INTERPLAY OF PROACTIVE PERSONALITY, SELF-EFFICACY, AND WORK ENGAGEMENT: A MEDIATING ROLE OF JOB SATISFACTION

Hao Peng[1*], Li Chen Lim[2], Poh Kiong Tee[3]
[1]*Graduate School of Business, Asia Pacific University of Technology & Innovation, Kuala Lumpur, Malaysia.*
[2]*School of Business Management, Operation and Research, Asia Pacific University of Technology & Innovation, Kuala Lumpur, Malaysia.*
[3]*Graduate School of Business, Asia Pacific University of Technology & Innovation, Kuala Lumpur, Malaysia.*
Corresponding Author: Hao Peng, Email: tp072433@mail.apu.edu.my

Abstract: Employees' work engagement is essential for an organisation's success. Past studies showed a declining trend in work engagement among administrative staff compared to academic staff in public universities in China. Yet, limited studies have been found on the work engagement of administrative staff affiliated with public universities. Hence, this study aims to investigate the impacts of self-efficacy and proactive personality on university administrative staff's work engagement, notably job satisfaction, which was included as a mediator. Responses from 420 administrative staff from 30 public universities were collected using an online survey. Descriptive analysis was conducted using SPSS. PLS-SEM was used to test the hypotheses and the model's predictive power. The findings show that proactive personality and self-efficacy are positively correlated with job satisfaction and work engagement. Also, job satisfaction was found to significantly mediate the relationship between proactive personality and self-efficacy in terms of work engagement. As a whole, self-efficacy has a greater effect on job satisfaction and work engagement. This study expands the existing knowledge by testifying to the mediating role of job satisfaction and providing insight concerning administrative staff member work engagement. Lastly, implications of the study findings are discussed, along with limitations and future research directions.
Keywords: Proactive personality; Self-efficacy; Job satisfaction; Work engagement; Administrative staff

1 INTRODUCTION

The work engagement from the employees is essential for the organisation's success and the achievement of the organisational goals [1]. Studies showed that work engagement can reduce turnover intention, making it important to examine work engagement to prevent employee's turnover [2]. In the context of education, past studies showed that the issue of work engagement among the administrative staff members has become more serious where the work engagement among these employees has declined tremendously over the last three years, in spite of government incentives and supports given to the public universities. Based on the findings from Hayes et al. [3], the work engagement level among the university administrative staff has declined from 19% in 2015 to only 6% in 2018, mainly due to the work nature of administrative staff, which is always burdened by operating procedures and policies, making it difficult to effectively perform their tasks. Boring and tedious duties are common issues that characterise both administrative and managerial jobs. In addition, China in particular is a collectivist society where "guanxi" is widely used in corporate management and possesses an important cultural role [4]. University administrative staff members place a greater value on building "guanxi" with their superiors instead of engaging with their work, to obtain better promotion opportunities than academic staff members do [5]. In fact, academic staff at public universities enjoy more advantages, such as better promotion prospects, higher salaries, and a more flexible work schedule. They are mostly engaged with their work, specifically student engagement, teaching, and research, thus avoiding certain interpersonal challenges encountered by administrative staff.

According to Ojo et al. [6], numerous studies in the field of human resources management were conducted to discover strategies to encourage the employees' work engagement so that the employees are not "wandering around at work," particularly in the "command and control blind area," and thus improve the organisation's overall effectiveness. Yet, the work engagement of administrative staff affiliated with the university has been ignored. To address this issue, it is critical to identify and cultivate positive psychological resources to mitigate the adverse effects. The positive characteristics of a proactive personality are the focus of an empirical investigation that are expected to boost self-efficacy, which would, in turn, provide more favourable outcomes [7, 8]. This study emphasizes proactive personality and self-efficacy as the significant factors influencing job satisfaction, thereby fostering greater employee work engagement in the workplace.

Previous studies [9-11] found that engagement in work exerts a favourable impact on one's level of satisfaction. However, there have been relatively few studies focusing on whether job satisfaction can serve as a precursor to working engagement [12-15]. Thus, this study aims to gain further insight into the relationship between job satisfaction and work engagement, in particular how proactive personality and self-efficacy among university administrative staff

affect work engagement and how job satisfaction intervenes with or interacts with these effects. The current study explores these relationships and their underlying mechanisms in more detail.

