



Causes and consequences of academics' emotions in private higher education institutions: implications for policy and practice through the lens of affective events theory

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Abstract

This study aims at testing a few tenets of affective events theory (AET) from a predictive perspective in the context of Malaysian private higher education sector. Specifically, we examined the impact of workload and autonomy on academics' job satisfaction through interpersonal conflict and affective states. Additionally, the impact of affective states on job satisfaction via job performance was considered. We gathered data from 325 academics and analyzed them through partial least squares methodology. Our findings corroborated AET tenets considerably. The importance of the joint consideration of workload and autonomy in positively contributing to job satisfaction was highlighted. In addition, positive affect was identified as a stronger predictor of job satisfaction (as an attitude) and job performance (as an affect-driven behavior), comparing with negative affect. Specifically, positive affect was the strongest construct in increasing academics' job satisfaction in our theoretical model. The findings indicated policy relevance at both the macro and institutional levels and had managerial and practical implications for future research direction in human resource management in the private higher education sector.

Keywords Affective events theory · Malaysian private higher education · Satisfaction-performance link · Affective states · FIMIX-PLS

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1 Introduction

Universities, especially those operating in a neoliberal market environment, must cope with new roles such as ensuring social cohesion, harmony, and sustainability as mandated by higher education systems. With the launch of the sustainable development goals (SDGs) in 2015, many universities have had to more fully address present and future settings in the context of social well-being and sustainability. Arguably, these entities have been both indicators and tools in the unification of a society to the extent that the display of scholarly achievements and potentials can boost the nation's pride (Wan et al. 2015). From an economic perspective, universities' economic role(s) and their need for improvement and growth have led many Asian countries to adopt the western academic models, which typically revolve around patterns of institutional governance, the ethos of academic profession, the rhythm of academic life, and the procedures of examination and assessment (Lee et al. 2017). In Malaysia, as an example of a higher education system comprised of both public and private sectors (Wan and Morshidi 2018a), improvement in the global university ranking hierarchy is often attributed to the contribution of the academic staff and graduate candidates in one important criterion: Publications in high level (i.e., high impact) internationally recognized journals. Interestingly, studies of the Malaysian public universities have shown that publications and research are believed to carry higher weight in the academic promotion system in comparison with the contribution of teaching (Norzaini et al. 2016). In contrast, private universities are not under intense pressure from the government to increase their research output. Nonetheless, pressure naturally ensues in the competition with public universities for students and international academic staff (Chapman et al. 2017). This situation would necessarily turn these universities into very stressful workplaces for academic staff in terms of achieving their key personal performance indicators and institutions' mission and vision (Ghasemy et al. 2018). Therefore, promoting a human resource environment based on positive emotions and job satisfaction is imperative.

According to the Malaysian Qualifications Agency, as of November 2020, the private system consisted of 522 entities, including 83 universities (including foreign branch campuses), 43 university colleges, and 396 colleges. In addition, based on the statistics published by the Ministry of Higher Education Malaysia, as of 2018, the number of the students and academics in these institutions was reported to be 668,689 and 22,980, respectively. Similar to the public universities, private universities offer an extensive range of programs in engineering and business (Wan 2018). Additionally, successful private higher education institutions have demonstrated sustainable businesses (Azlan et al. 2019). Based on such a business model coupled with flexible academic admission criteria and learning environment, the Malaysian private institutions have been able to fully utilize their capacity to enroll students of diverse post-secondary academic qualifications and levels of affordability.

Notwithstanding, while the role of private institutions in the national economy in terms of positive contribution to the national revenue is widely researched and well-presented, from the literature, studies have generally focused on job performance and job satisfaction of academics in higher education institutions from behavioral or demographic perspectives [see Eyupoglu and Saner (2009), Du et al. (2010) and Sabharwal and Corley (2009)]. Emotional reactions, however, which are considered essential determinants of job performance and job satisfaction of employees (Weiss and Beal 2005), have not been given due attention in higher education research. More importantly, although decreasing work stress and increasing health of employees through both reducing negative and increasing positive

affective events in organizations have been suggested (Bono et al. 2013), there is still a gap in the literature on the importance of the psychological and mental states of academics.

In order to explore this, the present study tests a few tenets of affective events theory (AET), originally developed by Weiss and Cropanzano (1996), in the context of the Malaysian private higher education institutions. Our study, guided by AET, is premised on the notion that the features of the work environment impact academics' job satisfaction both directly and indirectly through affective work events and emotional reactions. In addition, the impact of job performance on job satisfaction in our proposed model is another relevant research topic (Schermerhorn et al. 2010; Uhl-Bien et al. 2014).

Given that job satisfaction, which is negatively influenced by the perceived strain as an stressful work event (Fuller et al. 2003), is also related to such psychological withdrawal behaviors as daydreaming, cyber-loafing, and excessive socializing that are forms of work disengagement (Schermerhorn et al. 2010), focusing on this construct appears to be critical and meaningful. In addition, as quoted by Tillman et al. (2018), researchers have been encouraged to carry out more research work focusing on the affective process of work outcomes (Walter and Bruch 2009), thereby providing more substantial rationale for this study. Notably, while our results seem to be useful to the diverse stakeholders in higher education, policymakers would benefit immensely from this study since it enables them to engage in data-driven evidence-based policy-making processes that are applied to the universities which are expected to boost the economy (Wan et al. 2015) and continue to explore sustainable business models (Azlan et al. 2019). These business models would explain workplace situations in terms of academics' job performance and job satisfaction.

2 Theoretical framework

This study draws upon affective events theory [hereafter, AET; (Weiss and Cropanzano 1996)]. With a focus on the structure, causes, and consequences of affective experiences at work, AET was offered as a roadmap for future research on emotions in organizational contexts (Weiss and Beal 2005). Based on AET, (a) work events, caused by work environment features, act as emotional stimuli resulting in positive and negative affective states, (b) affective states are seen as drivers for affect-driven behaviors and attitudes, (c) attitudes are influenced by both work environment features and affective states and also influence judgment-driven behaviors, and (d) personality traits play a moderating role in the relationship between affective work events and affective states (Weiss and Beal 2005; Cropanzano et al. 2017; Weiss and Cropanzano 1996). The macrostructure of AET is illustrated in Fig. 1.

