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[Özgür Bolat](#) * and Eşef Hakan Toytok

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Article

Exploring Teacher's Professional Identity in Relationship to Leadership: A Latent Profile Analysis

Özgür Bolat ^{1,*} and Eşef Hakan Toytok ²

¹ International Final University; ozgurbolat@gmail.com

² Kahramanmaraş Sütçü İmam Üniversitesi; ehakantoytok@ksu.edu.tr

* Correspondence: ozgurbolat@gmail.com

Abstract: As a result of the COVID 19 outbreak that has affected the whole world, teacher leadership has gained more significance. Teacher leadership is a multidimensional concept. While some teachers exercise leadership only at the classroom level, others exercise leadership at macro level. This level of leadership enactment is directly related to how teachers construct their professional identity in relation to leadership. This study aims to explore the leadership-related professional identities of teachers who came to the fore especially during the COVID 19 pandemic period by using the latent profile analysis method. The data were collected a sample of 710 teachers. Teachers completed Teacher Leadership Behavior Scale that measures teacher leadership behaviors at four levels: classroom, parental, micro-level, macro-level. Participants also completed Rosenberg Self-Esteem Scale, Teacher Self-Efficacy Scale, Openness to Authority Scale, and Job Satisfaction Scale. As a result of latent profile analysis, three distinct profiles of teacher leadership identity emerged: those who exercise leadership at a minimum level, an intermediate level and a maximum level across all four levels of teacher leadership. These profiles were labeled as "extended professionalism," "intermediate professionalism," and "restricted professionalism," drawing upon Hoyle's (1974) conceptualization of teacher professional identity. These findings suggest that teachers construct their identity differently about teacher leadership. It is essential for school leaders to first explore those different levels of professional identity and tailor their professional development activities accordingly.

Keywords: teacher leadership; COVID 19; teacher professional identity; latent profile analysis; school improvement

1. Introduction

Although principal leadership is regarded as the most central in school improvement (Johnston, 2010), there are many other sources of leadership within schools that could equally contribute to school improvement. One of these important sources is teacher leadership. The importance of teacher leadership has been better understood especially with the transition to distance education during the COVID 19 pandemic. Therefore, there has been a growing interest in teacher leadership among scholars and practitioners alike (Alexandrou & Swaffield, 2014; Hilty, 2011; Schott, 2020) since teacher leaders are critical in reforming schools (Wilson, 2016). In today's ever-changing world, where student learning is beyond the responsibility of one teacher (Little, 1990), teacher leadership is more important than ever in today's world, where student needs are becoming more diverse and differentiated every day and this situation is much better understood during the COVID 19 pandemic. (CSTP, 2009). There is also enough empirical evidence in the literature that teacher leadership has a significant impact on student outcomes (Leithwood, Patten, & Jantzi, 2010; Alexandrou, 2015; Shen et al., 2020).

Despite the increasing interest in teacher leadership lately, with the contribution of the above-mentioned situations, the concept still remains ambiguous (Hunzicker, 2022) and most studies on teacher leadership are atheoretical (Schott et al., 2020). Furthermore, there is no agreed-upon definition (Cosenza, 2015). Teacher leadership is defined in terms of roles and responsibilities (Katzenmeyer & Moller, 2009), formal positions (Fink & Markholt, 2011), functions (TLEC, 2012), worldviews (Smulyan, 2016), a stance (Hunzicker, 2022), moral agency (Frost, 2019) or influence

(Schott et al., 2020). However, the succinct definition provided by Wenner and Campbell (2016) reflects the essence of most definitions: “maintaining K-12 classroom-based teaching responsibilities, while also taking on leadership responsibilities outside of the classroom” (Wenner & Campbell, 2016, p. 5). This definition does not specify how teachers take on leadership responsibilities beyond the classroom.

Teachers exercise leadership outside of their classrooms in three different forms: formally, informally and in a hybrid form. Within the formal form of teacher leadership, leadership is seen as a role-based practice (Fink & Markholt, 2011) where teachers are given a formal position and expected to lead change by serving in that role. In contrast, within the informal view, leadership emerges spontaneously from the teacher ranks (Riveros et al., 2013). All teachers can exercise leadership regardless of their position (Hill, 2014). Frost (2018) calls this approach “non-positional teacher leadership”. Leadership is an entitlement for every teacher regardless of formal roles or positions (Bangs & Frost, 2015). It draws on teachers’ moral purpose and agency (Frost, 2018). In the hybrid form, teachers teach part-time and support colleagues in other times (Margolis & Huggins, 2012).

