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Attendance and Academic Performance in University Studies in Tourism

Abstract

Academic literature has extensively studied the relationship between classroom attendance and academic performance in higher education. However, there is a lack of specific studies on higher education in tourism. To address this gap, this study investigates the correlation between class attendance and grades achieved by students in the Tourism Degree programme at the University of Zaragoza. The research incorporates variables of interest such as gender, academic year and course repetition, significantly contributing to the proposed predictive model. The subgroup analysis shows that women and students who do not repeat courses exhibit higher attendance rates and achieve better academic outcomes. Class attendance and course repetition are the most influential factors affecting students' final grades.

Keywords: *attendance, performance, tourism, university degree, gender, repeaters*

1. Introduction

The tourism sector is a vibrant and dynamic industry encompassing various activities, including travel, hospitality, leisure and event management. It plays a significant role in global economies, and as the sector continues to grow and evolve, there is a growing demand for well-trained professionals who can na-

vigate its complexities. Various educational programmes have been established to meet this demand, offering different levels of training and qualifications.

One of the key educational pathways in tourism is a university degree in tourism. Offered by numerous universities across Europe as part of higher education, this degree programme, which covers various dimensions, including social, economic, cultural and environmental aspects, is designed to provide students with a comprehensive understanding of the industry.

To advance the interface between specialised higher education and the tourism sector, and, as such, the professional environment within the industry, it is crucial to continuously improve the training conditions. However, there remains a lack of research on the specific variables contributing to improving training conditions in university-level tourism studies, highlighting the need for further exploration in this area (Della, 2021; García & Porto et al., 2021).

One such variable is the relationship between class attendance and student performance. While this relationship has been extensively studied in the field of economy (Romer, 1993; Chan et al., 1997; Maloney & Lally, 1998; Marburguer, 2001; Sauers et al., 2005; Credé et al., 2010; Dey, 2018; Méndez & Crespo, 2021), its examination within the context of university studies in tourism remains relatively limited.

Building upon this understanding, this article aims to bridge the gap in the literature by focusing specifically on the tourism degree programme and examining the impact of class attendance on student achievements. The study will analyse this relationship across the four academic years that comprise the curriculum, considering factors such as academic year, course repetition and student gender. By undertaking this research, a better understanding of the factors influencing student performance in the tourism field can be gained, leading to the development of effective educational practices.

To achieve this objective, the study will construct a predictive model of student academic performance by, as mentioned before, incorporating various variables. Building upon previous research on the influence of the students' academic year (Maloney & Lally, 1998; Méndez & Crespo, 2021), the analysis will also explore the role of subject repetition as a factor that has so far not received any attention in academic research, a matter that adds a novel dimension to the study and enhances its relevance.

Furthermore, the study seeks to examine gender-related effects on attendance. Prior studies have pointed to gender differences in attendance (Woodfield et al., 2006; Dey, 2018) and academic achievements (Smith & Naylor, 2001; McNabb et al., 2002). By exploring these aspects within the specific context of the tourism degree programme, the research aims to contribute to a better understanding of

gender dynamics and their impact on academic performance in this specialised field.

In summary, the findings of this study not only contribute to understanding the relationship between class attendance and academic outcomes in tourism education and have broader implications for educational practices in the industry. The insights gained from this research will guide the development of effective strategies, interventions and initiatives that support students, address attendance issues, and enhance aspiring professionals' educational experience and career prospects in the dynamic and competitive tourism sector.

2. Literature Review

The relationship between class attendance and students' academic performance is extensively studied in academic literature. This relationship has been examined in various study contexts – particularly in social sciences, using different analytical methodologies and considering different periods.

In the context of higher education and social sciences, one of the early and most influential investigations to date was conducted by Romer (1993). This study's findings concluded a positive and significant relationship between class attendance and course grades. This result was replicated in subsequent decades through various research studies conducted in different countries and universities (Credé et al., 2010). Most of the research in the social sciences has focused on students enrolled in economics and business administration courses (Chan et al., 1997; Maloney & Lally, 1998; Marburguer, 2001; Sauers et al., 2005; Méndez & Crespo, 2021). However, literature specifically addressing this phenomenon in the field of tourism appears to be absent. To the best of our knowledge, no research has quantified the effect of the relationship between class attendance and students' grades in tourism. Accordingly, we propose the following hypothesis:

Hypothesis 1: Class attendance positively affects the academic performance of students pursuing tourism studies at the university level.