Due to the complexity of AET and in the interest of parsimony, the focus of this study is on verifying a theoretical framework displayed in Fig. 2 which explains the relationships among work environment features, work events, affective states, attitudes, and affect-driven behaviors. Additionally, given the large number of empirical studies focusing on the job performance–job satisfaction link—that is also referred to as the “holy grail” of the industrial psychologists (Landy 1989)—and the controversies over the existence and the direction of this link in the literature (Schermerhorn et al. 2010; Judge et al. 2001; Bowling 2007; Uhl-Bien et al. 2014), the relationship between these two constructs is assessed although the two are not directly linked together based on AET (Redmond 2007; Weiss and Beal 2005). More specifically, we examined the impact of job performance on job satisfaction in our model. This decision, in line with the proposition made by Schermerhorn et al. (2010) and Uhl-Bien et al. (2014), was based on two reasons: (a) job satisfaction alone is

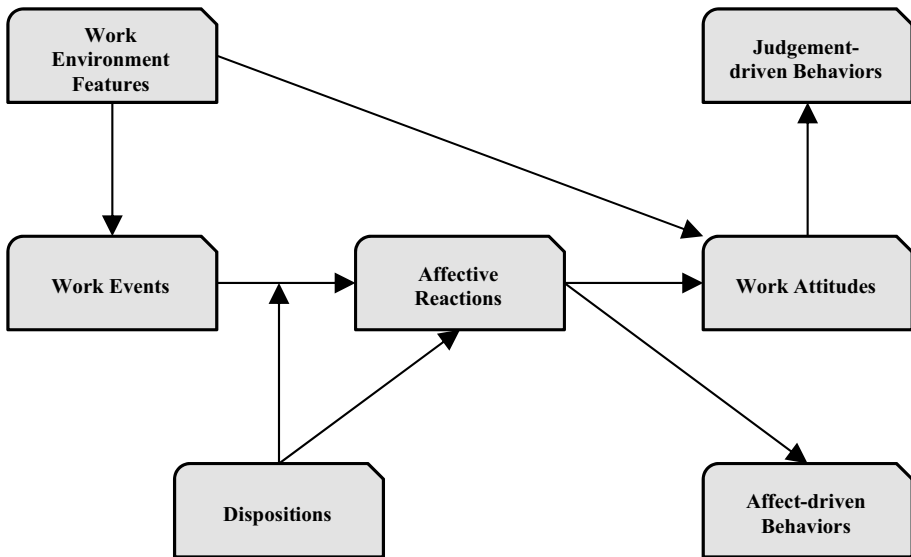


Fig. 1 The macrostructure of AET (Weiss and Cropanzano 1996)

not a consistent determinant of job performance and (b) it is generally meaningful that individuals should be satisfied about their job when they perform well.

The five constructs in our theoretical framework deserve further explication. Beginning on the left side, work environment features include autonomy, which signifies providing employees with a margin of freedom to carry out their tasks (Patterson et al. 2005), and workload (or pressure to produce), which refers to the extent to which the employees are pressured to achieve objectives (Taira 1996). Subsequent is work events, here manifest as interpersonal conflict, which addresses having experienced difficult relationships with co-workers (Schermerhorn et al. 2010). The third construct is affective states, which in psychology include the range of feelings, emotions, and moods experienced by individuals (Hogg et al. 2010), while the fourth construct is affect-driven behavior, namely job performance, which is the total anticipated value added to the organization by the discrete behavioral episodes that an individual carries out over a length of time (Motowidlo and Kell 2003). The fifth and final construct is job satisfaction, which is influenced by different internal and external elements such as interpersonal relationships and working conditions (Rosa-Díaz et al. 2019) and represents the evaluative judgment of an individual's job or job situation (Weiss and Beal 2005).

In the following sections, the hypotheses that comprise our theoretical framework will be introduced.

2.1 The link of work environment features and attitude

The first set of hypotheses focuses on the links between work environment features (e.g., workload and autonomy) and job satisfaction as an attitude. There are many studies which have tested this tenet of AET. For instance, a study by Vann (2017) showed a significant relationship between employees' job satisfaction, as an attitude, and their perception of supervisory support, as a work environment feature. In addition, a longitudinal study

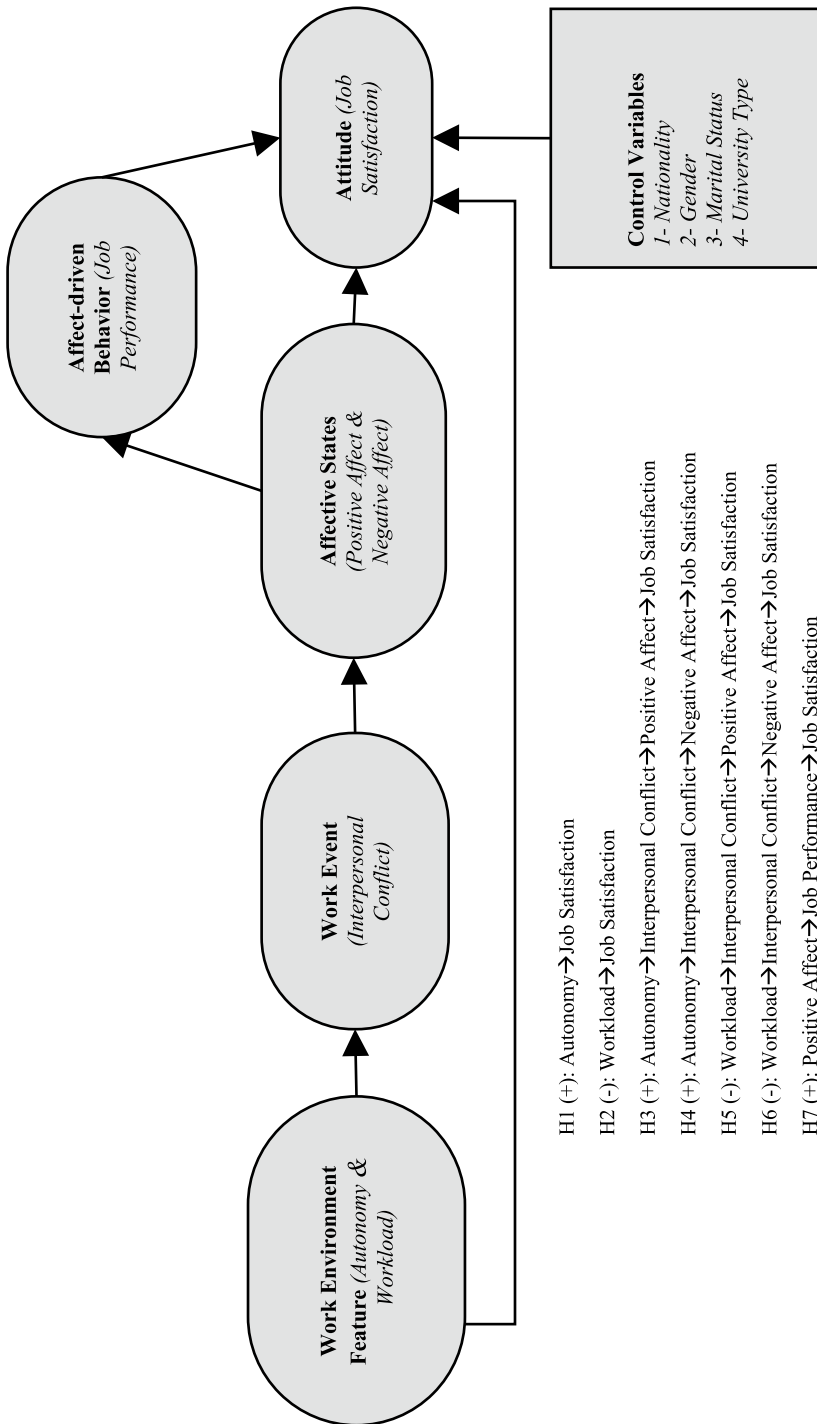


Fig. 2 Theoretical framework

provided empirical evidence for the relationship between the baseline supervisory support and the baseline job satisfaction of the clinical care providers (Fukui et al. 2019). In another study, it was shown that while the level of time pressure and coworker support was higher among workers in mid-career, yet the relationship between age and job satisfaction was mediated by both the level of time pressure and coworker support (Zacher et al. 2014). Moreover, there is empirical evidence that an excessive workload can cause time constraints or work-life balance difficulties, thereby reducing job satisfaction (Donovan 2018).

