



# The relationships between amotivation, employee engagement, introjected regulation, and intrinsic motivation: A double-layered moderated-mediation model

Vijayakumar Gajenderan<sup>a</sup>, Nishad Nawaz<sup>b,\*</sup>, Raman Rangarajan<sup>c</sup>, Satyanarayana Parayitam<sup>d</sup>

<sup>a</sup> Department of Commerce, Sir Theagaraya College, Chennai, Tamil Nadu, India

<sup>b</sup> Department of Business Management, College of Business Administration, Kingdom University, Bahrain

<sup>c</sup> Department of Commerce, University of Madras, Chennai, Tamil Nadu, India

<sup>d</sup> Department of Management and Marketing, Charlton College of Business, University of Massachusetts Dartmouth, 285 Old Westport Road, North Dartmouth, MA, 02747, USA

## ARTICLE INFO

### Keywords:

Amotivation  
Three-component commitment  
Introjected regulation  
Intrinsic motivation

## ABSTRACT

The objective of this research is to examine the amotivation-turnover intention relationship through self-determination theory (SDT). A double-layered moderated-mediation model was developed to investigate the influence of three components: affective, continuance, and normative commitment on turnover intention. The data collected from 771 faculty members from higher educational institutions (HEI) in southern India were analyzed to test the hypothesized relationships. After testing the psychometric properties of the survey instrument through LISREL software of structural equation modeling, Hayes's PROCESS was used to test the structural model. The results indicate that (i) amotivation was negatively related to normative commitment, (ii) normative commitment was negatively related to turnover intentions, and (iii) normative commitment mediated the relationship between amotivation and turnover intentions. The findings also suggest that affective commitment (first moderator) and continuance commitment (second moderator) interact with amotivation to influence normative commitment. Further, the three-way interaction between normative commitment, intrinsic motivation, and introjected regulation to decrease turnover intention was significant. The double-layered moderated-mediation model is a novel concept that contributes to the literature on commitment and motivation. The theoretical and practical implications are discussed.

## 1. Introduction

The critical elements of success in higher educational institutions (HEI) are faculty commitment, motivation, and effectiveness [1, 2]. In a large democratic country, India, faculty plays a vital role in shaping students' futures by being committed to their professions [3,4]. Similarly, in other developing nations (such as Jordan) researchers documented that student success largely depends on instructor qualities [5,6]. Exploring the determinants of students' academic performance at university level The dynamic link between

\* Corresponding author.

E-mail addresses: [viji\\_tri2003@yahoo.com](mailto:viji_tri2003@yahoo.com) (V. Gajenderan), [n.navaz@ku.edu.bh](mailto:n.navaz@ku.edu.bh) (N. Nawaz), [profrangarajan@gmail.com](mailto:profrangarajan@gmail.com) (R. Rangarajan), [sparayitam@umassd.edu](mailto:sparayitam@umassd.edu) (S. Parayitam).

<https://doi.org/10.1016/j.heliyon.2023.e20493>

Received 14 January 2023; Received in revised form 20 September 2023; Accepted 27 September 2023

Available online 4 October 2023

2405-8440/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

teacher motivation and commitment has been extensively researched in the field of education [7]. The faculty turnover imposes a heavy burden on educational institutions of replacement costs of recruitment and training [8].

In Introduction second paragraph first line please change as : In today's new normal', shortly after the global COVID-19 pandemic which had its devastating effect on all sectors, including HEI, the faculty members were exposed to new methods of instructional delivery [9]. The change from face-to-face to web-based teaching was not challenging in developed countries because hybrid education has been practiced, and faculty, students, and administrators are used to online instructional methods [10]. However, in developing countries like India, the sudden shift to web-based teaching was challenging because of the lack of training the faculty members and also the lack of adequate infrastructure [11]. One significant aftermath of this paradigmatic change in methods of instruction is amotivation (i.e., inability to deliver services) which is often noticed in the faculty of HEI. Several studies reported that during the global pandemic the technology-based teaching has significantly resulted in amotivation among students [12]. Despite some recent studies, the amotivation, as a phenomenon, has been understudied, especially in the context of HEI in India. Prior researchers demonstrated the ill effects of amotivation on several outcomes, including performance and turnover intention [13].

To counter amotivation among faculty members, we incorporate a three-component model of employee commitment, introjected regulation (an essential component of extrinsic motivation, and intrinsic motivation. According to Ref. [14], organizational commitment is multi-dimensional. It consists of three components: affective (i.e., emotional attachment towards organization), continuance (i.e., need to remain with the organization because of lack of alternative employment or costs of leaving the present organization), and normative commitment (i.e., employee's obligation to stay with the organization that may include loyalty towards the organization). A meta-analysis of 155 studies conducted nearly two decades back found that each of the components was negatively related to the turnover intentions of employees [15]. In a subsequent meta-analysis conducted a decade later [16], found that individuals vary in different degrees about each of the three dimensions, and work-related behavioral outcomes differ depending upon the strength of each dimension. The essence of this argument is that people differ in their desire or emotional attachment (reflected in affective commitment), benefits associated with staying and costs associated with leaving (reflected in continuance commitment), and moral obligation to stay (reflected in normative commitment). As initially argued by Ref. [17] and with strong empirical support that individuals experience these three dimensions in varying degrees, we employ these three dimensions as independent constructs and investigate how these will alleviate the negative effect of amotivation.

Drawing from the literature on motivation, we incorporate two constructs in this study: intrinsic motivation and introjected regulation. While intrinsic motivation prompts individuals to engage in performance to derive intrinsic satisfaction, independent of the external rewards for performance, introjected regulation (an essential component of extrinsic motivation) encourages them to engage in work to avoid guilt or shame. These two can be found in the same individual in varying degrees; (for example, an individual may be high on intrinsic motivation and low on introjected regulation), and it is more likely that they will have different outcomes. However, prior researchers found a strong positive effect of intrinsic motivation and introjected regulation on performance and a negative impact on turnover intention [18].

This study aims at bridging the gap to see how the perils of amotivation caused by the global pandemic can be alleviated through employee commitment, intrinsic motivation, and introjected regulation. This study, conducted during the post-pandemic 'new normal' period in the context of a developing country (India), attempts to answer the following research questions (RQs):

- RQ1.** How amotivation affects turnover intention and normative commitment?
- RQ2.** How do affective and continuance commitments moderate the relationship between amotivation and normative commitment?
- RQ3.** How introjected regulation and intrinsic motivation moderate the relationship between normative commitment and turnover intention?

This research makes five significant contributions to the literature on amotivation and employee commitment. First, this study aims to shed light on the effect of amotivation, a necessary form of inability to perform tasks that may sometimes elicit job insecurity [19] on the turnover intention of faculty members in HEI. Second, this research delves into the mediating mechanism of normative commitment in the amotivation-turnover intention relationship. Third, complementing the prior studies that have identified potential positive effects of three components of organizational comment (affective, continuance, and normative), we offer a novel perspective by unpacking the individual effects through moderating mechanisms, which have hitherto received scant attention in amotivation research. Fourth, this research investigated the impact of introjected regulation (first moderator) and intrinsic motivation (second moderator) on the relationship between normative commitment and turnover intention. Finally, this study recommends that the negative influence of amotivation in organizations will be mitigated by the introjected regulation and intrinsic motivation exercised by faculty members in HEI. In sum, the double-layered complex model developed and tested in this research brings novelty and adds to the matured literature on employee commitment and turnover intention.

## 2. Theoretical framework and hypotheses development

The theoretical background for this research stems from the Self-Determination Theory (SDT) [20]. The foundational element of SDT is that human behavior is volitional or self-determined in the sense that individuals voluntarily choose to perform given tasks. The basic tenet of SDT is that three psychological needs drive individuals: (i) autonomy, (ii) competence, and (iii) relatedness. Autonomy is related to the extent individuals choose their purely voluntary behavior. Competence is the degree to which individuals are capable of performing tasks to achieve desired results. Finally, relatedness refers to the relationships individuals maintain with authentic relationships with others [21]. As [22] contend, intrinsic motivation, a construct used in this research, is the self-determined form of

motivation. Individuals high on intrinsic motivation tend to perform tasks and derive enjoyment. Introjected regulation is a non-determined form of intrinsic motivation (actually a form of extrinsic motivation) where individuals perform to avoid guilt or shame, and performance is based on self-esteem. Amotivation is a mental state characterized by the absence of self-determination, and individuals tend to believe that there is no reason to participate in performance and also believe that there is no extrinsic or intrinsic motivation to perform [14]. Several researchers used SDT to explain individual behavior in academic settings [23]. Because of its ability to explain the motivation of learners (faculty or students), SDT has been widely used [21].

Riding on the SDT, this study uses a three-component model of employee commitment in alleviating the ill effects of amotivation on turnover intentions, especially in the context of HEI in India.

## 2.1. Hypotheses development

### 2.1.1. Amotivation and turnover intention

Amotivation, or avolition, is defined as a psychological condition represented by a reduction in the motivation to initiate or persist in goal-directed behavior [22]. The antecedents of amotivation include a lack of desire by an employee to complete a task, a lack of confidence to perform the task, and a lack of expectation that the performance of a task would result in the desired outcome [24]. While motivation is positively related to the attainment of workplace goals and tasks lack of motivation is detrimental to the attainment.

