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## BELIEFS-ATTITUDES AND JOB MOTIVATION PREDICTING DEVELOPMENTALLY APPROPRIATE VISUAL ARTS AMONG PRIVATE PRESCHOOL TEACHERS IN SELANGOR

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### Abstract:

Private preschool teachers played a vital role in implementing Developmentally Appropriate Practices (DAP), particularly in visual arts education, to support children's cognitive, socio-emotional, and creative development. Despite the recognized importance of DAP in early childhood education, empirical evidence within the Malaysian context remained limited, particularly regarding how teachers' beliefs-attitudes and job motivation influenced the implementation of DAP in visual arts among private preschool teachers. This gap limited understanding of the psychological factors that supported effective pedagogical practices in early childhood classrooms. Therefore, this study investigated the influence of teachers' beliefs-attitudes and job motivation on their implementation of DAP in visual arts. A quantitative cross-sectional survey was conducted among 400 private preschool teachers in Selangor using a validated questionnaire and stratified two-stage random sampling. Multiple regression analysis revealed that teachers' beliefs-attitudes significantly predicted job motivation ( $R^2 = 0.542$ ), which in turn positively influenced the implementation of DAP in visual arts ( $R^2 = 0.532$ ). Predictive validity analysis further supported the robustness of the proposed model. The findings indicated that teachers' beliefs-attitudes and job motivation were significant predictors of DAP implementation, highlighting their important role in promoting effective developmentally appropriate visual arts practices in early childhood education. These results

provided empirical evidence to support teacher professional development initiatives and policy strategies aimed at strengthening developmentally appropriate visual arts education in Malaysian private preschools.

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Beliefs-Attitudes, Developmentally Appropriate Practices, Job Motivation, Private Preschool Teacher, Visual Arts



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## Introduction

Early childhood education, particularly visual arts education, was essential for children's holistic development. Visual arts experiences such as scribbling, drawing, printing, and painting helped foster children's creativity, imagination, problem-solving abilities, communication skills, and social competence, forming a foundation for lifelong learning (Lindsay, 2020; Zakaria et al., 2021). Artistic activities were also found to play a significant role in developing creative thinking skills among young children (Alghufali, 2024). Developmentally Appropriate Practices (DAP) offered a guiding framework to ensure that teaching aligned with children's developmental levels, interests, and cultural contexts, thereby supporting meaningful and individualized learning (Copple & Bredekamp, 2009; Dikmen et al., 2023). Teachers' beliefs-attitudes regarding experiential, enjoyable, and safe engagement strongly shaped how visual arts were implemented in classrooms, which encouraged collaboration, reflection, and idea generation among young children (Ozola, 2017).

Despite the recognized importance of visual arts and developmentally appropriate teaching, empirical research examining the implementation of DAP in visual arts education remained limited, particularly within Malaysian private preschool settings. In Malaysian private preschools, especially in Selangor, existing studies primarily focused on areas such as social-emotional development, workforce readiness, or teacher professionalism (Mohamed et al., 2020; Foong et al., 2018; Masnan et al., 2021). Recent research by Kan et al. (2023) examined public preschool teachers' emotional competence rather than visual arts practices or private preschool contexts. Similarly, Malaysian studies on STEM (Ghazali et al., 2023; Ismail & Abdullah, 2024; Ng & Mohamed, 2025; Phang et al., 2021), literacy (Yeo et al., 2025; Goh et al., 2020; Syazreena et al., 2024), and creative teaching practices (Tee, 2022; Yin et al., 2017) did not specifically address developmentally appropriate visual arts instruction. This indicated

a persistent lack of empirical understanding regarding how private preschool teachers interpreted and applied DAP principles in visual arts teaching, despite recognition that visual arts education enhanced children's creativity, fine motor development, cognitive growth, emotional expression, and creative thinking abilities (Bilir-Seyhan & Ocak-Karabay, 2018; Wong & Tan, 2021; Alghufali, 2024).