We thus arrive at the first set of hypotheses. Here and in the following sections, the reader should understand “selected demographic features” to mean nationality, gender, marital status, and university type. In accordance with the previous research findings and drawing upon AET, the following two hypotheses were developed:

H1 Academics’ autonomy in the Malaysian private institutions of higher learning positively influences their job satisfaction while controlling for the selected demographic features.

H2 Academics’ workload in the Malaysian private institutions of higher learning negatively influences their job satisfaction while controlling for the selected demographic features.

2.2 The link of work environment features, work events, affective states, and attitude

The second set of hypotheses is related to the chain of four constructs shown from left to right in Fig. 2. In the initial relationship and with respect to the impact of work environment features on work events, Lam and Chen (2012) found empirical evidence for a positive link between supervisory support (a work environment feature) and the supervisory interactional justice (a work event). This approach connects directly with the philosophy of *servant leadership* through which leaders promote positive affect, autonomy, self-efficacy, and constructive attitudes (Liden et al. 2008; Rosa-Díaz et al. 2019). In another study, Matthews et al. (2010) found empirical evidence for the negative causal relationship between social support (a work environment feature) and work-family conflict (a work event), with the effect being stronger among older workers. Moreover, focusing on open-plan offices, Ashkanasy et al. (2014) highlighted the relationship between work environment features related to privacy, identity, and crowding and work events, namely distractions/noise and invasions.

With respect to the second relationship in terms of the influence of work events on affective states, Zhao et al. (2007) found that perceived psychological contract breaches lead to such negative affective states as violation and mistrust. Similarly, experience of abusive supervision (a negative work event) was found to result in negative emotional reactions (Tillman et al. 2018) and to negative attitudes about the workplace with subsequent counterproductive work behaviors (Shoss et al. 2016). Moreover, the relationship between perceived organizational politics (a work event) and intrinsic motivation (an attitude) was found to be partially mediated by depression (Cho and Yang 2018).

Regarding the third pair, which consists of the causal relationship between affective states and the attitudes, Volmer et al. (2018) found strong empirical support for the positive relationship between positive affect and creativity, as a multidimensional attitude, that generates self-efficacy, job satisfaction, extra value, and competition advantages, and which is empowered by transformational and servant leaders (Rosa-Díaz et al. 2019; Wang et al.

2014). In the same line, Yan et al. (2018) identified a correlation between high levels of emotional intelligence with greater job satisfaction and work engagement, mainly among female employees. Finally, Fuller et al. (2003) examined the link between affective states and job satisfaction and concluded a likely causal effect of daily mood on both concurrent and next-day job satisfaction. Indeed, as highlighted by Ashkanasy et al. (2014), workplace environment features and situations are viewed as the immediate causes of events and their associated affective states may ultimately influence employees' immediate and long-term behaviors and attitudes.

Building upon previous arguments in the literature and guided by AET, the following hypotheses were considered:

H3 Interpersonal conflict and positive affect positively mediate the relationship between academics' autonomy and job satisfaction in the Malaysian private institutions of higher learning while controlling for the selected demographic features.

H4 Interpersonal conflict and negative affect positively mediate the relationship between academics' autonomy and job satisfaction in the Malaysian private institutions of higher learning while controlling for the selected demographic features.

H5 Interpersonal conflict and positive affect negatively mediate the relationship between academics' workload and job satisfaction in the Malaysian private institutions of higher learning while controlling for the selected demographic features.

H6 Interpersonal conflict and negative affect negatively mediate the relationship between academics' workload and job satisfaction in the Malaysian private institutions of higher learning while controlling for the selected demographic features.

2.3 The link of affective states, affect-driven behavior, and attitude

The third set of hypotheses is related to the triangular set of affective states, affect-driven behavior, and attitude. The impacts of affective states on the attitudes and affect-driven behaviors have grabbed the attention of many social science researchers (Porath and Pearson 2012). In this context, it is interesting to refer to organizational citizenship behavior (OCB) that is as an affect-driven behavior which comes from positive emotions and feelings promoted by favorable characteristics of the work environment features such as positive reinforcement, autonomy, support, and the philosophy of servant leaders (Rosa-Díaz et al. 2019).

In general, the positive affective states promote positive work attitudes and positive behaviors (Chen et al. 2001). In this regard, Zagelmeyer et al. (2018) have developed a recent study focusing on merger and/or acquisition process, whereby the positive and negative emotions were found to be related to the attitudes and behaviors of the employees, as well as even the success of the merger or acquisition. Furthermore, Zhao et al. (2007) found empirical evidence for the link between negative affects, such as mistrust and violation, with job performance and organizational citizenship behavior. In addition, Li et al. (2018) observed the impact of negative affect on outcomes namely nurses' leave and avoidance behaviors. Moreover, Lam and Chen (2012) found evidence for the impact of surface and deep acting, as affect-driven behaviors, on job satisfaction. Lastly, as examples in higher education context, Ghasemy et al. (2020b) and Ghasemy et al. (2019) found statistically

significant but practically irrelevant effects running from job performance of academics to their job satisfaction.

Thus, building upon AET, and based on the controversies over the direction of the relationship between job performance and job satisfaction (Schermerhorn et al. 2010; Uhl-Bien et al. 2014), the following hypotheses were formulated:

H7 Job performance of academics in the Malaysian private institutions of higher learning positively mediates the relationship between their positive affect and job satisfaction while controlling for the selected demographic features.

H8 Job performance of academics in the Malaysian private institutions of higher learning negatively mediates the relationship between their negative affect and job satisfaction while controlling for the selected demographic features.

3 Method

3.1 Research design

This quantitative survey design study, underpinned by the assumptions and considerations of post-positivism world view (Creswell 2012), focused on academic staff working in the Malaysian private universities and university colleges. More specifically, the major concern in this study was to assess the contributions of a few factors such as autonomy, workload, and interpersonal conflict on outcomes namely affective states, job satisfaction, and job performance of academics in these institutions of higher learning.