2 LITERATURE REVIEW

The Social Exchange Theory (SET) and the Job Demands-Resources (JD-R) paradigm serve as the foundation for this research. SET emphasised the reciprocity process that affects work engagement. Employees are more likely to get involved in their work for the organisation in return if they feel encouraged by it [16]. The JD-R model emphasises job characteristics, and Xanthopoulou et al. [17] introduce an additional dimension known as "personal resources" into the model. Self-efficacy, initiative, hope, and resilience are characteristics of personal resources. This study, which integrated the SET and JD-R models, suggests that an employee's work engagement may be influenced by their job satisfaction, while the impacts of personal resources (i.e, self-efficacy and proactive personality) on work engagement may intervene (or mediate) job satisfaction.

2.1 Proactive Personality and Work Engagement

The term "proactive personality," initially coined by Bateman and Crant [18], describes proactive personality as a consistent tendency that causes individuals to adopt proactive strategies that influence their immediate environment. A comparative study from Seibert et al. [19] among employees with proactive personalities and those with non-proactive dispositions found that proactive employees are more inclined to adapt themselves and more engaged in their work in the organisation. Proactive employees tend to take a series of actions and measures to impact those who are around them, actively seek opportunities, act, and adjust to their surroundings to pursue their career goals [8,20]. Conversely, passive employees typically adapt to changes and adverse outcomes in a passive way and never change or engage to improve their current circumstances.

The JD-R model of work engagement provides the basis for the theoretical framework, suggesting that proactive employees would utilise their personal resources to forecast future workplace engagement and boost productivity at work [21,22]. Consistent with other studies [23,24], they also found that proactive personality played a critical role in fostering work engagement since proactive individuals will actively seek out opportunities, exercise creativity, and be persistent in changing to achieve the desired outcome. Thus, proactive individuals are likely to be enthusiastic, engaged with, and receptive to new ideas in their jobs in order to improve the quality of their work life [25,26](. Similarly, Syara and Rahmat Shah [23] claimed that having a proactive personality enhances employees' workplace engagement by acting as an internal asset that generates extra capabilities and value. The research by Bakker et al. [27], who investigated 190 Dutch workers with a proactive mindset, found that proactive employees are more likely to engage with work and always make efforts to achieve their goals at work. In addition, Bergeron et al. [28] found that employees with a proactive personality tend to work longer on a weekly basis and show higher work engagement, which in turn leads to better performance. Based on the above review of literature, the authors hypothesised:

H1: Proactive personality is positively related to work engagement among administrative staff members at a public university in China.

2.2. Self-Efficacy and Work Engagement

Albert Bandura [29] initially coined the term "self-efficacy," which refers to individuals who have faith in their ability to successfully complete a task or reach a certain objective. Fundamentally, self-efficacy is a psychological construct that indicates an individual's confidence in their capacity to achieve success under all possible conditions. Self-efficacy is closely related to the concept of self-confidence but differs in that it specifically relates to one's belief in their ability to perform a particular task rather than a more general sense of self-assurance. Self-efficacy is considered a crucial predictor of achievement and performance in different areas, including academic, athletic, and professional settings [30]. Indeed, self-efficacy and work engagement have been disclosed to be positively connected in previous investigations [31-34]. This implies that individuals are more likely to feel engaged in their work when they have confidence in it. In a study by Buric and Macuka [35], it was found that Croatian teachers with high self-efficacy reported greater work engagement with their students and their institution. The findings suggest that having confidence in their abilities makes teachers feel more positive about their work. The relationship between self-efficacy and work engagement was also explained in social cognitive theory, which states that employees who believe they have a high level of self-efficacy are more likely to engage in their employment and professional lives by seeking opportunities for growth or support. Accordingly, this study hypothesised:

H2: Self-efficacy is positively related to work engagement among administrative staff members at a public university in China.