Furthermore, classroom practices in Malaysia were often characterized by teacher-centered and product-focused approaches, which were reinforced by curriculum constraints and parental expectations for academic readiness (Cornwall, 2015; Fong & Ngadni, 2024; Leung et al., 2023). As a result, many teachers viewed visual arts as additional activity rather than an essential component of early childhood learning, reflecting limited pedagogical knowledge and the broader systemic undervaluation of the arts. In addition, teachers' beliefs-attitudes were closely associated with their professional motivation and instructional practices, suggesting that motivation played an important role in shaping teaching behaviours and educational outcomes (Bas, 2022). However, few studies had applied quantitative approaches to examine the relationships between teachers' beliefs-attitudes, job motivation, and the implementation of developmentally appropriate practices in visual arts, thereby limiting evidence-based strategies for improving teaching practices (Supartini & Agustin, 2020; Yin et al., 2017).

To address these gaps, the present study investigated the relationships between private preschool teachers' beliefs-attitudes, job motivation, and the implementation of developmentally appropriate practices in visual arts among private preschools in Selangor. This study examined teachers' pedagogical beliefs-attitudes aligned with DAP principles, analyzed the influence of job motivation on instructional practices, and explored the factors influencing the effective adoption of developmentally appropriate visual arts instruction. The findings provided theoretical and practical contributions by informing teacher training, policy development, and strategies aimed at enhancing holistic and developmentally appropriate visual arts education in Malaysian private preschools.

## Literature Review

Teachers' beliefs-attitudes were widely recognized as a foundational determinant of how educators interpreted and implemented Developmentally Appropriate Practices (DAP) in early childhood classrooms, particularly in visual arts education (Alghufali, 2024; Leung et al., 2024; Phang et al., 2021; Zupancic et al., 2015). These beliefs-attitudes shaped teachers' perceptions of children's developmental capabilities, the value of creative exploration, and the role of visual arts in supporting holistic development (Abdul Halim et al., 2021; Hien & Hung, 2021; Karim et al., 2025). Previous studies reported that teachers' efficacy beliefs-attitudes influence their teaching practices, which subsequently guided instructional strategies and classroom decision-making (Chan, 2016; Cobanoglu et al., 2019; Mengstie, 2023). Educators who strongly adhered to DAP principles tended to align visual arts instruction with children's developmental stages, interests, and learning needs (Copple & Bredekamp, 2009; Leggett, 2017; Wong, 2019). Such teachers designed age-appropriate and engaging learning experiences and fostered richer teacher-child interactions during creative activities (Abu-Jaber et al., 2010; Denee & Cherrington, 2023). Within the context of private preschools in Selangor, teachers' beliefs-attitudes were therefore expected to influence whether visual arts were implemented as meaningful developmental learning experiences or treated merely as supplementary classroom activities.

Job motivation also played a crucial role in supporting teachers' implementation of developmentally appropriate practices. Earlier research suggested that motivated teachers were more committed to professional development and more likely to adopt child-centered pedagogical approaches (Melhuish et al., 2016; Nwakasi & Cummins, 2018; Suyono et al., 2021; Stumbrienė, et al., 2024). Studies also indicated that teachers' motivation for continuous professional development strengthened participation in professional learning communities and enhanced instructional improvement (Belay & Melesse, 2024). Higher levels of motivation were associated with greater persistence, creativity, and adaptability in classroom instruction, particularly in subjects requiring flexible and exploratory teaching strategies such as visual arts (Tentama & Pranungsari, 2016; Chu & Kuo, 2015). Visual arts teaching often required open-ended exploration, sensory engagement, and responsive facilitation, which further encouraged teacher involvement and instructional creativity (Richards & Terreni, 2022). Research also indicated that implementing DAP-aligned strategies, including child-led exploration and open-ended artistic expression, enhanced teachers' professional satisfaction and instructional engagement (Lindsay, 2020; Semmar & Al-Thani, 2015). This dynamic created a reinforcing cycle in which effective teaching practices increased motivation, which in turn further strengthened teaching quality (Ahmed Hassan & Ibrahim Amin, 2016; Guera & Wubbena, 2017; Siraj et al., 2019). Contextual factors such as school leadership support, workload, professional recognition, and career advancement opportunities have been reported to influence teachers' sustained motivation to apply developmentally appropriate practices in visual arts instruction (Belay & Melesse, 2024; Bukhari et al., 2023).

