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Attitudes Towards School Tracking—Analyses of Profiles and Predictors of School Leaders in Switzerland

Pierre Tulowitzki *, Ariana Garrote and Sara Köferli

School of Education, FHNW University of Applied Sciences and Art Northwestern Switzerland, 5210 Windisch, Switzerland; ariana.garrote@fhnw.ch (A.G.); sara.koeferli@fhnw.ch (S.K.)
* Correspondence: pierre.tulowitzki@fhnw.ch

Abstract

Through their influence on various inner-school factors, school leaders can be considered relevant with regard to how tracking policies are enacted at the school level. However, research on attitudes of school leaders vis-à-vis school tracking is sparse. We examine profiles of tracking-related attitudes and predictors of profile membership at the individual (i.e., gender, age, work experience, self-efficacy beliefs, leadership competencies) and contextual level (i.e., school size, school level, social context, size of municipality). Data were collected from 1162 school leaders of pre-primary, primary, and lower secondary schools in Switzerland. Using Latent Profile Analysis (LPA), three profiles were identified: inclusion, tracking-separation, and average. School leaders in the inclusion profile showed positive attitudes towards inclusive education and the abolition of grades, a disapproval of early tracking, and negative attitudes towards tracking and its transparency. Leaders in the tracking-separation profile showed negative attitudes towards inclusive education and the abolition of grades, an approval of early tracking, and positive attitudes towards tracking and its transparency. Most school leaders were in the average profile, with neither especially favorable nor especially critical attitudes. While gender, school level, and the size of a municipality were found to be predictors of profile membership, other variables were not. The results give indications as to what factors are relevant in predicting certain attitudes towards tracking. This knowledge can be used for further research as well as for designing targeted interventions.

Keywords: educational leadership; tracking; social justice

1. Introduction

Education systems play a critical role in fostering not only education opportunities and economic development, but also social cohesion and perspectives of sustainable futures for a society (Wals & Benavot, 2017). As such, the structural makeup of an education system can be considered relevant in terms of sustainable (educational) development. Tracking practices, in other words, separating children after a certain age or class based on grades or achievements into different classes or school types, are of special relevance in this context, as they can influence aspects of equity, segregation, and inclusion (OECD, 2019). In Switzerland, after finishing primary school, children in most cantons (federal states) are divided up into different school types according to their grades. These ultimately lead to different types of high school diplomas and different career opportunities.

As school leaders can influence various inner-school factors (Day & Sammons, 2013), they can be considered relevant with regard to how tracking policies are perceived and enacted at the school level and thus for the degree to which a school works towards ensuring

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inclusive and equitable quality education and promoting lifelong learning opportunities (SDG 4; United Nations, 2015). However, little is known about how school leaders themselves perceive tracking. The goal of this study therefore was to gain insights into the attitudes of school leaders vis-à-vis tracking.

1.1. Review of the Literature

Tracking is practiced as well as debated in various countries (Mulkey et al., 2009; Wößmann, 2009). Two common types of tracking can be distinguished. In the context of this study, within-school tracking refers to schools offering certain subjects at different levels. Between-school tracking or academic/vocational tracking refers to the allocation of students to different schools with distinct curricular foci, preparing students either for university or a vocational career. While within-school tracking is (more) common in countries such as the US, Canada, and England (Dräger et al., 2024; Dupriez et al., 2008), between-school tracking is prevalent, for example, in Switzerland, Germany, Belgium (Flanders), and Hungary (Keller et al., 2022; Neuenschwander, 2010; Van Houtte & Stevens, 2016; Wößmann, 2009). Underlying both types of tracking is a meritocratic logic that links educational trajectories, such as access to higher education, with future labor-market opportunities. Hence, many social scientists view tracking as an important aspect of school systems (Brunello & Checchi, 2007).

The proponents of tracking argue that grouping students into homogenous classrooms allows teachers to better tailor their instruction and enable students to study at a pace appropriate for them (Hallinan, 1994; Hanushek & Wößmann, 2006). However, a large body of evidence suggests that tracking, especially in more pronounced forms, is detrimental to a sustainable education system. There is evidence that a higher track placement affects students' educational expectations positively, whereas a lower track placement affects them negatively (for example, Geven & Forster, 2021). Furthermore, students in lower tracks are more likely to experience feelings of futility regarding school (Van Houtte & Stevens, 2016) and to drop out (Brunello & Checchi, 2007; Werblow et al., 2013). Moreover, there have been instances of stigmatization of lower tracks (Strello et al., 2021). Several empirical findings indicate that the moment of tracking, which is earlier in some countries (for example, at the age of around 10 in Austria; Schneeweis & Zweimüller, 2014) than in others (for example, at the age of 15 in France; Dräger et al., 2024), matters. While earlier tracking increases achievement inequality (Hanushek & Wößmann, 2006; Strello et al., 2021), prolonged comprehensive schooling increases student achievement (Matthewes, 2021). Both within-school tracking and between-school tracking have been found to contribute to issues of educational inequality, but between-school tracking is considered more rigid than within-school tracking (Chmielewski, 2014). Additionally, family background may affect tracking and educational inequality. Researchers have observed that track placement is related to socioeconomic status, immigrant background, and race (Chmielewski, 2014; Dumont et al., 2019; Werblow et al., 2013). These findings are supported by a recent meta-analysis on the effects of tracking on inequality (Terrin & Triventi, 2022). Furthermore, there is empirical evidence indicating that family background effects on long-term educational success are more pronounced when tracking occurs at an early age (Dräger et al., 2024).