Silva et al. (2000) have described three distinct waves of teacher leadership and argued that teacher leadership evolved from formal positions to the re-culturing of schools over time. In the first wave, teachers were given formal roles and were expected to exercise leadership in that role. In the second wave, teacher leadership entailed sharing pedagogical expertise with colleagues. In the third wave, teacher leadership involved re-culturing of schools where teachers collaborate and collectively learn together. The third wave is still emerging (Wilson, 2016). Berry et al. (2013) have added a so-called fourth wave to this conceptualization (Smulyan, 2016), which they called “teacherpreneurs”. In the new fourth wave, teachers stay in the classroom but also develop their own ideas and executive them just like entrepreneurs. Teacher leadership is evolving from formal positions (the first wave) to a more informal approach (the fourth wave) (Carrion and García-Carrión, 2015).

What is problematic about the formal view of teacher leadership is that leadership is regarded as “additional” rather than “a part of” teachers’ daily work (Silva et al., 2000). If teacher leadership is defined in terms of positional authority, not all teachers see themselves reflected in that “leader” image (Lambert, 2002). Then, a critical source of leadership is lost for school improvement. Leadership is a matter of teachers’ agency and their commitment to initiating and leading change (Frost and Durrant, 2002). As Berry et al. (2020) argue, in today’s educational system, all teachers need to lead one way or another. Then the challenge is: How can we enable every teacher to exercise leadership? In order to answer this question, we first need to understand the antecedents of teacher leadership. How are teacher leaders different from those who do not exercise leadership? What makes a teacher leader (want to) exercise leadership?

Researchers have been trying to understand the antecedents of teacher leadership in recent years (Ding and Thien, 2020). Schott et al. (2020) has identified antecedents at three different levels: teacher, school-level, and supra-school level. One of the most important determinants of teacher leadership at teacher level is teachers’ professional identity. Even some scholars argue that the biggest barrier is often lack of a teacher’s leader self-perception since some teachers have difficulty viewing themselves as leaders (Hunzicker, 2017). Even if all the enablers are in place, such as supportive organizational structure, school culture and principal, in order to exercise leadership, teachers must “first perceive themselves as leaders” (Carver, 2016). If teachers see themselves only a teacher, which Helterbran (2010) calls “I am just a teacher syndrome”, they will not leadership as a legitimate part of their professional roles (Frost and Durrant, 2002). Hunzicker (2017) studied the process in which teachers learn to be a teacher leader, she found that what enable the progression was “self-perception”. Therefore, in order to foster and support teacher leadership in schools, the first and most critical step is to explore teachers’ professional identity and assess to what degree they see leadership as a dimension of their professional identity. Below we discuss teachers’ professional identity in relation to leadership.

1.1. Teacher Professional Identity

There has been increasing research interest in the concept of teacher professional identity over the last 40 years (Beijaard, 2017). It has become the fundamental aspect of research on teaching throughout the world (Akkerman, 2011) since it affects the performance and decisions of teachers in most domains (Beijaard et al., 2000; Hong, 2010; Mahan, 2010). It is an organizing principle in teachers' lives (Maclure, 1993) and a lens through which teachers make sense of their role (Brenner et al., 2018). Shortly, professional identity stands at the core of the teaching profession (Popper-Giveon, & Shayshon, 2017; Sachs, 2005).