2.3 The Mediating Role of Job Satisfaction

Job satisfaction and work engagement are two different but related concepts. According to Yalabik et al. [36], job satisfaction and work engagement are distinct concepts that must coexist for employees to become inspired, dedicated, and absorbed in their work. Weiss [37] explains that job satisfaction is the result of a positive evaluation that individuals make regarding their jobs, while work engagement is related to the content of the work. Although numerous past studies

have shown that work engagement and job satisfaction are strongly linked to each other in work [38], there is a debate on whether job satisfaction is an antecedent or an outcome of work engagement, with some studies supporting both perspectives. As stated by Saks [10], work engagement should contribute to job satisfaction; employees who are enthusiastic and invested in their work might feel more satisfied with their jobs. However, other researchers claim that job satisfaction precedes work engagement [13-15,39]. Employees who are happy with their work typically exhibit greater vigour, commitment, and concentration [40]. As far as social exchange is concerned, this validates the reciprocity rule. Hence, in this study, we hypothesise that:

H3: Job satisfaction is positively related to work engagement among administrative staff members at a public university in China.

As mentioned above, proactive personality is one of the main predictors of individual behaviour. Wang and Lei [41] stated that proactive individuals who receive greater social support are more likely to feel appreciated and satisfied with their profession, which in turn leads to a higher level of work engagement. Tee et al. [48] and Uy et al. [42] stated that proactive individuals are resourceful and self-directed in managing their careers. For proactive employees, work is the centre of their life activity, and with more challenges and resources in managing their work, they are more likely to derive a greater sense of job satisfaction [43]. Such satisfaction leads to greater engagement with work in order for them to achieve their career goals [14,44]. Yet, some of the past studies [15,45,46] discovered that work engagement instead of job satisfaction played a significant mediating role in the relationship between proactive personality and job outcomes (i.e, job satisfaction). Thus, in this study, the authors would like to further investigate and verify the role of job satisfaction as a predictor as well as a mediator instead of an outcome variable in affecting work engagement among the university's administrative staff in China.

A review of past studies indicated a significant positive relationship between self-efficacy and job satisfaction [20,39,47,48]. In fact, a large number of theoretical models integrate multiple factors into the job satisfaction literature. As stated by Lipscomb et al. [49], general self-efficacy would affect job satisfaction; individuals with high self-efficacy are more likely to deal with difficulties effectively and attain valued outcomes (i.e, job satisfaction). Research has confirmed that self-efficacy is associated with job satisfaction (e.g, Corry & Stella, 2018[50]; Lent & Brown, 2006[51]; Li et al, 2023[52]), and thus satisfied employees are energetically and effectively connected (e.g, engagement) with their work. Consistent with previous studies, a positive correlation between self-efficacy and job satisfaction was found among Chinese university teachers [53-56]. The results suggest that teachers with higher levels of self-efficacy are more confident in their work and able to complete their work effectively, resulting in increased job satisfaction and more engagement with their work. Thus, this study includes job satisfaction as a mediator along the link between self-efficacy and work engagement. The following hypotheses were proposed:

H4: Job satisfaction mediates the relationship between proactive personality and work engagement among the administrative staff members at a public university in China.

H5: Job satisfaction mediates the relationship between self-efficacy and work engagement among the administrative staff members at a public university in China.

Accordingly, the research framework for this study is illustrates in Figure 1:
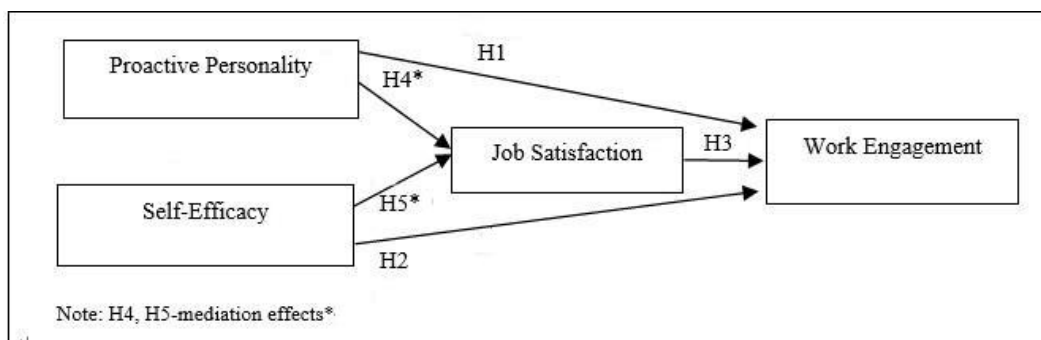

Figure 1 Research Framework

3 METHODOLOGY

3.1 Sampling

The researchers employed a two-stage stratified random sampling procedure to obtain the sampling units for this study. First, only non-academic staff from government (i.e, public) universities in Shaanxi, China, were selected, followed by convenient sampling in distributing the questionnaire online. The "Wenjuanxing" professional platform was utilized to conduct the online surveys. A total of 838 questionnaires were sent to administrative staff who work at 30 government universities. 450 responses were recovered, resulting in a response rate of 53.7%. Out of the 450 responses, 420 were considered valid after eliminating invalid ones based on criteria such as missing data, irregular response patterns, and contradictory responses.

