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The associations between prejudices, motivation, and Attitude Towards inclusion of future special needs teachers

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ABSTRACT

To enhance the educational experience of all students, the attitudes of special education teachers towards inclusion play a pivotal role. Within this framework, pre-service training programs should encourage critical reflection on personal beliefs, potential biases, and motivational orientations. The present study aimed to examine the relationships among these variables in a sample of 355 pre-service teachers aged between 19 and 59 years ($M = 37.40$; $SD = 8.24$). Findings indicated significant negative association between prejudices towards individuals with special needs and the other variables under investigation, whereas a positive association emerged between autonomous motivation to become a special education teacher and attitudes towards inclusion. Structural equation modelling (SEM) further revealed that motivation acts as a mediator in the link between modern prejudice and attitude towards inclusion. These results emphasise the relevance of considering individual characteristics in the preparation of future special education teachers.

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Special needs; teachers; prejudices towards disability; motivation; attitude towards inclusion

Background

In the Italian education system, entering the teaching profession involves two steps: obtaining a university degree and then a teaching certification, crucial for a permanent recruitment (Ministero dell'Istruzione e del Merito, n.d.-a). In Italy, teachers are on average 48 years old, with 49% aged 50 or above (OECD: 37%) and only 3% under 30 (OECD: 10%). 77% of Italian teachers are women and 67% of them have prior professional experience outside education, including 15% second-career teachers (OECD: 8%) (OECD, 2025).

In this educational context, teachers are required to respond to the needs of an increasingly heterogeneous student population. In Italy, compulsory education spans from ages six to sixteen and aims at the attainment of a three-year vocational

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qualification, promoting inclusion and equal access to learning opportunities for all students, including those with special educational needs (Ministero dell'Istruzione e del Merito, n.d.-b). Within this framework, ensuring the inclusion of students with special needs in school settings represents a key objective of the educational system (Anastasiou et al., 2015; Keles et al., 2024; Krischler et al., 2019; Nota et al., 2015; Paulsrud & Nilholm, 2023).

Italian legislation has progressively supported this inclusive approach. Law 517/1977 (link to the Law 517/1977) abolished separate classes for students with disabilities, while Law 104/1992 (link to the Law 104/1992) and subsequent revisions introduced the concept of Special Educational Needs (SEN), encompassing learning disorders, developmental challenges, and social or cultural disadvantages. Subsequently, there was a transition from the concept of integration to inclusion, driven by Ministerial Directive of 27 December 2012 (link to the Ministerial Directive) and the Circular of 6 March 2013 (link to the Ministerial Circular), emphasising personalised educational plans for all students.

In this regard, the Ministerial Decree of September 30, 2011 (link to the Ministerial Decree) emphasised the importance of the right of every student with BES to have a personalised plan of intervention (Decreto Ministeriale, 2012), and points out the relevance on promoting specific training interventions for special needs teachers: the active training internships (in Italy called with the acronym TFA, Tirocini [Traineeships], Formativi [Formative], Attivi [Active]). Ministerial Decree 92/2019 (link to the Ministerial Decree) regulates access to TFA courses according to the school level, requiring specific academic qualifications for primary and secondary teaching. After passing a public selection, candidates must complete a one-year training program with internships before obtaining the teaching qualification, making the pathway to becoming a teacher in Italy relatively long and structured.

The Italian TFA course aligns with the European Agency for Special Needs and Inclusive Education that proposed the Profile of Inclusive Teachers (European Agency for Development in Special Needs Education, 2012), which guides the design of initial teacher education and emphasises collaboration in multidisciplinary teams, continuous professional development, and support each student's diversity. This approach is also consistent with the United Nations' 2030 Agenda for Sustainable Development Goal 4, which promotes inclusive and equitable quality education for all (United Nations, 2015), emphasising that all children, adolescents, and adults have access to education and training tailored to their specific needs.

In Italy, TFA teachers are trained in special education, but their role differs from traditional models that separate inclusive and special education (Göransson & Nilholm, 2014; Nilholm & Göransson, 2017). Italian schools integrate both dimensions, viewing diversity as a resource. Special education is delivered through personalised strategies to foster inclusion, rather than as segregated or deficit-based support. TFA teachers act as co-teachers with classroom teachers to promote inclusive practices and student participation, they share responsibility for developing inclusive educational settings, ensuring that all students receive support through individualised educational pathways without separate or segregated classes (Decreto Ministeriale, 2011).

Although Italy has been a pioneer in inclusive education and inclusion is a right, significant barriers remain (D'Alessio, 2011; Ianes et al., 2020). Challenges include

persistent deficit-focused approaches that emphasise students' difficulties (D'Alessio, 2011; Ianes et al., 2020), overreliance on diagnostic labels (Giangreco et al., 2014; Soresi et al., 2013), and limited physical accessibility in schools (Ianes et al., 2020). These factors can undermine inclusion and highlight the gap between legal requirements and actual practice, pointing to the need for both structural reforms and attention to teachers' attitudes and beliefs.