Although professional identity is widely researched, the concept of professional identity is defined differently (Beijaard et al., 2004) and there is no consensus on the definition (Rodrigues & Mogarro, 2019). Especially the distance education process during the COVID 19 pandemic and the hybrid education approach afterwards have brought new definitions to the professional identity of teachers. However, the succinct definition provided by Beijaard, Meijer and Verloop, (2004) reflects the essence of most definitions: a set of views which teachers hold about themselves as professionals. Hoyle (1974), one of the most influential scholars in the field, used the term "professionalism" to refer to teachers' professional identity. Hoyle and John (1995) define professionalism as "that set of knowledge, skills, values, and behaviors, which is exercised on behalf of clients" (p. 16). It refers to teachers' own of interpretations of their work and their orientations towards their work (Van Veen, et al., 2001). It concerns how teachers construct their own professional identities (Qanay & Frost, 2022). It is important to analyze and understand a teacher's professional identity (Van Veen, et al., 2001) because individuals act in congruent with their identity (Oyserman, 2009). For instance, regarding teacher's integration of new technology, Lai and Jin (2021) found that teachers' adoption of new technology is directly related to the construction of their professional identity. Teachers who adopted an educator (vs instructor identity) were more likely to adopt new innovations. Similarly, Liu and Geertshuis (2021) found that professional identity was influential in the adoption of Learning Management System (LMS). Teachers who were student-focused were more likely to adopt LMS.

Teachers construct their professionalism in different ways in different arenas of education: face-to-face, distance or hybrid. It is possible to see various categorization in the literature. For instance, regarding "teacher roles" within the classroom, Beijaard et al. (2000) discuss teachers' professional identity in terms of three roles: a subject matter expert, a pedagogical expert and a didactical expert. Van Veen et al. (2001) have distinguished two professional orientations regarding the goals of education: an instructor orientation to advance qualification, and an educator orientation to advance personal and moral development. Professional identity also directly influences teachers' orientation towards leadership, which we discuss below.

1.2. Teacher Leadership and Extended Professionalism

About teacher roles in the school as a whole, Hoyle (1974) describes two different orientations: restricted professionalism and extended professionalism. Hoyle's (1974) influential distinction between "restricted professionalism" and "extended professionalism" influences how teachers construct their professional roles in terms of leadership. Teachers with "restricted professionalism" are mostly oriented to their own classrooms, while teachers with "extended professionalism" go beyond their classroom walls and orient to the whole schools (Hoyle, 1974). Teachers with "restricted professionalism" are more concerned about subject matter and teaching in the classroom while teachers with "extended professionalism" focus on the school as a whole (Van Veen et al., 2001). Teachers with "restricted professionalism" feel responsible for their own students while teachers with "extended professionalism" see the development of students as the joint responsibility of all teachers (Little, 1990). Teachers with "extended professionalism" engage with issues from a broad social and political frame (Smulyan, 2016) and locate classroom practice within a larger social framework (Hoyle, 2008). Teachers with "extended professionalism" are happily collegial (Hoyle, 2008).

When Hoyle (1974) proposed this distinction, there was no empirical evidence, but later studies provided empirical evidence to support this conceptualization. Teachers with "extended professionalism" are more likely to exercise leadership to contribute to school improvement and take

responsibility for innovation especially in times such as the Covid 19 pandemic. Jongmans et al. (1998) found teachers with an extended professional orientation are more collegial. Van Veen et al. (2001) found that teachers with an extended professionalism are more likely to engage in collaboration. Jongmans, Biemans and Beijaard (1998) demonstrated that teachers with “extended professionalism” were more involved in policy making. It could be argued that teachers were involved in life-changing decision making process during the Covid. An important finding of these studies was that these teachers did not ignore their classrooms. They extended their professionalism beyond classrooms. These studies clearly demonstrate that leadership is a crucial dimension of extended professionalism. Some teachers may not see leadership as part of their professional identity (Frost, 2006). Some teachers see their role only in terms of classroom (Collay, 2006).

Leadership is simply a dimension of what it is to be a professional, a form of professionalism which is maximally agential (Frost, 2018). Becoming a teacher leader is a process of the adoption of a leadership stance a way of being a teacher, a worldview and a habit of mind - leading here and then (Smulyan 2016; Poekert et al., 2016). For instance, Lieberman and Friedrich (2010) described the process in the National Writing Project as acquiring “a leadership identity.” Frost (2014) called for enabling all teachers to enact extended professionalism since it is directly related to teacher leadership. Then, leadership programme for teachers should be about developing their leadership identity since extended professionalism as a key condition for teacher quality and student outcomes (Gaikhhorst, Beishuizen, Zijlstra, & Volman, 2015; Sugrue, 2011). Unfortunately, offering workshops to update teachers’ knowledge will add little if teachers do not have an extended professionalism. Therefore, teacher leadership development programmes should be extending teacher professionalism. The first step is to discover where teachers are in terms of their professionalism and then enable teachers to adopt a leadership identity. To the best of knowledge there is no study that has tested Hoyle’s distinction between restricted professionalism and extended professionalism in the Turkish settings. The purpose of our study is to explore teachers’ professionalism in relation to teacher leadership in Türkiye, using Hoyle’s distinction through latent profile analysis.