Amotivation is different from demotivation. While amotivation is internal to an individual and is related to an individual's inability to reach goals or complete given tasks, or desirable outcomes [24], demotivation is the outcome of environmental influences on an individual that cause individuals to be demotivated (though they are capable of performing tasks) [25]. Some researchers argue that demotivation may be a precursor to amotivation [26]. Extant research reported that amotivation has a negative impact on teacher's performance and the academic performance of students. Past researchers have reported a negative relationship between motivation (intrinsic and extrinsic) and turnover intention [27]. While extrinsic motivation in terms of rewards and recognition results in completing given tasks [26], intrinsic motivation prompts individuals to complete the tasks for intrinsic satisfaction [26]. Under both cases (extrinsic and intrinsic), employees attempt to complete their functions rather than exhibiting turnover intentions. While the reasons for amotivation are several and diverse, one significant consequence of amotivation is turnover intention. Some studies found that in the initial years of the teaching profession, the work demands from the institutions and the complexity of teaching job may prompt the faculty to leave their jobs, resulting in a high attrition rate [28]. Based on the above arguments and available empirical evidence, we offer the following hypothesis:

**H1.** Amotivation is positively related to turnover intention.

### 2.1.2. Amotivation and normative commitment

Motivation plays a vital role in the commitment of faculty members [29], and extant research reported a positive association between motivation and employee normative commitment [30]. Amotivation, by definition, is concerned with an individual's inability or incapability to perform given tasks and is more likely to have a negative effect on commitment. In connection with HEI, when faculty members feel incapable of delivering lectures and educating the students [31], it is more likely that they will not be committed to the profession and eventually may leave their jobs. As [32] evidenced, faculty members' motivation has a significant influence on their commitment, and career advancement largely depends on their willingness to invest time in teaching-related activities. The positive association of motivation with employee commitment has been documented in the literature [13]. Some studies reported that commitment reduces amotivation, implying that when individuals show commitment towards their jobs, they are more likely to feel capable of performing jobs, thus decreasing amotivation [33]. In a survey conducted on 269 faculty members from a public university in Ethiopia, it was found that motivation was significantly related to commitment, albeit through job satisfaction [34]. Though studies investigating the relationship between amotivation and normative commitment are sparse, based on the positive association between motivation and commitment, we offer the following hypothesis:

**H2.** Amotivation is negatively related to normative commitment.

### 2.1.3. Normative commitment and turnover intention

The negative association between normative commitment and turnover intention of employees has been extensively reported in research [35]. In a survey conducted on 202 employees from the southern part of China, researchers found a strong negative association between normative and affective commitment and turnover intentions [36]. In a survey of 140 nurses in hospitals in Indonesia, it was found that all three types of commitment (affective, normative, and continuance) were significantly negatively related to turnover intentions [37]. There has been a consensus among researchers about the negative effect of the three components of commitment on turnover intentions [38]. In a relatively recent study conducted on 320 faculty members in universities in Pakistan [39], found a strong negative association between employee commitment and turnover intentions [40]. Thus, based on the abundance of research evidence, we offer the following hypothesis:

**H3.** Normative commitment is negatively related to turnover intention.

### 2.1.4. Normative commitment as a mediator

While the direct positive effect of amotivation on turnover intention is understandable, the indirect impact of amotivation on

turnover intention through normative commitment is complex. Amotivation (as explained in H2) will have an adverse effect on normative commitment, and normative commitment will have a negative impact on turnover intention (as described in H3); it would be interesting to see the extent to which turnover intention will be lessened because of normative commitment. When faculty members feel that they are indispensable to the organization, they are more likely to learn to cope with their inability to deliver lectures by putting in additional effort. The indirect effect, therefore, is expected to offset the positive impact of amotivation on turnover intention. The greater the indirect effect, the lesser the likelihood that amotivation results in turnover intention. Faculty members' self-efficacy and professional identity may play a vital role in this process [41].

To the best of our knowledge, none of the prior studies examined the mediating effect of normative commitment in the relationship between amotivation and turnover intention [42]. Therefore, we argue, considering the potential influence of amotivation on normative commitment (negative) and turnover intention (positive), we argue that it is essential to investigate the indirect effect of amotivation on turnover intention [43]. Since no other studies attempted to examine this relationship, we offer the following exploratory mediation hypothesis:

#### H4. Normative commitment mediates the relationship between Amotivation and turnover intention

##### 2.1.5. *Affective commitment and continuance commitment as moderators*

Organizational commitment is defined as "a psychological state that binds the individual to the organization" [44] and it is a "volitional bond reflecting dedication and responsibility for a target" [42]. Organizational commitment is a multi-dimensional construct and consists of three dimensions: affective, normative, and continuance commitment. One interesting point to note is that these three dimensions are not mutually exclusive even though these are "qualitatively different concepts" [45].

Since these three dimensions have different outcomes because employees differ in degrees towards these. For example, an employee may not want to stay (affective), may feel strongly about remaining with the organization (continuance), and may think that it is necessary to stay (normative) because of financial constraints he may have in the event he leaves the job. These dimensions are independent, though interrelated to some extent [46]. As [13] explained, affective commitment is related to an employee's emotional attachment toward an organization, and individuals with a high level of affective commitment tend to identify themselves with the organization [47]. Employees who are emotionally attached to the organization (affective) tend to stay with the organization (continuance) [48].

Normative commitment, another component, refers to the employees' moral obligation to stay with the organization. Employees may show their loyalty by sticking to the organization either because of parenting and socialization after joining the organization or because of a positive organizational climate (friendly working climate and collegiality and supervisor support) [49].

In this study, we argue that affective commitment mitigates the negative effect of amotivation on normative commitment. When employees show emotional attachment to the organization, it is more likely that they tend to engage in learning to cope with amotivation. Since affective commitment and normative commitment are positively correlated (which does not mean that there is a causal relationship), the positive effect of affective commitment will be more likely to reduce its negative impact on normative commitment. Unfortunately, not many studies are available to support this argument. Still, the intuitive logic and positive relationship between affective commitment and normative commitment help us in offering this exploratory moderation hypothesis:

#### H2a. Affective commitment moderates the relationship between Amotivation and normative commitment

Continuance commitment, which largely depends on the investments made by the employee in an organization and the lack of opportunities for alternatives of employment elsewhere [46], plays a vital role in mitigating the ill-effects of amotivation on normative commitment. For example, individuals invest their resources and time in getting through qualifying examinations in some developing countries. For instance, in India, the University Grants Commission (UGC) conducts a qualifying examination called UGC-NET to determine the eligibility of candidates to become Assistant Professors or Junior Research Fellows in Indian Universities). When individuals get qualified through the UGC-NET and obtain employment as faculty in universities, they tend to stick to the universities because of their considerable investments in this process. Though they may not have the skills necessary to disseminate knowledge among students (amotivation), they are more likely to spend some time learning the art of delivering instructions. Continuance commitment is also associated with the costs of leaving the organization and profits related to continuation with the organization [50]. Again, the lack of previous studies prompted us to use intuitive logic to explain how continuance commitment (second moderator) influences the moderating effect of Amotivation and affective commitment (first moderator) on normative commitment. Based on the direct relationships between the moderating variables with the normative commitment, we offer the following exploratory hypothesis:

#### H2b. Continuance commitment moderates the moderated relationship between amotivation and affective commitment to influence normative commitment.

##### 2.1.6. *Introjected regulation and intrinsic motivation as moderators*

Two other variables we investigate in this study are introjected regulation and intrinsic motivation. Introjected regulation is an essential dimension of extrinsic motivation. In their seminal paper [51], have distinguished four forms of extrinsic motivation: external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation is related to the exhibition of individual behavior depending on the expected external outcome (e.g., reward). Introjected regulation refers to the internalization of the belief that by not performing a given task, an individual may feel insulted or suffer from guilt. To avoid guilt or shame, an individual engages in performing work. Identified regulation relates to an employee's importance in completing the given task. Identified regulation is a more visible form of extrinsic motivation. Finally, integrated regulation fully-blown form of extrinsic motivation

wherein an individual assimilates all other forms gets integrated into one.

In this research, our primary focus is on introjected regulation whereby employees believe that they engage in performing tasks to avoid guilt or shame. In organizations, employees may feel that failure to complete a task is interpreted as a sign of inability (amotivation), and they also doubt that they cannot overcome difficulties in performing tasks [52]. We argue in this study that the introjected regulation helps alleviate the adverse effects of amotivation on normative commitment and helps reduce its impact on turnover intention. Furthermore, when faculty members engage in a higher level of introjected regulation, it is more likely that normative commitment reduces the turnover intention of faculty members. To our knowledge, none of the previous studies investigated the effect of introjected regulation on the impact of normative commitment on turnover intention. Therefore, based on limited empirical evidence of direct relationships, we offer the following exploratory moderation hypothesis:

**H3a.** Introjected regulation moderates the relationship between normative commitment and turnover intention such that at higher (lower) introjected regulation normative commitment results in lower (higher) turnover intention.

Another crucial variable that is very important in faculty performance is intrinsic motivation. Intrinsically motivated individuals get satisfaction from completing tasks, and personal enjoyment is volitional, self-determined, and autonomous [53,54]. For example, faculty members high on intrinsic motivation tend to put extra effort into teaching and enjoy the pleasure of delivering lectures. Several studies in the past have documented a negative relationship between intrinsic satisfaction and turnover intentions [55,56]. In a study conducted on 325 faculty members from India and also found a strong negative association between intrinsic satisfaction with turnover intention.

In this research, we argue that intrinsic motivation strengthens the negative moderating effect of introjected regulation on turnover intention. However, prior studies did not show the impact of the interaction of normative commitment and intrinsic motivation (second moderator) and introjected regulation (first moderator) on turnover intention. Therefore, based on available empirical evidence on direct relationships between normative commitment, introjected regulation, and intrinsic motivation on turnover intentions, we offer the following exploratory hypothesis:

**H3b.** Intrinsic motivation moderates the moderated relationship between normative commitment, introjected regulation to influence turnover intention.

The conceptual model is presented in Fig. 1.

### 3. Method

#### 3.1. Sample and respondents

We selected faculty from HEI in southern India to test the relationship between the variables mentioned in the conceptual model. We developed a carefully crafted survey instrument and sent surveys through google forms to the faculty members after obtaining the list of faculty from various arts and science colleges affiliated with a famous university in southern India (Chennai). We followed the non-probability-based convenience sampling by getting list of faculty members in HEIs in southern India (Chennai). Because of social distancing problems and occasional outburst of various mutations of virus, we preferred to collect data through google forms. We also obtained informed consent from the respondents. We also followed the protocols of obtaining the permission from the Institutional Review Board from Department of Commerce, Sir Theagaraya College (Chennai, Tamil Nadu). After getting the list of emails of faculty members from the heads of educational institutions, we sent surveys electronically because of social distancing problems. Most researchers followed the same method [57].