The Inclusive Teacher Profile outlines the attitudes, knowledge, and skills all teachers, both curricular and special needs, should develop (European Agency for Development in Special Needs Education, 2012). Florian and Camedda (2020) emphasise that inclusive attitudes and values are as crucial as knowledge and skills. Thus, fostering a positive attitude towards inclusion is essential, as teachers' underlying attitudes shape their approach and ability to develop inclusive practices.

Eagly and Chaiken (1993) define attitudes as 'a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour' (1993, p. 1). Attitudes shape how individuals attend to, reflect on, and act towards their objectives of evaluation. They proposed a three-component model: cognitive (beliefs or knowledge), affective (emotions or feelings), and behavioural (actions or intentions) (Eagly & Chaiken, 1993). However, subsequent research has only partially supported this tripartite model, with some studies suggesting bipartite (Bagozzi & Burnkrant, 1979, 1985) or unidimensional structures (Dillon & Kumar, 1985).

Although debated, there is broad consensus that attitudes involve evaluations (Albarracín et al., 2018; Eagly & Chaiken, 1993), that can target objects (e.g. a smartphone), people (interpersonal liking), or abstract ideas (values) (Albarracín et al., 2018). Accordingly, attitude towards inclusion is defined as the evaluation of the abstract concept of inclusion. In our study, the focus is, in fact, on the attitude towards inclusion in pre-service special needs teachers understood as the leaning to promote acceptance of students with SEN by classmates, families, and educators to enable inclusion (Krischler et al., 2019) and to practice inclusive techniques towards all students, also those with SEN (European Agency for Development in Special Needs Education, 2012). To improve the educational experience for all students, attitude towards inclusion of special needs teachers play a crucial role and became essential in special education course prepare teachers to effectively learn to create an optimal inclusive environment (Marcone & Caputo, 2023).

Teachers' attitudes towards inclusion represent a multidimensional construct that may be influenced by multiple factors that subsequently shape their approaches to teaching (Schwab et al., 2024). Primarily, these attitudes are affected by various elements such as gender, age, teaching experience, educational level, prior work experience with children with SEN and participation in training courses (Avramidis & Norwich, 2002; Sharma & Jacobs, 2016). Research indicates gender differences in inclusive attitudes: female pre-service teachers tend to display more positive attitudes towards inclusion and greater empathy towards students with disabilities compared to males (Avramidis & Norwich, 2002; Forlin et al., 2009). The relationship between age, teaching experience, and inclusive attitudes is complex. Some studies suggest younger, less experienced teachers hold more positive views, likely due to recent training in inclusion (Avramidis & Norwich, 2002), whereas others find that accumulated learning experience, when combined with support and professional

development, can strengthen positive attitudes (Sharma et al., 2008). Conversely, Saloviita (2020) reported that more experienced teachers sometimes show fewer positive perspectives on inclusion. Higher education levels also correlate with more favourable attitudes (Sharma & Jacobs, 2016). Pre-service programs combining theory with practical experiences and meaningful interactions with students with SEN are particularly effective in fostering positive attitudes (Lambe & Bones, 2006). Research highlights that the quality of contact matters more than quantity: meaningful interactions with individuals with disabilities reduce prejudice and enhance support for inclusion (Campbell et al., 2003; Keith et al., 2015). However, negative or superficial contact can reinforce existing prejudices (Forlin & Chambers, 2011). These findings suggest that both knowledge of disability and direct experience with it play a central role in modifying more positive and accurate perceptions of individuals with intellectual disabilities (ID). Overall, personal, educational, and experiential factors interact dynamically to shape teachers' attitudes towards inclusion (Avramidis & Norwich, 2002). Other demographic factors remain underexplored. Evidence on marital status is mixed: some studies find differences in attitudes between married and unmarried teachers (Fakolade et al., 2009), while others do not (Selisko et al., 2024). Similarly, the influence of having children is rarely examined, though it may positively affect inclusive attitudes (de Boer et al., 2010). To bridge this gap, our study considers these variables as exploratory factors.

Other variables that can contribute to shaping teachers' attitudes towards inclusion are their own beliefs and perceptions about inclusive practice. To effectively prepare future teachers, it is important not only to teach inclusive strategies but also to help them reflect on their own beliefs (Marcone & Caputo, 2023; Sharma & Jacobs, 2016). Research highlights that teachers' attitudes towards inclusion are closely linked to their beliefs about teaching, learning, and inclusion (Börnert-Ringleb et al., 2020; Selisko et al., 2024). Börnert-Ringleb et al., (2020) found that teachers' beliefs about teaching and learning strongly predict their attitudes towards inclusion, highlighting the importance of considering both explicit attitudes and implicit evaluations. Similarly, Selisko et al. (2024) developed a Framework of Inclusive Education showing how beliefs about teaching, perceptions of disability, and preferred student placement form distinct attitudinal profiles: one with transmissive teaching beliefs, medical models of disability, and preference for segregation; another with constructivist beliefs, social-relational models, and support for inclusive placement. Implicit beliefs about disability and learning strongly influence the ability to apply inclusive methods, regardless of knowledge of inclusive techniques (Selisko et al., 2024). In this sense, negative beliefs about individuals with disabilities may also take the form of prejudicial evaluations. Prejudice can therefore be understood as a specific evaluative orientation towards members of a social group, which may contribute to shaping teachers' broader attitudes towards inclusion (Akrami et al., 2006; Marcone & Caputo, 2023).