The methodologies used in the literature to analyse the relationship between class attendance and students' academic performance can be classified into three groups (Karnik et al., 2020). The first group includes studies that use correlations to examine the linear relationship between these two variables (Credé et al., 2010; Gough et al., 2021). The second group consists of research based on panel data (Rodgers, 2001; Latif & Miles, 2013). Lastly, the third group comprises studies that test this relationship through regression models (Romer, 1993; Maloney & Lally, 1998; Méndez & Crespo, 2021).

Considering this last group, literature has found that class attendance can significantly predict students' academic performance. The magnitude of this prediction can be quantified by a coefficient of determination ranging from 0.15 to 0.38 (Méndez & Crespo, 2021). To improve the predictive power of the model and increase this coefficient, researchers have investigated the incorporation of various variables that could potentially impact the association between class attendance and students' academic performance (Credé et al., 2010). These variables include student gender (McNabb et al., 2002; Almutawa & Suwaidan, 2020; Hakami, 2021; Méndez & Crespo, 2021) and academic year (Devadoss & Foltz, 1996; Maloney & Lally, 1998; Méndez & Crespo, 2021).

In the context of higher education, academic literature has also investigated the influence of gender on students' academic performance and class attendance. The results indicate that women generally achieve higher grades than men and have a higher attendance rate in classes (McNabb et al., 2002; Almutawa & Suwaidan, 2020; Hakami, 2021; Méndez & Crespo, 2021). However, it is important to note that the significance of this variable in regression models has yielded inconsistent findings, with some studies reporting significant effects and others showing less conclusive results (Credé et al., 2010).

The academic year in which students are enrolled significantly influences the relationship between class attendance and student outcomes. A study conducted by Maloney and Lally (1998) quantified this relationship and highlighted that class attendance has a greater positive effect on second-year students' grades than third-year students. This finding aligns with the results reported by Méndez and Crespo (2021), who found that class attendance has a greater influence on students in the early years of their degree than those in later years. In light of these considerations, the following hypothesis is proposed:

Hypothesis 2: Class attendance positively affects students' academic performance. However, this effect diminishes as the students advance in their academic years of the degree programme.

In university studies, it is common for students to retake courses for several years in order to pass them. Some students who repeat a failed course experience greater difficulty in achieving a passing grade. However, despite an extensive search, we have not found any research that quantifies the influence of course repetition on academic outcomes.

Using linear regression models, studies that have examined the effects of class attendance on students' academic performance have considered various time periods to investigate the phenomenon. Specifically, some articles analyse individual courses (Romer, 1993), multiple courses (Maloney & Lally, 1998; Gough et al., 2021), a complete academic year (Moore, 2006; Bijmans

& Schakel, 2018), and the entirety of courses in a degree programme within a single academic year (Méndez & Crespo, 2021). However, to the best of our knowledge, we have not found any existing literature investigating the entirety of courses in a degree programme during a single semester.

Considering the tourism curriculum, it is important to establish one semester since there is a significant difference between the subjects in the first and second semesters. For instance, in the fourth year, subjects such as the Final Degree Project and curricular internships cannot be evaluated based on class attendance alone, unlike other subjects. It is worth noting that the ECTS credits for these two subjects account for 10% of the total credits in the degree programme.

In light of these considerations, we propose the following predictive model for students' academic performance in each year of tourism studies:

$$\text{Performance} = \alpha + \beta_1 \text{ Attendance} + \beta_2 \text{ Female} - \beta_3 \text{ Repeater} + \varepsilon_i$$

3. Methodology

This study adopts a quantitative approach to explore the relationship between class attendance and academic performance in tourism studies. In line with the discussion in the Literature Review, two main analytical techniques are employed: correlation analysis and multivariate linear regression analysis.

Correlation Analysis: This method evaluates the strength and direction of the relationship between class attendance and academic performance, considering additional variables such as academic year, gender and subject repetition.

Multivariate Linear Regression Analysis: In addition to correlation analysis, multivariate linear regression is used to predict the variables influencing student academic outcomes. This approach integrates class attendance, gender, and subject repetition as independent variables, while academic performance is the dependent variable.

