden, Tickle and Naumann (2021), student engagement is defined as, “a student’s positive social, cognitive, emotional, and behavioural investments made when interacting with their tertiary institution and its focal agents (such as peers, employees and the institution itself)” (p.1209).
Student engagement has been linked to many traditional success factors such as increased retention (Ashkzari, Piryaei, and Kamelifar, 2018); high impact and lifelong learning (Artes, Mellors-Bourne, and Hooley, 2017); curricular relevance (Trowler, 2010); enhanced institutional reputation (Kuh et al., 2006); increased citizenship behaviours (Zepke, Leach, and Butler 2014); student perseverance (Ashkzari, Piryaei, and Kamelifar, 2018); and work-readiness (Krause and Coates, 2008); social and personal growth and development (Zwart 2009); transformative learning (Kahu, 2013); enhanced pride, inclusiveness and belonging (Wentzel, 2012); student wellbeing (Field, 2009).

A new avenue for career growth achieved through higher education can be advantageous for mature students who are at a career transition phase. Stepping into educational institution the second time after many years maybe an indication of some underlying motivation in delayed traditional students that needs to be taken into consideration. Also, their engagement with academics must be studied thoroughly at a global level to determine the intangible motives of their recur into higher education.

According to the United States National Centre for Education Statistics (NCES) (2002), a non-traditional student does not follow an educational path historically and is one who fulfils any one of the following criteria: delayed enrolment and being older than the typical age (more than 24 years of age) for joining the institution, part-time enrolment, full-time employment while enrolled, have financial responsibilities and legal dependent(s), is a single parent or did not receive standard high school diploma. Also, the NCES (2005) reported that the postponement in college enrolments among non-traditional students could be attributed to lack of academic skills, lack of resources, high paying employment or family responsibilities. Such academic delays can put the degree completion of mature students at risk (Lane, 2004). It has been reported that in recent years (2019/2020), 7% of mature students aged between 25 to 29 years are studying at UK Universities in undergraduate programmes, whereas 24% are enrolled in postgraduate courses. Moreover, recent figures concerning mature students aged 30 years and above show that 14% and 37% enrol as undergraduates and postgraduates, respectively (Hubble & Bolton, 2021).

It is imperative to analyse the motives behind mature entrants and their active participation in the PrHE sector. An intrinsically motivated mature student desires to acquire instructive knowledge for personal satisfaction rather than just attaining satisfactory marks. A study carried out by Williams and Seary (2007) suggests that a radical change in the perception of mature students regarding their academic calibre can make them more intrinsically motivated for gaining new knowledge. Other research studies on similar cohorts identified unfulfilled potential, self-transformation, accreditation, and understanding one’s own identity as the key motivators to pursue higher education in both mature male and female students (Britton & Baxter, 1999; Burke, 2007; Hedges, 2011; Whannell & Whannell, 2015).

Many pieces of research concerning mature students have reported higher grades, good coping skills, and the ability to improve the educational experience in the academic setting (Johnson, 2020; Johnson et al., 2016; Johnson & Kestler, 2013; Johnson &
Another study by Waters & Lemon (2019) regarding the assessment of the underlying motivations of first-year mature students in Australia revealed that motivations in the mature students are seen throughout the initial year and is changed constructively as the student transits to the next advanced level semester. Furthermore, earning higher income after acquiring HE skills through an advanced certification/degree and/or enhancing one’s learning through active engagement at college are other motivational factors in older students to make their future bright (Rhijn, et al., 2016).

UCAS (Universities and Colleges Admissions Service) also explains a few underlying factors attributing to the mature student’s re-engagement in HE later in life. However, such an incomplete former degree or changing the subject discipline to a more trending one may help the student give enough academic credibility for his/her career growth in the future (Indecon International Research Economists, 2021).

A qualitative study through in-depth narrative interviews on the motivations and outcomes for mature students in higher education identified two considerable assets: personal and economic. The personal benefits relate to confidence and self-identity, and economic benefits relate to financial assistance, work opportunities and work performance (Swain and Hammond, 2011). One of the strongest motivations which is part of economic benefits of HE is career.