Prejudice is an opinion that is formed without a thorough understanding of the relevant facts and individuals, based only on one's own personal convictions and preconceptions (Akrami et al., 2006). Social studies distinguish between two types of prejudice towards disability, which affect how people are perceived (Akrami et al., 2011; Marcone & Caputo, 2023). Classical prejudice is overt and openly negative,

while modern prejudice is covert, expressed subtly through denial of discrimination or conditional acceptance of minority groups (Akrami et al., 2006; Servidio & Marcone, 2024). Such prejudices can hinder social inclusion in education and employment, regardless of individuals' abilities (Marcone et al., 2016). Marcone and Caputo (2023) examined classical and modern prejudices towards students with ID among teachers and non-teachers in Southern Italy. They found higher levels of classical prejudice overall, with no significant differences between curricular teachers and pre-service teachers (Marcone & Caputo, 2023). Moreover, Keith et al. (2015) showed, measuring quality and quantity of contact with people with ID, that classical prejudice is a direct index to measure negative attitude towards individuals with disabilities. Nevertheless, Keith et al. (2015) found that a good quality of contact with people with disabilities is related to positive attitudes towards them because participants gave support to inclusion and autonomy to improve empowerment of people with disabilities. Moreover, research specifically shows that the severity (Forlin & Chambers, 2011) and type (Avramidis & Norwich, 2002) of a student's disability is negatively correlated with teachers' attitudes towards inclusion. Although the direct link between classical and modern prejudices and pre-service teachers' inclusive attitudes has not been studied, these findings suggest that special needs training should address prejudices to improve the quality of teacher-student interactions as personal prejudices may also influence motivation for pursuing a career as a special needs teacher.

In pre-services teachers, indeed, the motivation to attend TFA course could provide a relevant understanding of the mechanism behind this association. Self Determination Theory (SDT, Ryan & Deci, 2017), distinguishes between autonomous motivation as the engagement in an activity out of personal choice, interest, or enjoyment, and controlled motivation as the engagement driven by external pressures, rewards, or constraints (Ryan & Deci, 2020). Pre-service teachers with lower levels of prejudice may hold autonomous motivations, believing that all students have the right to quality education, which fosters meaningful engagement and effective application of inclusive practices (Ryan & Deci, 2020). Conversely, those with higher prejudice may be driven by controlled motivations, such as external pressures or career considerations, resulting in lower engagement and weaker attitudes towards inclusion (Ryan & Deci, 2020).

Consequently, TFA programs should focus not only on the practical implementation of inclusive learning practices but also on the underlying prejudices that may affect teachers' attitudes towards students with SEN. While inclusion is both a human right and a professional responsibility, teachers' attitudes and motivations play a critical role in determining the quality and genuineness of inclusive practices in the classroom.

Considering the examined literature and the central role of special needs teachers in Italian classrooms, the present study aimed to investigate the relationships among classical and modern prejudices towards students with SEN, autonomous motivation to pursue a career as a special needs teacher, and attitudes towards inclusion. Specifically, the study tested a model (Figure 1) exploring: a) direct associations between prejudices and autonomous motivation; b) direct associations between autonomous motivation and attitude towards inclusion; c) direct associations between

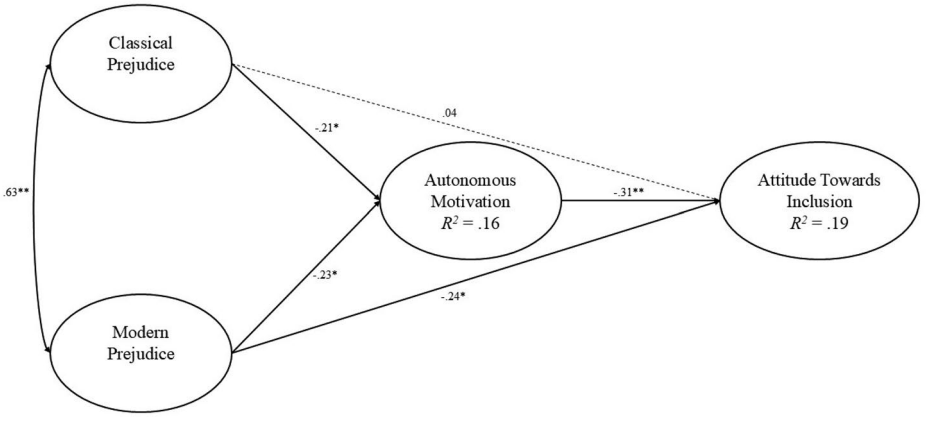

Figure 1. Graphical representation of the first structural model ($N = 355$).
Note: $^{**}p < 0.001$; $^{*}p < 0.05$

prejudices and attitude towards inclusion and indirect associations through autonomous motivation.