The data was collected by gathering attendance records and academic performance metrics from 417 students enrolled in the Tourism Degree programme at the University of Zaragoza for the first semester of the 2021/2022 academic year. The sample comprised a diverse representation of academic years, with the majority of participants being first-year (31.12%) and fourth-year (28.06%) students. Additionally, 24.04% of the sample were male participants, while 75.96% were female (Table 1). Subjects spanning the entire academic year are excluded from the analysis.

Table 1. Characteristics of the sample

Academic Year (N=417)	First Year (31.12%) Second Year (22.48%) Third Year (18.35%) Fourth Year (28.06%)
Gender (N=417)	Gender (N=417) Male (24.04%) Female (75.96%)
Repeater (N=417)	Non-repeater (85.61%) Repeater (16.26%)

Class attendance was measured using a specialised Excel spreadsheet, recording attendance percentages for each enrolled course. Academic performance was assessed based on final grades obtained across various assessment instruments specified in course guides, utilising a scale of 0 to 10. Data analysis was conducted using Excel 7.0 and SPSS 22.0 software programmes.

4. Results and Discussion

4.1. Class Attendance and Grades Obtained by Academic Year, Gender, and Subject Repetition

The overall class attendance across all subjects is 65.28%, correlating with an average grade of 6.1. When considering the academic year variable, the highest grades and the highest attendance rates are observed in the fourth year. The third year exhibits the lowest attendance rate among all the academic years, and the lowest grades are associated with the second year. Significant positive correlation coefficients are evident across all academic years (Table 2 and Graph 1).

Differences emerge in class attendance and average grade obtained based on the students' gender. Female students have an attendance rate of 69.49%, while men have an attendance rate of 52.53%. Regarding grades, women obtain an average grade over one point higher than men. The correlation coefficients between the variables of class attendance and average grade obtained by gender are positive and significant, with a slightly lower correlation for the female group (Table 2 and Graph 2). These results align with findings in existing academic literature (McNabb et al., 2002; Almutawa & Suwaidan, 2020; Hakami, 2021; Méndez & Crespo, 2021).

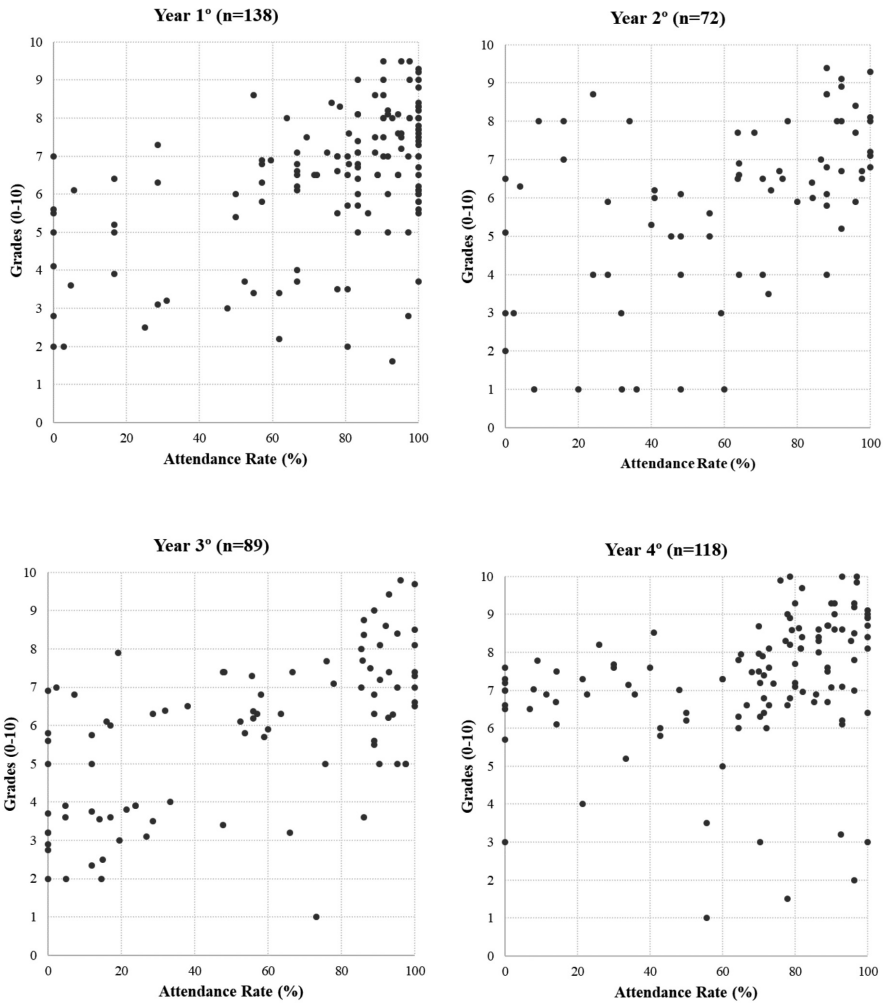
Non-repeating students demonstrate a substantially higher attendance percentage (72.53%) than repeating students (22.06%). This contrast is also reflected in the average grade obtained. Non-repeating students achieve an average grade of 6.41, whereas repeating students obtain an average of 4.24. The positive and significant correlation coefficients underscore the relationship between these variables (Table 2 and Graph 3).

