

Beyond the Myths: Exploring Pre-Service Teachers' Beliefs About Giftedness Across Gender and Educational Fields

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ABSTRACT

This study aims to identify myths held by pre-service teachers regarding giftedness, considering their gender and educational field. We administered a survey to 235 third-year pre-service teachers from five educational fields. Data were collected using an eight-item test reflecting common myths about giftedness identified in the literature. Participants indicated agreement or disagreement with each item and explained their responses. Descriptive analyses revealed general trends for each item, and Chi-square tests assessed the influence of gender and educational field on responses. Results showed that approximately half of the participants endorsed myths related to the first item, while about one third held myths concerning the second, sixth, and seventh items. In contrast, most participants demonstrated scientifically accurate understandings for the fourth and fifth items. Gender was not a significant factor for any item except the seventh, and educational field did not significantly affect responses to any item. Overall, pre-service teachers exhibited similar beliefs about giftedness. Incorporating real-life case studies into faculty courses may help replace these myths with evidence-based understandings.

Keywords: *Gifted students, giftedness, pre-service teachers, myths.*

1. INTRODUCTION

1.1 Conceptual Framework and the Nature of Giftedness

The construct of giftedness and human intelligence remains both central and contentious within special education, developmental psychology, and educational policy (Callahan et al., 2018). Recent scholarship frames giftedness as a dynamic, asynchronous, and multidimensional phenomenon, rather than a fixed, singular IQ score. This perspective emphasizes the interplay of high domain-specific or general intellectual capability, creative productivity, task commitment, and supportive environmental factors (Cross & Coleman, 2014; Renzulli, 1977; Winner, 1996). Although empirical research has established the domain-specific, heterogeneous, and developmental characteristics of high ability (Gardner, 1983; Reis & Renzulli, 2009), both popular and professional perceptions remain influenced by persistent fallacies, folklore, and dogmas (Clark, 1997; Treffinger, 1982). Tannenbaum (1983) described societal attitudes toward intellectual precocity as a 'tradition of ambivalence,' characterized by ongoing tension between public admiration for high achievement and egalitarian suspicion of intellectual difference.

Within educational contexts, a 'myth' refers to an unsubstantiated belief, dogma, or overgeneralization concerning the nature, identification, social-emotional development, or educational needs of high-ability learners (Kaplan, 2009; Treffinger, 1982). Kaplan (2009) notes that myths persist because they offer plausible, simplified explanations for complex educational issues or seem to justify ambiguous instructional practices. Such misconceptions are perpetuated by popular media, personal educational experiences, and lay theories of intelligence (Baccassino & Pinnelli, 2022; Sak, 2011). When left unchallenged, these myths become embedded in educators' social representations, thereby restricting the learning opportunities available to gifted students (Pérez et al., 2020; Tavani et al., 2014).

1.2 Taxonomy of Prevalent Misconceptions in Gifted Education

International literature in gifted education has categorized common myths into several distinct clusters:

1. Entity and Genetic Determinism Myths (The 'Born-Gifted' Fallacy): This misconception posits that individuals are born gifted and that high ability is an immutable, fixed trait that cannot be developed later in life

through effort, instruction, or environmental enrichment (Cross, 2002; Sak, 2011). This entity view stands in opposition to growth mindset frameworks (Dweck, 2016; Sheffield, 2017) and neuroplasticity research, which emphasize the dynamic interaction between biological potential and environmental stimulation (Clark, 1997).

2. Social-Emotional Maladjustment and 'Mad Genius' Myths (The Disharmony Hypothesis): Originating from clinical case studies, this myth asserts a mandatory connection between high intellect and psychological distress, social awkwardness, anxiety, or psychopathology (Cross, 2002; Peterson, 2009). While profoundly gifted individuals or those in unsupportive environments may experience heightened sensitivity or social isolation (Columbus Group, 1991; Silverman, 2002), extensive epidemiological research demonstrates that gifted children as a group display social-emotional adjustment equivalent or superior to their non-gifted peers (Bain & Bell, 2004; Frances et al., 2015; Neihart, 1999).