Materials and methods

Transparency and openness

All participants filled out an informed consent form. The study was performed in accordance with the Declaration of Helsinki 2013 and was approved by the Ethics Committee of University of Campania 'Luigi Vanvitelli' (#55/2024).

In the following sections, we report the sampling procedures, all measures in the study, and the data analysis process. All data, analysis code, and research materials are available upon request to the authors. This study's design and its analysis were not pre-registered.

Participants

A total of 355 pre-service teachers participating a TFA course took part in this study, exceeding the recommended minimum sample size ($N = 173$) based on a power analysis (effect size = 0.30, power = 0.90, $\alpha = 0.05$, 4 latent variables and 13 observed variables), of whom 77 males (22%) and 275 females (77%), while 3 preferred not to specify (1%), and aged between 19 and 59 ($N = 355$, $M = 37.40$; S.D. = 8.24). Of these, 63% took the course in Salerno (University of Salerno) while 37% in Caserta (University of Campania 'Luigi Vanvitelli'). Marital status analyses reported that 162 (46%) participants are married, 84 participants (24%) are single, 71 participants (20%) are engaged, 26 (7%) report cohabiting status, 10 participants (3%) are separated, 1 participant is widowed and 1 is divorced. Participants report having several children ranging from a minimum of 0 to a maximum of 4, with an average of 1 child per family. From the point of view of educational qualification, 261 participants

(74%) have a master's degree or single-cycle degree, 35 participants (10%) have a first level degree or a para-university degree, 29 participants (8%) have obtained a high school diploma, 25 participants (7%) stated that they have a completed post-graduate degree, and finally 5 participants (1%) have an unfinished postgraduate degree. About the field of education, 198 (56%) participants trained in the humanities field, 80 participants (23%) trained in the field of sciences, 44 participants (12%) reported training in the professional field, 25 participants (7%) have training in the technical field, and finally 7 participants (2%) have training in other fields, and 1 person did not answer (<1%). As for the participants' teaching experience, an initial analysis shows that 189 (53%) people have been teaching, while the remaining 165 (46%) have no such experience, and 1 person did not answer (<1%). For this reason, the years of teaching varied from a minimum of 0 to a maximum of 28 with an average of 2.41 years (SD = 3.64). Consistent with what was reported, 169 participants (48%) report that they do not hold any teaching position, 11 (3%) are tenured teachers, 37 (10%) have a temporary assignment, 64 have a substitute assignment (18%), 29 teach at the peer school (8%) while the remaining 45 responded with other (13%), did not respond, or provided an answer not congruent with the request. Specifically, of the 355 participants, 95 (27%) are curricular teachers, 25 (7%) are support teachers, 4 (1%) are both curricular and support teachers, 209 (59%) state that they do not currently hold a position in teaching. Moreover, it was asked in which grade of school they were teaching and 45% of participants responded that they do not teach in any school level, 43% teach in high school, 4% teach in primary school, 3% teach in middle school, 3% teach in pre-primary while 4% split between pre-school, elementary school, and secondary school and 1 person did not answer (<1%). Finally, it has been asked to the participants if they had some contact with people with disabilities in terms of didactic experience, professional experience and personal experience: a total of 183 participants (52%) indicated having contact with individuals with disabilities during didactic activities, 101 participants (28%) reported such contact in their professional practice, and 254 participants (72%) stated they had general contact with individuals with disabilities in their private life.

Measures

Modern and classical prejudices scale (MCPS, Akrami et al., 2006; italian version of Marcone et al., 2019)

Prejudice towards individuals with Intellectual Disability (ID) was measured using the Italian version of the Modern and Classical Prejudices Scale (MCPS-IT, Marcone et al., 2019). This instrument consists of 19 items designed to assess attitudes towards people with ID across two dimensions: classical prejudice, which reflects explicit and overt forms (e.g. *'Many of the social and economic problems experienced by individuals with intellectual disabilities are due to their cognitive limitations'*), and modern prejudice, which captures more subtle and covert expressions (e.g. *'Society has already made more than sufficient efforts in support of individuals with intellectual disabilities'*). Responses were recorded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Participants responded on a 5-point Likert scale, from 1 = Strongly

disagree to 5 = Strongly agree. The internal reliability was $\alpha = 0.76$ for classical prejudice and $\alpha = 0.67$ for modern prejudice.