2. Methodology

2.1. Design

The study used a cross-sectional design that aimed to identify the latent profiles of teacher leadership after the COVID-19 pandemic through Latent Profile Analysis (LPA). Four factors of teacher leadership behaviors (classroom leadership, parental leadership, micro-level leadership, macro-level leadership) were used to determine the latent profiles. Various fit indices were utilized to decide the number of profiles (Akogul & Erisoglu, 2017) and the model that best fits the data was selected.

2.2. Participants and Sampling Procedure

The data for this study were collected from a total of 710 teachers who were affiliated with schools situated in the city of Istanbul, Turkey. Among the participating teachers, 263 participants (37 %) were male, while 402 participants (56,6%) were female and data from 45 (6.3%) were missing. Their ages ranged from 22 to 65 years, with an average age of 42.3 (SD = 8.8). On average, teachers had 18 years of experience (SD = 9.3). In terms of teaching level, 45 participants (6.3 %) were from preschool, 172 participants (24.2%) were from primary school, 242 participants (34.1%) were from middle school, and 204 participants (28.7.6%) were from high school. The data for 47 (6.6%) were missing.

2.3. Research Instruments

Participants completed Teacher Leadership Behavior Scale (Bolat, 2023). The scale with a high level of validity and reliability (Cronbach's alpha = .93) consisted of 17 items and four factors that measure teachers’ behaviour at four levels. Cronbach's alphas for classroom leadership were .78, for parental leadership .89, for micro-level leadership .90, and for macro-level leadership .91.

“Classroom leadership” (sample item: I help my students to discover themselves) and “parental leadership” (sample item: I am always in communication with parents for the benefit of my students) were characteristic of “restricted professionalism”, and “micro-level leadership” (sample item: I offer advice and suggestions to my colleagues) and “macro-level leadership” (sample item: I am involved in decision making process at school) were characteristic of “extended professionalism”.

Participants completed Job Satisfaction Scale (five items) (Judge et al., 1998). (Cronbach's alpha = .91), Sample item is: I find real enjoyment in my work. Participants completed Teacher Self Efficacy Scale (five items) (Midgley et al., 1989). This scale measures whether teachers feel self-efficacious in their teaching abilities. Sample item is: I am certain that I can make a difference in my students' lives. For these three scales, responses were provided on a 5-point Likert scale, ranging from 1 (definitely disagree) to 5 (definitely agree).

Participants completed a short version of the Rosenberg self-esteem scale (Rosenberg, 1965) consisting of six items (Cronbach's alpha = .82). The scale measures participants' level of self-esteem. This short version was developed by Bolat and Antalyalı (2023) and demonstrated high levels of validity and reliability. Sample item is: Overall, I am satisfied with myself. Participants completed Openness to Authority Scale (three items) (Bolat & Antalyalı, 2023). This scale measures the extent to which teachers express their ideas to authority figures (Cronbach's alpha = .92). Sample item is: I can freely express my ideas to my superiors when I do not agree with them. For these two scales, responses were provided on a 7-point Likert scale, ranging from 1 (definitely does not define me) to 7 (definitely defines me).