3.2 Instruments

All the instruments in this study are adapted from past studies. The proactive personality scale [18], with ten items, was used to measure proactive personality. The instrument pertaining to self-efficacy was adapted from Schwarzer and Jerusalem's [57] general self-efficacy scale, which consisted of 10 items. The instrument to measure work engagement was adapted from Schaufeli and Bakker [58] and comprised of three items to reflect absorption, vigour, and dedication. Lastly, Judge et al.'s [59] job satisfaction scale was used to measure job satisfaction. All the items are rated using a five-point Likert scale, with "1 = strongly disagree and 5 = strongly agree.".

3.3 Data Analysis Methods

SPSS v28 was used to analyse common method bias and the respondent's profile, while SmartPLS 3.0 was used to execute partial least squares structural equation modelling (PLS-SEM) analysis, which included validation of the measurement model, estimation of the structure model, and mediating effects as well as justifying the hypotheses presented in this study.

4 RESULTS

4.1 Respondent's Profile

With respect to the respondents' profile, most participants were female (51.5%) and aged between 34 and 43 years (53.6%). The majority of the respondents had obtained a bachelor's degree (58.9%), followed by a master's (37.5%) and a doctorate's degree (3.6%). In addition, most of the respondents (96.4%) worked with the university for less than five years, whereas only 3.6 percent had been working at the university for five years and above. Regarding job positions, most of the participants (85.7%) are executives, 11% are middle-level administrative managers, and the rest (3.3%) hold positions at higher-level management, respectively.

4.2 Common Method Bias

Harman's single-factor test was conducted to detect common method bias before data analysis [60]. The first factor captures only 39.6% (<50%) of the total variance in the entire dataset. Since the first factor did not account for most of the variance, the study concludes that the common method bias was not an issue in this study.

4.3 Measurement Model Assessment

In this study, the four variables have been modelled with reflective constructs. Therefore, assessments of internal consistency reliability, convergent validity, and discriminant validity were conducted [61]. The results presented in Table 1 show that all loadings are greater than 0.8, indicating the indicators' reliability. The composite reliability for all constructs ranges from 0.918–0.952 (> 0.70), supporting the internal reliability for all constructs [61]. In addition, average variance extracted (AVE) for all constructs achieved a threshold value >0.50, indicating high convergent validity.

Table 1 Results for Measurement Model Assessment

Constructs	Item	Loading	Cronbach's alpha	Composite reliability	AVE
Work Engagement	WE1	0.954	0.947	0.950	0.904
	WE2	0.945			
	WE3	0.953			
Job Satisfaction	JS1	0.918	0.917	0,918	0.751
	JS2	0.866			
	JS3	0.857			
	JS4	0.844			
	JS5	0.846			
Proactive Personality	PP1	0.831	0.951	0.952	0.695
	PP2	0.812			
	PP3	0.843			

	PP4	0.822
	PP5	0.833
	PP6	0.828
	PP7	0.816
	PP8	0.805
	PP9	0.818
	PP10	0.920
	SE1	0.830
	SE2	0.830
	SE3	0.827
	SE4	0.824
Self-Efficacy	SE5	0.842	0.951	0.952	0.696
	SE6	0.927
	SE7	0.803
	SE8	0.809
	SE9	0.820
	SE10	0.824

In addition, the present study adopts the Heterotrait-Monotrait (HTMT) criterion for assessing discriminant validity. A cut-off value lower than 0.85 indicates no issue with discriminant validity [62]. As shown in Table 2, all HTMT values were lower than 0.85, supporting discriminant validity.