3.2 Analytic procedure

Data were collected randomly through administering the online version of the survey instrument and its completion guidelines via the SurveyMonkey website. Partial least square structural equation modeling (PLS-SEM) was utilized in this predictive-explanatory study to test the theoretical framework from a predictive perspective (Ringle et al. 2018), deal with the complexity of the model (Hair et al. 2019a), undertake incremental research (Chin 2010), and run mediator analysis (Nitzl et al. 2016). The use of PLS-SEM is appropriate in mediator analysis inasmuch as it employs a bootstrapping procedure, which makes no assumption about the shape of the variables' distribution and is robust for the analysis of small sample sizes (Hair et al. 2019b).

Lastly, the guidelines by Ghasemy et al. (2020c) were followed to analyze the data using SmartPLS 3 (Ringle et al. 2015).

3.3 Measures and covariates

Data were collected with a battery of six instruments. To collect data for the two work environment features, the scales of workload (or pressure to produce) and autonomy developed by Patterson et al. (2005) were chosen. Each of these scales had five items which were rated using a 5-point Likert scale anchored by 1 (definitely false) and 5 (definitely true). Data for interpersonal conflict were collected using Spector and Jex (1998)'s 4-item

interpersonal conflict at work scale (ICAWS). Respondents were provided with another 5-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always) to rate the items.

With respect to the positive and negative affective states, the positive and negative affect schedule (PANAS) by Watson et al. (1988) was employed. This scale consists of 20 words that describe different positive and negative affective states (e.g., alert and scared). Notably, the respondents were asked to rate each item based on their general feelings with respect to experiencing each affective state at work using a 5-point Likert scale, ranging from 1 (very slightly) to 5 (extremely).

The data for the job performance were collected using the 9-item performance appraisal scale by Miller and Cardy (2000). Although items in the original scale were in the third-person voice, in the current study all items were changed to the first-person voice. Each item was rated by the respondents on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Finally, job satisfaction was assessed with the 10-item generic job satisfaction scale¹ by Macdonald and Macintyre (1997) and with the same Likert scale that had been provided for the job performance scale.

Although this study is predictive-explanatory, four binary covariates were added to the theoretical model to address the issue of endogeneity (Hult et al. 2018), which can be a source of bias in PLS-SEM modeling when estimating path coefficients in primarily explanatory research works (Hair et al. 2019a). Specifically, in the interest of parsimony and given the importance of job satisfaction in social sciences research (Mitchell 2011), the impacts of gender (male/ female), marital status (married/ single), university type (private university/ private university college), and nationality (Malaysian/ non-Malaysian) on job satisfaction were considered in this study. Notably, gender and marital status are two of the widely used covariates in organizational research (Bernerth and Aguinis 2016) and we added nationality and university type to our model since Malaysia is a multicultural and multilingual country and many international academics work in different types of institutions (Wan and Morshidi 2018b) in this regional educational hub (Knight and Morshidi 2011). The selected items of each scale are shown in “Appendix A”.

3.4 Participants, sampling procedure, and sample size

We created a database of email addresses of 2300 academics working in private institutions as an input for SurveyMonkey platform to collect data online. In total, 325 completed surveys were collected (response rate = 14.13%). First, we reverse-coded a few items of the workload, autonomy, and job performance scales as per instructions of the developers of these scales. Then, we replaced the missing values by the median of the observed variables, and then, we examined the cases to detect multivariate outliers through computing the squared Mahalanobis distance (Byrne 2016). The results of this procedure revealed three cases with undue influence over the analysis. Hence, we dropped them from the dataset prior to the main analysis. Table 1 presents the demographic profile of the 322 academicians in the Malaysian private universities as well as private university colleges that participated in this study. It is important to highlight that the maximum number of arrows pointing to an endogenous variable in our model is 9 (5 predictors and 4 covariates point to job satisfaction), and therefore, a sample of 150 is needed to achieve a statistical power

¹ The term “company” in one of the items in the original scale changed to “institution” to make it consistent with the university domain.

Table 1 Profile of the academics in this study ($N=322$)

Variable	Frequency	Percent
<i>Gender</i>		
Male	150	46.6
Female	172	53.4
<i>Marital status</i>		
Single	73	22.7
Married	249	77.3
<i>Age group</i>		
Below 30	21	6.5
31–40	103	32.0
41–50	118	36.6
51–60	49	15.2
Over 60	31	9.6
<i>Nationality</i>		
Malaysian	262	81.4
Non-Malaysian	60	18.6
<i>Background</i>		
Science	78	24.2
Social science	139	43.2
Engineering	42	13.0
Medical and dental	63	19.6
<i>University type</i>		
Private University	243	75.5
Private University College	79	24.5

of 80% for detecting R^2 values of at least 0.1 (with a 5% probability of error). In this study, our sample size is more than double this value, which suggests there is no cause for concern regarding the required sample size.

3.5 Common method bias (CMB)

Given that the data had been collected using self-report scales and these scales could be potential sources for CMB (Podsakoff et al. 2012), a full collinearity assessment (Kock 2015) was run to test for potential CMB in the context of PLS-SEM. As indicated by Kock (2015), full collinearity variance inflation factors (VIFs) smaller than 3.3 indicate that CMB is not problematic in the study. The results displayed in Table 2 show a maximum value of 1.961, which signifies that CMB was not a source of concern in the analysis.

4 Results

We followed the principles proposed by Ghasemy et al. (2020c) to evaluate the measurement and structural models. Specifically, we first assessed measurement models, after which the structural model was evaluated, and then a structural model robustness check was performed.

Table 2 CMB assessment based on the full collinearity approach

Construct	Full collinearity VIF
Autonomy	1.293
Gender	1.134
Interpersonal conflict	1.387
Marital status	1.072
Nationality	1.160
Negative affect	1.691
Performance	1.104
Positive affect	1.750
Satisfaction	1.961
University type	1.050
Workload	1.227

4.1 Measurement model evaluation

First, we assessed the reliability of the items by examining composite loadings or correlation weights (Hair et al. 2018). Given the recommended threshold of 0.708 (0.7 in practice) for loadings that ensures the construct explains more than 50% of the indicator's variance (Ghasemy et al. 2020c), we identified and deleted the non-contributing items from all the scales. Next, we focused on internal consistency reliability assessment. For this purpose, we estimated three measures, namely Cronbach's alpha, composite reliability (CR), and Rho_A (Dijkstra and Henseler 2015). Afterward, we assessed convergent validity of the scales based on the average variance extracted (AVE) measures.

Our evaluation showed that all the loadings were above 0.7, the reliability estimates were within the accepted range of 0.7–0.95, and the AVEs were above 0.5. This implied the establishment of indicator reliability, internal consistency reliability, and convergent validity based on the guidelines proposed by Ghasemy et al. (2020c). Detailed information about reliability and convergent validity as well as one-sided 95% bootstrap confidence intervals of these statistics are presented in Table 3.