Attitudes towards inclusion scale (AIS; Sharma & Jacobs, 2016)

The Attitudes Towards Inclusion Scale (AIS) assess participants' attitudes towards inclusive education. From the analysis of the literature, Sharma and Jacobs (2016) found ten recurring themes that were turned into statements to be included in a 7-point Likert scale, from 1 = Strongly Disagree to 7 = Strongly Agree. Twice of the ten statements were negative terms (reverse items). The internal reliability was $\alpha = 0.87$. An example of item is: *'I believe that inclusion is beneficial for the social development of all students'*.

Self-regulation questionnaire-academic (SRQ-A; Ryan & Connell, 1989)

Self-Regulation Questionnaire-Academic (SRQ-A; Ryan & Connell, 1989) is a tool to measure students' and teachers' quality of motivation, defined as an autonomy-oriented motivation. The version used for this study is adapted from Ryan and Connell (1989) and Soenens et al. (2012). SRQ-A is made up of 16 items (i.e. *'I find satisfaction in support teaching')* that measure four types of motivations (external, introjected, identified, and intrinsic) that could be aggregated in different scores. Participants can express their opinion on a 5-point Likert scale from 1 = Strongly disagree to 5 = Strongly agree. In this study, the Relative Autonomy Index (RAI; Grolnick & Ryan, 1989) has been calculated, to have an overall score of autonomous motivation that take in account also the weighted score of controlled motivation, with this formula: (−2 * External regulation) + (−1 * Introjected regulation) + (1 * Identified regulation) + (2 * Intrinsic motivation). The internal reliability of the total score (RAI) was $\alpha_{RAI} = 0.84$.

Procedure

On the first day of the TFA course, a researcher invited students to complete the questionnaires via a Google Forms link. Participation was voluntary, with no time limit, and project leaders were available for clarification. Students were informed that the questionnaires assessed aptitude, not personality or intelligence, and had no right or wrong answers. After providing informed consent, participants completed the questionnaires. Anonymity was ensured; data were used solely for research purposes, and no payment or course credits were offered.

Data analysis

A Multivariate Analysis of Variance (MANCOVA), with age, years of teaching and educational qualification as covariates, was performed to identify any possible effects of background variable (gender, field of education, professional activity, teaching experience, teaching position, teacher type, didactic and professional activity, general contact with disability) on the study variables.

To increase the accuracy of the estimates and robustness with respect to violations of normality and to control for multiple testing, bootstrap confidence intervals with

5000 resampling samples (bias-corrected and accelerated, BCA) were used (Efron & Tibshirani, 1994; Streiner, 2015). Subsequently, post-hoc analyses with the Bonferroni correction were conducted to further investigate the identified differences. Then correlations, using Pearson's *r*, with bootstrap were conducted (Streiner, 2015) and finally, with the Rstudio with the implementation of the lavaan package (Rosseel, 2012) was used to test the measurement and the hypothesised models and bootstrap was used to control for multiple testing.

Structural equation modelling (SEM) analyses were used to evaluate both the measurement and structural models. The measurement model relied on item parcelling (Little et al., 2002) to structure the scales by averaging construct-specific items, consequently reducing parameter count and instability risks while also addressing issues related to limited cases and item nonnormality. Specifically, the indicators of the latent variables were represented by composite scores (parcels), and each parcel is the average of a subgroup of items of each scale (Evans & Bonneville-Roussy, 2016). Classical Prejudice, Modern Prejudice and Attitude Towards Inclusion were represented by three parcels, while Autonomous Motivation was represented by four parcels. To use RAI, indicator of Autonomous Motivation, as a latent variable in the SEM analyses, we computed four separate RAI indicators as follows. Four items were randomly selected and were weighted as outlined in the description of the instrument to create a RAI variable that became one of the four indicators for the latent variable. This process was repeated to create the other three indicators each formed by three parcels.

To examine the relations between latent variables and their corresponding indicators, two different measurement models were tested: the first model with a one single factor and the hypothesised measurement model, containing four separate correlated factors. The models were evaluated using the χ^2 difference test and changes in the Comparative Fit Index (*CFI*). The overall fit of the models was assessed through various criteria, including the chi-square test (with significant χ^2 indicating a poor fit), *CFI* ($\geq$0.90), Non-Normed Fit Index ($NNFI \geq 0.90$), Standardised Root Mean Residual ($SRMR \leq 0.08$), and Root Mean Square Error of Approximation ($RMSEA \leq 0.08$).

Finally, our hypothesised model was tested using SEM, and bootstrapping was performed with 5000 samples to control for multiple testing (Streiner, 2015). Moreover, if MANCOVA reveals significant differences for the variables under investigation, a more conservative approach will be adopted by testing an additional model in which these variables are included as controlling variables.

Data analyses were conducted using Statistical Package for Social Science-21 version (IBM SPSS- Statistics 21) and R Studio 2024.04.2 build 764 version.