3. Behavioral and Physical Stereotypes: Common lay perceptions associate giftedness with specific physical or behavioral markers, such as wearing thick glasses, having larger heads, or exhibiting constant hyperactivity, restlessness, and sharp-tongued verbal behaviors (Neumeister et al., 2007; Treffert, 2013). These superficial stereotypes distort teacher observations and lead to misdiagnoses or missed identifications.

4. The 'Self-Sufficiency' Myth (The 'Sink or Swim' Fallacy): This widespread fallacy asserts that truly gifted students possess sufficient autonomy and cognitive power to succeed in any educational setting without specialized support, differentiation, or extra instruction (Baccassino & Pinnelli, 2022; Clark, 1997; NAGC, 2008). In reality, unchallenging learning environments lead to chronic boredom, underachievement, poor study habits, and school dropout (Feldhusen & Wyman, 1980; Marland, 1972; Whitmore, 1980).

5. The Omniscience and Homogeneity Myth (Global Giftedness): This myth assumes that gifted students form a uniform group possessing exceptional talent across all academic subject areas (Bain et al., 2006; Reis & Renzulli, 2009). Modern research decisively falsifies this 'omniscient' view, confirming that cognitive profiles are asynchronous and domain-specific (Benbow & Minor, 1990; Winner, 1996), and that twice-exceptional learners combine high ability with specific learning disabilities (Baum et al., 2021; Trail, 2021).

Taken together, the literature indicates that misconceptions about giftedness extend beyond isolated stereotypes and reflect broader assumptions concerning the origins of giftedness, psychological adjustment, social functioning, achievement, educational needs, and the heterogeneity of gifted learners. Table 1 synthesizes the major myths most relevant to the present investigation and contrasts them with corresponding research-based understandings. This synthesis also provides the conceptual basis for the specific misconceptions examined in the present study.

Table 1. Major Myths About Giftedness and Corresponding Research-Based Understandings

Myth domain	Common misconception	Research-based understanding	Selected sources
Fixed and innate giftedness	Giftedness is determined at birth and represents a fixed characteristic that cannot meaningfully develop through education, effort, or environmental opportunities.	Contemporary conceptions regard giftedness as developmental and multidimensional rather than as an immutable entity. Although individual potential has biological foundations, the expression and development of high ability are influenced by educational opportunities, environmental conditions, motivation, and sustained engagement.	Clark (1997); Cross (2002); Cross and Coleman (2014); Sak (2011)
Psychological maladjustment and mental-health vulnerability	Gifted individuals are inherently more psychologically troubled and are especially prone to depression, anxiety, or other forms of psychopathology.	Giftedness itself does not imply psychological maladjustment. Research comparing gifted and nongifted populations does not support a generalized assumption of greater psychopathology or depression among gifted learners. Social and emotional outcomes vary according to individual characteristics and environmental circumstances.	Frances et al. (2015); Martin et al. (2010); Neihart (1999)

