**The interplay between motivational renewal and rule conformity in the production of public goods. An application to music education**

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Introduction and context

Building on idata collected between 2021 and 2023 among Trentino music schools, this work explores the relationship between music teacher motivational renewal, their preferences towards the profession and conformity to the institutional system that regulates the service. The justification for this focus is in the nature of the economic coordination that regulates the production of the service. Basic music eduction in this Italian province occurs with a public-private pact between the province and thirteen music schools, which take the form of worker cooperatives or associations (Sacchetti, Ianes 2022). The schools abide to the rules and the pedagogical orientations set at provincial level in order to access public funding. This implies--within certain spaces of freedom--a service standardization and economic sustainability criteria in the use of resources by schools. A first level of coordination is thus to be appreciated at the public-private system level. The second level of coordination is provided by individual schools, which exist to coordinate resources according to planned goals and activities, regardless of the fact that formal control is predominantly democratic, i.e., the prerogative of worker members. On the one hand the success of this system is defined by its rules and by the resources associated with cultural policies for public good creation. On the other, complementary, with the motivation of teachers to abide to this system and contribute to music education. The aim is to uncover if--over time--teachers' motives get renewed so that the production system is supported.

The history of this school system allows us to speak of an enduring system, which has been able to produce different outcomes, in an ongoing way in general and for the benefit of users and members.

With the passage of time, however, the initial and creative state gives way to a more operational mode of operation, embedded in a system of enabling institutional rules and practices, but which at times have risked becoming rigid, net of marginal adaptations. Indeed, at various times the need has emerged for actors in the system to revise their rules and give rise to regenerative instances and pathways. Over time, the cultural context, habits, and preferences of families have also changed, new needs have emerged within the community, and new music education initiatives have emerged outside the regulated provincial system.

Methods

To estimate motivational renewal in this context, we use ordered logistic models with predictors that indicate the satisfaction of teachers with the educational system and its rules and with the involvement in their school choices. This element of our model reflects Ostrom's highlights of rule conformity and the reproduction of commons (Ostrom, 1998). We also include indicators about musicians' preferences regarding the relationship with the school, discriminating between market exchange type preferences (work against a salary), cooperative preferences (working towards a common educational aim), self-seeking nonmonetary preferences towards professionalisation. We check for teachers' age, gender, hourly salary, hours worked.

Results and discussion

The relationship with the school and the attitude toward it is generally shaped by the pursuit of a common goal--the cultural and educational goal--on which the individual's quest for professional growth is grafted. On the whole, teachers attach a cooperative value to the relationship with the school. It is functional in achieving the shared goal of creating public goods. In fact, they speak of a school-teacher relationship conceived primarily as a common educational endeavor (5.19 on average, scales 1 - 7), but also for more personal purposes concerning professional growth as a teacher (5.11 on average). Marginally, teachers (in 66 percent of cases with an average score of 4.57) see the relationship with the school as a set of relationships that goes beyond the pure labor contract, thus concerning the creation of relational goods (Becchetti et a. 2008; Donati 1996) through the relationships established in the school.

The more, the conventional economic view that sees the relationship between the individual and the firm centered on the market exchange between labor and wages appears relatively marginal compared to the other preferences expressed (4.16 out of 7, on average). Where the teaching relationship with the school is seen primarily as contractual, less personal fulfillment can be expected. The reason is that this attitude might, by hypothesis, limit the teacher's teaching experience and relationship with colleagues. Indeed, the teaching profession requires one to approach the working relationship by sharing a substantive vision of the educational project. Privileging financial incentives in a purely transactional context, on the other hand, can lead to neglect of activities that are not explicable in the contract. Indeed, in a market exchange, the object of the transaction is the teacher's time to whom monetary compensation is paid in return. This conception can lead people to refrain from developing quality relationships, characterized by the exchange of ideas and mutual help--which are outside the tasks and circumstances strictly stipulated in the contract. This type of inefficiency is known as X-inefficiency (Leibenstein, 1966).

In order to understand the dynamics of initial motivation, we asked teachers how their motivation to teach has changed since the time they started. 11% of teachers reported a decrease in motivation, 39% said it remained the same, and 50% said it increased over time. I then cross-referenced these responses with teachers' level of satisfaction with the provincial music education system, rated on a scale of 1 to 7 (mean 4.79, standard deviation 1.55, observations = 138). A significant correlation is evident between teachers' motivational persistence and their degree of satisfaction with provincial guidelines (correlation 0.377). Levels of alignment with shared standards are lowest for those who experienced a decrease in motivation, increase for those who maintained the same motivation, and reach the highest level for those who renewed or increased their motivation over time.

*Table 1 Satisfaction with the system rules and motivational renewal in teachers*

|  |  |  |
| --- | --- | --- |
|  |  | *Satisfaction with the system rules* |
|  |  | Mean | St. error | Conf int 95%  |
| **Motivational renewal** | Lower | 3,313 | 0,416 | 2,491 | 4,134 |
|  | Unchanged | 4,648 | 0,217 | 4,220 | 5,077 |
|  | Higher | 5,250 | 0,150 | 4,953 | 5,547 |

*Osservazioni = 138, media della variabile soddisfazione per il sistema di educazione di base provinciale (scala 1-7). Fonte - ns elaborazione da survey insegnanti 2021.*

Even when adding other variables to the study of motivational persistence, provincial standards maintain a significant relationship with motivation persistence, along with the number of monthly teaching hours and age (Model 1). Motivation is renewed where there is conformity with provincial guidelines. This is consistent with a higher number of hours taught, while age is a deterrent to motivational renewal.