2.4. Data Analysis

Latent Profile Analysis was used to determine profiles of teacher leadership. The R package (v. 4.0.2) (R Core Team, 2021) and “tidyLPA” package program were used to identify latent profiles (Rosenberg et al., 2021). LPA analyzes individuals' latent profiles based on observed variables, also known as dependent variables. Based on the specified continuous variables, the most probable profile to which an individual belongs is identified. In LPA, instead of assigning individuals to any specific group, it estimates the probability of membership in a group (Degnan et al., 2008). LPA allows for the analysis variables using measures such as means, variances, and covariances. The first stage in determining latent profiles is the model selection where 4 different models (model 1, 2, 3, and 6) are tested. In addition to selecting the model that fits the data the best, the number of profiles is also explored (Williams & Kibowski, 2016). By comparing the obtained fit indices, the number of profiles is determined. The most commonly fit indices used for the number of profiles are the Bayesian Information Criterion (BIC; Schwarz, 1978), Akaike Information Criterion (AIC; Akaike, 1987) and SABIC. Lower values are better for model fit (Bauer, 2022). The entropy measure, which reveals unexplained cases in classification, was utilized to assess the quality of classification, where an entropy value close to 1 is perfect, a value above .80 is desirable and a value above .60 is the minimum value accepted (Asparouhov & Muthén, 2014; Akogul and Erisoglu, 2017). It is essential to choose the most concise model and ensure that none of the profile solutions have a small profile size of less than 5% of the total sample (Hamza & Willoughby, 2013).

Afterwards, the independent variable of profile membership was utilized in a series of one-way Analysis of Variance tests to assess whether there were significant differences in the scores of Job Satisfaction, Teacher Self-Efficacy, Self Esteem Scale and Openness to authority among the identified groups. The data were analyzed using SPSS.

Interventionary studies involving animals or humans, and other studies that require ethical approval, must list the authority that provided approval and the corresponding ethical approval code.

3. Results

3.1. Correlations

The interrelationships among four teacher leadership behavior factors (classroom leadership, parental leadership, micro-level leadership, macro-level leadership), job satisfaction, teacher self-efficacy, self-esteem and openness to authority were calculated and presented in Table 1. There was a high correlation among all scores.

Table 1. Correlations of variables.

Variable	1	2	3	4	5	6	7	8
1. Classroom leadership	—							
2. Parental leadership	.53***	—						
3. Micro-level leadership	.51***	.45***	—					
4. Macro-level leadership	.52***	.54***	.64***	—				
5. Job satisfaction	.40***	.33***	.31***	.38***	—			
6. Teacher self-efficacy	.50***	.42***	.37***	.46***	.51***	—		
7. Self esteem	.45***	.36***	.37***	.37***	.50***	.53***	—	
8. Openness to authority	.36***	.28***	.32***	.45***	.29***	.33***	.44***	—
* p < .05, ** p < .01, *** p < .001								

3.2. Profiles of the Teacher Leadership Behaviors

Latent Profile Analysis was performed, and the results are presented in Table 2, which includes fit statistics for different models. As depicted in Table 2, the values of AIC, BIC, and SABIC are lower for the three-profile model, indicating a good solution. Furthermore, Models 1, 2 and 3 ensure that the smallest profile is no less than 5% of the sample size. The higher entropy during the transition from other profiles to a three-profile solution indicates that the three-profile solution is superior to alternative solutions. The BLRT tests yielded highly significant values ($p < 0.01$), further supporting the selection of the three-profile model. Based on these results, the three-profile is the most suitable and best-fitting model for the data. Based on the fit indices and the objective of latent profile analysis, we determined that the 3-profile was more appropriate.

Table 2. 1–4 profiles for teacher leadership behaviour in Türkiye.

The Number of Profiles	BIC	AIC	AWE	CLC	KIC	SABIC	Entropy	BLRTP	Profile size	Sample<5%
1	6888	6852	6963	6838	6863	6863	-	-	710	No
2	6224	6165	6347	6140	6181	6183	0.77	p<0.01	447,263	No
3	6018	5936	6189	5902	5957	5961	0.80	p<0.01	341,54,254	No
4	5956	5851	6175	5807	5877	5883	0.78	p<0.01	316,11,104,279	Yes

The teachers were categorized into three profiles after the analysis. Profile 2 represents the smallest group, consisting of 54 teachers and accounting for 8 % of the total sample. This group exhibits the lowest average scores across all four teacher leadership behaviour factors (classroom leadership, parental leadership, micro-level leadership and macro-level leadership) and is identified as teachers with “restricted professionalism”. Profile 1, on the other hand, is the largest group, comprising 341 teachers, which represents 48 % of the sample. This group exhibits the highest average scores across all four teacher leadership behaviour factors and is identified as teachers with “extended professionalism”. Lastly, Profile 3 consists of 315 teachers, accounting for 44 % of the sample. This group demonstrates moderate scores across all four teacher leadership behaviour

factors and is identified as teachers with “intermediate (moderate) professionalism”. Figure 2 displays the plot illustrating these three-profile.