Table 2. Relationship between class attendance and final grade

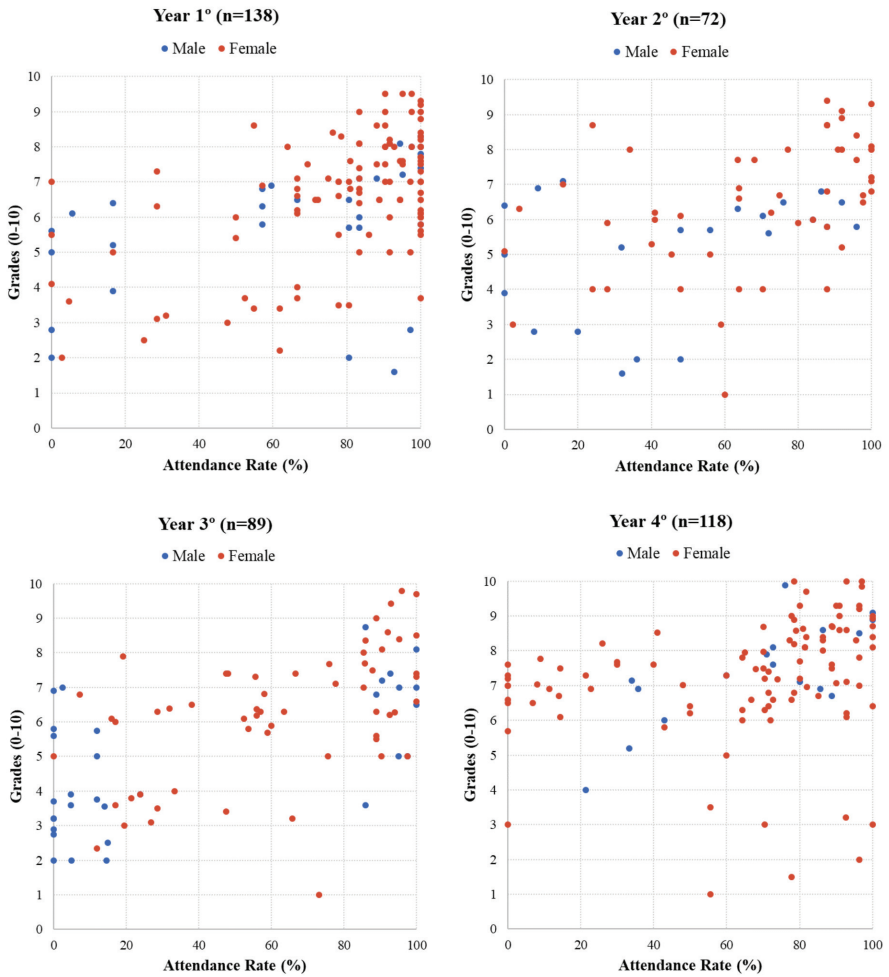
Variabls		Clase Attendance	Average Grade Obtained	Correlation between Class Attendance and Grade Obtained
Total Students		65.28%	6.1	$r = 0.48^*$
Year	First	69.81%	6	$r = 0.54^*$
	Second	62.36%	5.21	$r = 0.44^*$
	Third	52.63%	5.57	$r = 0.62^*$
	Fourth	70.84%	7.26	$r = 0.23^*$
Gender	Male	52.53%	5.52	$r = 0.55^*$
	Female	69.49%	6.72	$r = 0.39^*$
Repeater	No	72.53%	6.41	$r = 0.48^*$
	Yes	22.06%	4.24	$r = 0.49^*$