Myth domain	Common misconception	Research-based understanding	Selected sources
Social isolation and poor peer relationships	Gifted students are socially inept, have difficulty forming friendships, prefer isolation, and are poorly adjusted among same-age peers.	Gifted students are not inherently deficient in social competence or friendship formation. Research indicates that many gifted learners demonstrate healthy peer relationships and social functioning, although the availability of intellectual peers and the quality of the educational environment may influence their social experiences.	Bain and Bell (2004); Reis and Renzulli (2004)
Perfectionism as an inevitable pathology	Gifted students are invariably perfectionistic, and their perfectionism necessarily produces emotional distress or maladjustment.	Perfectionism among gifted learners should not be treated as uniformly maladaptive. Perfectionistic tendencies may have both adaptive and maladaptive manifestations; high standards can contribute to persistence and accomplishment rather than necessarily producing psychological dysfunction.	Reis and Renzulli (2004)
Self-sufficiency and lack of need for specialized education	Gifted students are sufficiently capable to succeed in any educational environment and therefore do not require differentiation, enrichment, acceleration, or specialized educational support.	High ability does not eliminate the need for appropriately challenging instruction. A lack of differentiated educational opportunities may contribute to boredom, disengagement, weak study habits, and underachievement. Gifted learners therefore require educational experiences responsive to their readiness and learning needs.	Fiedler et al. (1993); National Association for Gifted Children [NAGC] (2008); Whitmore (1980)
Giftedness as synonymous with consistently high achievement	Gifted students are always high achievers; therefore, poor grades or low classroom performance indicate that a student cannot be gifted.	Giftedness and achievement are related but distinct constructs. Gifted learners may underachieve, and discrepancies between ability and performance may occur in response to motivational, instructional, contextual, or personal factors. Consequently, current academic performance alone is insufficient for determining giftedness.	Reis and McCoach (2000); Whitmore (1980)
Global giftedness and homogeneous ability	A gifted student should demonstrate exceptional ability across virtually all academic domains and should therefore perform at a similarly high level in every area.	Gifted learners constitute a heterogeneous population. High ability may be domain-specific, and cognitive and academic profiles can be markedly uneven. Exceptional ability in one domain does not imply equivalent performance in all other domains.	Benbow and Minor (1990); Reis and Renzulli (2009); Winner (1996)
Giftedness and disability as mutually exclusive	A learner cannot simultaneously be gifted and have a learning disability, ADHD, ASD, or another disability.	Giftedness and disability can coexist. Twice-exceptional learners may display advanced ability together with specific disabilities, and one characteristic may mask the other, complicating identification. Educational provision must therefore address both advanced potential and areas requiring support.	Baum et al. (2021); Trail (2021)

Note. The table synthesizes recurrent misconceptions and corresponding research-based perspectives represented in the literature used in the present study and in the supplementary myth-research materials reviewed for this manuscript. “Research-based understanding” refers to the broader empirical position represented by the cited sources rather than to an assertion that every gifted learner displays the same developmental, psychological, or educational profile.

1.3 Pre-Service Teachers' Beliefs, Identification Biases, and Demographic Variables

Teachers serve as the primary gatekeepers of talent development, responsible for identifying gifted students and implementing classroom adaptations (Biber et al., 2021; Cuban, 2002). The implicit beliefs held by prospective teachers directly influence their instructional decisions, expectations, and nomination accuracy (Pajares, 1992). When pre-service teachers endorse myths, they exhibit systematic identification biases—such as nominating only high-achieving, compliant, or male students while overlooking underachieving, culturally diverse, or twice-exceptional learners (Biber et al., 2021; McBee, 2006; Siegle & Powell, 2004).

Despite the critical role of teachers, undergraduate teacher preparation programs in Turkey and internationally provide minimal coursework in gifted education (Hafenstein et al., 2021). In Turkey, teacher education curricula typically include only a single general special education course covering diverse populations, leaving prospective teachers reliant on popular culture and societal dogmas (Kaya et al., 2023). Research shows that teacher self-efficacy and positive attitudes toward gifted programming are strongly linked to formal training (Vatansever Bayraktar et al., 2019). In the absence of specialized preparation, pre-service teachers across different discipline areas remain susceptible to widespread myths.

Demographic variables such as gender and academic discipline (educational field) have been examined as potential moderators of educator beliefs. While gender biases favoring male students frequently emerge in teacher nomination studies (Biber et al., 2021; Gagné, 1993), empirical evidence regarding whether male and female prospective teachers differ in their endorsement of giftedness myths remains mixed. Similarly, while candidates in distinct fields (e.g., Computer Education, Classroom Teaching, English Language Teaching, Music Teaching, Science Teaching) encounter varying subject-matter pedagogies, the baseline lack of formal gifted education training across departments may yield similar susceptibility to societal misconceptions.