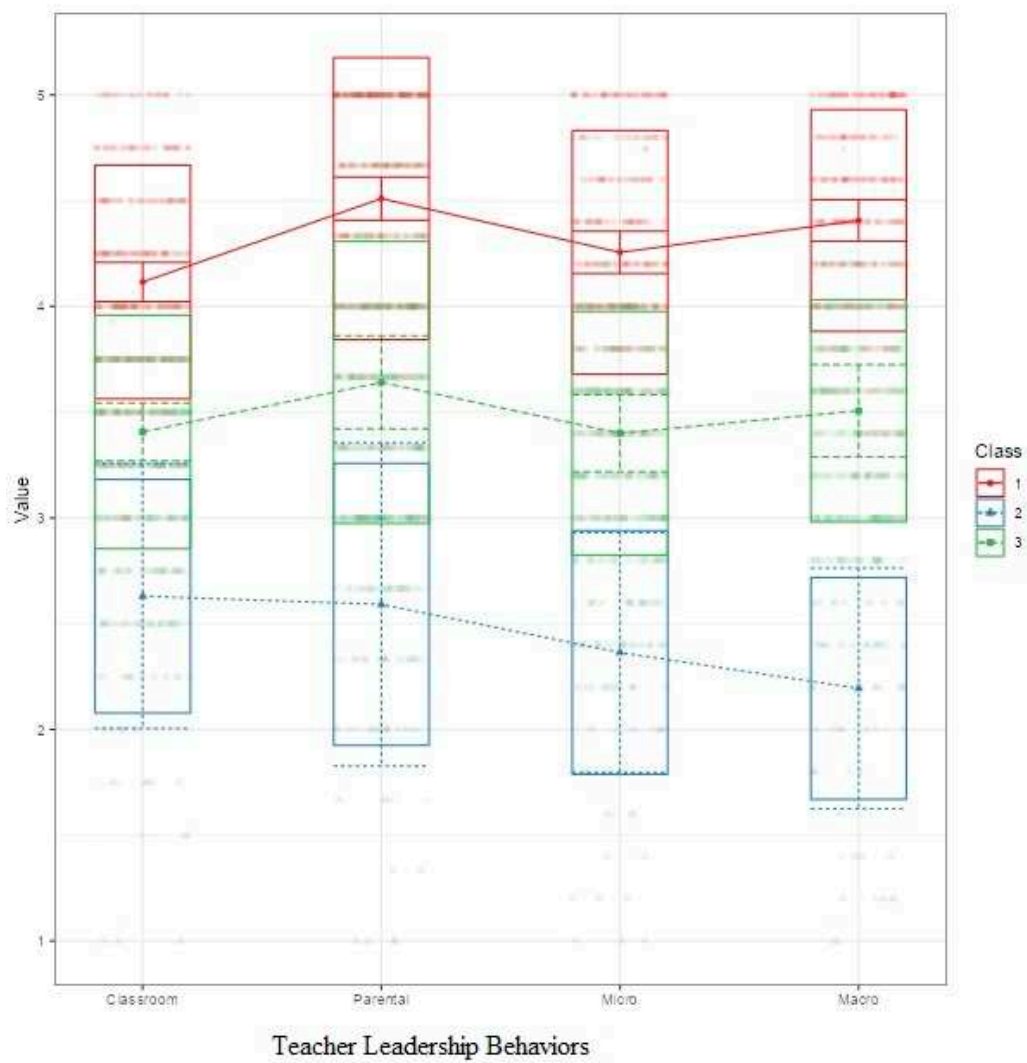


Figure 2. Three latent profiles of teacher leadership (N = 710).

3.3. The Univariate Analysis of Job Satisfaction, Teacher Self-Efficacy Self Esteem Scale and Openness to Authority of Teachers.