In many countries, school leaders can be considered relevant to tracking. Generally speaking, they are considered to be central agents at the intersection of (overarching) education policy and local management and to have "a significant effect on features of the school organization" (Leithwood et al., 2020, p. 6). Enacting educational policies is "crafted and shaped by school leaders, and principals especially, who set the directions of the school and can act to redesign the organization" (Gu et al., 2018, p. 375). When it comes to deciding what school type a student will get assigned to on the (lower) secondary level, school leaders are

often involved, especially in the case of challenging and/or contested decisions. Additionally, they can influence inner-school factors such as teacher capacity, motivation, and school culture, with some scholars explicitly linking tracking practices and educational leadership (Beard, 2019). From a sustainability perspective, school leaders need to foster "conditions of sustainable development in the educational settings for which they are responsible" and can be considered "change agents" who are expected to build commitment and provide orientation for changes "that lead to better understanding and implementation of sustainable development knowledge and practices" (Müller et al., 2020, p. 4).

As tracking also concerns aspects of equity, some view it under the lens of inclusion (e.g., Kugelmass & Ainscow, 2004). In this context, there is some research on the attitudes of educational leaders towards inclusion, indicating generally open and favorable attitudes (e.g., Chandler, 2015; Saloviita, 2022). Additionally, multiple empirical findings point to an influence of school leaders' attitudes and actions related to inclusion on teachers' attitudes and actions (e.g., Khaleel et al., 2021; Walk, 2023). Furthermore, some findings suggest that self-efficacy is a predictor of positive attitudes towards inclusion (Abegglen & Hessels, 2018).

Regarding the attitudes of school leaders specifically towards tracking and their actions related to tracking, the evidence base can be considered to be sparse. Only three relevant studies could be identified (Biafora & Ansalone, 2008; Crosby & Owens, 1991; Hornby et al., 2011). Early research by Crosby and Owens (1991) on public schools in South Carolina indicated that principals viewed tracking as beneficial but recognized that tracking "often results in racially or ethnically identifiable tracks or groups" (p. 1). Biafora and Ansalone (2008) found that the principals of schools in neighborhoods with a lower socioeconomic status were more supportive of tracking than principals of schools in more affluent neighborhoods. The authors discussed the possible reasons for this, one being that tracking might be viewed as "an attempt to 'save' the better students" (Biafora & Ansalone, 2008, p. 600). Finally, a study by Hornby et al. (2011) indicated that principals in New Zealand tended to see more disadvantages than benefits for ability-grouping.

In sum, these findings suggest that tracking can be understood to be at odds with achieving the objectives of Sustainable Development Goal 4 on inclusive and equitable quality education. Tracking—and especially early between-school tracking—has been shown to contribute to the reproduction of educational and social inequalities. If tracking is viewed as an expression of "the subordination of education to economic imperatives" (Mifsud, 2024, p. 5), its role in perpetuating structural inequalities follows logically. As school leaders influence school processes related to tracking and can hence—to a certain extent—influence how schools contribute to, or counteract, structural inequalities, their attitudes towards tracking matter. Yet empirical evidence on these attitudes remains limited.

1.2. Present Study

Overall, there is a lack of research on the attitudes of school leaders regarding between-school and within-school tracking. Furthermore, the existing research is often based on case studies or small-scale studies. The present study aims at addressing these desiderata by addressing the following research questions:

1. What profiles of tracking-related attitudes can be identified among school leaders in Switzerland?
2. What significant predictors of profile membership can be identified?

The research context of this study is Switzerland. Due to its federal nature, the cantons are in charge of many aspects of schooling. There are, however, various mechanisms in place on the national level to ensure a level of national coherence and alignment. Most children (close to 90%) attend a public school located nearby (Swiss Federal Statistics Office, 2025a). Early between-school tracking is practiced in virtually all cantons at the end of primary school,

usually occurring around the age of 12 and 13 (Eurydice Network, 2023). School principals in Switzerland typically are considered managers as well as leaders. In terms of the distribution of responsibility for school resources across the education system, emphasis is placed on the local/regional (cantonal) authority as well as the principals (OECD, 2016, p. 115). Reports from the latest Swiss Education report suggest that there is a significant link between the socioeconomic background of students and their school performance (SCCRE, 2023, pp. 78–81).