1.4 Purpose and Research Questions of the Present Study

To address these gaps in the literature, the present survey research investigated the prevalence of myths about giftedness among third-year pre-service teachers in Turkey and examined whether these beliefs differ significantly across gender and educational fields. Specifically, this study addressed three main research questions:

1. What is the overall percentage distribution of myths versus scientific constructions among pre-service teachers across individual survey items?
2. Do pre-service teachers' endorsements of giftedness myths differ significantly as a function of their gender?
3. Do pre-service teachers' endorsements of giftedness myths differ significantly across their educational fields of study?

2. METHODOLOGY

2.1 Research Design

This investigation utilized a descriptive survey research design. Survey research collects data from a sample of individuals through their responses to structured questions, enabling the quantitative and qualitative evaluation of beliefs, attitudes, and trends within a target population (Check & Schutt, 2012; Ponto, 2015).

2.2 Participants and Sampling Framework

The study group comprised 235 third-year pre-service teachers enrolled in the faculty of education at a state university in western Turkey. Participants were selected across five distinct educational fields using stratified random sampling: Computer Education and Instructional Technologies (CEIT; $n = 27$, 11.5%), Classroom Teaching (CT; $n = 69$, 29.4%), English Language Teaching (ELT; $n = 45$, 19.1%), Music Teaching (MT; $n = 44$, 18.7%), and Science Teaching (ST; $n = 50$, 21.3%). The sample included 86 male students (36.6%) and 149 female students (63.4%), with ages ranging from 21 to 24 years ($M_{age} = 22.1$). Table 2 details the demographic distribution across fields and gender.

Table 2. Distribution of Participants by Educational Field and Gender

Educational Field	Male n (%)	Female n (%)	Total n (%)
CEIT	19 (8.1%)	8 (3.4%)	27 (11.5%)
CT	13 (5.5%)	56 (23.8%)	69 (29.4%)
ELT	16 (6.8%)	29 (12.3%)	45 (19.1%)
MT	25 (10.6%)	19 (8.1%)	44 (18.7%)

Educational Field	Male n (%)	Female n (%)	Total n (%)
ST	13 (5.5%)	37 (15.7%)	50 (21.3%)
Total	86 (36.6%)	149 (63.4%)	235 (100.0%)

The study group was formed via stratified sampling which is one of the probability sampling techniques. Stratified sampling is used when the population is divided into sub-groups and a random sample is taken from each sub-group (Taherdoost, 2016). In this research, the population consisted of pre-service teachers who study at different fields. Hence, the study group involved sub-groups. So, individuals who were selected randomly from those sub-groups comprised the study group.

2.3 Data Collection Instrument and Procedure

Data were gathered using an 8-item survey test reflecting common societal myths about gifted learners established in the literature. For each item, participants indicated whether they agreed or disagreed with the statement and provided qualitative open-ended explanations for their choices. This open-ended justification allowed the researchers to verify whether an agreement/disagreement reflected a myth or a scientific construction. Table 3 presents the survey items and their theoretical sources.

Table 3. Survey Items and Underlying Literature Sources

Item No	Statement	Research Source
1	People are born gifted; they cannot become gifted later in their life.	Cross (2002); Sak (2011)
2	Most gifted people have psychological problems.	Sak (2011)
3	Gifted children are smarty by giving ripostes.	Neumeister et al. (2007)
4	Gifted children can improve themselves in every setting without taking extra education.	Fiedler et al. (1993); NAGC (2008)
5	The appearances of gifted children are different from those of other children.	Carman (2011)
6	Gifted children are bustling individuals who cannot stay in the same place.	Neumeister et al. (2007)
7	Gifted children are not well adjusted in the society.	Neumeister et al. (2007)
8	Gifted children have a general intellectual capacity which makes them special talented in all subject areas.	Sak (2011)