The purpose of employing one-way ANOVA tests was to assess whether there were differences in the average scores of job satisfaction, teacher self-efficacy, self-esteem and openness to authority scales among the identified profiles. Post-hoc Scheffe were subsequently applied and yielded significant results ($p<.001$). The results revealed that the extended professionalism profile exhibited the highest level across all four measures, while the restricted professionalism profile displayed the lowest level. The intermediate professionalism class fell in the middle range of all measures (Table 3).

Table 3. ANOVA for Job Satisfaction, Teacher Self-Efficacy, Self Esteem Scale and Openness to authority scores.

Variables	Class	Mean score	Df	F	p	Eta squared
Job Satisfaction	extended professionalism	4,1946	2	62,793	.000***	0,151
	restricted professionalism	3,1751				
	intermediate professionalism	3,7845				

Teacher Self-Efficacy	extended professionalism	4,1232	2	96,071	.000***	0,214
	restricted professionalism	3,2871				
	intermediate professionalism	3,7249				
Self Esteem Scale	extended professionalism	5,9521	2	72,733	.000***	0,171
	restricted professionalism	4,8564				
	intermediate professionalism	5,2757				
Openness to authority	extended professionalism	5,5626	2	61,263	.000***	0,148
	restricted professionalism	4,0079				
	intermediate professionalism	4,6150				

* p < .05, ** p < .01, *** p < .001.

4. Discussion

This study aimed to explore teachers' professionalism in relation to teacher leadership through latent profile analysis in the aftermath of the COVID 19 pandemic. For the analysis, we used Hoyle's (1974) influential distinction between "restricted professionalism" and "extended professionalism" as a framework. Our study was based on the argument that the most important antecedent of teacher leadership is teachers' professionalism identity- what Hoyle (1974, 2008) calls professionalism.

We used teacher leadership behavior scale, developed by Bolat (2023) to measure teacher leadership. We chose this scale because this scale measures teacher leadership, not at a unidimensional but a multidimensional level. Some teachers exercise leadership only at the classroom level, while others lead at the micro-level (among colleagues) or macro-level (involving the entire school community). This scale represents this multidimensionality. The scale consisted of four factors which measures teacher leadership at four levels: classroom leadership, parental leadership, micro-level leadership and macro level leadership. We additionally used four other scales to validate the profiles: the Rosenberg Self-Esteem Scale, Teacher Self-Efficacy Scale, Openness to Authority Scale, and Job Satisfaction Scale. As a result of latent profile analysis, three distinct profiles of teacher leaders emerged: those who exercise leadership at a minimum level across all four levels, those who demonstrate an intermediate level of leadership across all four levels, and those who exhibit a maximum level of leadership across all four levels. These profiles were labeled as "extended professionalism," "intermediate professionalism," and "restricted professionalism," drawing upon Hoyle's (1974) conceptualization of teacher professionalism. The profiles were also found to differ in terms of self-esteem, job satisfaction, teacher self-efficacy, and openness to authority. This finding is line with Hoyle's distinction, but there are significant differences.

Extended Professionalism Profile in our study is perfectly in line with the concept of "extended professionalism" proposed by Hoyle (1974). Teachers in this profile focus both on their classrooms and school as a whole. They feel responsible both for their own students and student in the whole school. This was also the case with the Extended Professionalism Profile within our study. We expected that teachers with extended professionalism would score high on all measures and this was the case. Teachers with extended professionalism did not downplay their role in the classroom while focusing on school improvement. Teachers within the Extended Professionalism Profile exercised leadership within the classroom, among parents and colleagues and within the whole school. This study provided empirical evidence for the concept of extended professionalism. This finding is also consistent with the findings of Clement et al. (1995, cited in Van Veen, et al., 2001) who describes teachers' professional concerns in terms of three categories: self-concern, task concern and other-concern. Self-concern and task-concerns focus on classroom, while other-concern refers to what teachers do with or for others as a member of a school community. Teachers with extended professionalism are more other-concerned.