2. Materials and Methods

2.1. Participants and Procedure

This study follows a quantitative survey design. Data were collected from October to November 2023 using a standardized online questionnaire. For this purpose, N = 2243 school leaders (principals and vice principals) of the primary and lower secondary level in the German-speaking part of Switzerland were invited to participate in the study. A total of n = 1162 school leaders filled out the questionnaire. As all questions were optional, the response rate varies slightly across the different items (Table 1). Participants (43.7% female) were on average 45 years old (*Min* = 23, *Max* = 65). More female school leaders led a primary school (54.3%) than male school leaders (32.3%). In lower-secondary-level schools, there were more male school leaders (54%) than female school leaders (31.3%). School leaders had on average 10 years of working experience (*Min* = 0, *Max* = 40).

Table 1. School leader and context characteristics.

	***n* (%)**	***M* (*SD*)**	**Missing**
Female participants	508 (43.7%)		162
Pre-primary and primary school level	619 (53.3%)		32
Age	1150	44.92 (8.32)	12
Work experience as school leader (years)	1162	10.04 (7.33)	0
School size (number of students)	1117	459.98 (420.22)	45
Size of the municipality [a]	1154	2.47 (0.91)	8
Challenging socioeconomic context of the school [b]	370 (31.8%)		6

Note. [a] Five-point Likert scale (1 = less than 1000 inhabitants, 5 = more than 100,000 inhabitants). [b] Dichotomous variable (1 = challenging, 0 = not challenging).

The average school size was 373 students in primary-level schools (*SD* = 310.08, *Min* = 40, *Max* = 3100) and 548 students in lower-secondary-level schools (*SD* = 478.25, *Min* = 42, *Max* = 3311). Some schools were in communities of less than 1000 inhabitants (5.8%). Most schools (*n* = 974) were in municipalities with 1000 to 9999 inhabitants (57.7%) and 10,000 to 49,999 inhabitants (26.2%). Approximately ten percent of the schools (*n* = 113) were in bigger cities of 50,000 to 99,999 inhabitants (3.1%) and more than 100,000 inhabitants (6.6%). A third of the schools (*n* = 370; 53.5% of the primary-level schools) were estimated by the school leaders as being in a challenging socioeconomic context based on an aggregate assessment of various criteria related to socioeconomic status (i.e., income, unemployment, academic and migration backgrounds, knowledge of the locally prevalent language, possible psycho-social, psychological, and physical burdens).

2.2. Measures

Different scales were used to assess the attitudes, beliefs, and competences of the school leaders. The survey items can be found in the Supplementary Materials.

2.2.1. Attitudes of the School Leaders

The attitudes of school leaders were assessed with a multidimensional approach using five scales. *Attitudes towards inclusive education* were assessed with three items from a scale

on attitudes towards facets of public schooling by Bütikofer et al. (2023) on a four-point Likert scale (1 = "I do not agree at all" to 4 = "I totally agree"). The internal consistency of the scale was good: $\omega = 0.79$. For each participant, an average score was calculated ($n = 1071$, $M = 2.9$, $SD = 0.77$, $Min = 1$, $Max = 4$).

Attitudes towards the abolition of grades were measured with three items based on a scale on attitudes towards the abolition of grades by Bütikofer et al. (2023). School leaders rated their agreement on a four-point Likert scale (1 = "I do not agree at all" to 4 = "I totally agree"). The internal consistency of the scale was very good: $\omega = 0.92$. For each participant, an average score of attitudes towards grades was calculated ($n = 916$, $M = 2.59$, $SD = 1.03$, $Min = 1$, $Max = 4$).

Attitudes towards tracking were assessed with four items from Roos et al. (2013). School leaders rated their attitudes on a four-point Likert scale (1 = "I do not agree at all" to 4 = "I totally agree"). The internal consistency of the scale was good: $\omega = 0.74$. For each participant, an average score of attitudes towards tracking was calculated ($n = 1117$, $M = 3.08$, $SD = 0.57$, $Min = 1$, $Max = 4$).

School leaders were asked to indicate their *attitudes towards an early timepoint of tracking* with three items from Roos et al. (2013) using a four-point Likert scale (1 = "I do not agree at all" to 4 = "I totally agree"). The internal consistency of the scale was very good: $\omega = 0.86$. For each participant, an average score of attitudes towards an early timepoint of tracking was calculated ($n = 1032$, $M = 2.71$, $SD = 0.89$, $Min = 1$, $Max = 4$).

The *attitudes towards the transparency of the tracking process* were assessed with three items adapted from Neuenschwander et al. (2013) using a six-point Likert scale (1 = "I do not agree at all" to 6 = "I totally agree"). The internal consistency of the scale was good: $\omega = 0.77$. For each participant, an average score of attitudes towards the transparency of the tracking process was calculated ($n = 1039$, $M = 4.31$, $SD = 0.87$, $Min = 1$, $Max = 6$).