Before conducting the research, several validation studies were carried out on data collection instrument. Validity indicates the degree to which test scores precisely measure the proposed idea (Kaur et al., 2020). For this reason, content and literature validation and expert validation were used in the study. In terms of the content and literature validation, the items in the test were based on the literature as can be seen in Table 3. In terms of expert validation, the test was reviewed by four experts studying in the field of gifted students' education. Since the study group involved Turkish pre-service teachers, the test was applied to the participants in their original language, Turkish. Hence, the test was also presented to the language experts to review its intelligibility. The items were refined according to the opinions of the experts several times. As a result, final version of the test was obtained.

The tests were applied to the participants in each educational field by one of the researchers in 50 minutes periods. The participants were also asked to provide demographic data about them. The application of the tests on the participants resulted in a Cronbach's Alpha coefficient of .72 which indicated the reliability of data analysis.

2.4 Data Analysis

Collected instruments were firstly coded with letters and numbers to indicate each participant in different fields. For example, MT-5 indicated number 5 student in Music Teaching field. Then, the participants' responses were scored with '1' to show their agreements with the myths based on their explanations. Besides, their disagreements were scored with '2' to show that they held scientific constructions by referring to their explanations. Afterwards, data were transformed to computer to run statistical analyses. Descriptive statistics were utilized to indicate the frequency and percentage distributions of their myths and scientific constructions. Findings were visualized in the form of a bar graph.

The normality of the distribution of the scores obtained for each item in the test was analyzed with Kolmogorov-Smirnov Test (K-S Test). The results of K-S Test indicated that data sets did not show a normal distribution, $p < .05$. Hence, non-parametric statistics tests were utilized to analyze data. At this respect, Chi-square tests were conducted to investigate whether different group pre-service teachers' myths differentiated in a statistically significant manner with respect to the gender or educational field as they were measured on a nominal level. The test results give Pearson's Chi square scores to remark whether there is an association between two categorical variables. When the results of Pearson's Chi square test are violated (0 cells [0%] should have an expected value less than 5), Fischer's exact test is used (Chan, 2003) or data is interpreted by making comments on the percentages (Büyükoztürk et al., 2010). Such cases were indicated with different letters on the tables which demonstrated study findings.

3. RESULTS

3.1 Overall Prevalence of Myths and Scientific Constructions

Figure 1 provides the percentage distribution of pre-service teachers' myths and scientific constructions for each item in test. According to Figure 1, more than half of the participants possessed myths related to the first item. In addition, about one third of the participants had myths related to the second, sixth and seventh items. On the other hand, majority of the participants possessed scientific constructions related to the fourth and fifth items.

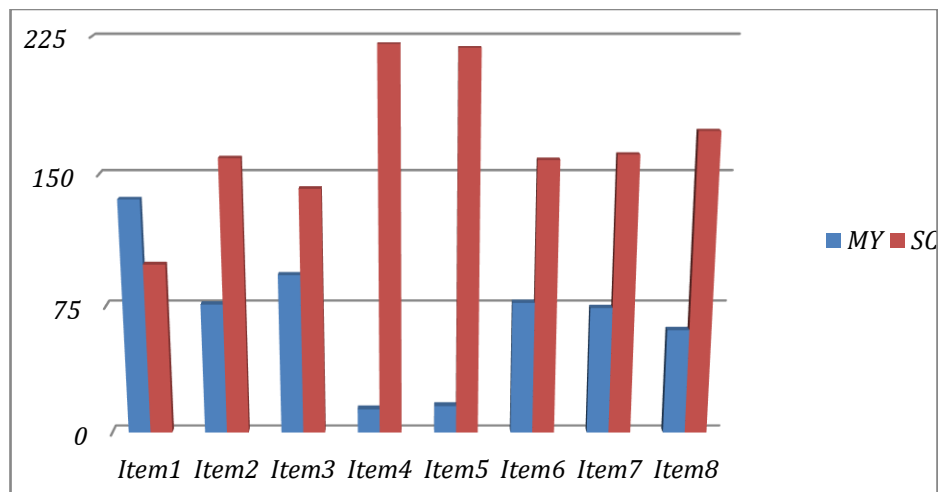


Figure 1. Percentage distribution of students' myths and scientific constructions