The minimum required sample size when population exceeds 100,000 is 384 according to the sample tables by [93] and most of the researchers follow this criteria [57]. According to Comrey and Lee[96] the sample size of over 500 is very good. (sample size of 100 = poor; 200 = fair; 300 = good; 500 = very good; 1000 or more = excellent).

In all, 771 surveys were collected (which is considered very good), and all the surveys were complete as google form does not allow respondents to submit incomplete surveys. Furthermore, we checked non-response bias by comparing the first 75 respondents with the

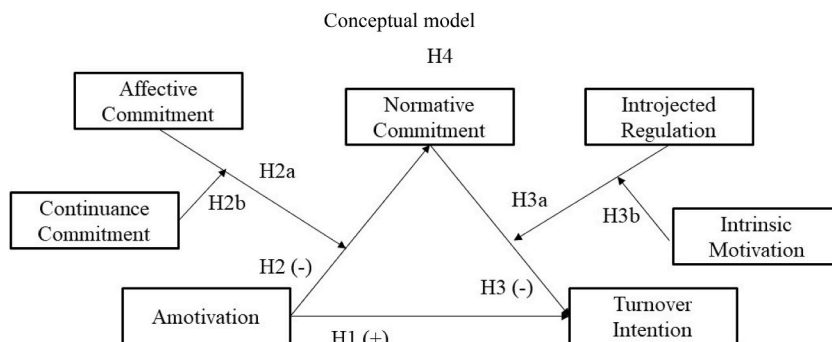


Fig. 1. Conceptual model.

last 75 respondents and found no significant differences between these two groups.

We presented the demographic profile of the respondents in [Table 1](#).

### 3.2. Measures

This study is consisting of seven constructs. The indicators for all the constructs were adapted from existing established and previously tested measures. We used a five-point Likert-type scale ('5' = strongly agree; '1' = strongly disagree) to measure the indicators in the constructs.

The construct '*amotivation*' was measured with three indicators adapted from Ref. [58], and the sample item reads as: "I don't, because I really feel that I'm wasting my time at work". The reliability coefficient Cronbach's alpha for '*amotivation*' was 0.72.

*Intrinsic motivation* was measured with three items adapted from Ref. [58], and the sample item reads as: "Because I have fun doing my job". The reliability coefficient Cronbach's alpha of intrinsic motivation was 0.76.

*Introjected regulation* was measured with four items adapted from Ref. [58], and the sample item reads as "Because I have to prove to myself that I can". The reliability coefficient Cronbach's alpha of introjected regulation was 0.81.

*Affective commitment* was measured with eight items adapted from Ref. [13] and the sample item reads as: "I would be very happy to spend the rest of my career with this organization". The reliability coefficient Cronbach's alpha of affective commitment was 0.87.

*Continuance commitment* was measured with eight items adapted from Ref. [13], and sample item reads as: "It would be very hard for me to leave my organization right now, even if I wanted to". The reliability coefficient Cronbach's alpha of continuance commitment was 0.83.

*Normative commitment* was measured with eight items adapted from Ref. [13], and sample item reads as: "I think that people these days move from company to company too often". The reliability coefficient Cronbach's alpha of normative commitment was 0.80.

*Turnover intention* was measured with eight items adapted from Ref. [59], and the sample item reads as: "I would quit my present job for a similar position with better pay in another organization at the least opportunity". The reliability coefficient Cronbach's alpha of turnover intention was 0.83.

[Table 2](#) captures the constructs, indicators and sources of the measures.

## 4. Analysis and findings

### 4.1. Measurement model and confirmatory factor analysis (CFA)

Anderson and Gerbing [60] suggests a two-step approach: (i) checking the measurement model and (ii) analyzing the structural model. Following the first step, we checked the measurement model by performing confirmatory factor analysis (CFA), using the Lisrel package of structural equation modeling (SEM). We presented the results of CFA in [Table 2](#).

As shown in [Table 2](#), the standardized factor loadings of all the indicators are ranged between 0.70 and 0.89, thus over the acceptable minimum level of 0.70. The reliability coefficient Cronbach's alphas for the variables were greater than 0.70, thus vouching for reliability. The composite reliability (CR) for all the variables ranged between 0.80 and 0.94, and the average variance extracted (AVE) estimates have exceeded minimum level of 0.50. These statistics vouch for internal consistency, convergent validity and reliability of the measures [61–63].

**Table 1**  
Demographic profile.

Variable		Frequency	Percentage
Gender	Male	479	62.1
	Female	292	37.9
Age	Below 30	139	18.0
	31–35 years	192	24.9
	36–40 years	130	16.9
	41–45 years	160	20.8
	46–50 years	107	13.9
	Above 50 years	43	5.6
Marital Status	Single	323	41.9
	Married	448	58.1
Education	Undergraduate Degree	134	17.4
	Graduate Degree	321	41.6
	Masters' Degree	188	24.4
	Technical Education	128	16.6

**Table 2**  
Confirmatory factor analysis.

Constructs and the sources of the measures	Alpha	CR	Standardized Loadings ( $\lambda_{yi}$ )	Reliability ( $\lambda_{yi}^2$ )	Variance (Var( $\epsilon_i$ ))	Average Variance-Extracted Estimate $\frac{\sum (\lambda_{yi}^2)}{[(\lambda_{yi}^2) + (\text{Var}(\epsilon_i))]}$
<b>Amotivation (Gagné et al., 2020)</b>	0.72	0.80				0.57
I don't, because I really feel that I'm wasting my time at work			0.72	0.52	0.48	
I do little because I don't think this work is worth putting efforts into			0.78	0.61	0.39	
I don't know why I'm doing this job, it's pointless work			0.76	0.58	0.42	
<b>Intrinsic Motivation (Gagné et al., 2020)</b>	0.76	0.82				0.61
Because I have fun doing my job			0.79	0.62	0.38	
Because what I do in my work is exciting			0.85	0.71	0.29	
Because the work I do is interesting			0.70	0.48	0.52	
<b>Introjected Regulation (Gagné et al., 2020)</b>	0.81	0.86				0.60
Because I have to prove to myself that I can			0.75	0.56	0.44	
Because it makes me feel proud of myself.			0.85	0.72	0.28	
Because otherwise I will feel ashamed of myself.			0.74	0.54	0.46	
Because otherwise I will feel bad about myself			0.76	0.58	0.42	
<b>Affective Commitment (Allen &amp; Meyer, 1990)</b>	0.87	0.93				0.64
I would be very happy to spend the rest of my career with this organization			0.72	0.52	0.48	
I enjoy discussing my organization with people outside it			0.79	0.62	0.38	
I really feel as if this organization's problems are my own			0.73	0.53	0.47	
I think that I could easily become as attached to another organization as I am to this one (R)			0.77	0.59	0.41	
I do not feel like 'part of the family at my organization (R)			0.85	0.72	0.28	
I do not feel 'emotionally attached to this organization (R)			0.81	0.66	0.34	
This organization has a great deal of personal meaning for me			0.89	0.79	0.21	
I do not feel a strong sense of belonging to my organization (R)			0.83	0.68	0.32	
<b>Continuance Commitment (Allen &amp; Meyer, 1990)</b>	0.83	0.92				0.59
I am not afraid of what might happen if I quit my job without having another one lined up (R)			0.72	0.52	0.48	
It would be very hard for me to leave my organization right now, even if I wanted to			0.74	0.54	0.46	
Too much in my life would be disrupted if I decided I wanted to leave my organization now			0.71	0.51	0.49	
It wouldn't be too costly for me to leave my organization now (R)			0.70	0.49	0.51	
Right now, staying with my organization is a matter of necessity as much as desire			0.73	0.53	0.47	
I feel that I have too few options to consider leaving this organization			0.83	0.68	0.32	
One of the few serious consequences of leaving this organization would be the scarcity of available alternatives			0.87	0.76	0.24	
One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice - another organization may not match the overall benefits I have here			0.83	0.69	0.31	
<b>Normative Commitment (Allen &amp; Meyer, 1990)</b>	0.80	0.94				0.65
I think that people these days move from company to company too often			0.74	0.55	0.45	
I do not believe that a person must always be loyal to his or her organization (R)			0.76	0.58	0.42	
Jumping from organization to organization does not seem at all unethical to me (R)			0.75	0.56	0.44	
One of the major reasons I continue to work for this organization is that I believe that loyalty is important and therefore feel a sense of moral obligation to remain			0.87	0.75	0.25	
If I got another offer for a better job elsewhere I would not feel it was right to leave my organization			0.83	0.68	0.32	
I was taught to believe in the value of remaining loyal to one organization			0.87	0.76	0.24	
Things were better in the days when people stayed with one organization for most of their career			0.79	0.62	0.38	
I do not think that wanting to be a 'company man' or 'company woman' is sensible anymore (R)			0.83	0.69	0.31	
<b>Turnover Intention (Olusegun, 2013)</b>	0.83	0.92				0.60
I would quit my present job for a similar position with better pay in another organization at the least opportunity			0.79	0.62	0.38	
Continuation with my present employer will not fulfill my life expectation			0.78	0.61	0.39	
As soon as I can find a better job, I will quit this organization			0.84	0.71	0.29	
I often think about quitting my job			0.72	0.52	0.48	
I will probably look for a job outside of this organization within the next 3 years			0.71	0.50	0.50	
It is very unlikely that I would ever consider leaving this organization			0.76	0.58	0.42	
I prefer very much not to continue working for this organization			0.77	0.59	0.41	
I will likely actively look for a new job in the next year			0.81	0.66	0.34	



4.2. Convergent validity, discriminant validity, and common method bias

When square root of AVE of the variables exceed the correlations between the variables, discriminant validity is said to be established [64]. The square roots of AVEs for Amotivation and Normative Commitment were 0.75 and 0.81 respectively and these values are greater than the correlation between these variables (-0.57). Similarly, the correlation between intrinsic motivation and turnover intention was -0.11, which is less than the square root of AVEs of 0.78 and 0.77 respectively. For all the variables the square root of AVEs were greater than correlations, thus establishing the discriminant validity between all seven variables used in this study.