Last, we used the heterotrait-monotrait (HTMT) criterion (Henseler et al. 2015) to assess discriminant validity. Typically, HTMT values less than 0.85 indicate a satisfactory level of discriminant validity (the HTMT_{0.85} criterion). As suggested by Ghasemy et al. (2020c), we considered the guidelines by Franke and Sarstedt (2019) in establishing discriminant validity and performed a bootstrapping analysis to ensure that the upper bound of HTMT confidence intervals was less than 0.85. The results of our assessment, displayed in Table 4, showed that all the HTMT values and the upper bound of their one-sided 95% bootstrap confidence intervals were less than 0.85; thus, discriminant validity was adequate.

4.2 Structural model evaluation

To evaluate the structural model, a bevy of features was examined. Consistent with the guidelines by Ghasemy et al. (2020c), first collinearity among the exogenous constructs, the significance and relevance of path coefficients, and the indirect effects

Table 3 Loadings, reliability, and convergent validity estimates

Construct	Item	Loading	Alpha	Rho_A	CR	AVE
Autonomy	AUTO1	0.785	0.780	0.786	0.858	0.602
	AUTO2	0.748	[0.735, 0.818]	[0.748, 0.834]	[0.832, 0.879]	[0.555, 0.646]
	AUTO3	0.757				
	AUTO4	0.812				
Interpersonal conflict	IC2	0.788	0.830	0.851	0.898	0.747
	IC3	0.900	[0.789, 0.865]	[0.816, 0.888]	[0.876, 0.917]	[0.703, 0.788]
	IC4	0.901				
Negative affect	NA1	0.765	0.876	0.880	0.910	0.670
	NA4	0.808	[0.845, 0.902]	[0.854, 0.906]	[0.890, 0.927]	[0.618, 0.718]
	NA7	0.857				
	NA8	0.808				
	NA9	0.851				
Positive affect	PA1	0.895	0.894	0.895	0.926	0.759
	PA3	0.903	[0.870, 0.913]	[0.875, 0.915]	[0.912, 0.939]	[0.721, 0.793]
	PA6	0.817				
	PA9	0.867				
Performance	PER6	0.735	0.774	0.788	0.854	0.595
	PER7	0.777	[0.730, 0.811]	[0.751, 0.863]	[0.826, 0.874]	[0.546, 0.636]
	PER8	0.722				
	PER9	0.846				
Workload	PP1	0.841	0.785	0.802	0.861	0.609
	PP3	0.822	[0.742, 0.821]	[0.767, 0.852]	[0.835, 0.881]	[0.561, 0.650]
	PP4	0.743				
	PP5	0.707				
Satisfaction	SAT3	0.824	0.836	0.844	0.891	0.672
	SAT8	0.790	[0.800, 0.865]	[0.812, 0.872]	[0.870, 0.909]	[0.628, 0.714]
	SAT9	0.764				
	SAT10	0.896				

In accordance with the recommendations made by Ghasemy et al. (2020c), the one-sided 95% bootstrap confidence intervals using the percentile approach and 10,000 subsamples have been provided for the reliability and validity statistics

were scrutinized. The model's in-sample predictive power as well as f^2 effect sizes and decomposition of R^2 values were also examined, and in the final step, the out-of-sample predictive performance of the proposed model was investigated.

The examination of the VIF values showed that all the statistics were below 3, which suggests that collinearity was not problematic (Hair et al. 2019a). Next, we ran a one-tailed test of bootstrapping routine at the 5% significance level and with 10,000 bootstrapping subsamples (Streukens and Leroi-Werelds 2016) to check the significance of the paths and test the hypotheses. With respect to the impact of the four covariates on job satisfaction, we ran a two-tailed test. In addition, in line with the recommendations by Aguirre-Urreta and Rönkkö (2018) in terms of the statistical inference using bootstrapped confidence intervals, we examined the percentile confidence intervals in this analysis.

Table 4 Discriminant validity based on HTMT_{0.85} criterion

Construct	Autonomy	Interpersonal conflict	Negative affect	Performance	Positive affect	Satisfaction
Interpersonal conflict	0.365 [0.270, 0.467]					
Negative affect	0.423 [0.330, 0.513]	0.633 [0.524, 0.734]				
Performance	0.086 [0.082, 0.197]	0.094 [0.068, 0.198]	0.253 [0.151, 0.377]			
Positive affect	0.374 [0.265, 0.476]	0.337 [0.221, 0.453]	0.447 [0.339, 0.544]	0.391 [0.267, 0.512]		
Satisfaction	0.490 [0.376, 0.592]	0.422 [0.300, 0.541]	0.613 [0.526, 0.693]	0.330 [0.200, 0.465]	0.780 [0.715, 0.840]	
Workload	0.369 [0.254, 0.493]	0.485 [0.392, 0.579]	0.390 [0.292, 0.481]	0.112 [0.096, 0.213]	0.273 [0.158, 0.397]	0.204 [0.114, 0.341]

In accordance with the recommendations made by Ghasemy et al. (2020c), the one-sided 95% bootstrap confidence intervals using the percentile approach and 10,000 sub-samples have been provided for the HTMT values

The results of significance testing of the hypotheses and path coefficients with percentile confidence intervals, the R^2 values of the endogenous constructs, the unique contribution of each predictor to the R^2 values of the endogenous constructs within the model, the f^2 effect sizes, and the VIF statistics are displayed in Table 5.

Our findings show that H_1 , H_3 , H_4 , H_5 , and H_6 are supported, but empirical evidence was lacking for H_2 , H_7 , and H_8 . Specifically, despite a negative hypothesized relationship between workload and job satisfaction as indicated by H_2 , we observed that the statistically significant effect of workload on job satisfaction was positive although the zero-order correlation between these two constructs was negative ($r = -0.160$). Moreover, the nonsignificant effect running from job performance to job satisfaction resulted in the rejection of H_7 and H_8 .

Interestingly, the magnitudes of the effects represented by H_3 and H_4 were equal, implying that regardless of the type of the affect, the impacts of autonomy on job satisfaction through the two mediating mechanisms were similar. Likewise, the effects of workload on job satisfaction based on H_5 and H_6 were equal. With respect to other direct effects and focusing on interpersonal conflict, the results showed that while both effects of workload and autonomy were significant and relevant, the size of the impact of workload on interpersonal conflict was larger ($0.337 > 0.202$). Regarding job performance, the results indicated that only the impact of positive affect on job performance (0.291) was significant and relevant. Additionally, focusing on job satisfaction, the results showed that positive affect was the strongest predictor of job satisfaction in comparison with other constructs within the model. Specifically, its magnitude ($\beta = 0.524$) was nearly two times of the magnitude of the effect of negative affect on job satisfaction ($\beta = 0.283$). Notably, focusing on the entire model, the effect of interpersonal conflict on negative affect was the strongest effect with a path coefficient of $\beta = 0.546$.

As the last issue related to the path coefficients and considering the guiding principles proposed by Nitzl et al. (2016) with respect to the direction of direct and indirect effects, we concluded that the type of the partial mediation with regard to H_3 and H_4 was complementary and with respect to H_5 and H_6 , it was competitive.

