



Research Article

Assessing misconceptions about giftedness: development and validation of the RATIMAG¹

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Abstract

Many educators still assume that gifted students will thrive without special support or that they share the same traits and needs. Research shows otherwise, yet such misconceptions continue to shape how gifted learners are identified and taught. Indeed, misconceptions are sustained not only by enduring cultural narratives but also by insufficient coverage of giftedness in educator preparation and a scarcity of concise, research-based tools. The Rapid Assessment Test of Individual Misconceptions About Giftedness (RATIMAG) directly responds to this challenge by providing a rapid, reliable, and valid instrument to capture the scope and nature of such misunderstandings. Drawing on Wilson's (1982) early myth-reality test and the 19 myths outlined by Treffinger et al. (2009), we created an initial pool of 103 items, refined them through multiple rounds of expert review, and retained 20 statements across three subscales: Characteristics and Needs of the Gifted (12 items), Assessment and Achievements (3 items), and Personality and Social-Emotional Aspects (5 items). Data from 494 participants—pre-service teachers, in-service teachers, and university lecturers—supported a clear three-factor structure and high internal consistency (overall $\alpha = .931$). Misconceptions were most persistent in the social-emotional domain, highlighting a specific gap in teacher preparation and public understanding. Available in both English and Turkish, the RATIMAG lends itself to use in teacher training, continuing professional development, evaluation of gifted programs, and comparative international studies. By pinpointing misconception patterns, it supports interventions that strengthen evidence-based practice and promote a more comprehensive view of giftedness.

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Introduction

Misconceptions about giftedness have long been recognized as barriers to effective educational practice. As early as 1982, Susan Wilson developed a 20-item test to assess myths and realities of giftedness, primarily used in university courses to stimulate reflection. However, her instrument never achieved standardization, and the problem of pervasive myths has persisted. Research continues to show that educators (Troxclair, 2013), parents (Huey et al., 2013), stakeholders (Hodges et al., 2022), and even researchers (Nakano et al., 2021) often hold misconceptions about giftedness, with potential negative implications for the identification and support of gifted individuals.

In response to this enduring problem, the present study aimed to develop and validate a rapid assessment tool to measure individual misconceptions about giftedness efficiently and reliably. The resulting instrument, the Rapid

¹ This brief note summarizes the RATIMAG development and validation study accepted for publication in *Psychological Test and Assessment Modeling*. It provides additional context for its implementation in teacher education and research.

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Assessment Test of Individual Misconceptions About Giftedness (RATIMAG), builds on the legacy of Wilson's early work while addressing its limitations through contemporary psychometric development standards and content grounded in current scholarly consensus.

Development and Structure of the RATIMAG

We developed the RATIMAG based on the 19 myths about giftedness described by Treffinger and colleagues (2009) in their special issue of *Gifted Child Quarterly*. These myths are well-known in the field and serve as the basis for creating our items. The initial pool of 103 items was systematically refined through multiple expert review stages involving both the original authors of the myths and other experienced giftedness researchers. This rigorous vetting process ensured high construct validity, relevance, and clarity of items.

The final RATIMAG comprises 20 items, organized into three empirically derived subscales. The first subscale, Characteristics and Needs of the Gifted, comprises twelve items that assess beliefs about the heterogeneity, developmental nature, and educational needs of gifted individuals. The second subscale, Assessment and Achievements, comprises three items that examine beliefs about identification and academic performance. The third subscale, "Personality and Social-Emotional Aspects of Gifted Development," includes five items that address beliefs about the psychosocial characteristics of gifted students. All items are rated on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," with higher scores reflecting greater knowledge accuracy and fewer misconceptions.

Validation Study

The RATIMAG was administered to a diverse sample of 494 participants, comprising pre-service teachers ($N = 162$), in-service teachers ($N = 306$), and university lecturers ($N = 26$). Exploratory Factor Analysis confirmed a clear three-factor structure that explained over 63% of the variance. Confirmatory Factor Analysis supported the factorial validity of this structure, yielding excellent model fit indices, including $CMIN/df = 1.995$, $AGFI$ above .85, and $RMSEA$ below .08.

Internal consistency analyses demonstrated high reliability for the overall scale (Cronbach's $\alpha = .931$), with subscale reliabilities ranging from $\alpha = .747$ for the "Personality and Social-Emotional Aspects" subscale to $\alpha = .949$ for the "Characteristics and Needs" subscale. These findings suggest that the RATIMAG offers a reliable assessment of misconceptions across its three conceptual domains.

The scoring analyses showed that many participants held misconceptions, including educators and lecturers. Correct answers were scarce on items about personality and social-emotional characteristics of giftedness. This suggests that these aspects might not be sufficiently covered in their current training.

Practical Implications

The RATIMAG offers significant utility for teacher education programs as a diagnostic tool to facilitate reflection on beliefs and knowledge about giftedness. In professional development contexts, it can help identify specific misconceptions and inform the design of targeted training interventions to improve educators' understanding and support of gifted students. Researchers can use the RATIMAG to examine educators' attitudes and knowledge across different demographic groups and identify how misconceptions may influence their teaching. Since the RATIMAG is available in both Turkish and English, it can also be adapted for studies in other countries to explore myths about giftedness in a cross-cultural context.