We also compared the baseline seven-factor model with six other alternative models. The results were presented in Table 3.

As shown in Table 3, the seven-factor model fit the data well [ $\chi^2 = 1057.87$ ;  $df = 413$ ;  $\chi^2/df = 2.56$ ; Root mean square error of approximation (RMSEA) = 0.045; Root mean square residual (RMR) = 0.066; Standardized RMR = 0.047; Comparative Fit Index (CFI) = 0.94; Goodness of fit index (GFI) = 0.92]. Since the goodness of fit indices: (RMSEA < 0.08; CFI = 0.94; GFI = 0.92) provided a good fit of the data to the model [99].

The comparison of various models also allow us to check common method variance. As shown in Table 3, the goodness of fit indices of one-factor model provided poor fit of data when compared to seven-factor model [62]. Thus common method bias is not a problem in this study. Social desirability bias, which is also common in survey-based research, has been addressed in this study by assuring the respondents about the anonymity of survey results.

4.3. Descriptive statistics and multicollinearity

The descriptive statistics were mentioned in Table 4.

As high correlations signify the presence of multicollinearity, it is necessary to observe the correlations between the variables. From Table 4, we can see that the correlations between the variables were less than First, to assess the multicollinearity, we observed that correlations between the variables were less than 0.75. The highest correlation was 0.74 between introjected regulation and intrinsic motivation, and the lowest correlation was 0.6 between continuance commitment and introjected regulation. Since correlations were less than 0.75, multicollinearity is not a problem in this research, as suggested by Tsui [63]. Further, the variance inflation factor (VIF) values for the variables were less than 5, suggesting that multicollinearity is not a problem with data [65].

4.4. Hypothesis testing

To test H1-H4, the Hayes [106] PROCESS macros were used (model number 4), and the results are presented in Table 5.

**Step 1.** from Table 4 shows that the regression coefficient of Amotivation on turnover intention was positive but not significant ( $\beta = 0.009$ ,  $t = 0.338$ ;  $p = .735$ ). The results based on 20,000 bootstrap samples reveal that 95% bias-corrected confidence intervals contained 'zero' (LLCI, -0.0468; ULCI = 0.0063). These results do not support H1 that Amotivation is positively related to turnover

**Table 3**  
Comparison of measurement models.

Factors	$\chi^2$	df	$\Delta\chi^2$	RMSEA	RMR	Standardized RMR	CFI	TLI= NNFI	GFI	
Null	11798.69	465								
Baseline model	Seven Factors: AMOTIV, INTRMOT, INTREGU, AFCOM, COCOM, NORCOM, TURNINT	1057.87	413		0.045	0.066	0.047	0.943	0.936	0.916
Model 1	Six Factor model: AMOTIV + INTRMOT, INTREGU, AFCOM, COCOM, NORCOM, TURNINT	1514.66	419	456.79*	0.058	0.077	0.059	0.903	0.893	0.886
Model 2	Five Factor Model: AMOTIV + INTRMOT + INTREGU, AFCOM, COCOM, NORCOM, TURNINT	1602.98	424	545.11*	0.060	0.080	0.060	0.896	0.886	0.877
Model 3	Four Factor Model: AMOTIV + INTRMOT + INTREGU + AFCOM, COCOM, NORCOM, TURNINT	4533.26	428	3475.39*	0.112	0.202	0.125	0.638	0.606	0.651
Model 4	Three Factor Model: AMOTIV + INTRMOT + INTREGU + AFCOM + COCOM, NORCOM, TURNINT	5749.39	431	4691.52*	0.127	0.216	0.149	0.531	0.494	0.591
Model 5	Two Factor Model: AMOTIV + INTRMOT + INTREGU + AFCOM + COCOM + NORCOM, TURNINT	7145.54	433	6087.67*	0.142	0.251	0.165	0.408	0.364	0.526
Model 6	One Factor Model: AMOTIV + INTRMOT + INTREGU + AFCOM + COCOM + NORCOM + TURNINT	8393.68	434	7335.81*	0.154	0.260	0.176	0.298	0.248	0.476

\*p < .01.

Abbreviations: AMOTIV = Amotivation; INTRMOT = Intrinsic motivation; INTREGU = Introjected regulation; AFCOM = Affective commitment; COCOM = Continuance commitment; NORCOM = Normative commitment; TURNINT = Turnover intention.



**Table 4**  
Descriptive Statistics: Means, standard deviations, and zero-order correlations.

	Mean	Standard Deviation	1	2	3	4	5	6	7
1.Amotivation	3.45	0.96	<b>0.75</b>						
2.Normative Commitment	3.74	1.07	-0.57***	<b>0.81</b>					
3.Affective Commitment	3.83	0.86	0.009	-0.037	<b>0.80</b>				
4.Continuanace Commitment	4.09	0.66	0.008	-0.016	0.43***	<b>0.77</b>			
5.Introjected Regulation	3.85	0.96	-0.12***	0.09***	-0.02	0.06**	<b>0.77</b>		
6.Intrinsic Motivation	3.67	0.81	-0.08***	0.07**	-0.03	0.07**	0.74***	<b>0.78</b>	
7.Turnover Intention	3.78	0.82	0.35***	-0.07**	0.02	0.01	-0.12***	-0.11***	<b>0.77</b>

\*\*\*p < .01; p < .05; the numbers in the diagonals represent the square root of AVE.

**Table 5**  
Testing H1, H2 and H3.

Hypotheses	Relationship	coeff	se	t	p	R <sup>2</sup> and F values	Result
H1	Amotivaton →Turnover intention	0.0097	0.0288	0.3383	0.7352	0.212 F(1,769) = 96.95	Not Supported
H2	Amotivation →Normative Commitment	-0.3739	0.0373	-10.0327	0.0000	0.341 F(1,769) = 100.65	Supported
H3	Normative Commitment→ Turnover intention	-0.1475	0.0274	-5.3885	0.0000	0.379 F(2,768) = 125.55	Supported

intention.

**Hypothesis 2.** posits that Amotivation is negatively associated with normative commitment. As shown in Step 2 (Table 5), the regression coefficient of Amotivation on normative commitment was negative and significant ( $\beta = -0.374$ ;  $t = -10.032$ ;  $p < .001$ ). The 95% (BCCI) LLCI and ULCI were  $-0.4471$  and  $-0.3008$  respectively, thus supporting H2.

**Hypothesis 3.** proposes that normative commitment is negatively related to turnover intention. As showed in Step 3 (Table 5) the regression coefficient of normative commitment on turnover intention was negative and significant ( $\beta = -0.274$ ;  $t = -5.388$ ;  $p < .001$ ), thus supporting H3.

To check the Hypothesis 4, which states that normative commitment mediates the relationship between Amotivation and turnover intention, the indirect effect must be significant. The indirect effect of Amotivation on turnover intention was 0.0551 [Boot se = 0.0124; Boot LLCI = 0.0321; Boot ULCI = 0.0804]. Since ‘zero’ zero was not contained in the Boot LLCI and Boot ULCI, the results support the mediation hypothesis (H4).

One of the reasons why H1 was not supported was because the negative effect of normative commitment on turnover intention acts counter to the positive effect of Amotivation on turnover intention. To double check the results, we verified the total effect (0.009), which is a total of direct effect ( $-0.0454$ ) and indirect effect (0.0551). The indirect effect is a product of regression coefficient of Amotivation on normative commitment ( $-0.3739$ ) and regression coefficient of normative commitment on turnover intention ( $-0.1475$ ) [i.e.  $-0.3739 \times -0.1475 = 0.0551$ ]. The total effect, therefore, is ( $-0.0454 + 0.0551 = 0.0097$ ). The indirect effect of turnover intention →normative commitment →turnover intention was significant, thus rendering support to the mediation hypothesis 4.

4.5. Testing the moderated and moderated-mediation hypotheses (H2a and H2b)

To test H2a and H2b, the model number 11 of Hayes [68] PROCESS macros were used and the results are presented in Table 6. H2a posits that affective commitment moderates the relationship between Amotivation and normative commitment. As shown in Table 6, the beta (i.e. regression coefficient) of the interaction term (Amotivation x affective commitment) was significant ( $\beta_{\text{Amotivation} \times \text{affective commitment}} = 0.261$   $t = 2.221$ ;  $p < .05$ ; Boot LLCI (0.0304); Boot ULCI (0.4925). These results support H2a. The visualization of two-way interaction was presented in Fig. 2.

Fig. 2 depicts the relationship between Amotivation, and normative commitment is moderated by affective commitment. As can be seen in Fig. 2, at high levels of affective commitment the relationship between Amotivation and normative commitment is stronger than at lower levels of affective commitment. When Amotivation increases from ‘low’ to ‘high’, lower levels of affective commitment

**Table 6**  
Indirect effect (H4).

	Effect	se	Boot LLCI	Boot ULCI
Amotivation → Normative commitment → Turnover intention	0.0551	0.0124	0.0321	0.0804

Notes: N = 771. Boot LLCI, Boot ULCI = Bootstrapping confidence lower limit confidence interval, upper limit confidence interval. The results were based on 20,000 bootstrapping samples [ $p < .05$ ].It is recommended to use four decimal digits because some values may be very close to zero.

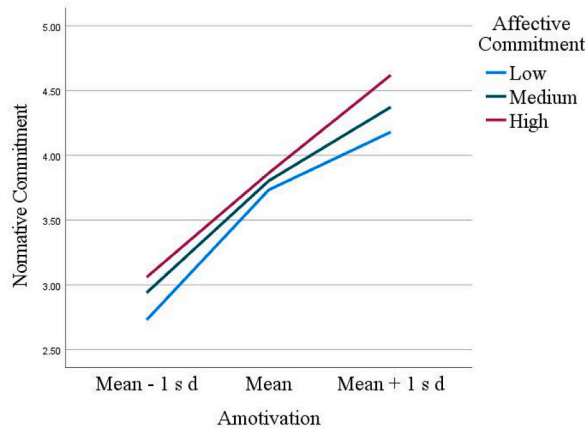


Fig. 2. Affective commitment moderates the relationship between Amotivation and Normative Commitment.

results in lower levels of normative commitment that at higher levels of affective commitment. These results render support to H2a.