Table 2 Heterotrait-Monotrait (HTMT) Ratio

	Job Satisfaction	Proactive personality	Self-efficacy	Work Engagement
Proactive personality	0.490			
Self-efficacy	0.518	0.523		
Work Engagement	0.511	0.491	0.534	

Based on the above results for the measurement model assessment, all evaluation criteria were met, establishing the measurement model's reliability and validity. The model was thus fit for structural model estimation.

4.4 Structural Model Assessment

The results confirm that proactive personality, self-efficacy, and job satisfaction have significant (positive) direct effects on work engagement (Table 3). Self-efficacy has the highest impact ($\beta = 0.282$, $p < 0.05$, $t > 1.645$) on work engagement, followed by job satisfaction ($\beta = 0.243$, $p < 0.05$, $t > 1.645$), and proactive personality ($\beta = 0.139$, $p < 0.05$, $t > 1.645$). In addition, proactive personality ($\beta = 0.290$, $p < 0.05$, $t > 1.645$) and self-efficacy ($\beta = 0.346$, $p < 0.05$, $t > 1.645$) also significantly affect job satisfaction. Among all the variables, the findings confirm that self-efficacy is the most important variable affecting the administrative staffs' job satisfaction and work engagement. In terms of the model's predictive value (R^2), the model explained 36.2% of the variance in work engagement and 30.4% of job satisfaction. The results of the study testify that all the hypotheses for direct paths H1, H2, and H3 are accepted. Table 3 summarises all the results of the bootstrapping routine for direct paths.

Table 3 Result for Structural Model Assessment

Paths	Hypothesis.	Std. Beta	St. Error	t-value	p-value	R^2

Proactive Personality -> Work Engagement	H1	0.215	0.047	4.585	0.000	0.362
Self-Efficacy -> Work Engagement	H2	0.282	0.048	5.823	0.000	
Job Satisfaction ->Work Engagement	H3	0.243	0.045	5.412	0.000	
Proactive Personality->Job satisfaction	H4	0.296	0.045	6.473	0.000	0.304
Self-efficacy->Job satisfaction	H5	0.346	0.043	8.071	0.000	

4.5 Mediation Model Assessment

Table 4 shows the results of the mediation analysis. The indirect (mediation) effect of job satisfaction was tested and found to be significant (β = 0.070, t > 1.96) along the link between proactive personality and work engagement. The bias-corrected (BC) confidence interval (LL = 0.041, UL = 0.106) does not include 0, justifying the significant indirect effect of job satisfaction. Since the direct path of proactive personality to work engagement was also found to be significant (β = 0.215, t > 1.96), it can be concluded that partial-complementary mediation exists for job satisfaction. Hence, the hypothesis for mediation (i.e, H4) is supported. Similarly, the result for the indirect path between self-efficacy and engagement via job satisfaction was also found to be significant (β = 0.084, t > 1.96), and the bias-corrected (BC) confidence interval does not straddle from 0 (LL = 0.050, UL = 0.123). Since the direct path of self-efficacy to work engagement was also found to be significant (β = 0.282, t > 1.96), it is concluded that partial-complementary mediation exists for job satisfaction. Accordingly, the hypothesis for mediation (i.e, H5) is supported.

Table 4 Results for Mediation Model Assessment

Hypothesis	Paths	Std. Beta	Std. error	t-value	95% CI (LL; UL)	Type of mediation
H6a	Proactive Personality ->Job Satisfaction ->Work Engagement	0.070	0.017	4.243	(0.041; 0.106)	*Partial Mediation (Complimentary)
H6b	Self-Efficacy ->Job Satisfaction ->Work Engagement	0.084	0.019	4.481	(0.050; 0.123)	*Partial Mediation (Complimentary)