2.2.2. Beliefs and Perceived Competencies of the School Leaders

Self-efficacy beliefs of leaders were assessed with six items based on Schmitz and Schwarzer (2002). School leaders rated on a four-point scale (1 = "I do not agree at all" to 4 = "I totally agree") how much they agreed with different statements related to their own self-efficacy beliefs and the collective self-efficacy beliefs at the school. The internal consistency of the scale was acceptable: $\omega = 0.75$. For each participant, an average self-efficacy score was calculated ($n = 1158$, $M = 3.25$, $SD = 0.43$, $Min = 1$, $Max = 4$).

Participating school leaders were also asked to rate their *leadership competencies* with twelve items adapted from Ditton and Merz (2013), using a four-point scale (1 = "I do not agree at all" to 4 = "I totally agree"). The internal consistency of the scale was good: $\omega = 0.83$. For each participant, an average score was calculated ($n = 1156$, $M = 3.48$, $SD = 0.32$, $Min = 2.17$, $Max = 4$).

2.3. Statistical Analyses

Latent Profile Analysis (LPA) is a person-centered approach that makes it possible to identify unobservable profiles within a population based on observed variables. The aim is to uncover distinct groups of individuals who share similar characteristics. We used LPA to examine the profiles of school leaders with similarities in their attitudes towards inclusive education, the abolition of grades, tracking, the timepoint of tracking, and the transparency of the tracking process. The five variables were included as indicators of the latent profiles. Single imputation to data and scaling of the variables were applied in the models using the R package tidyLPA 1.1.0 (Rosenberg et al., 2018). The variances and the covariances were allowed to be freely estimated across profiles.

To determine the number of profiles, one- to five-profile solutions were tested in an iterative process. The best-fitting model was chosen based on the Akaike information

criterion (AIC), the Bayesian information criterion (BIC), the Bootstrap Likelihood Ration Test (BLRT), and the entropy value (Tein et al., 2013). Smaller values of AIC and BIC indicate a better fit. The BLRTs' significant p-values indicate that the fit of a model with k-profiles improves significantly compared to the previous model with $k - 1$ profiles. Entropy indicates how well the LPA model distinguishes between different profiles based on observed variables. A higher entropy value (closer to 1) suggests a more distinct and accurate classification (Nylund-Gibson et al., 2014). Values higher than 0.8 indicate that the latent profiles are highly discriminating. The classification probabilities were also analyzed to select the model. The classification probabilities represent the most likely latent profile membership of an individual. Here as well, values higher than 0.8 are recommended (Spurk et al., 2020). Finally, the profile size served as a selection criterion as, for analyses and interpretations of the results, a reasonable number of individuals in a profile is needed.

In a final step, Bonferroni-corrected post hoc tests were performed to confirm significant differences in the five attitude indicators between the profiles, and a multinomial logistic regression analysis using SPSS 27.0.1.0 was performed to examine predictors of profile membership. Characteristics of the school leaders (i.e., gender, age, work experience, self-efficacy beliefs, leadership competencies) and context variables (i.e., school size, school level, socioeconomic context, size of municipality) were included as predictors.

2.4. Limitations

There are several factors limiting the scope of the study. All data are self-reported, making them prone to certain biases (Donaldson & Grant-Vallone, 2002). Common strategies for controlling for such biases were employed (e.g., ensuring anonymity for participants, rotating scales and items where possible). As the official national statistics on principals in Switzerland contain no information regarding region or language, we were unable to assess how our sample compares to the general population of principals in German-speaking Switzerland. As a result, it was not possible to employ any weighting strategies to compensate for any possible misrepresentation. The collected data are cross-sectional. Without longitudinal observation, it is difficult to determine whether contextual factors, such as the school level, influence the school leaders' attitudes, or whether school leaders with more inclusive attitudes are more likely to choose positions in certain types of schools. Any possible causal links can only be theorized but not demonstrated. Furthermore, we examined attitudes rather than behavior. Although attitudes can be predictive of behavior, our analyses do not provide information about the tracking practices of school leaders. In most cases, school leaders are required to implement existing policies. Thus, these attitudes may be more closely related to the level of motivation with which school leaders implement these policies. Finally, the socioeconomic context was only measured in a binary way, not allowing for a differentiation between different levels of socioeconomic privilege or disadvantage.

3. Results

3.1. Correlations Between Study Variables

Table 2 shows the correlations between the study variables. The five indicator variables of attitudes towards inclusive education, grades, tracking, the timepoint of tracking, and the transparency of the tracking process are significantly correlated with each other. High levels of positive attitudes towards inclusive education are related to higher levels of approval for the abolition of grades and negative attitudes towards tracking, the timing of tracking (i.e., tracking taking place too early), and the transparency of the tracking process. Most attitudes are significantly correlated with characteristics of the school leaders, such as gender and age. The exceptions are attitudes towards inclusive education with age, work experience, and leadership competencies, and the abolition of grades with self-efficacy, leadership competencies, and work experience.