According to Wagner, (1989):

“As people move into their twenties, maturity, family responsibility and career needs come to the forefront and they become more susceptible to the benefits to be obtained by the qualifications provided by the higher education experience.” (p. 33)

Although Wagner is speaking about higher education in the United States, his remarks are also relevant to mature students in the United Kingdom. However, Osbourne et al. (2004) found that employment was not an influential factor for mature students in general who were already in employment. Instead, they desired to study to improve their employment opportunities and move into better status roles.

The findings related to social outcomes were analogous with another study carried out by Schuller et al. (2004), which included acquiring new acquaintances and relationships and participating in organisational groups.

On the contrary, some studies indicated a decline in the rate of mature students entering higher educational institutions over more than a decade (Callender, Claire, & Thomson, 2018). Early studies have shown a reduction by 19.2 per cent since 2010-2011 in mature undergraduate students residing in the UK. The reasons can be very disparate. According to the Indecon International Research Economists (2021), financial costs (48%) and family commitments (24%) are the two key factors that stopped mature students from participating/studying in the HEIs. Researchers also claim a weak sense of belongingness in mature students than the traditional students because the latter have less or no obligations as far as family and job responsibilities are concerned (Erb & Drysdale, 2017). In addition, it has also been reported that mature students have more
complex needs than traditional students. They are more likely to be disabled, underprivileged, belonging to low-income family backgrounds with many caring or parental responsibilities and commitments (Million Plus and National Union of Students, 2012; Sutton, Charlotte, 2019).

Kahu (2014) researched 19 mature-aged distance students during their first semester of college studies. Interest and belonging were discovered to be two essential factors of emotional engagement in the study. The findings revealed the importance of personal preferences and experiences in contributing to satisfaction, enhanced behavioural engagement with more substantial time and effort devoted, and improved cognitive engagement in terms of learning depth and breadth. In contrast, the social element of emotional engagement, or belonging, was less evident.

Another study carried out by Bowden, Tickle & Naumann (2021) examining a holistic approach to student engagement in the HE sector revealed that student expectations and involvement play an essential role in student engagement. Furthermore, the researchers stated that emotional engagement was considered to be the most critical determinant of institutional reputation, well-being and transformative learning. In contrast, behavioural engagement determined self-efficacy and self-esteem in students. On the contrary, cognitive and social engagements were found to be less effective as far as student success is concerned.

Researches have pointed out that the behavioural component is the most frequently measured dimension of learning engagement within national barometers of the student experience (Kuh, 2009; Zepke, 2014). It has been demonstrated that behaviourally engaged students proactively participate through their involvement and participation in the university curriculum and extracurricular citizenship activities (Ashkzari, Piryaei, and Kamelifar, 2018). Furthermore, the emotional dimension of learning engagement has been studied a lot. The results of past research show that emotionally engaged students are likely to identify the purpose and meaning behind their academic tasks and social interactions (Schaufeli et al., 2002). Lastly, the cognitively engaged students exhibit an increased understanding of the importance of academic work through their perceptions, beliefs, thought processing and strategies employed during academic tasks (Ashkzari et al., 2018; Kahu, 2013).

The following alternative hypotheses were formulated for the inferential analysis:

**Ha1:** There will be a positive correlation between academic intrinsic motivation and learning engagement of mature students studying in PrHEIs.

**Ha2:** Factor structure of study motivation questionnaire will produce three latent underlying constructs- academic intrinsic motivation, career motivation, and self-determination and efficacy.

3. Methods and Materials

Methodology plays a significant role in the conduct of psychological researches because of the complexities involved in the process. Therefore, the present investigators have
taken the utmost care in collecting primary data from the target population. The essential purpose of this small piece of research work was to examine the academic intrinsic motivation and learning engagement of mature students. The researchers’ population of interest was UK undergraduate students studying on a full-time undergraduate degree at PrHEIs. For practical reasons, the sample was taken from a single UK PrHEI. The PrHEI was chosen for the main reason: it was the most suitable and convenient place to collect primary data because researchers are associated with this institution.

Age, gender, and family type were taken as the participants’ demographic features under study.

The present study used a quantitative research method, which comprises a subtype called survey research design to test the stated research hypotheses. The researchers collected primary data for this study and therefore, the research design has been generated in order to fulfil the need of the research.