Descriptive analysis revealed varying rates of myth endorsement across the eight items. More than half of the participants (57.9%) possessed the myth in Item 1 (Entity belief). Approximately one-third endorsed myths in Item 2 (Psychological problems; 32.3%), Item 3 (Ripostes/Smarty responses; 39.6%), Item 6 (Hyperactivity/Bustling behavior; 32.8%), Item 7 (Social maladjustment; 31.5%), and Item 8 (Omniscience/Global giftedness; 26.0%). Conversely, a vast majority held scientific constructions for Item 4 (Self-sufficiency fallacy; 94.0% scientific construction, 6.0% myth) and Item 5 (Physical appearance stereotype; 93.2% scientific construction, 6.8% myth).

Figure 1 provided a general look for the appearance of pre-service teachers' myths on gifted students. Examples from students' responses asserting myths are presented in Table 4 below. Table 4 presents illustrative participant statements representing myths for each item.

Table 4. Exemplary Participant Qualitative Explanations Indicating Myths

Item	Code	Qualitative Explanation
1	CT-3	<i>"I believe that giftedness forms in pre-natal period and is influenced by genetic factors. Hence, I do not think people who were not gifted can be as successful as those individuals by working hard."</i>
2	CEIT-8	<i>"Gifted children might have problems such as anxiety and fear towards life since they try to be a perfectionist at all."</i>
3	ST-39	<i>"They are in a constant learning process since they have a deep curiosity... This makes them defend themselves against problems and give instant responses during dialogues."</i>
4	ELT-29	<i>"Because they know themselves very well. They know how to learn. They can improve themselves intellectually at home with the help of a computer."</i>
5	CEIT-27	<i>"According to my observations, they get tired of mental activities... That's why they are different than other children, such as wearing thick glasses, larger heads, and so on."</i>
6	MT-36	<i>"Those children have more energy than other people. So, they reflect their energy on their behavior."</i>
7	ELT-20	<i>"Because they tend to be independent and against authority. That's why they experience problems in adapting to society."</i>
8	ST-40	<i>"Gifted students are very good at constructing cause-effect relationships. Hence, they have an intellectual capacity in all fields."</i>

3.2 Evaluation of Myths Across Gender

Chi-square analyses demonstrated that endorsement of myths did not differ significantly between male and female pre-service teachers for seven of the eight items. However, a statistically significant difference emerged for Item 7 (Social maladjustment; $\chi^2 = 18.921$, $p = .0001$), with male pre-service teachers (48.8%) endorsing the social maladjustment myth at a significantly higher rate than female pre-service teachers (21.5%). Table 5 summarizes the gender comparisons.

Table 5. Pre-Service Teachers' Myths by Gender (* Statistically significant at $p < .05$)

Item No	Male n (%)	Female n (%)	χ^2	p-value
1	50 (58.1%)	86 (57.7%)	0.004	.950
2	31 (36.0%)	45 (30.2%)	0.851	.356
3	38 (44.2%)	55 (36.9%)	1.206	.272
4	7 (8.1%)	7 (4.7%)	1.153	.283
5	9 (10.5%)	9 (4.7%)	2.858	.091
6	26 (30.2%)	51 (34.2%)	0.395	.530
7	42 (48.8%)	32 (21.5%)	18.921	.0001*
8	28 (32.6%)	33 (22.1%)	3.075	.080