Visual arts education played a significant role in supporting young children's linguistic, cognitive, social-emotional, and motor development (Çetin, 2021; Julius, 2018; Robb et al., 2021). Through artistic engagement, children were able to express ideas, explore emotions, and develop problem-solving abilities using integrated hands–mind–heart processes (Cahyani et al., 2020; Lindsay et al., 2025). Developmentally appropriate visual arts instruction typically incorporated open-ended questioning, exploratory activities, and opportunities for self-expression, which stimulated creativity, reflective thinking, and richer narrative expression among young learners (Garvis, 2020; Santin & Torruella, 2017; Semmar & Al-Thani, 2015; Fadhilah et al., 2020). Early artistic experiences such as scribbling and mark-making were widely regarded as foundational stages in children's cognitive and artistic development (Baroutsis et al., 2019; Copple & Bredekamp, 2009; Koster, 2015; McChesney & Clarkin-Phillips, 2020; Shulsky & Kirkwood, 2015; Wong & Tan, 2021). These practices aligned closely with the principles of child-centered, responsive, and intentional teaching promoted within the DAP framework.

Within private preschool settings in Selangor, the successful implementation of developmentally appropriate visual arts practices depended on multiple interacting factors, including teachers' beliefs-attitudes, job motivation, resource availability, institutional support, and parental expectations. Understanding how these factors influenced teachers' instructional practices was therefore essential for strengthening the implementation of developmentally appropriate visual arts education and ensuring equitable, high-quality early childhood learning experiences.

## Methods

### *Research Subjects*

A quantitative research design was employed, using a self-administered survey as the primary data collection instrument. A stratified two-stage probability random sampling technique was applied to obtain a representative sample of private preschool teachers across ten districts in Selangor.

The required sample size was calculated using the Raosoft online sample size calculator with a 95% confidence level, 5% margin of error, and 50% response distribution, yielding a minimum sample of 370 teachers (Hossan et al., 2023; Chua, 2016; Creswell, 2012; Mumtaz Ali et al., 2020). To account for potential non-response or incomplete questionnaires, an additional 20% of survey links were distributed, resulting in a total of 444 questionnaires being sent, in line with recommendations by Cohen (1988) and similar research practices (Hair et al., 2017; Mweshi & Sakyi, 2020).

A total of 411 responses were received, representing a response rate of 92.6%. After screening the data for completeness and validity, 400 responses were retained for the final analysis, providing sufficient statistical power for meaningful quantitative analysis.

### *Measurement Instruments*

A structured questionnaire served as the primary instrument to collect quantitative data on private preschool teachers' demographic characteristics, beliefs–attitudes, job motivation, and the implementation of developmentally appropriate practices (DAP) in visual arts. The instrument was adapted from previously validated questionnaires with permission to ensure content relevance and reliability.

Section A captured teachers' demographic information, including gender, ethnicity, age, district, educational qualification, and teaching experience.

Section B measured teachers' beliefs–attitudes using 33 items across three dimensions: child benefit, teacher comfort, and perceived challenges. These constructs were grounded in Planned Behaviour Theory principles, which emphasized the influence of teachers' beliefs–attitudes on instructional decision-making.

Section C assessed job motivation using 33 items based on five factors: need, belief, power, encouragement, and achievement. These factors were derived from McClelland's Needs Theory to capture intrinsic and extrinsic motivational drivers that influenced teachers' professional engagement.

Section D evaluated the implementation of DAP in visual arts using 42 items across three domains: child-centered environment, visual arts activities, and authentic assessment. This section was guided by Vygotsky's concept of the Zone of Proximal Development (ZPD), which highlighted the importance of developmentally appropriate and responsive teaching practices.

All items were measured using a five-point Likert scale. The initial questionnaire consisted of 108 items, with job motivation examined as a mediating variable between teachers' beliefs–

attitudes and the implementation of developmentally appropriate practices in visual arts. Following item refinement, 94 items were retained for the final analysis, demonstrating acceptable levels of reliability and convergent validity.

### ***Validity and Reliability of the Instruments***

Content validity of the questionnaire was established through expert evaluation by five specialists with expertise in early childhood education, psychological assessment, counselling, and creative arts. The experts assessed the items for clarity, consistency, and relevance to the study constructs using a four-point rating scale (1 = not clear to 4 = very clear). Their feedback guided refinements to improve item clarity, terminology, and alignment with the target population, including standardizing references to “preschoolers” and adjusting examples in Sections B, C, and D. The mean scores for the validity criteria ranged from 3.15 to 3.72, indicating that the instrument was clear, appropriate, and relevant for the study context.