Participants (N=300) were full-time undergraduate mature students studying in the PrHEIs in the South of England, UK, aged 21 years and above. Primary data was collected through online Google forms, and the data was analysed using SPSS version 26.0. and AMOS version 23.0. Descriptive and inferential statistics were used to succinct the sample’s characteristics and draw inferences, respectively. The psychological tools used for the study included a simple and unambiguously framed 15-item study motivation questionnaire (SMQ) developed by the present researchers specifically for the present study that measures academic intrinsic motivation, career motivation and, self-determination and efficacy on a 5-point Likert scale. The second tool used was the 15-item university student engagement inventory (USEI) developed by Maroco et al. (2016). The USEI comprises of three dimensions namely behavioural, emotional and psychological/cognitive engagement.

The participants were assured that their information/data will be kept confidential and will be used for the research purpose only. This was done in order to make the participants least hesitant in filling the questionnaires to attain more genuine responses.

3.1 Statistical Data Analysis and Interpretation of the Results

a. Preliminary Analysis
Prior to data analysis, the basic assumptions of all test statistics such as sample size, normality and linearity of variables, non-appearance of outliers, independence of observations, factorability and level of measurement were checked.

b. Quantitative Analysis
Univariate analysis (which separately studies each variable in the data set) was carried out that included descriptive statistics (mean, median, variance, percentage and frequency distribution tables) to describe the nature of the data. A bivariate linear correlation was carried out for assessing the relationship between academic intrinsic motivation, career motivation, self-determination and efficacy, behavioural engagement, emotional engagement and cognitive engagement. For multivariate analysis, an
exploratory factor analysis and confirmatory factor analysis (CFA) were executed as a part of the psychometric investigation for the scales used.

c. **CFA and Model Fit Indices**

A first order confirmatory factor analysis (CFA) was executed using maximum likelihood method in AMOS v23.0 (Figure2). The USEI self-report was originally standardized on traditional university students and data for the present study was taken from mature students enrolled in university to confirm the hypothesized factor structure of the 15-item USEI scale on the target population.

Multiple goodness-of-fit tests were used to evaluate the model's fit to the data: Comparative Fit Index (CFI)=0.952 (Bentler, 1990), Normed Fit Index (NFI)= 0.907 (Bentler, 1990), Tucker-Lewis Index (TLI)= 0.934 (Tucker and Lewis, 1973), Goodness of Fit Index (GFI)= 0.934 and Adjusted Goodness of Fit Index (AGFI)= 0.908 (Baumgartner & Hombur, 1996), Root Mean Square Error of Approximation= 0.055 (RMSEA) (Browne & Cudeck, 1993). The values of absolute and relative fit indices were lying in the acceptable range indicating a good model fit to the data.

**Table 2: Univariate Analysis of the Continuous Variables (N=300)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study motivation</td>
<td>62.39</td>
<td>8.433</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td>Engagement</td>
<td>62.15</td>
<td>8.334</td>
<td>32</td>
<td>75</td>
</tr>
<tr>
<td>Intrinsic motivation</td>
<td>25.70</td>
<td>3.954</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Career motivation</td>
<td>20.63</td>
<td>3.113</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Self-determination and Efficacy</td>
<td>16.06</td>
<td>2.562</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Behavioural engagement</td>
<td>22.22</td>
<td>2.761</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Emotional engagement</td>
<td>20.20</td>
<td>3.328</td>
<td>8</td>
<td>25</td>
</tr>
<tr>
<td>Cognitive engagement</td>
<td>19.73</td>
<td>4.085</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

The mean score of overall study motivation and learning engagement was found to be almost the same signifying that mature students who are intrinsically motivated will be engaging themselves effectively in PrHEIs at emotional, behavioural, and cognitive levels.