Restricted Professionalism Profile in our study had different characteristics than what Hoyle (1974) suggested. Hoyle suggested that teachers with restricted professionalism are mostly oriented to their classroom responsibilities rather than the whole school, are more concerned about teaching in the classroom rather than the general quality of teaching in school and feel responsible for only their own students rather than all students (Jongmans et al. 1998; Hoyle, 1974; Hoyle; 2008; Van Veen

et al., 2001). However, in our research, we found that teachers with restricted professionalism are not only concerned about the whole school, but also their own classrooms, the development of their students or involvement of parents in the educational process either. They scored low on all four factors of teacher leadership. Classroom leadership and parental leadership used items like these: I learn about the inner world of my students, I help my students discover themselves, I develop the talents of my students, I collaborate with parents for the development of my students, I learn the family lives of my students. Teachers with restricted professionalism scored low on these two factors. We expected that teachers with restricted professionalism would score low on micro-level and macro-level leadership, but high on classroom leadership and parental leadership. But this was not the case. This was a key distinction from Hoyle's conceptualization. Hoyle (2008) had warned in later publications that the term "restricted professionalism" should not carry a negative connotation and teachers with "restricted professionalism" could be excellent teachers. It is just that the scope of professionalism that was restricted (Hoyle 2008). The professionalism of teachers in our study also had restricted professionalism. Teachers with restricted professionalism also scored very low on all other measures. In other words, they had a lower level of self-esteem, less satisfied with their jobs, feel a lower level of self-efficacy in their classroom and have difficulty to expressing their ideas to their superiors.

The present research was unique in that it extended Hoyle's conceptualization by adding a third dimension, "intermediate professionalism," to the existing distinction between "extended professionalism" and "restricted professionalism." Teachers with "intermediate professionalism" exhibited moderate scores across all four teacher leadership behaviour factors. This finding could suggest that these teachers could be going through a process. Smulyan (2016) explains that in the formation of leadership identity, teachers move through three waves: teacher leadership as behaviors and skills, teacher leadership as process and teacher leadership as stance. The teachers with "intermediate professionalism" could be in the "process" of becoming a teacher leader, in a transition from perceiving teacher leadership as behaviors to viewing it as a stance.

4.1. Suggestions and future directions for research

Teachers with restricted professionalism scored low on self-esteem, job satisfaction, self-efficacy and openness-to-authority measures. One study found that teacher leadership contributes to greater satisfaction in the classroom (Johnson & Landman, 2000). However, it is not clear which leads to which, that is, whether teacher leadership is the cause or the effect of job satisfaction. Similarly, however, it was not clear in our studies these four variables are the cause or the effect of restricted professionalism. Experimental studies are needed to test the effect of these four concepts on teacher leadership. School leaders first need to understand explore teachers' conception of their own professionalism and design professional development activities tailored differently for each type of professionalism. School leaders also need to understand that support at cultural and structural level of the school will not foster teacher leadership unless teachers develop extended professionalism and perceive themselves as leaders (Carver, 2016). This is a gradual process where teachers add additional roles and images to their professional identity over time (Chval et al., 2010). School leaders need to know that identity development is dynamic and an on-going process (Akkerman & Meijer, 2011)

School leaders should design a school culture where there are opportunities for conversation, discussion and reflection among teachers since these practices help the development of a leadership stance in an organic way (Smulyan 2016). Extended professionalism cannot be developed unless teachers are engaged in interaction with other professionals (Hong, 2010). Colleagues are often the key actors in teachers' formation of professional identity Cohen (2010).

In one study, teacher leaders who participated in a leadership cohort for three consecutive years revealed that their conceptions of teacher leadership evolved over time from a set of behaviors and skills, to a commitment and ongoing process across many contexts, to a way of thinking and positioning oneself within the field of education (Smulyan, 2016). Intermediate group can be a link with the teacher leadership as a process. Policy makers could design teacher leadership programmes to change teachers' professional identity. Many programs such as the Great Lakes

Academy (Carver, 2016), International Teacher Leadership Program (Frost, 2011), The Teacher Leadership for School Improvement (TLSI) (Ross et al., 2011) were successful in changing teachers' conception of identity. When times such as the Covid come again, teachers with extended professionalism can greatly contribute to effective decision making in educational settings.

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Informed Consent Statement: All participation was voluntary.

Data Availability Statement: All data can be accessed at <https://osf.io/8bczr>.

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