Table 2. Bivariate correlations for the study variables.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1. Attitudes towards inclusive education	1													
2. Attitudes towards the abolition of grades	0.58 ***	1												
3. Attitudes towards tracking	−0.43 ***	−0.41 ***	1											
4. Attitudes towards an early timepoint of tracking	0.58 ***	0.58 ***	−0.45 ***	1										
5. Att. towards the transparency of tracking process	−0.35 ***	−0.36 ***	0.67 ***	−0.47 ***	1									
6. Self-efficacy	0.07 *	0.05	0.09 **	0.03	0.07 *	1								
7. Leadership competencies	−0.03	−0.01	0.13 ***	−0.9 **	0.19 ***	0.24 ***	1							
8. Size of municipality	0.05	0.05	−0.14 ***	0.1 **	−0.17 ***	0.01	0.01	1						
9. Socioeconomic context	−0.01	0.02	−0.12 ***	0.02	−0.11 ***	0.04	−0.05	0.28 ***	1					
10. Size of school	−0.01	0.02	0.03	−0.03	−0.06	−0.05	−0.04	0.21 ***	0.15 ***	1				
11. School level (1 = pre-primary and primary)	0.04	0.14 ***	−0.07 *	0.1 **	−0.03	−0.03	0.06	−0.02	0.000	−0.22 ***	1			
12. Work experience	−0.01	−0.06	0.13 ***	−0.1 **	0.17 ***	0.04	0.22 ***	0.09 **	0.04	0.05	−0.03	1		
13. Gender (1 = female)	0.09 **	0.13 ***	−0.14 ***	0.08 *	−0.16 ***	−0.02	−0.01	−0.06	−0.02	−0.1 **	0.26 ***	−0.19 ***	1	
14. Age	−0.03	−0.09 **	−0.09 **	−0.1 **	0.16 ***	0.04	0.21 **	0.05	0.06 *	−0.002	−0.01	0.56 ***	−0.05	1

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, two-tailed. N = 908–1150. Pre-primary and primary school level vs. lower secondary school level, socioeconomic context, and gender are dichotomous variables.

Looking at variables related to the school context, the size of the municipality, the socioeconomic context, and the school level are partly correlated with attitudes towards tracking but not with attitudes towards inclusion. The school level (i.e., primary school) is positively correlated with attitudes towards the abolition of grades. Furthermore, there are positive and significant correlations between the size of the municipality, challenging socioeconomic contexts, and the school size.

Looking at the school leaders' characteristics, self-efficacy beliefs and leadership competencies are significantly correlated with each other. Also, older school leaders and those with more work experience report more leadership competencies. However, self-efficacy beliefs and leadership competencies are not correlated with contextual characteristics and only correlate with indicators related to tracking (e.g., the transparency of the tracking process). Male school leaders report more years of working experience than female school leaders. There is also a significant positive correlation between gender and the school level, with more female school leaders being found in primary schools than in lower secondary schools. This corresponds to the public statistics on the distribution of male and female principals in Switzerland (Swiss Federal Statistics Office, 2025b).

3.2. Profiles Based on Attitudes

To identify profiles of attitudes, the model fit indices for one- to five-profile solutions were analyzed. The five-profile solution did not converge. Therefore, only one- to four-profile solutions are presented in Table 3. All profile solutions have a significant BLRT *p*-value; however, the three-profile solution can be considered the most appropriate one. It has lower AIC and BIC values than the two-profile solution and has a higher entropy than the two- and four-profile solutions.

Table 3. Model fit indices for Latent Profile Analysis: one- to four-profile solutions.