Subject to contractual and demographic control variables, in the second model we studied the relationship between motivational renewal and satisfaction with the balance achieved between teaching and artistic activity. Most teachers are keen and maintain a double career both as teachers and performers, even if the school system focuses most and foremost on teaching so that there can be a trade off between the time dedicated to teaching and independent artistic activity (Sacchetti, Salustri 2023; Throsby 1994). Given that the correlation between monthly hours worked and satisfaction with the allocation of activities between teaching and performance is negative, we want to test whether, given the potential conflict between teaching and performing activities, believing that one has achieved a good balance between these two spheres helps motivation to renew itself (Model 2). This hypothesis is confirmed. As in the first model, moreover, commitment expressed in terms of monthly teaching hours increases with motivation, while age of age is associated with lower motivational persistence.

A third model explains the renewal of motivation through teacher involvement in school decisions. Hypothetically, involvement allows teachers to directly contribute to the definition of activities, organization, and choices of the school in general. The idea is that an inclusive environment in which people can communicate to form and renew shared visions about a common educational project facilitates the emergence of needs in an informed and justified manner in the interest of all. This hypothesis is largely confirmed (Model 3). Again, the age of the teacher does not help renewal.

The fourth model uses three variables that express the value placed on the relationship with the school by teachers. We indicated earlier that when the teaching relationship with the school is viewed primarily in contractual terms, we expect lower levels of motivational persistence. Conversely, when the relationship is viewed as a cooperative pact between the teacher and the school aimed at achieving a common educational goal or on the teacher's professional growth, a positive relationship is hypothesized. The analysis supports these hypotheses (Model 4).

Finally, in the last model we consider all predictors simultaneously (Model 5). While partial models are useful for isolating the relationship between motivation renewal and individual variables of interest, now in the overall model, some relationships are assimilated by others. Therefore, fewer significant elements emerge.

Overall, motivational persistence in making a contribution through teaching is related to the organizational capacity of the school to involve teachers but also to an explicit personal choice by the musician to make teaching his or her main profession. This is inferred from the fact that they are oriented toward their own professional growth in teaching, a skill they wish to develop within the school context, and from the number of monthly hours devoted to teaching activities. These preferences are in tune with teachers' satisfaction with school organizational processes, which we know are largely guided by superordinate rules. At the same time, when teaching represents a second option (as opposed to a career as a performer for example), or when the relationship with the school is seen primarily as an exchange for salary, motivation to teach tends to decline. This also occurs as teachers grow older.

*Table 1 1. Predictors of motivational renewal (ordered logistic regression)*

|  |  |
| --- | --- |
| Motivational renewal |  |
|  | Model 1Equil. Teaching and playing | Model 2Provincial rules | Model 3Organisational involvement | Model 4Teachers’preferences | Model 5 Total |
| Variabile | Coeff | Coeff | Coeff | Coeff | Coeff |
| Institutional system (satisfaction) |
| Equil Teaching playing | 0,269\*\* |  |  |  | -0,097 |
| Provincial rules |  | 0,535\*\*\* |  |  | 0,228 |
| Organisational involvement |  |  | 0,500\*\*\* |  | 0,345\*\* |
| Preferences towards the job |
| Work-salary exchange |  |  |  | -0,191\* | -0,173 |
| Professionalisation |  |  |  | 0,510\*\*\* | 0,562\*\*\* |
| Common aim with the school |  |  |  | 0,302\* | 0,047 |
| Controls |
| Hours monthly | 0,021\*\* | 0,022\*\* | 0,016 | 0,027\*\* | 0,021\* |
| Salary (hour) | 0,042 | 0,042 | -0,014 | 0,046 | -0,007 |
| Age | - 0,044\*\* | -0,047\*\* | -0,046\*\* | -0,068\*\* | -0,070\*\* |
| Gender | - 0,318 | -0,230 | -0,629 | -0,178 | -0,431 |
| Pseudo R square | 0,05 | 0,10 | 0,14 | 0,19 | 0,24 |

Significance: *^ p < .10.* \* *p* < .05. \*\* *p* < .01. \*\*\*

In light of the relationships explained in the overall model, the renewal of motivation improves if a combination of self-interested values oriented toward professionalization, higher teaching hours, and an inclusive and participatory organizational environment that gives space for teachers' voices are present. It tends to decrease as the age of the teacher increases.

Specific consideration deserves the observed positive link between motivational renewal and compliance between individual teacher and institutional system. It is plausible that this alignment promoted the stability of the system, but does not necessarily support its evolution. Teachers' compliance with provincial rules and the fact that this compliance is positively related to the persistence of motivation allows us to interpret the trajectory of the Trentino music education system in light of a process of path-dependence (initially developed to understand the evolution of economic systems and technological change - David, 1985). Through the schools, the system of rules (the “hardware”) chooses, in a sense, its “software” (the teachers) favoring a high degree of system replicability. The results suggest, specifically, that the system selects individuals who choose the teaching profession and are in line with the provincial system's educational guidelines. This likely occurs in two ways:

1) On the one hand, the school system selects those who have a strong motivation to be employed in teaching, which is reflected in the values expressed when they join the school, the number of hours worked, and satisfaction with involvement in school decisions, which is typical of cooperative member teachers rather than non-member teachers.

2) On the other hand, those who do not agree with the rules of the system (or with the salary levels that can be achieved through a limited number of teaching hours or overall salary levels) or who do not feel sufficiently involved in shaping organizational choices can be expected to decide to leave, and are thus only minimally represented in our study, which targets teachers currently employed in schools.

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