3.3 Evaluation of Myths Across Educational Fields

As shown in Table 6, pre-service teachers' endorsement of myths did not differ significantly across educational fields for any of the survey items. In another words, the participants in different educational fields tended to have similar percentages of myths at this respect. Besides, it is not appropriate to consider Pearson Chi Square test score and the significance value for the fourth and fifth items due to the low frequency values in the cells (5 cells [50.0%] have expected count less than 5). Hence, the frequency and percentage values were interpreted among the fields for those items. For the fourth item, ELT participants were found to possess more myths than the other participants. For the fifth item, CEIT participants were determined to carry more myths than the other participants. Across all five departments (CEIT, CT, ELT, MT, ST), participants displayed comparable percentages of

misconceptions. For Items 4 and 5, Fisher's exact test percentages were interpreted due to low cell counts; ELT participants showed slightly higher myth endorsement for Item 4 (15.6%), while CEIT participants showed slightly higher endorsement for Item 5 (18.5%).

Table 6. Pre-Service Teachers' Myths Across Educational Fields ($b = 50\%$ cells expected count < 5 ; interpreted descriptively)

Item	CEIT	CT	ELT	MT	ST	χ^2	p-value
1	15 (55.6%)	46 (66.7%)	26 (57.8%)	25 (56.8%)	24 (48.0%)	4.267	.371
2	13 (48.1%)	26 (37.7%)	12 (26.7%)	13 (29.5%)	12 (24.0%)	6.391	.172
3	15 (55.6%)	27 (39.1%)	17 (37.8%)	15 (34.1%)	19 (38.0%)	3.555	.470
4	2 (7.4%)	2 (2.9%)	7 (15.6%)	2 (4.5%)	1 (2.0%)	10.207	.037b
5	5 (18.5%)	4 (5.8%)	3 (6.7%)	3 (6.8%)	1 (2.0%)	7.770	.100b
6	10 (37.0%)	25 (36.2%)	13 (28.9%)	16 (36.4%)	13 (26.0%)	2.204	.698
7	12 (44.4%)	18 (26.1%)	15 (33.3%)	16 (36.4%)	13 (26.0%)	4.288	.368
8	12 (44.4%)	18 (26.1%)	10 (22.2%)	12 (27.3%)	9 (18.0%)	6.815	.146

4. DISCUSSION AND CONCLUSION

4.1 Co-existence of Scientific Constructions and Persistent Myths

The empirical findings of this study demonstrate that pre-service teachers hold a contradictory mixture of scientifically sound constructions and persistent misconceptions regarding giftedness. The high endorsement rate for Item 1 (57.9% myth endorsement) indicates that more than half of prospective teachers adhere to an entity view of giftedness, believing that high ability is fixed at birth and cannot be developed later. This finding aligns with Sak's (2011) survey of Turkish laypeople and Yazgan-Sağ's (2022) study on prospective mathematics teachers, which noted that candidates frequently view mathematical talent as an innate, fixed trait. When prospective educators believe intelligence is immutable, they are less likely to adopt growth mindset practices or recognize talent potential in non-traditional learners (Boaler, 2016; Dweck, 2016; Sheffield, 2017).

In contrast, the vast majority of participants possessed scientific constructions for Item 4 (94.0% scientific construction) and Item 5 (93.2% scientific construction). Unlike findings in some international samples where the 'self-sufficiency' myth is widely held (Baccassino & Pinnelli, 2022; Portešová et al., 2014), pre-service teachers in this sample overwhelmingly recognized that gifted students require specialized educational support and cannot improve on their own in every setting. Furthermore, participants rejected the physical appearance stereotype, recognizing that gifted children do not possess distinct physical anomalies.