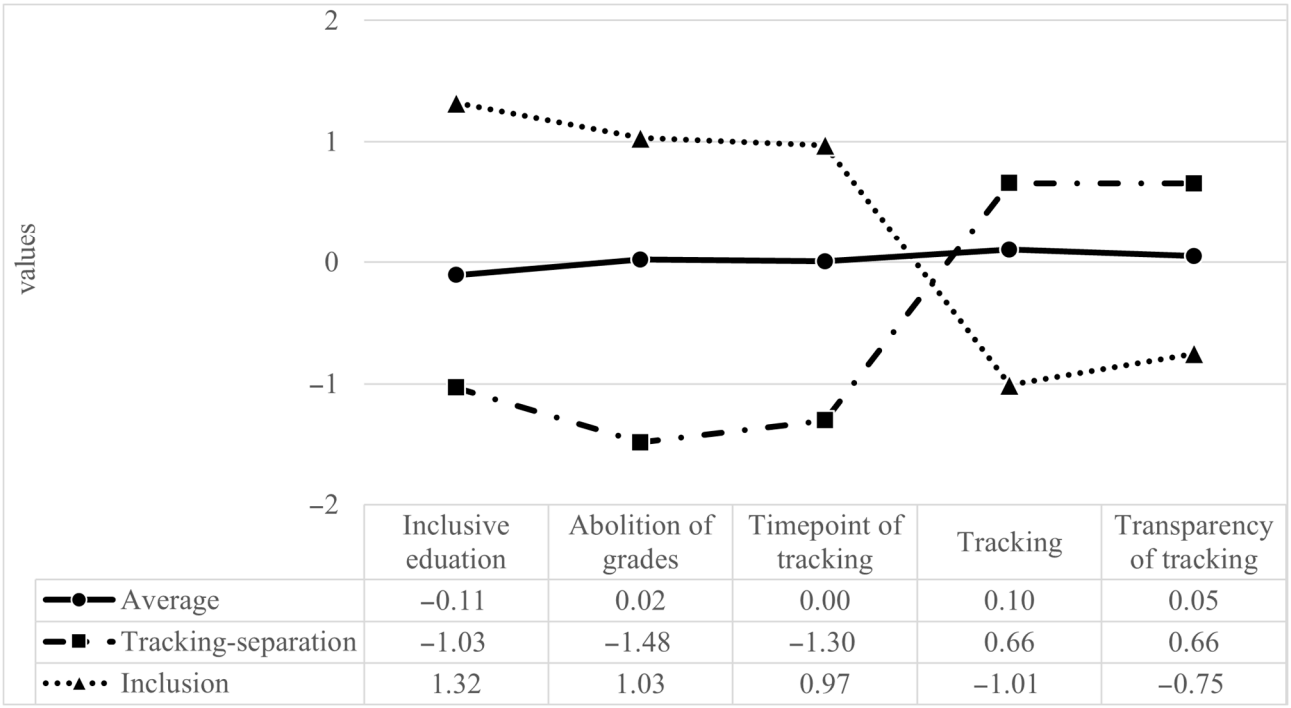
Nr. of Profiles	AIC	BIC	Entropy	CProb Min	CProb Max	Smallest Profile %	BLRT *p*
1	14,363.7	14,464.86					
2	14,162.11	14,369.48	0.72	0.91	0.93	46%	0.01
3	13,910.06	14,223.65	0.84	0.91	0.92	13%	0.01
4	13,933.58	14,353.38	0.60	0.65	0.94	18%	0.01

Note. AIC = Akaike information criterion; BIC = Bayesian information criterion; BLRT = bootstrap likelihood ratio test; CProb = classification probabilities for the most likely latent profile membership.

With regard to the first research question, three attitude profiles were identified (Figure 1). One profile (*inclusion*; $n = 198$; 17%) is characterized by positive attitudes towards inclusive education and the abolition of grades, a disapproval of the early timepoint of tracking, and negative attitudes towards tracking and towards the transparency of the tracking process. The smallest profile (*tracking-separation*; $n = 151$; 13%) is characterized by negative attitudes towards inclusive education and the abolition of grades, an approval of the timepoint of tracking, and positive attitudes towards tracking and the transparency of the tracking process. The profile with the largest subsample (*average*; $n = 813$; 70%) is characterized by responses that are neither especially favorable nor especially critical regarding any of the five indicators measured.

Bonferroni-corrected post hoc analyses confirmed significant differences in the five indicators between the three profiles. School leaders in the *inclusion* profile differed significantly from the *average* (inclusion: $p < 0.001$, $M_{Diff} = 1.12$, 95%-CI [1.01, 1.23]; grades: $p < 0.001$, $M_{Diff} = 1.03$, 95%-CI [0.88, 1.18]; tracking: $p < 0.001$, $M_{Diff} = -0.61$, 95%-CI [−0.7, −0.51]; timepoint of tracking: $p < 0.001$, $M_{Diff} = 0.87$, 95%-CI [0.74, 1.01]; transparency: $p < 0.001$, $M_{Diff} = -0.71$, 95%-CI [−0.86, −0.55]) and the *tracking-separation* profile (inclusion: $p < 0.001$, $M_{Diff} = 1.82$, 95%-CI [1.67, 1.97]; grades: $p < 0.001$, $M_{Diff} = 2.58$, 95%-CI

[2.38, 2.78]; tracking: $p < 0.001$, $M_{Diff} = -0.91$, 95%-CI [−1.04, −0.78]; timepoint of tracking: $p < 0.001$, $M_{Diff} = 2.06$, 95%-CI [1.87, 2.24]; transparency: $p < 0.001$, $M_{Diff} = -1.25$, 95%-CI [−1.47, −1.04]). The profile *tracking-separation* differed significantly form the *average* profile (inclusion: $p < 0.001$, $M_{Diff} = -0.70$, 95%-CI [−0.82, −0.57]; grades: $p < 0.001$, $M_{Diff} = -1.55$, 95%-CI [−1.7, −1.39]; tracking: $p < 0.001$, $M_{Diff} = -0.30$, 95%-CI [0.2, 0.41]; timepoint of tracking: $p < 0.001$, $M_{Diff} = -1.18$, 95%-CI [−1.33, −1.03]; transparency: $p < 0.001$, $M_{Diff} = 0.55$, 95%-CI [0.37, 0.73]).