A pilot test was conducted with 84 respondents to assess the reliability of the instrument. Reliability was evaluated using Cronbach’s alpha, and the results indicated satisfactory internal consistency across all constructs: teachers’ beliefs–attitudes ( $\alpha = .81$ ), job motivation ( $\alpha = .95$ ), and DAP in visual arts ( $\alpha = .95$ ), with subconstruct values ranging from .66 to .95. These findings suggested that the instrument demonstrated acceptable reliability and was suitable for the main data collection.

Subsequently, construct validity was evaluated during the measurement model assessment. Fourteen items with low factor loadings and insufficient average variance extracted (AVE) were removed to improve construct validity. After item refinement, 94 items were retained for the final analysis, indicating that the measurement model achieved acceptable levels of reliability and convergent validity.

The refined measurement model was subsequently used to examine the structural relationships among teachers’ beliefs–attitudes, job motivation, and the implementation of developmentally appropriate practices in visual arts.

### ***Data Analysis***

Data collected from the survey were first screened and cleaned to ensure completeness and accuracy, resulting in 400 valid responses for analysis. Descriptive statistics, including means, standard deviations, and frequencies, were calculated using SPSS version 26 to summarize participants’ demographic characteristics, beliefs–attitudes, job motivation, and implementation of developmentally appropriate practices (DAP) in visual arts. Inferential statistical analyses, including correlation, regression, structural model evaluation, and mediation analysis, were conducted using Smart-PLS version 3. Prior to these analyses, prerequisite tests, such as normality and linearity assessments, were performed to ensure that the data met the assumptions required for the planned analyses.

## Results and Analysis

### *Prerequisite Test*

#### *Normality Test*

After addressing missing data and detecting outliers, the dataset's distribution was evaluated for normality. Normality testing was essential to determine whether the data followed a normal distribution, as many statistical analyses assumed normality to produce valid and reliable results (Korkmaz & Demir, 2023; Ghasemi & Zahediasl, 2012; Kwak & Park, 2019). The Kolmogorov–Smirnov (K–S) test was conducted in SPSS to evaluate the normality of all variables. Under the null hypothesis, the population was assumed to follow a normal distribution. A p-value less than 0.05 indicated a deviation from normality (Habibzadeh, 2024; Hanusz & Tarasińska, 2015; Emmanuel et al., 2019).

The results of the K–S test showed that all variables in this study had statistically significant p-values ( $p < 0.05$ ), indicating that the data distributions deviated from normality (Table 1). This finding was consistent with Bono et al. (2017), who noted that non-normal distributions were frequently observed in datasets from social sciences, health, and education. Similar patterns have been reported in more recent studies: Ventura-León et al. (2022) demonstrated that non-normal distributions and outliers can substantially influence correlation coefficients in psychological research, while Sun and Cheung (2020) showed that non-normality in primary studies can bias meta-analytic effect size estimates. These studies collectively highlighted the prevalence and methodological impact of non-normal distributions in empirical research. The results supported prior research emphasizing the importance of evaluating normality when conducting statistical analyses (Habibzadeh, 2024; Kwak & Park, 2019; Wei & Song, 2021).

**Table 1: Normality Test of the Distribution**

Sub-Constructs	Kolmogorov-Smirnova			Notes
	Statistic	df	Sig.	
Beliefs-Attitudes-Child Benefits	.172	400	.000	Non-Normal
Beliefs-Attitudes-Teachers' Comfort	.081	400	.000	Non-Normal
Beliefs-Attitudes-Challenges	.123	400	.000	Non-Normal
Job Motivation-Achievement	.138	400	.000	Non-Normal
Job Motivation-Encouragement	.116	400	.000	Non-Normal
Job Motivation-Needs	.076	400	.000	Non-Normal
Job Motivation-Beliefs	.099	400	.000	Non-Normal
Job Motivation-Power	.071	400	.000	Non-Normal
DAP-Child-Centered Environment	.073	400	.000	Non-Normal
DAP-Visual Arts Activities	.103	400	.000	Non-Normal
DAP-Authentic Assessment	.140	400	.000	Non-Normal