Hypothesis 2b posits that continuance commitment (second moderator) and affective commitment (first moderator) interact with Amotivation to influence normative commitment. The multiplicative effect of these three variables is called ‘three-way interaction, and the regression coefficient of which is significant ( $\beta_{\text{Amotivation} \times \text{continuance commitment} \times \text{affective commitment}} = -0.169$   $t = -3.045$ ;  $p < .05$ ). These results, based on 20,000 bootstrap samples, show that the 95% Boot LLCI (-0.2786) and BOOT UL (-0.0602) shows significant values (as zero is not contained in the Lower and Upper limits), thus supporting H2b. The interactions model is significant and explains 33.2% variance in normative commitment [ $R^2 = 0.332$ ;  $F(7,763) = 54.25$ ;  $p < .001$ ]. The conditional effects of the normative commitment at values of moderators (continuance commitment x affective commitment) were presented in the bottom of Table 6. Further, the conditional interaction of Amotivation and Affective Commitment values of the continuance commitment are presented in Table 7.

The pictorial presentation of the three-way interaction was shown in two panels of Fig. 3. The Panel A shows the relationship between Amotivation, affective commitment and normative commitment at low values of continuance commitment. As shown in Panel A, the lower levels of Amotivation would result in higher level of normative commitment only at the higher levels of affective commitment. However, when Amotivation increases from low to high, continuance commitment does not a vital role to play, but it is the affective commitment that increases the normative commitment. In a sharp contrast, when the continuance commitment is high, lower levels of Amotivation and lower levels of affective commitment results in normative commitment. However, when Amotivation increases from low to high, it is higher level of affective commitment that results in higher normative commitment. We can see the differences in the curves when we move from panel A to panel B. These results render support to three-way interaction hypothesis (H2b).

#### 4.6. Testing the moderated and moderated-mediation hypotheses (H3a and H3b)

To test H3a and H3b, the model number 18 of Hayes [66] PROCESS macros were used and the results are presented in Table 8.

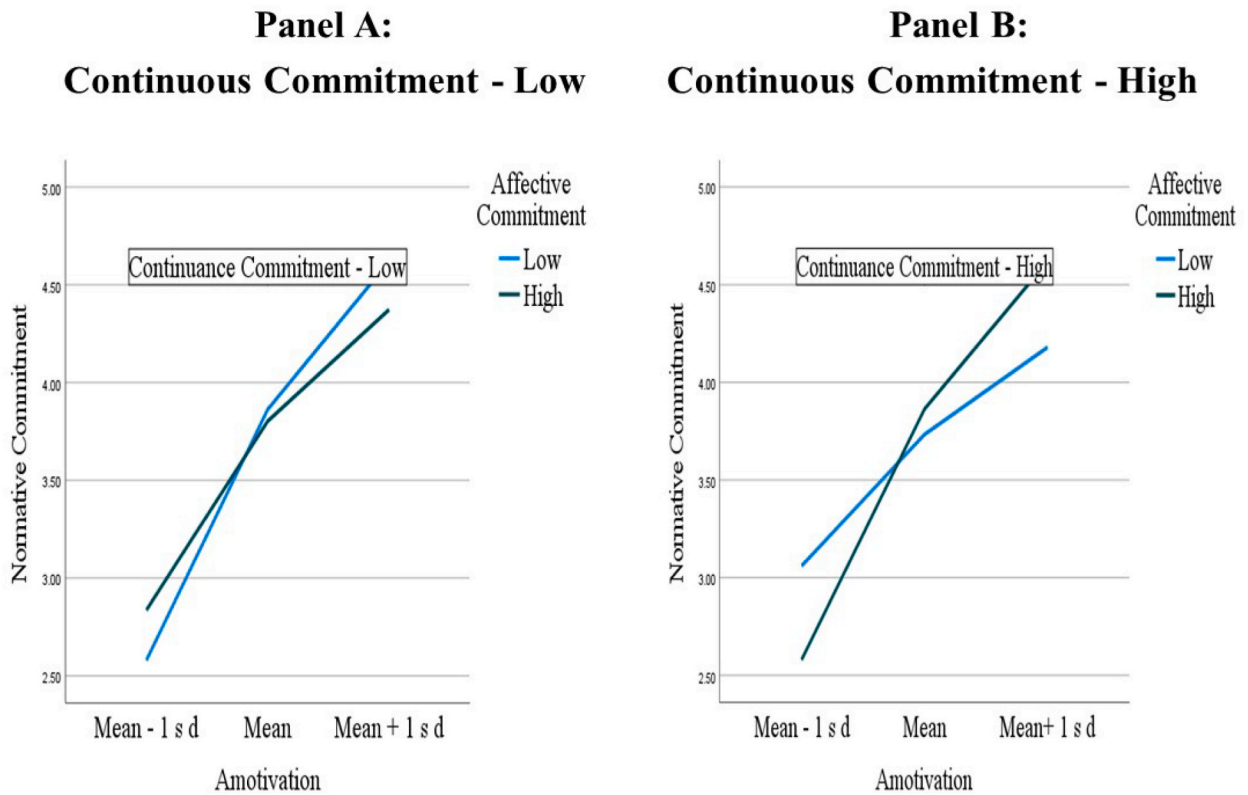
H3a posits that introjected regulation moderates the relationship between normative commitment and turnover intention. As shown in Table 8, the regression coefficient of the interaction term (normative commitment x introjected regulation) was significant ( $\beta_{\text{normative commitment} \times \text{introjected regulation}} = 0.279$   $t = 2.255$ ;  $p < .05$ ; Boot LLCI (0.0363); Boot ULCI (0.5232). These results support H3a. The visualization of two-way interaction was presented in Fig. 4.

As shown in Fig. 4, introjected regulation moderates the relationship between normative commitment and turnover intention. The slope of the curve between normative commitment and turnover intention is positive when the introjected regulation is low whereas the curve is negative when introjected regulation is high. That indicates that higher levels of introjected regulation would decrease the tendency of the employees to reduce their turnover intentions. These results provide strong support to H3a.

Hypothesis 3b posits that intrinsic motivation (second moderator) and introjected regulation (first moderator) interact with normative commitment to influence turnover intention. The regression coefficient of this three-way interaction is significant ( $\beta_{\text{normative commitment} \times \text{introjected regulation} \times \text{intrinsic motivation}} = -0.103$   $t = -2.749$ ;  $p < .01$ ). These results, based on 20,000 bootstrap samples, show

Table 7  
Results of moderation analysis.

Hypotheses	Relationship	coeff	se	t	p	Result
H2a	Amotivation x Affective Commitment	0.2614	0.1177	2.2216	0.0266	Supported
H2b	Amotivation x Affective Commitment x Continuance Commitment	-0.1694	0.0556	-3.0454	0.0024	Supported
H3a	Normative Commitment x Introjected Regulation	0.2798	0.1240	2.2559	0.0244	Supported
H3b	Normative Commitment x Introjected Regulation x Intrinsic Motivation	-0.1032	0.0375	-2.7490	0.0061	Supported



**Fig. 3.** Moderating effect of Affective Commitment on Amotivation and Normative Commitment at Low and High values of Continuance Commitment.

**Table 8**  
Summary of hypotheses.

Hypothesis Number	Hypothesis	Result
H1	Amotivation is positively related to turnover intention	Not Supported
H2	Amotivation is negatively related to normative commitment	Supported
H3	Normative commitment is negatively related to turnover intention	Supported
H4	Affective commitment moderates the relationship between Amotivation and normative commitment	Supported
H2a	Affective commitment moderates the relationship between Amotivation and normative commitment	Supported
H2b	Continuance commitment moderates the moderated relationship between amotivation and affective commitment to influence normative commitment.	Supported
H3a	Introjected regulation moderates the relationship between normative commitment and turnover intention such that at higher (lower) introjected regulation normative commitment results in lower (higher) turnover intention.	Supported
H3b	Intrinsic motivation moderates the moderated relationship between normative commitment, introjected regulation to influence turnover intention.	Supported

that the 95% Boot LLCI (-0.1768) and BOOT UL (-0.0295) shows significant values (as zero is not contained in the Lower and Upper limits), thus supporting H3b. The interactions model is significant and explains 32.9% variance in turnover intention [ $R^2 = 0.329$ ;  $F(7,763) = 53.57$ ;  $p < .001$ ]. The index of moderated moderated-mediation [index = 0.0378; Boot se = 0.0189; Boot LLCI = 0.0062; Boot ULCI = 0.0827] support the H3b.

The visual presentation of the three-way interaction was shown in two panels of Fig. 5.

The Panel A shows the relationship between normative commitment, introjected regulation, and turnover intention at low intrinsic motivation and panel B shows the relationship at high intrinsic motivation. In Panel A, we can see that turnover intention remains high at lower levels of intrinsic motivation even when introjected regulation is very high. When we move to Panel B, intrinsic plays a vital role in reducing the turnover intention. There will be a sharp decline in the curve representing the high introjected regulation. Therefore, high introjected regulation combined with high intrinsic motivation have a tendency to reduce the turnover intention when normative commitment is very high. To sum, the multiplicative effect of normative commitment, introjected regulation, and high intrinsic motivation would result in low turnover intention. These results provide strong support to the moderated moderated-

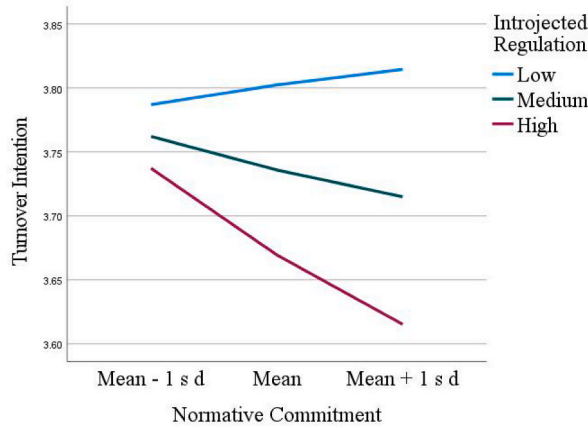


Fig. 4. Introjected Regulation moderates the relationship between Normative Commitment and Turnover Intention.