	Inclusive eduation	Abolition of grades	Timepoint of tracking	Tracking	Transparency of tracking
Average	−0.11	0.02	0.00	0.10	0.05
Tracking-separation	−1.03	−1.48	−1.30	0.66	0.66
Inclusion	1.32	1.03	0.97	−1.01	−0.75

Figure 1. Three-profile solution. *Note*. Higher values in early timepoint tracking mean a negative attitude towards the timepoint.

3.3. Predictors of Profile Membership

A multinomial logistic regression was run to explore predictors of profile membership to answer the second research question. The characteristics of the school leaders (i.e., gender, age, work experience, self-efficacy beliefs, leadership competencies) and context variables (i.e., school size, school level, socioeconomic context, size of municipality) were included as predictors. The tracking-separation group was chosen as the reference group. Table 4 shows two models. In model 1, the characteristics of the school leaders were examined as predictors of profile membership. The results show that female school leaders were more likely to be in the *average* and *inclusion* profiles than in the *tracking-separation* profile. All other characteristics were not significant predictors of profile membership.

In model 2, context variables were included. School leaders leading primary schools were more likely to be in the *average* and *inclusion* profiles than in the *tracking-separation* profile. The size of the municipality was a significant predictor for the *inclusion* profile compared to the *tracking-separation* profile. This means that school leaders in bigger municipalities were more likely to express positive attitudes towards inclusive education than school leaders in small municipalities. The school size and the socioeconomic context were not significant predictors. Gender remained a significant predictor of profile membership, with male school leaders being more likely to be in the *tracking-separation* profile than in the other two profiles.

Table 4. Multinomial logistic regression models predicting attitudes profiles.

	Model 1						**Model 2**					
	Average vs. Tracking-Separation			**Inclusion vs. Tracking-Separation**			**Average vs. Tracking-Separation**			**Inclusion vs. Tracking-Separation**		
Predictors	***B (SE)***	***Wald***	***p***	***B (SE)***	***Wald***	***p***	***B (SE)***	***Wald***	***p***	***B (SE)***	***Wald***	***p***
Female	0.94 (0.22)	18.77	<0.001	1.13 (0.26)	19.04	<0.001	0.84 (0.23)	12.99	<0.001	1.02 (0.28)	13.5	<0.001
Age	−0.21 (0.02)	2.05	0.15	−0.02 (0.02)	1.09	0.3	−0.02 (0.02)	2.2	0.14	−0.03 (0.02)	1.69	0.19
Work experience	−0.01 (0.02)	0.31	0.58	−0.01 (0.02)	2.78	0.6	−0.01 (0.02)	0.31	0.58	−0.01 (0.02)	0.36	0.55
Leadership competencies	−0.59 (0.34)	3.01	0.08	−0.66 (0.41)	2.63	0.11	−0.61 (0.35)	2.98	0.08	−0.65 (0.43)	2.3	0.13
Self-efficacy	0.02 (0.23)	0.01	0.94	0.19 (0.28)	0.46	0.5	0.01 (0.23)	0.001	0.97	0.21 (0.29)	0.51	0.48
Pre-primary and primary school							0.49 (0.22)	5.16	0.023	0.65 (0.27)	0.44	0.02
Size municipality							0.17 (0.14)	1.41	0.24	0.44 (0.16)	7.84	0.005
Socioeconomic context (1 = challenging)							0.24 (0.24)	1.00	0.32	0.19 (0.29)	0.44	0.51
School size							0.00 (0.00)	0.06	0.81	0.00 (0.00)	0.22	0.64

Note. Tracking-separation profile as reference group.

4. Discussion

In the present study, we set out to identify profiles of tracking-related attitudes among school leaders and to identify predictors of profile membership. Regarding the first research question, three profiles were identified: inclusion, tracking-separation, and average. Regarding the second research question, gender, school level, and the size of a municipality were found to be predictors of profile membership, whereas age, work experience, self-efficacy beliefs, leadership competencies, school size, and socioeconomic context were not.

The results highlight the links between several personal and contextual variables and the likelihood of expressing positive or negative attitudes towards tracking. Of note seems to be the relevance of gender. As there are—statistically speaking—proportionally more female primary school leaders than female secondary school leaders, it is possible that the more positive attitudes towards the inclusion of students expressed by female school leaders are also based on their likelier position as primary school leaders. One possible interpretation in this context is that primary school leaders are responsible for carrying out tracking and must deal with any crisis arising during the tracking process. They might therefore be more critical of it than secondary school leaders, who can be viewed as "beneficiaries" of tracking as their student populations are often perceived to be more homogenous.