**Table 3: Univariate Analysis of the Categorical Variables**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age (in years)</th>
<th>Family Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>P (%age)</td>
<td>42.5</td>
<td>57.1</td>
</tr>
<tr>
<td>F</td>
<td>128</td>
<td>172</td>
</tr>
</tbody>
</table>

It is evident from Table 2 that the majority of mature students in PrHEIs were females and were aged between 31 to 40 years and mostly belonged to joint families.
Table 4: Descriptive Statistics: Comparing Gender Groups

<table>
<thead>
<tr>
<th>Gender</th>
<th>Continuous Variables</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Study motivation</td>
<td>62.16</td>
<td>7.868</td>
<td>29</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>60.91</td>
<td>9.196</td>
<td>32</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>25.61</td>
<td>4.113</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Female</td>
<td>Study motivation</td>
<td>62.56</td>
<td>8.837</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>63.07</td>
<td>7.526</td>
<td>32</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>25.77</td>
<td>3.842</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 5: Descriptive Statistics: Comparing Age Groups

<table>
<thead>
<tr>
<th>Age</th>
<th>Continuous Variables</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30  years</td>
<td>Study motivation</td>
<td>63.29</td>
<td>8.149</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>61.99</td>
<td>8.189</td>
<td>37</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>25.84</td>
<td>4.113</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>31-40  years</td>
<td>Study motivation</td>
<td>61.91</td>
<td>9.730</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>62.58</td>
<td>8.580</td>
<td>32</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>25.26</td>
<td>4.487</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>41-50  years</td>
<td>Study motivation</td>
<td>63.00</td>
<td>6.410</td>
<td>40</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>62.06</td>
<td>7.491</td>
<td>44</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>26.58</td>
<td>2.709</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>Above 50 years</td>
<td>Study motivation</td>
<td>60.23</td>
<td>7.184</td>
<td>45</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>60.41</td>
<td>10.303</td>
<td>41</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>Intrinsic motivation</td>
<td>24.77</td>
<td>3.380</td>
<td>18</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 6: Bivariate Analysis: Correlational Matrix (N=300)

<table>
<thead>
<tr>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>Y1</th>
<th>Y2</th>
<th>Y3</th>
<th>Y4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.892**</td>
<td>.883**</td>
<td>.842**</td>
<td>.359**</td>
<td>.403**</td>
<td>.271**</td>
<td>.239**</td>
</tr>
<tr>
<td>X2</td>
<td>1</td>
<td>.649**</td>
<td>.604**</td>
<td>.258**</td>
<td>.301**</td>
<td>.208**</td>
<td>.153**</td>
</tr>
<tr>
<td>X3</td>
<td>1</td>
<td>.690**</td>
<td>.320**</td>
<td>.364**</td>
<td>.195**</td>
<td>.246**</td>
<td></td>
</tr>
<tr>
<td>X4</td>
<td>1</td>
<td>.396**</td>
<td>.420**</td>
<td>.334**</td>
<td>.252**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y1</td>
<td>1</td>
<td>.778**</td>
<td>.807**</td>
<td>.856**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y2</td>
<td>1</td>
<td>.496**</td>
<td>.506**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y3</td>
<td>1</td>
<td>.497**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

X1 = Study motivation, X2 = Intrinsic motivation, X3 = Career motivation, X4 = Self-determination and Efficacy, Y1 = Engagement, Y2 = Behavioural engagement, Y3 = Emotional engagement, Y4 = Cognitive engagement

The Pearson’s coefficient of correlation among continuous variables under study showed an overall significant positive relationship with each other (Table 5). Holding onto the purpose of the study, we will emphasize more on the dimension intrinsic motivation. As the correlation results suggest, intrinsic motivation is positively correlated to different kinds of engagements in PrHEIs. This result supports hypothesis Ha1 i.e., there will be a positive correlation between intrinsic motivation and learning engagement of mature students studying in PrHEI. More specifically, a relatively high correlation, $r = .403$, $n =$
300, \( p = .005 \), was found between intrinsic motivation of mature students and their behavioural engagement in higher studies.

Further analysis yielded interesting results when data was split according to different groups. There was no significant relationship between intrinsic motivation and cognitive engagement of mature students aged 21-30 years and 41-50 years. As discussed above, majority of mature students were between the age range 31 to 40 years and their result obtained showed a low yet significant correlation between their intrinsic motivation and behavioural engagement. However, no correlation was found between intrinsic motivation and engagement at emotional or cognitive levels. Mature students above 50 years of age had a significant relationship between their intrinsic motivation and all types of learning engagements.