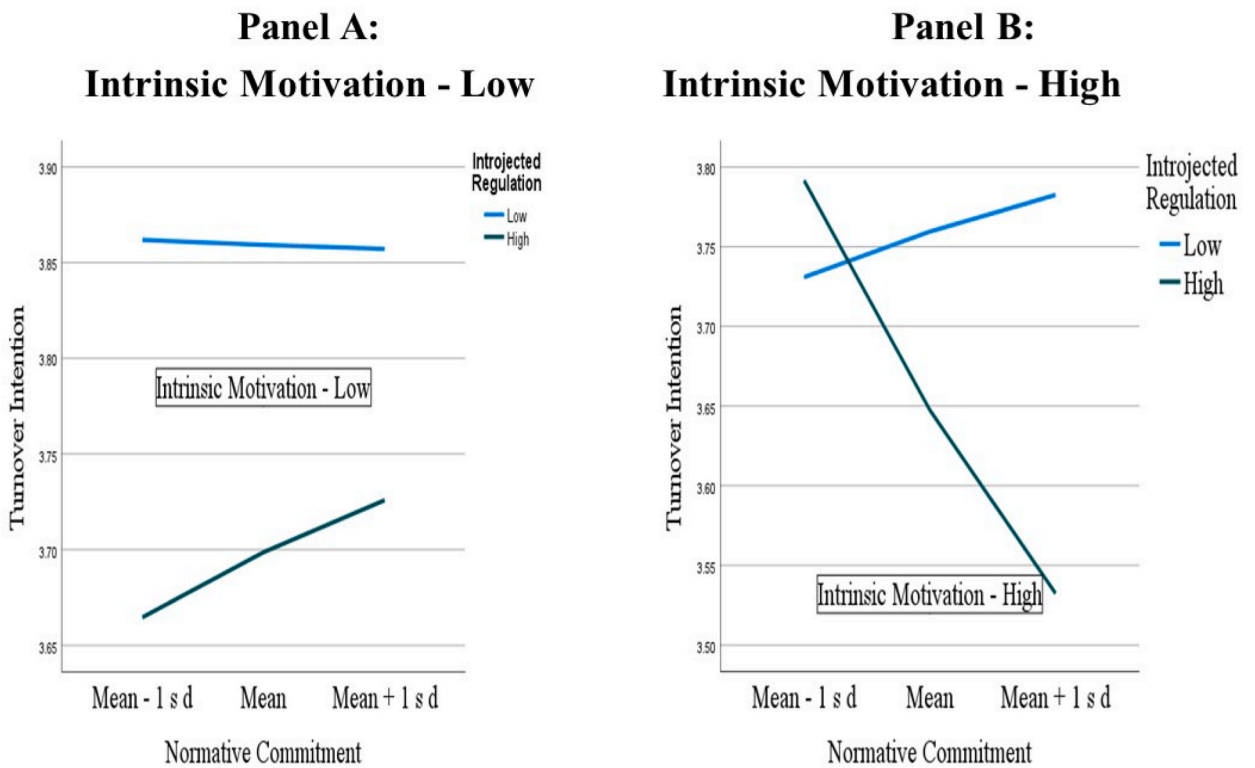


Fig. 5. Moderating effect of Introjected Regulation the relationship between Normative Commitment and Turnover Intention at low and high values of Intrinsic Motivation.

mediation hypothesis 3b.

5. Discussion and conclusions

This study investigated the relationship between amotivation and turnover intention among the faculty members from HEI in India, especially during the post-pandemic period. A double-layered complex conceptual model was developed, and hypotheses were tested using Hayes (2018) PROCESS macros. The model was validated as seven of the eight hypotheses were supported in this study.

First, the results indicate that a positive association of amotivation with turnover intention (Hypothesis 1) was not supported in this study. This is contrary to the findings from the literature [29]. One of the reasons for not finding support for the positive effect of amotivation is because of its indirect effect through normative commitment. Faculty members, though, felt that they experienced

amotivation because of their inability to cope with the sudden and paradigmatic change in the instructions from in-class to web-based. They could withstand the pressure because of their normative commitment to stay with universities. Second, the findings supported the negative association of amotivation with normative commitment (Hypothesis 2), aligning with results from previous studies in the literature [13,31]. When faculty members feel that the level of amotivation is very high, it is more likely that they will not be able to exhibit loyalty to the organization and stay, which is somewhat expected. The results support the negative impact of normative commitment on turnover intention (Hypothesis 3), corroborating the findings from the literature [35–37,41]. The extant research over three decades documented that all three components of commitment (normative commitment, affective, and continuance) have a strong negative relationship with turnover intentions.

A fourth key finding is the mediating effect of normative commitment in the relationship between amotivation and turnover intention (Hypothesis 4). Though previous studies did not examine this relationship, some evidence indicates that it is possible that amotivation influences turnover intention through normative commitment [38]. Furthermore, if the indirect effect alleviates the direct impact of amotivation on turnover intention, it is more likely that the total effect becomes non-significant [66]. Fifth, this research found that affective commitment moderated the relationship between amotivation and normative commitment (Hypothesis 2a). That is to say when faculty members have an emotional attachment toward the university they are working in, they are more likely to show loyalty, thus mitigating the ill effects of amotivation. Finally, it was found that the relationship between amotivation and normative commitment was positive when amotivation interacts with affective commitment.

Further, the relationship between amotivation and normative commitment was stronger at higher levels of affective commitment. These results are consistent with previous studies [46,48]. Sixth, the results indicate that continuance commitment adds to the strength of the interaction between amotivation and affective commitment on normative commitment (Hypothesis 2b). Though none of the previous studies examined this moderated mediation, the results corroborate with findings from one of the recent studies [50]. Seventh, introjected regulation as a moderator in the relationship between normative commitment and turnover intention (Hypothesis 3a) found support in this research. Faculty members exhibited keen interest in performing tasks because they wanted to prove to themselves that they could deliver lectures effectively. When the feelings of extrinsic motivation get internalized, it is more likely they do not exhibit the intention to leave the organization. This finding aligns with what was proposed by Deci and Ryan (1985) [51] and supported by subsequent researchers [52]. Finally, intrinsic motivation strengthens the two-way interaction between normative commitment and introjected regulation on turnover intention (Hypothesis 3b). In other words, when introjected regulation helps faculty members increase the negative relationship between normative commitment and turnover intention, intrinsic motivation further adds to the negative relationship, thereby suggesting that faculty members will not show their tendency to leave the organization. These results are in line with other studies from the literature [56]. Overall, we found the results very interesting and have several theoretical and practical implications.

### 5.1. Theoretical implications

This research has proposed a double-layered framework for the amotivation-turnover intention model that contributes to the sparse literature on amotivation in several ways. First, concurring with other studies, we used SDT to explain the volitional behavior of faculty members in HEI in a developing country, India. While most of the prior research dealt with amotivation among school students [11,16,67], this research focused on faculty members. Second, by establishing that amotivation is negatively related to normative commitment, the effect of amotivation on turnover intention was alleviated. During the ‘new normal’ period of the post-global pandemic, as HEI have undergone a phenomenal metamorphosis in terms of change in the delivery mode of lectures, the degree of stress experienced by faculty members has been noticeable [23]. The focus of our study was on amotivation, which researchers largely neglected, adds to the literature. Third, the results from this study documented that the ill effects of amotivation can be mitigated by faculty engaging in normative commitment. It is understandable that faculty members exhibit loyalty to the institutions during crises, reflected in normative commitment, which reduces their intent to leave. Fourth, by demonstrating that affective commitment enhances normative commitment by interacting with amotivation, it advances the earlier research on employee commitment and offers a new avenue to mitigate the negative effect of amotivation [46].

A fourth essential contribution of this research is the three-way interaction between amotivation, affective commitment, and continuance commitment to enhance normative commitment, which previous researchers have not investigated. The research empirically found that continuance commitment (second moderator) moderating the effect of amotivation and affective commitment (first moderator) in influencing the normative commitment advances the three-component model by corroborating the impact of each of the components as postulated by Allen and Meyer [13] and Oh [50].

The fifth pivotal contribution of this study is the influence of introjected regulation in increasing the negative impact of normative commitment on turnover intention. Further, faculty members’ intrinsic motivation helped reduce the intention to leave HEI. Most importantly, the intrinsic motivation (second moderator) in moderating the moderated effect of introjected regulation (first moderator) and normative commitment on turnover intention, supported in this research, provides a novel idea. In other words, the three-way interaction between normative commitment introjected regulation and intrinsic motivation to reduce turnover intentions substantially makes a unique contribution to the literature on commitment. Thus, the conceptual model based on SDT adds significantly to the growing literature on the theory of commitment and the sparse literature on amotivation.

### 5.2. Practical implications

The research findings have important implications for the HEI interested in retaining faculty members and remaining committed,

especially during the new normal, post-global pandemic period. First, the study focused on faculty members from HEI in India who, with inadequate infrastructure to deal with a sudden change in instructional methods, found increasing instances of amotivation. Second, from the administrators' point of view, this study recommends that focus on employee commitment plays a vital role in mitigating the ill effects of amotivation on turnover intentions. Most importantly, each of the three components of commitment has different roles to play, considering that individuals vary in different degrees about their commitment levels. For example, faculty members who are high on affective commitment may find it convenient to stick to the institutions because of the emotional bondage they developed during their tenure.

Similarly, some faculty members may feel that it would be better to stay with the institution either because of the benefits or the costs associated with leaving the institution. Third, this study highlighted the importance of normative commitment for alleviating the negative effect of amotivation on turnover intentions. As amotivation is negatively related to normative commitment, which in turn, was negatively associated with turnover intention, this study helps administrators to focus on implementing strategies that promote faculty commitment.