Next, we focused on in-sample predictive power (Rigdon 2012) of each endogenous construct as well as the decomposition of R^2 values. Focusing on job satisfaction, as the key target constructs in our model, our results showed that 56.9% of the variation in job satisfaction was determined by the constructs linked to it. Based on criteria proposed by Hair et al. (2019a), this represents a moderate level of explanatory power. In addition, positive affect was found to have the maximum unique contribution (35.5%) to the R^2 value of job satisfaction. It is important to highlight that the R^2 values of job performance, interpersonal conflict, and positive affect were small, and with respect to negative affect, the R^2 value was above the weak level. With regard to the f^2 effect sizes and following the guidelines by Cohen (1988), our analysis showed that the sizes of the effects of interpersonal conflict on negative affect ($f^2 = 0.424$) as well as positive affect on job satisfaction ($f^2 = 0.459$) were the only large effect sizes.

As the last step in evaluating the structural model, we ran a PLSpredict analysis based on the procedure suggested by Shmueli et al. (2019), albeit with the default settings, to evaluate the out-of-sample predictive power of the model. To do so, we focused on Q^2_{predict} values for the PLS results as well as the root-mean squared error (RMSE) values for the PLS and the linear model (LM) results. Notably, the Q^2_{predict} values for the PLS results should be positive and the prediction errors (e.g., RMSE values) based on PLS results should be smaller than the errors based on LM results. This suggest that the model either improves or does not worsen the predictive

Table 5 Structural model evaluation results

Outcome	Predictor	Path/hypotheses	β	PCI	Supported? /significant?	R^2 decomposition	f^2	VIF
Interpersonal conflict ($R^2 = 0.195$)								
	Autonomy	Autonomy \rightarrow interpersonal conflict	-0.202	[-0.292, -0.112]	Yes	0.061	0.046	1.097
	Workload	Workload \rightarrow interpersonal conflict	0.337	[0.272, 0.416]	Yes	0.134	0.129	1.097
Negative affect ($R^2 = 0.298$)								
	Interpersonal conflict	Interpersonal conflict \rightarrow negative affect	0.546	[0.453, 0.635]	Yes	0.298	0.424	1.000
Positive affect ($R^2 = 0.086$)								
	Interpersonal conflict	Interpersonal conflict \rightarrow positive affect	-0.294	[-0.395, -0.195]	Yes	0.086	0.094	1.000
Performance ($R^2 = 0.117$)								
	Negative affect	Negative affect \rightarrow performance	-0.098	[-0.210, 0.005]	No	0.021	0.009	1.193
	Positive affect	Positive affect \rightarrow performance	0.291	[0.181, 0.403]	Yes	0.096	0.081	1.193
Satisfaction ($R^2 = 0.569$)								
	Negative affect	Negative affect \rightarrow satisfaction	-0.283	[-0.367, -0.189]	Yes	0.150	0.135	1.379
	Positive affect	Positive affect \rightarrow satisfaction	0.524	[0.443, 0.597]	Yes	0.355	0.459	1.388
	Performance	Performance \rightarrow satisfaction	0.037	[-0.028, 0.114]	No	0.010	0.003	1.182
	Gender	Gender \rightarrow satisfaction	0.029	[-0.046, 0.107]	No	0.000	0.002	1.122
	Marital status	Marital status \rightarrow satisfaction	0.068	[-0.010, 0.146]	No	0.011	0.010	1.058
	Nationality	Nationality \rightarrow satisfaction	-0.015	[-0.094, 0.060]	No	-0.001	0.000	1.151
	University type	University type \rightarrow satisfaction	0.014	[-0.062, 0.088]	No	-0.001	0.000	1.045

Table 5 (continued)

Outcome	Predictor	Path/hypotheses	β	PCI	Supported? /significant?	R^2 decomposition	f^2	VIF
		H ₁ (+): autonomy → satisfaction	0.154	[0.078, 0.229]	Yes	0.060	0.043	1.267
		H ₂ (-): workload → satisfaction	0.100*	[0.022, 0.170]	Yes	-0.016	0.019	1.193
		H ₃ (+): autonomy → interpersonal conflict → positive affect → satisfaction	0.031	[0.013, 0.054]	Yes	NA	NA	NA
		H ₄ (+): autonomy → interpersonal conflict → negative affect → satisfaction	0.031	[0.014, 0.052]	Yes	NA	NA	NA
		H ₅ (-): workload → interpersonal conflict → positive affect → satisfaction	-0.052	[-0.079, -0.031]	Yes	NA	NA	NA
		H ₆ (-): workload → interpersonal conflict → negative affect → satisfaction	-0.052	[-0.080, -0.030]	Yes	NA	NA	NA
		H ₇ (+): positive affect → performance → satisfaction	0.011	[-0.007, 0.038]	No	NA	NA	NA
		H ₈ (-): negative affect → performance → satisfaction	-0.004	[-0.015, 0.003]	No	NA	NA	NA

PCI, percentile confidence interval; β , path coefficient; bootstrapping based on n = 10,000 bootstrap samples; VIF, variance inflation factor; NA, not available; paths based on hypothesized effects and direct effects assessed by applying a one-tailed test at 5% of significance level [5%, 95%]; effects of the control variables assessed by applying a two-tailed test at 5% of significance level [2.5%, 97.5%]

*Although this effect is statistically significant, in contrast to what has been hypothesized, the sign of the path coefficient is positive, thereby indicating that the hypothesis is not supported

Table 6 Out-of-sample predictive performance based on RMSE values

Item	PLS results		LM results RMSE	RMSE _{PLS} – RMSE _{LM}
	RMSE	Q^2 _predict		
SAT3	0.824	0.075	0.829	-0.005
SAT8	0.923	0.071	0.932	-0.009
SAT9	0.678	0.090	0.680	-0.002
SAT10	0.775	0.070	0.783	-0.008

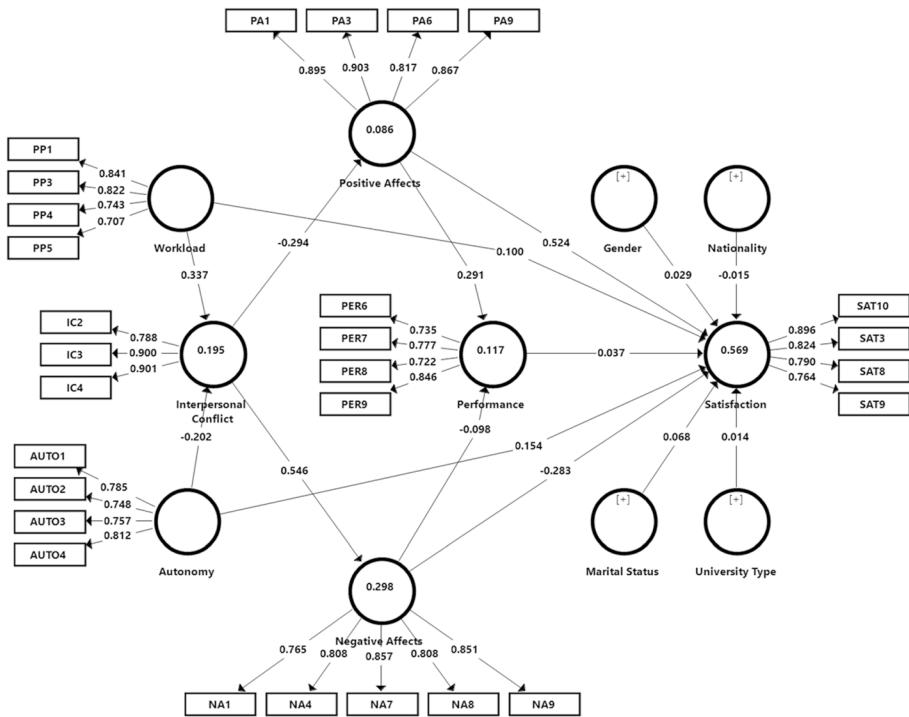


Fig. 3 Final model

performance of the available indicator data. Results of this analysis for the items of job satisfaction are shown in Table 6.