Taking gender into consideration, female mature students had a significant correlation between their intrinsic motivation and engagement at university whereas male mature students showed high correlation between the same variables than females except the cognitive engagement component which showed insignificant correlation with intrinsic motivation.

<table>
<thead>
<tr>
<th>Scales</th>
<th>M</th>
<th>SD</th>
<th>No. of items</th>
<th>Cronbach ( \alpha ) (raw alpha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMQ</td>
<td>62.39</td>
<td>8.43</td>
<td>15</td>
<td>0.93</td>
</tr>
<tr>
<td>USEI</td>
<td>62.15</td>
<td>8.33</td>
<td>15</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Internal consistency of the scales was measured through Cronbach alpha. Both scales showed a satisfactory high alpha, \( \alpha \) (Table 6), indicating that the scales are reliable, meet the criteria of a good psychometric test and avoid any overlapping and redundant items (Streiner 2003). The reliability of the dimensions was also found to be high: intrinsic motivation, \( \alpha = 0.90 \), career motivation, \( \alpha = 0.87 \), self-determination and efficacy, \( \alpha = 0.85 \), behavioural engagement, \( \alpha = 0.73 \), emotional engagement, \( \alpha = 0.62 \), and cognitive engagement, \( \alpha = 0.85 \).

3.2 Principal Component Analysis
The preliminary analysis of multi-co-linearity and singularity in the scale was ruled out through reliability analysis and inter-correlation matrix check. To understand the underlying structure of a set of 15 items, principal component analysis (PCA) extraction method and an orthogonal Varimax rotation method, to align with the correlated coordinates, was applied on the SMQ and on the basis of factor loadings, no items were abstained from the original scale. An unrestricted factor analysis produced 3 factor solutions with Eigen values greater than one (Figure 1), which recovered 69.26% of the sample variance (inter-factorial validity). A noticeable gap between the three factors resulted in a more meaningful and interpretable 3-factor regression model (Table 7).

Factor loadings above 0.40 as recommended for each item (Raykov & Marcoulides, 2011; Nunnally, 1978) were considered and retained resulting in 15 items falling in three
latent factors namely intrinsic motivation, career motivation and, self-determination and efficacy.

Table 8: Rotated Component Matrix and Variance explained for Study Motivation Questionnaire

<table>
<thead>
<tr>
<th>Loadings</th>
<th>Intrinsic Motivation</th>
<th>Career Motivation</th>
<th>Self-Determination and Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item1</td>
<td>.759</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item2</td>
<td>.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item3</td>
<td>.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item4</td>
<td>.807</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item5</td>
<td>.719</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item6</td>
<td>.520</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item7</td>
<td></td>
<td>.649</td>
<td></td>
</tr>
<tr>
<td>Item8</td>
<td></td>
<td>.652</td>
<td></td>
</tr>
<tr>
<td>Item9</td>
<td></td>
<td>.754</td>
<td></td>
</tr>
<tr>
<td>Item10</td>
<td></td>
<td>.753</td>
<td></td>
</tr>
<tr>
<td>Item11</td>
<td></td>
<td>.770</td>
<td></td>
</tr>
<tr>
<td>Item12</td>
<td></td>
<td></td>
<td>.795</td>
</tr>
<tr>
<td>Item13</td>
<td></td>
<td></td>
<td>.761</td>
</tr>
<tr>
<td>Item14</td>
<td></td>
<td></td>
<td>.816</td>
</tr>
<tr>
<td>Item15</td>
<td></td>
<td></td>
<td>.529</td>
</tr>
<tr>
<td>SS Loadings</td>
<td>4.11</td>
<td>3.38</td>
<td>2.90</td>
</tr>
<tr>
<td>Proportion Variance</td>
<td>27.41</td>
<td>22.51</td>
<td>19.34</td>
</tr>
<tr>
<td>Cumulative Variance</td>
<td>27.41</td>
<td>49.92</td>
<td>69.26</td>
</tr>
</tbody>
</table>

Figure 1: Exploratory Factor Analysis: Scree Plot for Study Motivation Questionnaire

The KMO value was high indicating sample adequacy, which was significant \((p=0.00)\) enough to perform a factor analysis.