Note. *Significant at p<0.05, t>1.96, two-tailed

5 DISCUSSION AND CONCLUSION

The purpose of this study is to investigate the relationships between proactive personality, self-efficacy, job satisfaction, and work engagement among administrative staff members at a public university in China. The results show that proactive personality increases the employee's likelihood to engage with their work, which is consistent with the findings of previous studies [23,46,63]. The administrators in higher education who possess proactive personalities were found to be proactively addressing work-related issues in the university and also willing to offer individual assistance to solve the problems for institutional effectiveness [64]. Indeed, the administrators diligently attempt to build a sense of belonging, actively seek validation and acceptance from others in the group, and actively seek institutional recognition of their works. Further, Soomro et al. [65] discovered that employees who possess greater autonomy in their work seem to have a proactive mentality, which in turn strengthens the relationship between proactive personality and work engagement. These employees constantly strive for greater autonomy and independence because it makes them feel excited and invested in their profession [65].
In a similar vein, the findings also reveal that employees who have greater self-efficacy are more likely to be engaged with their work. According to earlier studies [49,54,66] gage with their work and the organisation. This study's findings showed that proactive personality and self-efficacy had a direct and noticeable effect on work engagement, which is in line with the claims in the JD-R model that work engagement is more likely to endure when employees are proactively and self-directed and have possession of their own assets that enable them to tackle challenging tasks [67].
Furthermore, this study revealed that self-efficacy and proactive personality simultaneously played a significant role in shaping job satisfaction. This finding corroborates earlier research that has identified a positive impact of these factors

on job satisfaction [68]. The finding in this study indicates that work engagement is significantly impacted by job satisfaction, and this result is in line with the well-established theory of job satisfaction, which contends that higher levels of job satisfaction might favourably affect an employee's behaviour at work [69]. Notably, this study verified the contribution of job satisfaction along the direct path between proactive personality and self-efficacy in heightening work engagement. The study's findings offer empirical evidence of the mediating role of job satisfaction. When the administrative staff exhibits a proactive trait and has a sense of self-efficacy, it establishes a strong and positive link with their overall job satisfaction; when job satisfaction improves, it helps maintain and boost work engagement [70,71]. In fact, the inclusion of job satisfaction as a mediator in this study advances the theoretical understanding of the widespread belief that job satisfaction is an outcome rather than an intervening variable.

Theoretically, this study expands the existing knowledge by first addressing a noticeable gap in prior studies by examining the mediating role of job satisfaction within complicated relationships involving self-efficacy, proactive personality, and work engagement. To the best of our current knowledge, this marks the first attempt to examine the mediating role of job satisfaction across these two independent variables and their connection to work engagement, particularly within the educational setting. Indeed, most of the past studies included and tested work engagement instead of job satisfaction as a mediator in testing employment outcomes [15,46]. Secondly, this study provides an empirical justification by extending work engagement research in the context of university administrative staff in China. A review of the past literature in the Chinese context found limited studies on work engagement among administrative staff members in public universities. Specifically, the predictive roles of self-efficacy and proactive personality concerning work engagement have not received much attention in the literature variable.

This study has few practical implications. First, the university management team should acknowledge the contribution of the administrative staff and provide appropriate support to enhance their work engagement to reduce burnout or attrition among administrative staff at the university. In fact, this issue has existed for a long time but has been ignored by the management as well as the policymakers. Second, this study reveals the impact of proactive personality and self-efficacy on job satisfaction and work engagement. Consequently, the human resource practitioner should pay more attention to recruiting employees who are naturally proactive while providing them with supports and training to enhance their work efficacy in order to improve the employees' job satisfaction and work engagement [72]. In addition, the administrative staff themselves need to be mindful of the importance of self-efficacy, as self-efficacious employees have more confidence in problem solving and performing their work, which in turn leads to higher satisfaction and work engagement.

A number of limitations pertaining to the current study should be noted. To begin with, this study is cross-sectional in nature, in which data were gathered at a single moment in time rather than reflecting the impact of cumulative work experiences across time [73]. In order to offer a thorough grasp of the phenomenon under investigation, the researcher needs to think about gathering longitudinal data in subsequent studies. Second, this study is confined to the specific region of Shaanxi province in China, and the sample is mainly Chinese government administrative staff, which might make it challenging to generalise the findings to China as well as the international context. Future research should consider widening its geographical scope to obtain a more representative sample and should include administrative staff from private universities. Finally, there are a number of undiscovered aspects that have not yet been taken into consideration, including the cultural factor, style of management, work features, and guanxi between supervisors and subordinates. These factors may also influence employee work engagement. Therefore, in the future, research can be expanded to the organizational level to further consider the boundary conditions that affect employee work engagement.

As a conclusion, the findings in this study validated the mediating role of job satisfaction along the direct path of proactive personality and self-efficacy toward work engagement and demonstrated the direct influence of these characteristics on work engagement. The results add valuable insights to the body of research, particularly with regard to the job satisfaction and work engagement of Chinese administrative staff members in higher education institutions.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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