Results

Descriptive statistics and preliminary analyses

Descriptive analyses were performed to define the variability of the dependent variables (see Table 1). To investigate possible differences associated with the independent variables, a bootstrapped multivariate analysis of covariance (MANCOVA) was carried out. Age (treated as a continuous variable), years of teaching experience (continuous),

Table 1. Descriptive statistics.

	N	Mean	D.S.	Range
Attitude Towards Inclusion	355	6.06	1.13	1.00 ~ 7.00
Classical Prejudice	355	1.61	0.60	1.00 ~ 5.00
Modern Prejudice	355	2.00	0.54	1.00 ~ 4.91
Relative Autonomy Index	355	7.28	3.60	−11.00 ~ 12.00

Table 2. Correlative analyses.

	1	2	3
1. Attitude Towards Inclusion			
2. Classical Prejudice	−0.21**		
3. Modern Prejudice	−0.28**	0.48**	
4. Autonomous Motivation	0.36**	−0.31**	−0.29**

and educational attainment (considered as an ordinal variable) were included as covariates in the analysis of the variables of interest.

What emerges is a multivariate effect for participants' age (*Wilks's* $\lambda = 0.94$, $F_{(4, 271)} = 4.61$, $p = 0.00$, $\eta p^2 = 0.06$), while there were not multivariate effects for the other demographic variables. Regarding age, results show an effect with Classical Prejudice ($F_{(1, 274)} = 8.85$, $p = 0.00$, $\eta p^2 = 0.03$) and on Attitude Towards Inclusion ($F_{(1, 274)} = 6.87$, $p = 0.01$, $\eta p^2 = 0.02$): with increasing age, participants reported higher levels of classical prejudice ($B = .01$, $p = .00$) and lower levels of attitude towards inclusion ($B = -0.02$, $p = 0.01$).

Correlational analyses were conducted with bootstrap confidence intervals with 5000 resampling samples, to control for multiple testing (Table 2) and results have shown that classical and modern prejudice negatively correlate with attitude towards inclusion and autonomous motivation, instead, there is a positive correlation between autonomous motivation to be a support teacher and Attitude towards Inclusion.

Measurement model

Two nested measurement models were tested to investigate the relationships between the latent constructs and their observed indicators. The model specifying a single latent factor underlying all indicators demonstrated inadequate fit, $\chi^2_{(65)} = 1167.82$, $p < 0.01$, *CFI* = 0.54, *NNFI* = 0.44, *RMESA* (90% CI) = 0.22 (0.21, 0.23), *SRMR* = 0.16. While the hypothesised measurement model containing four separate correlated factors showed very good fits, $\chi^2_{(59)} = 109.74$, $p < 0.01$, *CFI* = 0.98, *NNFI* = 0.97, *RMSEA* (90% CI) = 0.05 (0.04, 0.06), *SRMR* = 0.03.

Structural equation modelling

The hypothesised model was tested using SEM analyses and results (Figure 1) indicated that the model fit the data well, $\chi^2_{(59)} = 109.74$, $p = 0.00$, *CFI* = 0.98, *SRMR* = 0.03, *RMSEA* (90%CI) = 0.05 [0.04; 0.06]. Autonomous motivation is positively related with Attitude Towards Inclusion ($b = 0.04$, $p = 0.00$, *CI* 95% (0.17, 0.58), $\beta = 0.31$) and negatively related both with classical prejudice ($b = -0.38$, $p = 0.046$, *CI* 95% (−0.76, −0.01), $\beta = -0.21$) and modern prejudice ($b = -0.44$, $p = 0.03$, *CI* 95% (−0.86, −0.05),

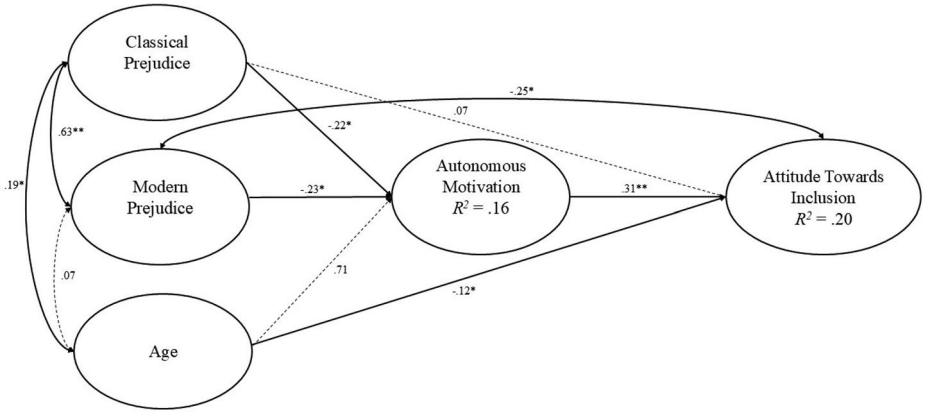

Figure 2. Graphical representation of the second structural model (N = 355).
Note: $^{**}p < 0.001$; $^{*}p < 0.05$

β = −0.23). In turn, modern prejudice is negatively related with Attitude Towards Inclusion ($b = -0.57$, p = 0.03, *CI* 95% (−1.11, −0.10), β = −0.24). There are no significant associations between classical prejudice and Attitude Towards Inclusion. In addition, classical prejudice is correlated with modern prejudice ($b = 0.15$, p = 0.00, *CI* 95% (0.08, 0.24), $\beta = 0.63$).