The results of factor analysis obtained showed a positive support for hypothesis Ha2, i.e., the factor structure of study motivation questionnaire will produce three latent underlying constructs.
The CFA was conducted to verify whether the proposed three-factor solution is an adequate fit for the study sample data of 300 mature students. The indices (as mentioned earlier) indicated a strong significant fit of the sample data to the model. However, we also calculated the AVE (Average Variance Extracted) and CR (Composite Reliability) scores in order to check the overall convergent validity of the measurement model. The AVE obtained for behavioural, emotional and cognitive dimension of USEI scale was found to be 0.43, 0.43 and 0.56 respectively. The CR of behavioural, emotional and cognitive component of USEI scale was found to be 0.74, 0.75 and 0.86 respectively. The results of measurement model analysis yielded significant AVE and CR values only for the cognitive engagement dimension of USEI scale. However, we can still consider this measure to have an average validity for the target population since the model fit indices are a good fit for the same.

4. Conclusions and Suggestions

The research aimed to examine the academic intrinsic motivation and learning engagement of mature students in private higher education institutions at a behavioural, emotional and psychological level. The results showed a robust correlation between the
continuous variables, which explains that mature students get involved in various tasks and activities at higher education based on their internal satisfaction and interest. In other words, mature students are motivated enough to accept challenging tasks and meet their goals. Furthermore, the results suggested that mature intrinsically motivated students tend to participate more in related academic activities in private higher education institutions to experience efficacious learning. This result supports the results of a study (Bye, Pushkar & Conway, 2007) that indicated higher levels of intrinsic motivation for learning in mature students. The results were also found to be comparable to a past study (Harju & Eppler, 1997) regarding non-traditional students/mature showing higher learning goal orientation and strong intrinsic motivation. An earlier research has also found a positive association of students’ intrinsic motivation with student engagement (Malik et al., 2020; Yu et al., 2019) that supports the results of our study.

The result of descriptive analysis showed that the rate of mature female students enrolled in PrHEI is more (57.1%) than their male counterparts (42.5%). The result supports the study by Hubble & Bolton (2021), in which they reported mature female students to be more in number (26%) than mature male students (20%) studying in HE.

The result also showed that behavioural and emotional components of learning engagement are correlated with each other, which supports the findings of a study carried out by D’Errico, Paciello, and Cerniglia (2016) on e-learning that achievement emotions vary by learning task. Furthermore, positive emotions correlate with behavioural engagement (D’Errico et al., 2018).

The intrinsic motivation of the mature students of different age groups was higher than their career motivation, self-determination, and efficacy. Also, the intrinsic motivation of adult learners of different age groups showed no association with cognitive and emotional engagement, which can specifically refer to their intentions to join higher education later in life. The cognitive engagement of students was reported to be necessary but not sufficient for academic success (Bowden, Tickle & Naumann, 2021). The non-traditional students aged 21 to 40 years were not internally motivated enough to integrate their knowledge with the outside world or find the college exciting. However, the behavioural component of learning engagement has a significant association with students’ motivation which involves paying attention in class, following the institution’s norms, clearing doubts and actively participating in group related tasks.

The motivations of adult learners are complex and different from the students entering college without an academic break. Therefore, mature students need to choose institutions that serve their specific life goals. Colleges must consider the academic needs and time management and organise non-traditional programs specifically designed for such students so that their commitment and motivation for personal and professional growth through higher studies later in life does not decline.

Since mature students are the under-represented group in the higher education sector, the number of participants of mature students can be increased by motivating them to enrol and complete their undergraduate studies leading to better career prospects.
Public and private HEIs should make institutions an exciting place of study to intrinsically motivate them for their assignments and integrate various subject information to their prior knowledge to benefit them personally, academically and socially.

Psychologists and research educators also need to study their motivations regarding whether they are enrolled as a part-time or full-time students since their motivations can fluctuate depending on their family commitments, work responsibilities and other priorities. The PrHEIs must also ensure sufficient information regarding the availability of courses that allow students to choose various options. Also, it is suggested to compare their motivation and engagement level with that of traditional students since the latter has a different perspective and coping strategies in dealing with the assigned work.

Conflict of Interest Statement
The authors declare no conflicts of interests.

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