As displayed in this table, the Q^2 _predict values were all positive and the RMSE values of all the items in the PLS result section were smaller than RMSE values in the LM section, suggesting that the model has a high level of predictive power (Shmueli et al. 2019).

The final model with the factor loadings, path coefficients, and the R^2 values of the endogenous constructs is presented in Fig. 3.

Table 7 FIMIX-PLS results

Fit indices	No. of segments		
	1	2	3
AIC (Akaike's information criterion)	4084.75	3957.41	3894.29
AIC3 (modified AIC with factor 3)	4104.75	3998.41	3956.29
AIC4 (modified AIC with factor 4)	4124.75	4039.41	4018.29
BIC (Bayesian information criteria)	4160.24	4112.17	4128.32
CAIC (consistent AIC)	4180.24	4153.17	4190.32
HQ (Hannan Quinn criterion)	4114.89	4019.20	3987.72
MDL5 (minimum description length with factor 5)	4622.20	5059.19	5560.40
LnL (LogLikelihood)	-2022.37	-1937.71	- 1885.15
EN [entropy statistic (normed)]		0.682	0.853
No. of segments	Relative segment size		
	Seg 1	Seg 2	Seg 3
1 Segment	1		
2 Segments	0.803	<i>0.197</i>	
3 Segments	0.823	<i>0.124</i>	<i>0.052</i>

Numbers in bold indicate the best outcome per segment retention criterion. The italic values indicate failure to meet relative segment size requirement

4.3 Structural model robustness check

To further validate the results and increase the methodological rigor, we conducted a finite mixture partial least squares (FIMIX-PLS) analysis (Hair et al. 2018). To run this analysis, we set the number of iterations to 5000, the number of repetitions to 10, and the stop criterion to 10^{-10} . In addition, we considered the guidelines by Cohen (1988) with respect to the power analysis to determine and fulfill the minimum sample size requirements per segment. Given that the minimum effect size of interest in the model was the R^2 of positive affect ($R^2=0.086$) being predicted by only one construct, the results of a power analysis assuming an R^2 of 0.086 and a power level of 80% suggested that the minimum sample size requirement was 84. Hence, we considered the extraction of three segments and ran FIMIX-PLS for one to three-segment solutions, albeit with the same settings. The results are presented in Table 7.

In terms of interpretation of the results, we followed the rules of thumb by Hair et al. (2018). While in general a solution with fewer segments than indicated by AIC and more segments than indicated by MDL5 should be chosen, the selection of the two-segment solution was neither feasible nor realistic due to three reasons: (a) The joint consideration of AIC3 and CAIC did not result in selection of a two-segment solution; (b) the joint consideration of AIC3 and BIC did not result in selection of the 2-segment solution; and (c) the failure in meeting the sample size requirement for a two-segment solution. More specifically, the relative segment size of the second segment of the two-segment solution was 0.197, indicating a sample size of 63 ($0.197 \times 322 = 63.43$), which was less than the required sample size of 84 per segment. Therefore, we concluded that

unobserved heterogeneity was not a major threat for the validity of our model, highlighting the analytical soundness of the model.

5 Discussion and conclusion

Our study focused on testing a few tenets of AET (Weiss and Cropanzano 1996) from a predictive perspective in the context of the Malaysian private higher education institutions. Additionally, due to the controversies over the direction of the causality between job performance and job satisfaction, and consistent with the propositions made by Schermerhorn et al. (2010) and Uhl-Bien et al. (2014), we examined the impact of job performance on job satisfaction. We also performed FIMIX-PLS analysis (Hair et al. 2018) to check that the presence of unobserved heterogeneity is not a threat for the validity of our theoretical model. As displayed in Table 5, while H_1 , H_3 , H_4 , H_5 , and H_6 were supported, empirical evidence was not provided for H_2 , H_7 , and H_8 .

Notably, the results with respect to H_1 , H_3 , H_4 , H_5 , and H_6 were in full alignment with AET and in general, corroborated previous research findings reviewed in the theoretical framework section (e.g., Zacher et al. (2014), Zhao et al. (2007), Ashkanasy et al. (2014), and Volmer et al. (2018)). This provided substantial support for the relevance and significance of AET in the context of private higher education system. In addition, as evidenced by the discriminant validity results, we found that while affective states were related to job satisfaction, they were truly distinct constructs which may have important policy implications. Therefore, in line with AET (Weiss and Beal 2005; Weiss and Cropanzano 1996), this suggests that job satisfaction is an attitude and truly distinct from affect. Moreover, the comparison of job satisfaction's predictors revealed that the fluctuating affective states were better predictors of job satisfaction compared with the more stable work environment features. We also observed that the effect of workload on interpersonal conflict was stronger than the effect of autonomy, which gives workload a strategic role superior to that of autonomy within our context of study.

Regarding the unsupported hypotheses and focusing on H_2 , we observed that the effect of workload on job satisfaction is significant which is consistent with AET. However, this effect was positive and thus different from our hypothesis. In other words, despite the existence of a negative zero-order correlation between workload and job satisfaction ($r = -0.160$), the causal relationship between these constructs within our theoretical model was positive ($\beta = 0.100$). Wherefore, our analysis highlighted the fact that looking at workload as a factor which permanently reduces job satisfaction may not be correct and, in fact, the combination of the factors influencing job satisfaction should be considered in a bigger picture. It is noteworthy that while our model offers that a joint consideration of workload and autonomy should work well in hitting the target of achieving academics' job satisfaction in private higher education institutions, the role of affective states, as the other predictors of job satisfaction, is more vital as evidenced by their unique contribution to the R^2 value of job satisfaction.