Estimation of indirect associations has shown an association between modern prejudices towards people with ID and attitude towards inclusion mediated by autonomous motivation to be a special needs teacher [$b = -0.17$, $p = 0.03$, *CI* 95% (−0.32, −0.02), β = −0.07], while there was not an indirect association between classical prejudice and attitude towards inclusion mediated by autonomous motivation.

Since the MANCOVA analysis with bootstrap shows a significant role of age as a covariate, to have a more conservative approach, a second model was tested controlling for age.

The results (Figure 2) indicated that the model fits the data well, $\chi^2_{(68)}$ = 126.64, $p = 0.00$, *CFI* = 0.98, *SRMR* = 0.03, *RMSEA* (90%CI) = 0.05 [0.04; 0.06]. Autonomous motivation is positively related with Attitude Towards Inclusion ($b = 0.38$, $p = 0.00$, *CI* 95% (0.18, 0.58), $\beta = 0.31$) and negatively related both with classical prejudice ($b = -1.36$, $p = 0.046$, *CI* 95% (−0.77, −0.00), β = −0.22) and modern prejudice ($b = -0.43$, $p = 0.04$, *CI* 95% (−0.85, −0.04), β = −0.23) while is not related with Age. Moreover, Attitude Towards Inclusion is negatively related both with modern prejudice ($b = -0.59$, $p = 0.02$, *CI* 95% (−1.14, −0.11), β = −0.25) and Age ($b = -0.02$, p = 0.03, *CI* 95% (−0.03, −0.00), β = −0.12). There are no significant associations between classical prejudice and Attitude Towards Inclusion. In addition, classical prejudice is correlated both with modern prejudice ($b = 0.15$, $p = 0.00$, *CI* 95% (0.08, 0.24), $\beta = 0.63$) and age ($b = 0.78$, $p = 0.01$, *CI* 95% (0.19, 1.41), $\beta = 0.19$) while there is not a significant correlation between modern prejudice and age.

Estimation of indirect associations has shown an association between modern prejudice towards people with ID and attitude towards inclusion mediated by autonomous motivation to be a special needs teacher [$b = -0.17$, $p = 0.03$, *CI* 95% (−0.32, −0.02), β = −0.07], while there were no other significant indirect associations.

Discussion

Italy has long been a pioneer in inclusive education, supported by comprehensive legislation (Ianes et al., 2020). Every teacher is trained to adopt inclusive practices, helping all students reach their potential (Ministero dell'Istruzione e del Merito, n.d.-b). In 2023/2024, in Italy about 4.5% of students had special educational needs (ISTAT, 2025). To guarantee the full inclusion of students with special needs, schools provide a specially trained support teacher who co-teaches and implements inclusive practices, offering targeted assistance (European Agency for Development in Special Needs Education, 2012; Ministero dell'Istruzione e del Merito, n.d.-b). Training for this role consists of a publicly accessible one-year postgraduate course with a practical internship.

This study examines the relationships between classical and modern prejudices towards people with ID, autonomous motivation to become a special needs teacher, and attitudes towards inclusion in Italian pre-service teachers attending the TFA course. Given the key role of special needs teachers in fostering student potential, the study specifically investigated: a) direct links between prejudices and autonomous motivation; b) direct links between autonomous motivation and attitudes towards inclusion; and c) direct and indirect links between prejudices and attitudes via autonomous motivation.

About the first aim, results showed a negative correlation between autonomous motivation and both classical and modern prejudice, consistent with Legault et al. (2007), who found that higher autonomous motivation predicted lower levels of prejudice. They suggested that lack of motivation may impair the regulation of prejudices. These results could underscore the significance of developing educational programs that enhance autonomous motivation and reduce prejudice in special needs teachers.

Regarding the second aim, results showed a positive correlation between teachers' autonomous motivation and their attitudes towards inclusion of students with special needs. This aligns with Self-Determination Theory (Ryan & Deci, 2017, Saloviita, 2020), which suggests that when individuals act from personal interest or internal values, they are more likely to engage in behaviours consistent with their intrinsic goals. Pre-service teachers with higher autonomous motivation may be more likely to value and support inclusive education, viewing it as aligned with their commitment to equity, social justice, and student well-being. Such motivation can be associated with greater engagement in creating supportive classroom that foster students' autonomy, competence, and relatedness, including for those with special needs (Ryan & Deci, 2017, Saloviita, 2020). Autonomous motivation can lead to a deeper and more genuine embrace of inclusive practices, as these teachers view inclusion not as an externally imposed obligation, but as a meaningful and integral part of their professional identity (Ainscow et al., 2006; Ryan & Deci, 2017, Saloviita, 2020). These findings could suggest that higher autonomous motivation is related to more positive attitudes towards inclusion.