#### *Multicollinearity and Homoscedasticity Test*

Multicollinearity among independent variables was assessed using VIF and tolerance values, with  $VIF \leq 5$  and tolerance between 0 and 1 indicating no issues. Residual scatterplots were

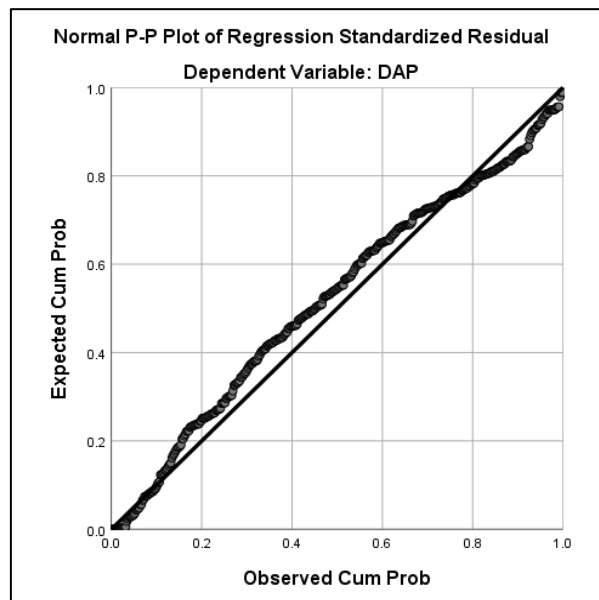
examined to assess homoscedasticity, where a random scatter of points indicated constant variance. The results (Table 2) showed minimal multicollinearity and confirmed that the dataset met the homoscedasticity assumption, supporting its suitability for regression analysis.

**Table 2. Multicollinearity and Homoscedasticity Analysis**

Independent Variable	Tolerance	VIF	Homoscedasticity
BA-Child Benefit	0.644	1.552	Random scatter
BA-Teachers' Comfort	0.410	2.441	Random scatter
BA-Challenges	0.844	1.185	Random scatter
JM-Achievement	0.451	2.216	Random scatter
JM-Encouragement	0.490	2.039	Random scatter
JM-Needs	0.571	1.752	Random scatter
JM-Beliefs	0.419	2.389	Random scatter
JM-Power	0.496	2.015	Random scatter

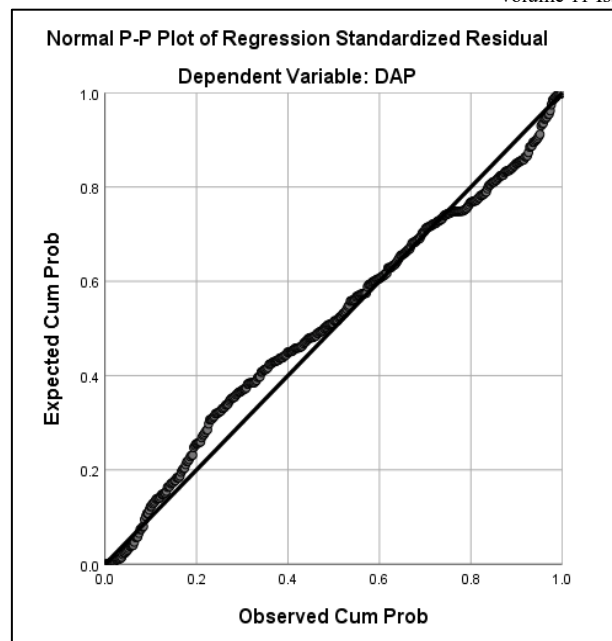
### *Collinearity Test*

Collinearity was assessed to determine whether two or more independent variables in the regression model exhibited high intercorrelation that could make their contributions to explaining the dependent variable redundant. Plots illustrating estimated collinearity conditions were presented in Figures 1 and 2. These visual diagnostics informed the validity of the regression analysis by showing the extent of potential correlations among predictors.



**Figure 1: Plot Collinearity Test Based on DAP in Teaching Visual Arts**

Figure 1 showed the relationship between DAP teaching visual arts and beliefs-attitudes. The data points roughly aligned along a straight line, indicating a potentially collinear relationship.