* Significant at 95%

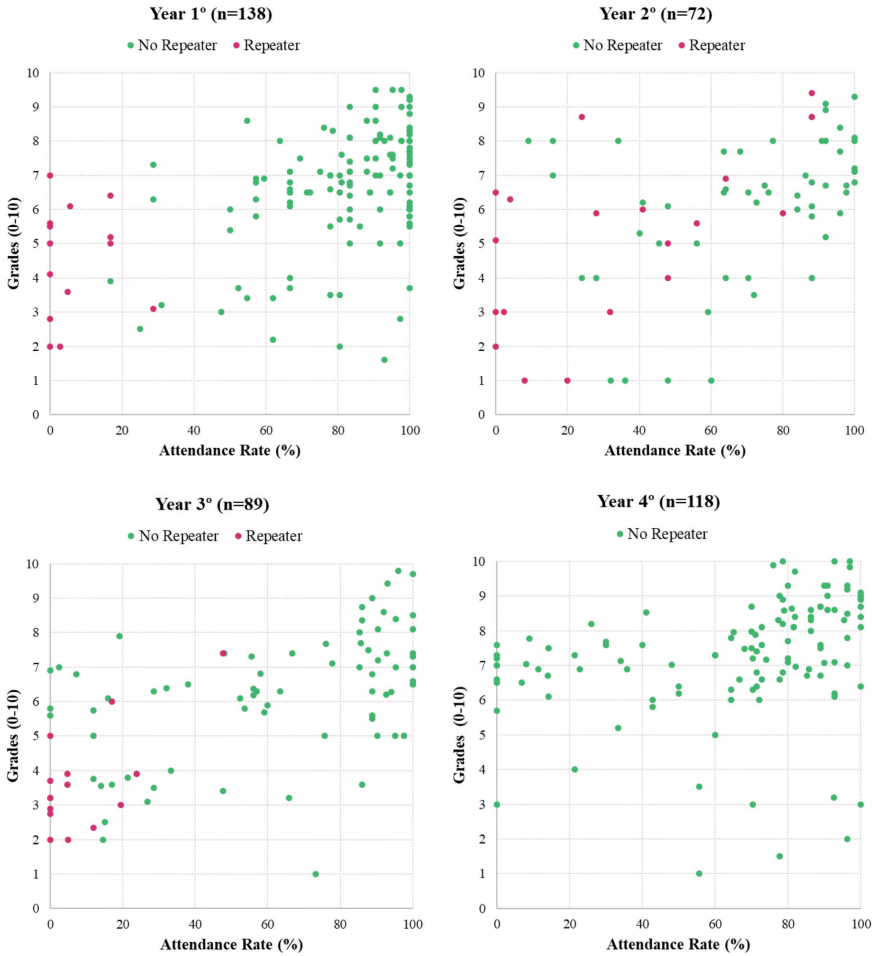
Graph 1. Correlations between class attendance and grades obtained by academic year



Graph 2. Correlations between class attendance and grades obtained by academic year and student gender



Graph 3. Correlations between class attendance and grades obtained by academic year and student repetition status



A discernible positive linear relationship is observed between student class attendance and the average grade obtained in the subject. However, these are linear relationships with moderate correlation coefficients (r) ranging from 0.23 to 0.62, depending on the student subgroup considered. These results unveil a fresh perspective, offering novel insights into the correlation dynamics within the context of higher education in tourism studies.

4.2. Predictive Model of Student Academic Outcome

The results of the linear regression analysis show that class attendance significantly influences the students' academic outcomes (Table 3). The model's coefficient of determination (R^2) is 0.23, slightly surpassing findings from other disciplines (Méndez & Crespo, 2021). Specifically, attending classes has a positive effect, resulting in an improvement of 0.032 points in the students' grades. As a result, **Hypothesis 1 is confirmed, indicating that class attendance positively influences the students' academic outcomes in the degree programme.**

Table 3. Linear Regression Model: Class Attendance and Academic Outcome

Academic Year	Variable	Beta	Std. Error	t	p-value	R2	Adj R2	F	p-value	n
All	Constant	3.997***	0.182	21.92	0.00	0.23	0.228	165.64***	0.01	417
	Attendance	0.032***	0.003	12.87	0.00					

Dependent variable: Student academic outcome

*** Significant at 1%; ** Significant at 5%

To test Hypothesis 2, a linear regression model has been conducted for each academic year. The results show that class attendance significantly and positively affects the students' academic outcomes across all academic years, albeit with varying effects (Table 4).