Another notable finding is that, even though tracking is discussed predominantly negatively in the scientific discourse, it appears to be perceived rather positively by a sizeable number of school leaders. One explanation for this could be that they grew up in a school system that was heavily marked by tracking. As former teachers and thus former university graduates, they can be considered "winners" of the tracking system, as the majority of teachers who complete university studies to become a teacher come from the highest form of secondary school (Swiss Federal Statistics Office, 2022). Another explanation could be that these respondents view tracking as a way to protect teachers from stress. Glock et al. (2019) found that teachers in more culturally diverse schools tended to exhibit higher feelings of burnout and stress and lower levels of self-efficacy. Favorable attitudes towards tracking could stem from a desire to shield teachers against such burdens.

Contrary to findings from the US (Biafora & Ansalone, 2008), the socioeconomic context was not found to be a predictor of profile membership in our study. An explanation could be that due to the overall high living standard in Switzerland; the difference between a context marked by socioeconomic disadvantage and one marked by socioeconomic privilege might be less pronounced there than in the US. However, the often-identified gap between perceptions from respondents in rural vs. urban populations (e.g., Knoblauch & Chase, 2015) seems to also be apparent in this study.

It is furthermore striking that the profile with the largest subsample (n = 813; 70%) reflects school leaders whose attitudes are neither particularly in favor of nor particularly opposed to tracking. This neutral stance raises the question of why so many school leaders in our sample do not seem to position themselves clearly on the issue of tracking. There are several possible explanations for this: Some school leaders might be afraid to position themselves, as tracking is a subject of controversial public and political debates in Switzerland, and/or they might perceive themselves too removed from the day-to-day mechanics and minutiae of tracking practices. It also seems possible that some school leaders might not be sufficiently familiar with issues surrounding tracking and corresponding links to issues of social justice. For example, findings from Magno et al. (2022) indicate that diversity is inadequately addressed in school leadership preparation programs, leading to leaders lacking "the necessary confidence, introspection, or skill to actively dismantle racism in their schools" (p. 7). Hence, we deem a sensitization of school leaders advisable. For school leaders in the *tracking-separation* profile, as well as those in the *average* profile, the findings presented in this article suggest that leadership training may be adapted to allow for more

critical reflection on the implications of tracking as well as (more) engagement with relevant research. This seems particularly warranted in light of the influence of principals' personal beliefs on their actions regarding the shaping of sustainable development (Müller et al., 2021).

In the context of sustainability, some scholars highlight specific leadership styles—namely, transformational, democratic, and transformative leadership (Shields, 2022, 2024; Zamani et al., 2025)—they believe to be effective for ensuring inclusive and equitable quality education and promoting lifelong learning opportunities (SDG 4; United Nations, 2015). Other scholars have, however, also pointed out a need for "shifting attention away from leaders to the design of the system" (Eacott, 2024, p. 36). If school leaders want to foster inclusive and equitable environments in their schools, legal frameworks, expectations of schools and educators, and (inter-)national commitments need to be aligned (Eacott, 2024; Mifsud, 2024). Although tracking does not appear to align with the intent of the Sustainable Development Goal 4, its abolition in Switzerland seems unlikely in the near future, as public and political debates as well as prevailing views among school leaders suggest. Hence, although tracking appears to be here to stay on a structural level, school leaders can still seek to create fairer, more sustainable contexts in which it takes place.

5. Conclusions

This study identified three attitude profiles of school leaders in Switzerland towards tracking. School leaders in the *inclusion* profile showed positive attitudes towards inclusive education and the abolition of grades, a disapproval of early tracking, and negative attitudes towards tracking and its transparency. Leaders in the *tracking-separation* profile showed negative attitudes towards inclusive education and the abolition of grades, an approval of early tracking, and positive attitudes towards tracking and its transparency. Most school leaders were in the *average* profile with neither especially favorable nor especially critical attitudes. Gender, school level, and the size of a municipality were found to be predictors of profile membership.

The present study, combined with the lack of studies on the topic of tracking from a leadership perspective, highlights the importance of further research on this matter. Qualitative studies delving into how tracking translates from policy into leadership practice into everyday classroom-related practices could give valuable insights into hidden logics and theories of action related to tracking. With regard to quantitative studies, there seems to be an opportunity for research that illuminates the relationship between attitudes and actions of school leaders and attitudes and actions of teachers within one coherent (multilevel) design. For school systems featuring any kind of tracking, it seems important that researchers and policy makers take the perspectives and actions of school leaders related to tracking into account, as school leaders play an important role in implementing relevant policies and shaping the school culture at hand.

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