The fourth key recommendation stemming from this study is that it would be in the interest of both institutions. For their benefit, it would be better to exhibit introjected regulation in terms of performing tasks to prove their mettle, coupled with intrinsic motivation through which they derive pleasure and enjoyment. This study underscored the importance of both intrinsic motivation and extrinsic motivation (introjected regulation) in increasing the negative effect of normative commitment on turnover intention. Therefore, the administrators were advised to devise ways to promote the intrinsic motivation of faculty members and implement strategies to create a convenient platform for exercising extrinsic motivation. Especially under the changed conditions of an academic environment where the administrative apparatus has undergone a phenomenal metamorphosis, this study emphasized the importance of all three components of employee commitment, and introjected regulation, intrinsic motivation in alleviating the negative effect of amotivation on turnover intention of faculty members in HEI in a developing country, India.

### 5.3. Limitations and future research

We acknowledge some limitations in this research. First, the model was focused on HEI from a developing country perspective. Therefore, the results are more likely to apply to developing countries. Since the academic nature and infrastructure in developed countries are radically different from developing countries, the antecedents of amotivation may be other. However, to the extent the consequences of amotivation are similar, as most of the research conducted in school settings in developed countries are similar in western countries, the results are expected to be generalizable. Second, the social desirability bias, which is a potential problem in survey research, may have been the problem with the data. However, we attempted to minimize the social desirability bias by anonymizing the survey reports to the respondents, as suggested by previous researchers [67]. Third, common method variance is another problem associated with survey research, such as the present one. However, we addressed this problem by following the procedures recommended by Podsakoff [46] and explained it in the methods section.

The present study offers several avenues for future research. In this study, we focused on a limited number of variables. Future researchers may focus on additional variables, such as social support, psychological capital, trust management, rewards for superior performance, training, and development, that will mitigate the adverse effect of amotivation. Second, researchers may conduct surveys from large samples, which include HEI from different regions of India. Third, future studies may compare other developing countries to see if cultural differences influence the relationship between the variables covered in this study. Fourth, studies may include the effect of amotivation on job satisfaction and organizational citizenship behavior and how employee commitment affects the relationships investigated in this research. Fifth researchers may conduct comparative by having same variables between the 5 star and 4 star universities accredited by National Assessment and Accreditation Council (NAAC), sixth researchers may conduct comparative studies in between central universities and state universities, Indian Institutes of Technology [IITs], Indian Institute of management [IIMs], National Institute of Technology [NITs], Indian Institutes of Information Technology [IIITs].

### 5.4. Conclusion

Based on the SDT framework, the present study demonstrated that faculty in HEI could bounce back from crises such as the global pandemic. This study highlights the importance of the three-component model of employee commitment (normative, continuance, and affective), intrinsic motivation, and introjected regulation as crucial variables in mitigating the adverse effects of amotivation on turnover intention. Though the study was focused on faculty in HEI, the results apply to any organization. By developing a double-layered complex model, this study has specified boundary conditions where the combined effects of normative, affective, and continuance commitment are helpful in the smooth functioning of HEI. We conclude that while the global pandemic has created challenges, it has also opened up new avenues for finding ways to face crises. Most importantly, the functioning of HEI remains unaffected as long as faculty members have intrinsic and extrinsic motivation and commitment and another limitation of the study is the use of cross-sectional data. OLS with interaction terms applied to cross-sectional data can only estimate relationships and therefore cannot be interpreted as effects or impacts.

### Author contributions

Vijaya Kumar Gajenderan, Nishad Nawaz & Satyanarayana Parayitam; Conceived and designed the experiments; Performed the experiments; Wrote the paper.



Vijaya Kumar Gajenderan, Nishad Nawaz, Raman Rangarajan Analyzed and interpreted the data; Wrote the paper. Nishad Nawaz and Satyanarayana Parayitam; Contributed reagents, materials, analysis tools or data.

### Funding statement

We/I certify that financial support for this research clearly stated in the Acknowledgements section of this manuscript and grant number is 2017–60.

### Data availability statement

Data will be made available on request.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Acknowledgements

We thank professor Yunyang Xiao and the anonymous reviewers for their constructive suggestions to the earlier versions of the manuscript. We would like to extend our gratitude and acknowledge support and contribution of research council at Kingdom University, Bahrain.

### References

- [1] R.M. Ryan, E.L. Deci, Intrinsic and extrinsic motivation from a self-determination theory perspective: definitions, theory, practices, and future directions, *Contemp. Educ. Psychol.* 61 (2020), 101860, <https://doi.org/10.1016/j.cedpsych.2020.101860>.
- [2] S.F. Kalali Sani, K. Motallebzadeh, H. Khodabakhshzadeh, M. Zeraatpisheh, On the Iranian English as foreign language novice and experienced teachers' attributional styles and professional identity, *Front. Psychol.* 12 (2022) [Online]. Available: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.823815>.
- [3] R. Gopal, V. Singh, A. Aggarwal, Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19, *Educ. Inf. Technol.* 26 (6) (2021) 6923–6947, <https://doi.org/10.1007/s10639-021-10523-1>.
- [4] S. Rana, S. Verma, M.M. Haque, G. Ahmed, Conceptualizing international positioning strategies for Indian higher education institutions, *Rev. Int. Bus. Strateg.* 32 (4) (Jan. 2022) 503–519, <https://doi.org/10.1108/RIBS-07-2021-0105>.
- [5] M. Maqableh, M. Jaradat, A. Azzam, Exploring the determinants of students' academic performance at university level: the mediating role of internet usage continuance intention, *Educ. Inf. Technol.* 26 (4) (2021) 4003–4025, <https://doi.org/10.1007/s10639-021-10453-y>.
- [6] A.M. Martin, Instructor qualities and student success in higher education online courses, *J. Digit. Learn. Teach. Educ.* 37 (1) (Jan. 2021) 65–80, <https://doi.org/10.1080/21532974.2020.1815106>.
- [7] R. Banerjee, S. Halder, Amotivation and influence of teacher support dimensions: a self-determination theory approach, *Heliyon* 7 (7) (2021), e07410.
- [8] M. Cochran-Smith, S. Feiman-Nemser, D.J. McIntyre, K.E. Demers, *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts*, Routledge, 2008.
- [9] N. Nawaz, S. Durst, A. Hariharasudan, Z. Shamugia, Knowledge management practices in higher education institutions- A comparative study, *Polish J. Manag. Stud.* 22 (2) (2020) 291–308, <https://doi.org/10.17512/pjms.2020.22.2.20>.
- [10] H. Irshad, et al., Impact of work-from-home human resource practices on the performance of online teaching faculty during coronavirus disease 2019, *Front. Psychol.* 12 (2021) [Online]. Available: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.740644>.
- [11] S. Choudhury, Exigency-driven academic motivation of learners: a comparative analysis during COVID and pre-COVID scenario, *IIM Kozhikode Soc. Manag. Rev.* (2022), 22779752221090336.
- [12] Y.B. Rajabalee, M.I. Santally, Learner satisfaction, engagement and performances in an online module: implications for institutional e-learning policy, *Educ. Inf. Technol.* 26 (3) (2021) 2623–2656, <https://doi.org/10.1007/s10639-020-10375-1>.
- [13] Y. Idris Adamu, Alhaji, Wan Fauziah bt Wan, Does motivational factor influence organizational commitment and effectiveness? A review of literature, *E3 J. Bus. Manag. Econ.* 3 (1) (2012) 1–9.
- [14] R.M. Ryan, E.L. Deci, *Self-determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*, The Guilford Press, New York, NY, US, 2017.
- [15] J.P. Meyer, D.J. Stanley, T.A. Jackson, K.J. McInnis, E.R. Maltin, L. Sheppard, Affective, normative, and continuance commitment levels across cultures: a meta-analysis, *J. Vocat. Behav.* 80 (2) (2012) 225–245, <https://doi.org/10.1016/j.jvb.2011.09.005>.
- [16] M. Leyton-Román, J.J. González-Vélez, M. Batista, R. Jiménez-Castuera, Predictive model for amotivation and discipline in physical education students based on teaching-learning styles, *Sustainability* 13 (1) (2021), <https://doi.org/10.3390/su13010187>.
- [17] M. Vansteenkiste, W. Lens, E.L. Deci, Intrinsic versus extrinsic goal contents in self-determination theory: another look at the quality of academic motivation, *Educ. Psychol.* 41 (1) (2006) 19–31.
- [18] L. Lai, J.C. Kapstad, Perceived competence mobilization: an explorative study of predictors and impact on turnover intentions, *Int. J. Hum. Resour. Manag.* 20 (9) (Sep. 2009) 1985–1998, <https://doi.org/10.1080/09585190903142423>.
- [19] T.L. Durksen, R.M. Klassen, L.M. Daniels, Motivation and collaboration: the keys to a developmental framework for teachers' professional learning, *Teach. Teach. Educ.* 67 (2017) 53–66.
- [20] C.K.J. Wang, W.C. Liu, Y.H. Kee, L.K. Chian, Competence, autonomy, and relatedness in the classroom: understanding students' motivational processes using the self-determination theory, *Heliyon* 5 (7) (2019), e01983.
- [21] N. Royaei, A. Ghanizadeh, The interface between motivational and emotional facets of organizational commitment among instructors at higher education, *RIMCIS Rev. Int. y Multidiscip. en Ciencias Soc.* 5 (3) (2016) 228–252.
- [22] D.M. Barch, E.C. Dowd, Goal representations and motivational drive in schizophrenia: the role of prefrontal-striatal interactions, *Schizophr. Bull.* 36 (5) (2010) 919–934.
- [23] G.S. D'Souza, F.G. Irudayasamy, S.A. Usman, V.S. Andiappan, S. Parayitam, The effect of emotional intelligence and psychological capital on knowledge, service and leadership excellence: knowledge sharing and trust as moderators, *FIBB Bus. Rev.* (2021), 23197145211065090.
- [24] P.A. Oguta, Teacher motivation methods and their impact on student academic performance [Online]. Available: *Int. J. Nov. Res. Educ. Learn.* 8 (5) (2021) 1–6.