About the third aim, results of this study reveal that modern prejudice is negatively, yet directly, related to attitudes towards inclusion. The findings could suggest that while classical forms of prejudice may be more overt and easily identifiable, it does not appear to have a direct effect on pre-service teachers' attitudes towards inclusion. In contrast, the covert nature of modern prejudice makes it particularly insidious, as it can persist even in environments that outwardly endorse inclusion, potentially

hindering the effective implementation of inclusive policies and practices. Indirectly, autonomous motivation to become a special needs teacher mediates the relationship between modern prejudice and attitudes towards inclusion. Specifically, our results suggest that lower levels of prejudice may support stronger autonomous motivation, which in turn relates to more positive attitudes towards inclusion. This could reflect a general belief that all students, regardless of their abilities, have the right to receive the same quality of education as others. Consequently, this could lead to more effective and passionate teaching practices, as these educators are motivated by a deep, personal commitment to inclusion. This commitment is likely to be translated into a more supportive and accommodating learning environment for students with special needs.

Another relevant finding is that the associations between prejudice, autonomous motivation, and attitudes towards inclusion remain significant when controlling age, the only demographic variable showing an effect. Specifically, older participants reported higher levels of classical prejudice and lower attitudes towards inclusion. These findings are consistent with Saloviita's study (2020), which found a linear trend in age: younger teachers showed somewhat more optimistic attitudes than older ones.

Overall, the results suggest that the associations between autonomous motivation, prejudice, and attitudes towards inclusion are not merely due to age differences, highlighting the relevance of psychological and motivational factors in special needs teachers and the importance of addressing these during the one-year TFA training. Younger teachers may show a more positive orientation towards inclusion, potentially benefiting the school environment.

Despite the strong legislation and the specialised training provided to support teachers, the transition from theory to practice remains slow and complex due to persistent practical barriers, such as the dominance of a deficit-centred model and issues of physical inaccessibility (D'Alessio, 2011; Ianes et al., 2020). Given these persistent barriers, it becomes essential to assess, among pre-service teachers enrolled in the TFA program, several key dimensions related to inclusion. First, their attitudes towards inclusion, understood as the disposition to promote the acceptance and inclusion of students with Special Educational Needs (Krischler et al., 2019). Second, their underlying prejudices, defined as opinions or judgments based solely on personal preconceptions (Akrami et al., 2006). Finally, their autonomous motivation, described as the voluntary engagement in an activity driven by personal choice and interest (Ryan & Deci, 2020). Together, these constructs could provide a comprehensive picture of pre-service teachers' readiness to undertake the role of special needs teachers within an inclusive educational approach because, in this perspective, lower levels of prejudice could be associated with more autonomous motivation and deeper attitude towards inclusion.

Limitations

Overall, in this study there are some limitations. As a correlational study, causal relationships cannot be established, leaving open the possibility of bidirectional or confounded effects. The use of self-report instruments may introduce potential biases, including social desirability effects, though our research aims to explore teachers' beliefs, evaluations, and self-perceptions regarding inclusive education rather than their observable behaviours

or performance, the use of self-report instruments remains appropriate for capturing these subjective dimensions and motivational orientations. The sample, drawn exclusively from TFA participants in southern Italy, limits generalisability, and the cross-sectional design prevents assessment of how these relationships may change over time.

Practical implications and future direction

Notwithstanding its limitations, the present study provides meaningful contributions with practical relevance for teacher education and the promotion of inclusive practices. Enhancing autonomous motivation among pre-service teachers may represent a key pathway to encouraging more positive attitudes towards inclusion and lower level of prejudice. Motivation emerges as a modifiable and strategically important factor in fostering inclusive attitudes. Accordingly, teacher training programs might incorporate approaches aimed at supporting autonomous motivation, for instance by highlighting the personal and professional significance of inclusive education, encouraging reflective practices, and ensuring coherence between training activities and teachers' underlying beliefs and values about inclusion.

Furthermore, the continued presence of modern forms of prejudice points to the importance of implementing targeted interventions, such as training sessions designed to increase awareness of subtle biases and to provide practical strategies for addressing them in educational settings. Although younger teachers may display more positive attitudes towards inclusion, ongoing professional development remains essential to maintain these perspectives and to support the consistent application of inclusive practices over time.

Future studies could consider adopting longitudinal approaches to explore the development of motivation, attitudes, and prejudice across time. In addition, including in-service teachers and more heterogeneous samples would allow for a more comprehensive understanding of these processes across diverse educational contexts.

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