**Figure 2: Plot Collinearity Test Based on DAP in Teaching Visual Arts**

Figure 2 depicted the relationship between DAP teaching visual arts and job motivation. The data points roughly followed a straight line, suggesting a linear relationship.

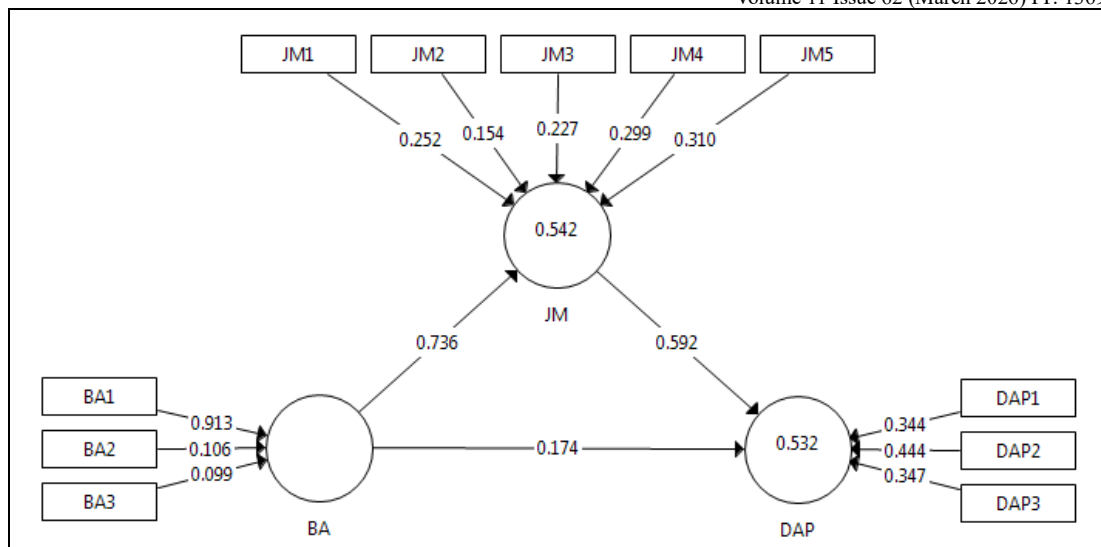
### *Multiple Regression Test*

Multiple regression analysis indicated that teachers' beliefs–attitudes (BA) significantly predicted job motivation (JM), which, in turn, positively influenced DAP implementation (Table 3). BA strongly influenced JM ( $f^2 = 1.181$ ), while JM moderately affected DAP ( $f^2 = 0.344$ ), highlighting its key role in supporting effective implementation. The direct BA  $\rightarrow$  DAP path showed a small effect ( $f^2 = 0.030$ ). PLSpredict results confirmed positive predictive relevance for both JM ( $Q^2_{\text{predict}} = 0.325$ ) and DAP ( $Q^2_{\text{predict}} = 0.384$ ).

These results aligned with prior research demonstrating that teachers' beliefs–attitudes significantly influenced their professional motivation, which in turn shaped classroom practices (Chan, 2016; Lindsay, 2020; Pajares, 1992). Teachers who held positive beliefs–attitudes about the developmental benefits of visual arts were more motivated, confident, and persistent in applying DAP, while high job motivation further reinforced their commitment, engagement, and willingness to overcome challenges (Taşkesen, 2020; Pithakwongjinda & Julsuwan, 2025; Melhuish et al., 2016).

**Table 3: Multiple Regression Test**

Construct	R <sup>2</sup> Value	Level	Exogenous Path	f <sup>2</sup> value	Effect Size	Q <sup>2</sup> Predict	Predictive Decision
JM	0.542	Moderate	BA $\rightarrow$ JM	1.181	Substantial	0.325	Positive
DAP	0.532	Moderate	BA $\rightarrow$ DAP JM $\rightarrow$ DAP	0.030 0.344	Small Moderate	0.384	Positive



**Figure 3: Endogenous Latent Multiple Regression**

Note: This figure illustrated the structural relationships between the endogenous latent variables, showing the direction and magnitude of the regression paths examined in the model.