Specifically, the students' class attendance has a greater influence on their grades in the earlier years of the degree programme (0.038 points for the first year, 0.032 points for the second year, and 0.027 for the third year), while in the final year, the influence is much lower compared to the previous years (0.016). **Thus, Hypothesis 2 is confirmed, indicating that the effects of class attendance on the students' outcomes decrease as the academic years of the degree programme progress.**

The students' gender exerts a significant effect only in the second year of the degree programme. This effect is quantified at 1.247, while repeating the subject does not influence the grade obtained in any year of the degree programme (Table 4). The models' coefficients of determination (R^2) range from 0.08 for the fourth year to 0.406 for the second year, elucidating the predictive efficacy of the model.

Table 4. Linear Regression Models

Academic Year	Variable	Beta	Std. Error	t	p-value	R2	Adj R2	F	p-value	n
1	Constant	3.206***	0.683	4.692	0.00	0.274	0.258	16.861***	0.01	138
	Attendance	0.038***	0.008	5.024	0.00					
	Female	0.402	0.333	1.204	0.23					
	Repeater	0.874	0.729	1.199	0.23					
2	Constant	2.99***	0.681	4.095	0.00	0.306	0.275	9.980***	0.01	72
	Attendance	0.032***	0.009	3.679	0.00					
	Female	1.247**	0.510	2.445	0.017					
	Repeater	0.342	0.598	0.569	0.569					
3	Constant	4.154***	0.422	9.846	0.00	0.406	0.385	19.395***	0.01	89
	Attendance	0.027***	0.005	4.851	0.00					
	Female	0.504	0.376	1.338	0.184					
	Repeater	-0.896	0.544	-1.649	0.130					
4	Constant	6.334***	0.528	11.995	0.00	0.08	0.064	5.006**	0.08	118
	Attendance	0.016***	0.005	3.145	0.00					
	Female	-0.107	0.438	-2.244	0.808					
	Repeater									

Dependent variable: Student academic outcome

*** Significant at 1%; ** Significant at 5%

Incorporating variables such as gender, academic year, and course repetition, the study enhances the predictive accuracy of regression models. Additionally, it introduces a novel timeframe by examining the entirety of courses in a degree programme during a single semester, providing valuable insights into the dynamics of class attendance and academic achievement in tourism education.

5. Conclusion

The relationship between class attendance and student outcomes is extensively studied in academic literature. However, this relationship has not been investigated and quantified in the context of university studies in tourism.

In this regard, this study aimed to examine the relationship between class attendance and student grades in the context of university studies in tourism. The analysis revealed a significant and positive correlation between class attendance and grades obtained, indicating the importance of attending classes for academic success in the early years of the tourism degree programme. At the same time, the effect of class attendance on grades diminished as students progressed through the programme, likely due to increased maturity and acquired knowledge.

Moreover, the study found that female students demonstrated higher grades and class attendance than male students. In addition, students who repeated subjects had lower class attendance and academic performance. These findings emphasise the need for educational management to encourage class attendance in the initial stages of the programme, while recognising the varying impact of attendance on student outcomes based on gender and subject repetition.

While this research offers valuable information on the relationship between class attendance and grades, it also acknowledges some limitations. Additional factors not considered in this study may influence student performance, including study habits, motivation, socio-economic backgrounds, teaching quality, and practical training experiences. Future research should explore these variables to gain a comprehensive understanding of the complex dynamics of academic success in tourism education.

In conclusion, this study contributes to the existing literature by quantifying the relationship between class attendance and grades in tourism education. The findings underscore the importance of early-stage class attendance, highlight gender disparities and suggest strategies for educational management. Future research directions should explore additional factors influencing student performance and investigate the long-term impact of academic success on graduates' professional trajectories.

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