- [25] Z. Wanzare, Instructional supervision in public secondary schools in Kenya, *Educ. Manag. Adm. Leader* 40 (2) (Dec. 2011) 188–216, <https://doi.org/10.1177/1741143211427977>.
- [26] H. Yan, Student and teacher de-motivation in SLA, *Asian Soc. Sci.* 5 (1) (2009) 109.
- [27] M. V. Covington, "Goal Theory, Motivation, and School Achievement: An Integrative Review," *Annu. Rev. Psychol.* 51 (1) (Feb. 2000) 171–200, <https://doi.org/10.1146/annurev.psych.51.1.171>.
- [28] R.M. Ryan, E.L. Deci, Intrinsic and Extrinsic Motivations: Classic Definitions and New directions," *Contemporary Educational Psychology* vol. 25, Elsevier Science, Netherlands, 2000, pp. 54–67, <https://doi.org/10.1006/ceps.1999.1020>.
- [29] J.G. Greeno, The cognitive skill of teaching, *J. Educ. Psychol.* 78 (2) (1986) 75–95.
- [30] H. Bang, S. Ross, T.G. Reio, From motivation to organizational commitment of volunteers in non-profit sport organizations, *J. Manag. Dev.* 32 (1) (Jan. 2013) 96–112, <https://doi.org/10.1108/02621711311287044>.
- [31] D. Ma, The role of motivation and commitment in teachers' professional identity, *Front. Psychol.* 13 (2022) [Online]. Available: <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.910747>.
- [32] F. Lauermaun, S.A. Karabenick, R. Carpenter, C. Kuusinen, Teacher Motivation and Professional Commitment in the United States: the Role of Motivations for Teaching, Teacher Self-Efficacy and Sense of Professional Responsibility, 2017.
- [33] L. George, T. Sabapathy, Work motivation of teachers: relationship with organizational commitment, *Can. Soc. Sci. J.* 7 (1) (2011) 90–99.
- [34] P.K. Agarwal, The influence of work motivation & job satisfaction on organizational commitment of teachers: analyzing mediating role of job satisfaction, *Skyline Bus. J.* 14 (1) (2018) 1–12.
- [35] Y. Acikgoz, H.C. Sumer, N. Sumer, Do employees leave just because they can? Examining the perceived employability–turnover intentions relationship, *J. Psychol.* 150 (5) (2016) 666–683.
- [36] T.W. Lee, P. Hom, M. Eberly, J.J. Li, Managing employee retention and turnover with 21st century ideas, *Organ. Dynam.* 47 (2) (2018) 88–98.
- [37] S. Nazir, A. Shafi, W. Qun, N. Nazir, Q.D. Tran, Influence of organizational rewards on organizational commitment and turnover intentions, *Employee Relat.* 38 (4) (Jan. 2016) 596–619, <https://doi.org/10.1108/ER-12-2014-0150>.
- [38] R.M.Y. Guntur, S. Haerani, M. Hasan, The influence of affective, continuance and normative commitments on the turnover intentions of nurses at Makassar's private hospitals in Indonesia, *Afr. J. Bus. Manag.* 6 (38) (2012), 10303.
- [39] M.S. Alamri, T.I. Al-Duhaim, Employees perception of training and its relationship with organizational commitment among the employees working at Saudi industrial development fund, *Int. J. Bus. Adm.* 8 (2) (2017) 25–39.
- [40] A. Newman, R. Thanacoody, W. Hui, The impact of employee perceptions of training on organizational commitment and turnover intentions: a study of multinationals in the Chinese service sector, *Int. J. Hum. Resour. Manag.* 22 (8) (Apr. 2011) 1765–1787, <https://doi.org/10.1080/09585192.2011.565667>.
- [41] A.M. Rawashdeh, S.A. Tamimi, The impact of employee perceptions of training on organizational commitment and turnover intention, *Eur. J. Train. Dev.* 44 (2/3) (Jan. 2020) 191–207, <https://doi.org/10.1108/EJTD-07-2019-0112>.
- [42] D.O. Faloye, Organisational commitment and turnover intentions: evidence from Nigerian paramilitary organisation, *Int. J. Bus. Econ. Dev.* 2 (3) (2014).
- [43] A. Hussain, M.A. Khan, J. Hussain, Interplay of organizational commitment and turnover intention in academic sector, *Rev. Econ. Dev. Stud.* 6 (2) (2020) 401–412.
- [44] N.J. Allen, J.P. Meyer, The measurement and antecedents of affective, continuance and normative commitment to the organization, *J. Occup. Psychol.* 63 (1) (1990) 1–18.
- [45] O.N. Solinger, W. van Olffen, R.A. Roe, Beyond the three-component model of organizational commitment.,” *Journal of Applied Psychology*, vol. 93. American Psychological Association, Solinger, Omar N.: Department of Organization and Strategy, Maastricht University, P.O. Box 616, Maastricht, Netherlands (2008) 70–83, <https://doi.org/10.1037/0021-9010.93.1.70>.
- [46] K. Somaskandan, S. Arulandu, S. Parayitam, A moderated-mediation model of individual learning and commitment: part I, *Learn. Organ.* 29 (4) (Jan. 2022) 341–356, <https://doi.org/10.1108/TLO-12-2021-0139>.
- [47] R.T. Mowday, R.M. Steers, L.W. Porter, The measurement of organizational commitment, *J. Vocat. Behav.* 14 (2) (1979) 224–247, [https://doi.org/10.1016/0001-8791\(79\)90072-1](https://doi.org/10.1016/0001-8791(79)90072-1).
- [48] R.W. Griffith, P.W. Hom, S. Gaertner, A meta-analysis of antecedents and correlates of employee turnover: update, moderator tests, and research implications for the next millennium, *J. Manag.* 26 (3) (2000) 463–488.
- [49] Y. Wiener, Commitment in organizations: a normative view, *Acad. Manag. Rev.* 7 (3) (1982) 418–428.
- [50] H.S. Oh, Organizational commitment profiles and turnover intention: using a person-centered approach in the Korean context, *Front. Psychol.* 10 (2019) [Online]. Available: <https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01499>.
- [51] R.M. R. Edward L. Deci, *Intrinsic Motivation and Self-Determination in Human Behavior*, first ed., Springer, New York, NY, 1985.
- [52] M. Montague, D. van Garderen, A cross-sectional study of mathematics achievement, estimation skills, and academic self-perception in students of varying ability, *J. Learn. Disabil.* 36 (5) (Sep. 2003) 437–448, <https://doi.org/10.1177/00222194030360050501>.
- [53] H.M. Kehr, Integrating implicit motives, explicit motives, and perceived abilities: the compensatory model of work motivation and volition, *Acad. Manag. Rev.* 29 (3) (2004) 479–499.
- [54] R.W. Quinn, Flow in knowledge work: high performance experience in the design of national security technology, *Adm. Sci. Q.* 50 (4) (Dec. 2005) 610–641, <https://doi.org/10.2189/asqu.50.4.610>.
- [55] A. Dysvik, B. Kuvaas, The relationship between perceived training opportunities, work motivation and employee outcomes, *Int. J. Train. Dev.* 12 (3) (2008) 138–157.
- [56] I. Houkes, P.P.M. Janssen, J. de Jonge, F.J.N. Nijhuis, Specific relationships between work characteristics and intrinsic work motivation, burnout and turnover intention: a multi-sample analysis, *Eur. J. Work. Organ. Psychol.* 10 (1) (2001) 1–23.
- [57] P. Goel, S. Parayitam, A. Sharma, N.P. Rana, Y.K. Dwivedi, A moderated mediation model for e-impulse buying tendency, customer satisfaction and intention to continue e-shopping, *J. Bus. Res.* 142 (2022) 1–16.
- [58] M. Gagné, et al., The Multidimensional Work Motivation Scale: validation evidence in seven languages and nine countries, *Eur. J. Work. Organ. Psychol.* 24 (2) (2015) 178–196.
- [59] S.O. Olusegun, Influence of job satisfaction on turnover intentions of library personnel in selected universities in South West Nigeria, *Libr. Philos. Pract.* 914 (2013) 1–22.
- [60] J.C. Anderson, D.W. Gerbing, Structural equation modeling in practice: a review and recommended two-step approach, *Psychol. Bull.* 103 (3) (1988) 411.
- [61] J.C. Nunnally, *The Assessment of Reliability, Psychom. theory*, 1994.
- [62] P.M. Podsakoff, S.B. MacKenzie, J.-Y. Lee, N.P. Podsakoff, Common method biases in behavioral research: a critical review of the literature and recommended remedies, *J. Appl. Psychol.* 88 (5) (2003) 879.
- [63] A.S. Tsui, S.J. Ashford, L.S.T. Clair, K.R. Xin, Dealing with discrepant expectations: response strategies and managerial effectiveness, *Acad. Manag. J.* (6) (1995) 1515–1543, <https://doi.org/10.5465/256842>. Dec38.
- [64] C. Fornell, D.F. Larcker, Structural equation models with unobservable variables and measurement error: algebra and statistics, *J. Mar. Res.* 18 (3) (1981) 382, <https://doi.org/10.2307/3150980>.
- [65] D.C. Montgomery, E.A. Peck, G.G. Vining, *Introduction to Linear Regression Analysis*, John Wiley & Sons, 2021.
- [66] A.F. Hayes, Partial, conditional, and moderated moderated mediation: quantification, inference, and interpretation, *Commun. Monogr.* 85 (1) (Jan. 2018) 4–40, <https://doi.org/10.1080/03637751.2017.1352100>.
- [67] N. Leroy, P. Bressoux, Does amotivation matter more than motivation in predicting mathematics learning gains? A longitudinal study of sixth-grade students in France, *Contemp. Educ. Psychol.* 44 (45) (2016) 41–53, <https://doi.org/10.1016/j.cedpsych.2016.02.001>.