Conclusion

The RATIMAG addresses a critical need in gifted education by providing a rapid, reliable, and valid assessment tool to measure misconceptions that can hinder effective educational practice. Grounded in both historical and contemporary scholarship and supported by rigorous psychometric validation, the RATIMAG holds promise as a valuable instrument for researchers, teacher educators, and practitioners seeking to demythologize giftedness and improve educational opportunities for gifted students.

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Appendix 1.

Participants rated each item on a 5-point scale (1 = *strongly disagree* / *Kesinlikle Katılmıyorum*; 5 = *strongly agree* / *Kesinlikle Katılıyorum*). The items are presented below, first in English and then in Turkish. Item numbers correspond across both versions.

Part A. English Version

1. Gifted individuals are a heterogeneous group. (CN)
2. Giftedness is a developmental construct. (CN)
3. Achievement can and does vary across high-potential children and over time. (CN)
4. Interests, learning styles, and creative opportunities are intimately associated with high performance. (CN)
5. Effort and motivation are a matter for gifted students' education. (CN)
6. Giftedness cannot be revealed with just an IQ test. (CN)
7. When evaluating giftedness, we should also consider success. (CN)
8. IQ scores are not sufficient to express the highest potential. (PS)
9. Gifted student assessment data should come from multiple sources and should include multiple assessment methods. (CN)
10. Differentiation is required to meet the educational needs of gifted students. (CN)
11. Differentiation applications can be considered very time-consuming. (PS)
12. Every teacher has the qualifications to study with gifted students. (PS)
13. The gifted program is not an extension of the content considered important for gifted students. It is an "extra". (PS)
14. Using a single curriculum for gifted students facilitates assessment. (PS)
15. In programs for the gifted, diversity is as important as continuity. (CN)
16. The needs of gifted learners do take time, effort, and funding. (CN)
17. High ability can create pressures and sources of stress that can overwhelm high-ability students and prevent them from realizing their potential. (AA)
18. Gifted students may have problems finding educational and social environments that promote academic development. (AA)
19. Gifted youth with extreme talent may not be socially and emotionally prepared to handle the power and attention such ability levels often generate. (AA)
20. Education should be organized according to individual needs in a way that will bring each student to their maximum level. (CN)

Note. CN = Characteristics and Needs; AA = Assessment and Achievements; PS = Personality and Social-emotional aspects.

Part B. Turkish Version

1. Üstün zekalı ve yetenekli bireyler heterojen bir gruptur. (Öİ)
2. Üstün yeteneklilik gelişimsel bir yapıdır. (Öİ)
3. Başarı, yüksek potansiyele sahip çocuklar arasında ve zaman içinde değişim gösterebilir. (Öİ)
4. İlgi alanları, öğrenme stilleri ve yaratıcı fırsatlar yüksek performansla yakından ilişkilidir. (Öİ)
5. Çaba ve motivasyon, üstün yetenekli öğrencilerin eğitimi için önemlidir. (Öİ)
6. Üstün yeteneklilik, sadece IQ testi ile ortaya çıkarılamaz. (Öİ)
7. Üstün yetenekliliği değerlendirirken, başarıyı da dikkate almamız gerekir. (Öİ)
8. IQ testi sonuçları en yüksek potansiyeli ifade etmek için yeterli değildir. (KS)
9. Üstün yetenekli öğrencileri değerlendirirken veriler çeşitli kaynaklardan elde edilmeli ve farklı değerlendirme yöntemleri kullanılmalıdır. (Öİ)
10. Üstün yetenekli öğrencilerin eğitim ihtiyaçlarını karşılamak için farklılaştırılmış eğitim gereklidir. (Öİ)
11. Farklılaştırma uygulamaları çok zaman alıcı olarak değerlendirilebilir. (KS)
12. Her öğretmen üstün yetenekli öğrencilerle çalışabilecek niteliklere sahiptir. (KS)
13. Üstün yetenekliler programı, üstün yetenekli öğrenciler için önemli olduğu düşünülen içeriğin bir uzantısı olmaktan ziyade bir ekstra uygulamadır. (KS)
14. Üstün yetenekli öğrenciler için tek bir müfredat kullanılması değerlendirmeyi kolaylaştırır. (KS)
15. Üstün yeteneklilere yönelik geliştirilen programlarda çeşitlilik olması, bu programların sürekliliği kadar önemlidir. (Öİ)

16. Üstün yetenekli öğrencilerin ihtiyaçlarını karşılamak için zaman, çaba ve finansal destek gerekir. (Öİ)
17. Üstün yetenekli olarak tanınmak, tanılanan öğrenciler için potansiyellerine ulaşmalarını engelleyebilecek baskılar ve stres kaynakları yaratabilir. (DB)
18. Üstün yetenekli öğrenciler, akademik gelişimlerini teşvik eden eğitim ortamları ve sosyal ortamlar bulmakta sorun yaşayabilirler. (DB)
19. Üstün yetenekli öğrenciler, yeteneklerinin sebep olduğu güçlüklerle ve ilgiyle başa çıkmak için sosyal ve duygusal olarak hazır olmayabilirler. (DB)
20. Eğitim süreçleri, her öğrenciyi en yüksek potansiyellerine ulaştıracak şekilde, bireysel ihtiyaçlarına yönelik olarak düzenlenmelidir. (Öİ)

Note. Öİ = Özellikler ve İhtiyaçlar; DB = Değerlendirme ve Başarılar; KS = Kişilik ve Sosyal-duygusal yönler.