However, moderate myth endorsement persisted for Item 2 (32.3%), Item 3 (39.6%), Item 6 (32.8%), Item 7 (31.5%), and Item 8 (26.0%). Approximately one-third of prospective teachers believed that gifted children inherently suffer from psychological problems and social maladjustment. This reflects the enduring influence of the 'disharmony hypothesis' and 'mad genius' stereotype identified in prior studies (Bain et al., 2006; Cross, 2002; Peterson, 2009; Porter, 2005). Furthermore, 26.0% endorsed the 'omniscience' myth (Item 8), assuming that giftedness implies superior talent across all subject areas, which contradicts empirical evidence on domain-specific talent profiles (Gardner, 1983; Reis & Renzulli, 2009; Winner, 1996).

4.2 Invariance Across Gender and Educational Fields: Systemic Implications

A key finding of this study is that endorsement of myths remained consistent across educational fields ($p > .05$ for all items) and was also consistent across gender for seven of the eight items. Pre-service teachers in Computer Education, Classroom Teaching, English Teaching, Music Teaching, and Science Teaching exhibited statistically similar rates of misconceptions. This discipline-invariance indicates a systemic issue in teacher preparation; without explicit, specialized coursework in gifted education, candidates from all departments tend to internalize prevailing societal representations (Hafenstein et al., 2021; Troxclair, 2013).

Regarding gender, male pre-service teachers endorsed the social maladjustment myth (Item 7) at a significantly higher rate than females (48.8% vs. 21.5%, $p = .0001$). This gender difference suggests that male prospective teachers may be particularly prone to viewing gifted students as socially oppositional or anti-authoritarian.

Nevertheless, for all other items, gender did not exert a significant effect, supporting prior research showing that teacher candidate beliefs are primarily shaped by information deficits rather than demographic identity (Biber et al., 2021; Kaya et al., 2023; Vatansever Bayraktar et al., 2019).

4.3 Pedagogical, Curricular, and Policy Recommendations

Based on the empirical results of this study and the broader literature in gifted education, several actionable recommendations are proposed:

1. Case-Based Instruction and Real-Life Exemplars in Faculty Courses: To directly counter persistent myths, teacher education curricula should incorporate real-life case studies, narrative vignettes, and diagnostic profiles of gifted learners—including underachievers, twice-exceptional students, and diverse talent profiles (Bain et al., 2007; Pérez et al., 2020). Exposing pre-service teachers to authentic cases helps replace intuitive stereotypes with nuanced scientific constructions.

2. Integration of Evidence-Based Differentiation Models: Education faculties must equip teacher candidates with practical formational training in validated curricular models:

- Schoolwide Enrichment Model (SEM): Focuses on Type I, II, and III enrichments and curriculum compacting (Renzulli & Reis, 1985).
- Integrated Curriculum Model (ICM): Emphasizes advanced content, higher-order process skills, and overarching concepts (VanTassel-Baska, 2009, 2011).
- CLEAR Curriculum Model: Combines continual formative assessment, clear learning goals, data-driven learning experiences, authentic products, and rich curriculum (Azano et al., 2014).
- Parallel Curriculum Model (PCM): Uses Core, Connections, Practice, and Identity parallels to escalate intellectual challenge (Leppien, 2011; Tomlinson et al., 2002).
- Depth and Complexity Model: Employs specific prompts to foster abstract reasoning and critical thinking (Kaplan, 2013).
- Multiple Menu Model: Guides content selection and instructional strategies through structured menus (Renzulli, 2000).

3. Addressing Social-Emotional Stereotypes: Teacher educators should explicitly address the disharmony myth, providing empirical evidence that high-ability students generally exhibit healthy social-emotional adjustment when provided with supportive learning environments (Cross, 2002; Neihart, 1999). Male pre-service teachers, in particular, may benefit from targeted discussions on social adjustment and classroom management.

4. Future Empirical Research: Future investigations should examine the efficacy of specific instructional interventions (e.g., pre-post experimental designs following a dedicated gifted education course) in changing pre-service teacher beliefs. Additionally, longitudinal studies tracking candidates into their early teaching years could assess how implicit beliefs translate into classroom nomination behaviors and instructional adaptations.

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