With respect to H_7 and H_8 , it should be highlighted that they were formulated based on the extant literature focusing on performance-satisfaction link (Schermerhorn et al. 2010; Uhl-Bien et al. 2014; Judge et al. 2001; Bowling 2007). More specifically, while there is no direct relationship between job performance and job satisfaction based on AET, we hypothesized a causal relationship between these two constructs on the grounds of the debates made by Schermerhorn et al. (2010) and Uhl-Bien et al. (2014) about the existence and direction of this link. Although evidence may be found in the literature regarding the link

between affect-driven behaviors and attitudes such as the study by Lam and Chen (2012), our results revealed that such a relationship between job performance (affect-driven behavior) and job satisfaction (attitude) does not exist in the private higher education system. In other words, the lack of empirical evidence for H_7 and H_8 provided more substantial support for AET in a private higher education context and was consistent with the findings of several studies such as Sony and Mekoth (2016), Braun et al. (2013), Cullen et al. (2014), Wong and Laschinger (2013), and Gregory et al. (2010), which had not found empirical evidence for the relationship between job performance and job satisfaction.

Hence, considering that our results are remarkably concordant with AET, we conclude that AET serves as a relevant and robust theory that can guide and facilitate theory-based and also evidence-based policy-making exercises with a focus on work environment features, work events, affective states, attitudes, and behaviors in private institutions of higher learning. This highlights the strategic importance of strengthening a philosophy that gives the affective states of academics a central role.

6 Practical and theoretical implications

One of the major practical implications of the findings in this study relates to the high out-of-sample predictive performance of the developed model. In fact, policymakers in higher education domain will be able to make relevant policies that are underpinned not only by the collected data in this study, but also based on the data that were not used in assessing our model.

More precisely, among the lessons learned is the considerable role of autonomy as its joint consideration with workload leads to an increase in academics' job satisfaction in the context of the private higher education institutions. In consequence, academic leaders and officials are recommended to pay special attention to the design of jobs—depending on the characteristics of the human and technical resources available, as well as those of the socioeconomic and cultural environment in which they carry out their activity—so that the autonomy and workload corresponding to each part of the job are perfectly known, understood, and perceived by the employees (academics in our case) to be fair and balanced. In fact, the results of our study lead us to recommend to the managers of private higher education institutions the adoption of a service philosophy (Eva et al. 2019) to enhance job satisfaction through autonomy, self-efficacy, and the appropriate design of workloads. This will enhance the commitment of academics to the institutions to which they belong, as well as their organizational citizenship behavior and job performance, which will ultimately result in the satisfaction of the needs of internal and external clients (e.g., academics, students, and society as a whole), and will allow a sustainable growth of private higher education institutions. Therefore, it is a question of investing more in creating a good working climate (positive affect) than in generating measures and policies to neutralize and compensate for the negative affect generated by factors such as the lack of autonomy, the inadequate design of workloads, and interpersonal conflicts. As discussed in the results section, the two considerable effects in our model correspond to the influences of positive affect on job satisfaction and interpersonal conflict on negative affect.

Another practical and policy-related issue is about policy making based on the relationships between the variables. In this study, we observed that the zero-order correlation between workload and job satisfaction was negative and the path coefficient between these two constructs was positive within our theoretical model. Therefore, policy makers should avoid exercising policy making based on the bivariate zero-order correlations between the variables and should consider making the policies based on the variables' interrelationships within the more comprehensive theoretical models.

In terms of theoretical implications, this paper substantiated the applicability of AET in the private higher education domain. In fact, the nonsignificant path running from job performance to job satisfaction was one of the major findings in this study corroborating AET. More specifically, as noted by Weiss and Cropanzano (1996), the correlation between job satisfaction and job performance is negligible (Podsakoff and Williams 1986) though in general, it makes sense that when the employees perform well, they should feel good and be satisfied with their job (Schermerhorn et al. 2010; Uhl-Bien et al. 2014).

7 Recommendations for future research

In this cross-sectional study, we focused on testing a few tenets of AET in the context of private institutions of higher learning. Due to the complexity of AET, we did not consider a few variables such as judgment-driven behaviors and personality predispositions in our study either. Thus, we recommend that researchers verify the tenets of AET in other higher education sectors and sociocultural contexts. Additionally, introducing other relevant work environment features, affective events, attitudes, affect-driven behaviors, judgement-driven behaviors, and personality traits into the current validated model is encouraged.

While this study has considerably contributed to the literature of affective states and attitudes in higher education research, other methodological approaches such as multilevel modeling (Yuan and Bentler 2007), longitudinal designs (Bentler 2006) such as latent growth curve modeling (Bentler 2018), and estimating the proposed models using other PLS-based estimators such as PLSe2 (Ghasemy et al. 2020a; Bentler and Huang 2014) in future research endeavors will likely provide more precise findings and further enable policy recommendations.

Lastly, given the practical implications of our findings with respect to job characteristics and workload, we recommend testing the tenets of job demands-resources theory (Bakker and Demerouti 2007, 2014, 2017, 2018) in future research to better understand the consequences of work environment features in academic settings.

Appendix A

Items of the final model and their descriptive statistics

Code	Item	Mean	SD
AUTO1	Management let people make their own decisions much of the time	3.019	1.048
AUTO2	Management trust people to take work-related decisions without getting permission first	2.898	1.057
AUTO3	People at the top tightly control the work of those below them*	2.649	1.051
AUTO4	Management keep too tight a reign on the way things are done around here*	2.739	1.057
PP1	People are expected to do too much in a day	3.45	1.012
PP3	Management require people to work extremely hard	3.534	0.988
PP4	People here are under pressure to meet targets	3.444	1.06
PP5	The pace of work here is pretty relaxed*	3.407	1.089
IC2	How often do other people yell at you at work?	1.643	0.784
IC3	How often are people rude to you at work?	1.935	0.863
IC4	How often do other people do nasty things to you at work?	1.86	0.91
PA1	I feel enthusiastic at work in general	3.543	0.968
PA3	I feel determined at work in general	3.807	0.912
PA6	I feel alert at work in general	3.758	0.851
PA9	I feel proud at work in general	3.717	0.986
NA1	I feel scared at work in general	1.519	0.882
NA4	I feel distressed at work in general	1.991	1.102
NA7	I feel ashamed at work in general	1.339	0.764
NA8	I feel guilty at work in general	1.311	0.716
NA9	I feel irritable at work in general	1.665	1.006
PER6	When I want to reach a goal, I am usually able to succeed	3.988	0.7
PER7	I complete work in a timely and effective manner	4.065	0.682
PER8	I complete a large quantity of work	3.972	0.684
PER9	I perform high-quality work	4.028	0.711
SAT3	I feel good about working at this institution	3.783	0.854
SAT8	All my talents and skills are used at work	3.54	0.955
SAT9	I get along with my supervisors	3.898	0.708
SAT10	I feel good about my job	3.851	0.801

Items marked with an asterisk (*) were reversed before the scale is calculated

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Data availability Our dataset to estimate the final model is accessible via <https://doi.org/10.7910/DVN/BYHHBR> through HARVARD Dataverse.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical standards The performed procedures were in accordance with the ethical standards of the institutional and/or national research committee (USM/JEPeM/19090523) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No consent was required since the participation was voluntary, information was anonymized, and the paper does not include images that may identify the person.

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