### Key Relationships

Teachers' beliefs-attitudes played a central role in shaping instructional practices, particularly in the implementing of Developmentally Appropriate Practices (DAP) in visual arts. Positive beliefs-attitudes regarding the developmental benefits of visual arts, including the promotion of creativity, self-expression, and cognitive growth, were associated with greater confidence and a higher willingness to employ child-centered strategies (Arslan & Toprak, 2025; Chan, 2016; Lindsay, 2020). Conversely, negative beliefs-attitudes, often influenced by limited resources, exam-oriented curricula, or insufficient professional training, reduced teachers' comfort and effectiveness in DAP implementation (Leggett, 2017; Leung et al., 2024). A statistically significant positive relationship was found between beliefs-attitudes and DAP implementation ( $\beta = 0.174$ ,  $p < .05$ ).

Job motivation further reinforced teachers' commitment and engagement in applying DAP principles. The study found a significant positive relationship between job motivation and DAP implementation ( $\beta = 0.592$ ,  $p < .05$ ). Motivation had been influenced by workplace support, autonomy, transformational leadership, and professional development opportunities, which enabled teachers to persist through challenges, enhance engagement, and implement creative, child-centered practices effectively (Pithakwongjinda & Julsuwan, 2025; Veenstra et al., 2022; Arifin & Narmaditya, 2024; Zhang et al., 2019).

Overall, the results highlighted that the interplay between teachers' beliefs-attitudes and job motivation was crucial for effective DAP implementation. Positive beliefs-attitudes shaped teachers' intentions and comfort in facilitating visual arts, while high motivation ensured sustained engagement, professional growth, and resilience in practice. By nurturing both cognitive beliefs-attitudes and motivational factors through targeted professional development, supportive leadership, and enabling work environments, schools could strengthen the quality and consistency of developmentally appropriate visual arts education, ultimately supporting children's holistic learning and creativity (Shikalepo, 2020; Taşkesen, 2020; Lindsay, 2020).

## Conclusion

This study concluded that private preschool teachers' beliefs–attitudes and job motivation were major determinants of the implementation of Developmentally Appropriate Practices (DAP) in visual arts education in Selangor. The findings suggested the importance of teachers' beliefs–attitudes in shaping their level of job motivation, which, in turn, exerted a strong and direct influence on DAP implementation. Although teachers' beliefs–attitudes had a smaller direct effect on DAP, their substantial indirect effect through job motivation indicated that motivation functioned as an important mediating factor in translating beliefs–attitudes into classroom practice.

The results indicated that teachers who held positive beliefs–attitudes about the developmental value of visual arts were more motivated, confident, and persistent in applying child-centered, developmentally appropriate strategies. Higher levels of job motivation were associated with sustained engagement, adaptive teaching approaches, and the ability to manage contextual challenges such as limited resources, curricular constraints, and parental expectations. These findings underscore the influence of motivational and psychological factors in facilitating the enactment of DAP in visual arts education, beyond the acquisition of pedagogical knowledge alone.

Overall, the study suggested that the interplay between teachers' beliefs–attitudes, job motivation, and instructional practices was closely connected to effective DAP implementation. Strengthening teachers' understanding of DAP principles while simultaneously providing motivational support through professional development, supportive leadership, recognition, and conducive working conditions was indicated as important for improving the quality and consistency of developmentally appropriate visual arts teaching. By addressing both cognitive and motivational dimensions of teaching, private preschools were better positioned to support holistic child development and foster meaningful, creative learning experiences in early childhood settings.

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- Ethics Statement:** Option A (For Studies Involving Human Participants)  
This study was conducted in accordance with ethical research standards. All procedures involving human participants were reviewed and approved by the Universiti Malaya Research Ethics Committee (UMREC), approval number [UM.TNC2/UMREC\_1593]. Informed consent was obtained from all participants prior to data collection. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The data collected were used solely for academic purposes.
- Author Contribution Statement:** All authors contributed significantly to the development of this manuscript. [Teng Heng Lan/Fonny/Chew] was responsible for the conceptualization, methodology, and overall supervision of the study. [Teng Heng Lan] handled data collection, analysis, and interpretation of results. [Fonny/Chew Fong Peng] contributed to the literature review, drafting, and critical revision of the manuscript. All authors read and approved the final version of the manuscript prior to submission.
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