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How Saudi Students Perceive Academic Acceleration: A Group Concept Mapping Study in Inclusive Classrooms

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Abstract. Gifted students need tailored interventions to develop their potential and abilities, interventions that address their needs, which are not typically met in traditional classroom settings. Classroom acceleration has proven effective for these students; however, its implementation in Saudi Arabia remains fraught with caution due to implicit or explicit beliefs among teachers and students regarding the effects of acceleration. This study aimed to examine and identify students' beliefs about accelerating gifted students and placing them in higher grades with older peers. The study employed a group concept mapping methodology to investigate students' beliefs in inclusive classrooms regarding full-grade acceleration. Fifty-five middle school students generated ideas related to acceleration and then sorted, evaluated, and categorized the factors to consider when making acceleration decisions into a pooled list. Hierarchical cluster analysis was used to identify key concepts within the structured data. The analysis revealed five key conceptual clusters representing students' beliefs about acceleration: (a) the suitability of acceleration for fast learners (highest rated in terms of importance, mean = 3.40); (b) concerns about progress; (c) benefits to others (including peers

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and teachers); (d) potential barriers to acceptance (including bullying and social rejection); and (e) unpleasant feelings. Students ranked fairness and access to better learning opportunities as the most important factors in their acceleration decisions. The findings also revealed that students are aware of ability disparities between accelerated students and their older peers in receiving classes, which may contribute to social and emotional challenges for both groups.

Keywords: Academic Acceleration; Gifted Education; Group Concept Mapping; Student Beliefs; Talent Development

1. Introduction and Literature

Ideal education is based on several premises, the most important of which is ensuring the development of each student's abilities according to their potential. Students develop their exceptional abilities through individualized programs and differentiated instruction that appropriately challenge their cognitive abilities and match the pace of their learning (Aboud, 2026). These interventions, commonly known as acceleration, may entail the inclusion of gifted students in classes with older peers. This type of intervention is considered one of the most visible forms of acceleration, of which there are over 22 (Assouline et al., 2023). The "visibility" of the intervention refers to the degree to which "acceleration interventions" are noticeable to all stakeholders, particularly peers. Southern & Jones (2015) noted that the more visible acceleration interventions are, the more beliefs and concerns arise regarding the acceptance of acceleration and its psychological and social effects.

Inclusive education policy in Saudi Arabia initially focused on integrating students with learning difficulties. However, research has largely examined the inclusion of gifted and fast-learning students as a way of accommodating their advanced learning pace. Although substantial evidence supports academic acceleration as an effective intervention for gifted students (Dare & Nowicki, 2018), it remains an underexplored topic in gifted education research. Existing studies report positive effects on students' emotional well-being (Ghanayem, 2023) and cognitive and academic development (Al-Zunaidi, 2021). However, few studies have examined academic acceleration from the perspectives of students in inclusive classrooms.

Therefore, little is known about students' views on having a younger, gifted classmate (Almhawes, 2024; Schuur et al., 2020; Yuen, 2026). Most research on academic acceleration has focused on teachers' perspectives (Al-Ghamdi & Al-Anzi, 2018), leaving students' own views largely unexplored. This gap is significant because students' beliefs shape how they accept or reject accelerated peers, influencing the social and emotional success of academic acceleration interventions. However, little is known about how students in inclusive classrooms perceive the presence of a younger, gifted classmate.

To address this gap, the current study aimed to investigate middle school students' beliefs about academic acceleration. The research question is: *How do*

students make sense of academic acceleration in terms of perceived gains, difficulties, and emotional reactions within inclusive environments?

The study sought to:
(a) Identify the factors students consider important when deciding whether to accelerate a gifted peer.
(b) Examine students' level of acceptance toward younger, accelerated classmates.
(c) Explore the beliefs that explain students' acceptance or rejection of academic acceleration.

Using group concept mapping with 55 participants, the study captured and organized students' views, and hierarchical cluster analysis (HCA) revealed five key conceptual themes. The findings aim to inform more effective policies and regulations for academic acceleration in Saudi Arabia.

1.1 Acceleration

Gifted students possess exceptional abilities and demonstrate a high level of capacity in one or more domains, such as mathematics, the arts, sports, and other areas. They exhibit higher performance compared to their peers of the same age, experience, or environment (Assouline et al., 2023; Southern & Jones, 2015). This situation necessitates the provision of an individualized and differentiated educational curriculum that suits their advanced competencies, abilities, and creativity (Missett et al., 2014). Educational institutions often fail to provide adequate support for gifted students because of limited resources, insufficient teacher training, weak curricula, and unstimulating school or home environments (Aboud, 2023; Aboud, 2026).

Given their ability to learn quickly, understand complex relationships, and process information faster than their peers, gifted students require tailored teaching approaches and curricula that meet their educational needs. Academic acceleration is a way of teaching that combines different types of programs with specific intervention methods (Van Tassel-Baska, 2005). Acceleration, in essence, is about giving students the opportunity to excel. A strategy values individual differences and recognizes that some of these differences warrant a degree of flexibility in education, such as allowing advanced students to progress at their own pace or providing tailored resources to meet diverse learning needs. It is about strengthening opportunities for the accumulation of learning (Ghanayem, 2023).

The intervention tracks a student's progress through an educational program at an accelerated pace or earlier than typical developmental timelines. This definition provides a clear explanation for at least twenty different forms of acceleration (Assouline et al., 2023). The impact of acceleration becomes evident when educators understand how personal characteristics influence a student's learning progress in both cognitive abilities and socio-emotional development. A student is considered to have skipped a grade if they are placed in a grade level higher than that of their same-age peers.

Academic acceleration refers to any academic advancement of two or more years beyond the student's current grade level, based on their age (Assouline et al., 2023; Southern & Jones, 2015). The growing use of technology in education over the past decade has created more flexible learning systems that accelerate content delivery and instruction, making it easier to tailor learning to individual students' needs and abilities. The numerous characteristics of technological advancement make it an excellent alternative for accelerating the learning of students with diverse educational needs, especially gifted learners (Aboud, 2025).

The various forms of acceleration can generally fall under two main categories. First, content-based acceleration, which allows gifted students to receive material at an accelerated pace within an age-appropriate classroom (Rogers, 2015). Second, there is academic acceleration, which involves placing students in classes with older peers (Southern & Jones, 2015). Acceleration-based interventions aim to support the learning of gifted students by aligning their individual abilities with the educational tasks presented to them. Colangelo et al. (2004) added that gifted students have the additional advantage of being able to absorb new material faster than their typically developing peers.

Accelerating student learning emerges as a solution to these issues by providing content and cognitive challenges suited to students' advanced cognitive levels. Al-Zunaidi (2021) conducted a case study examining the effectiveness of an academic acceleration program based on the STEC model (self-regulation, thinking, enrichment, and creativity), finding that acceleration enhanced the academic achievement and cognitive development of gifted students. Ghanayem (2023) found that academic acceleration helps keep gifted students engaged by providing learning materials that match their advanced intellectual abilities.

Collectively, these studies demonstrate that acceleration effectively bridges the gap between the cognitive readiness of gifted students and the educational content found in age-appropriate classrooms. Acceleration not only enhances academic performance but also improves motivation and self-confidence. In a seminal meta-analysis of acceleration research, Steenbergen-Hu & Moon (2011) found consistent evidence that acceleration positively impacts academic achievement, improved academic self-concept, and motivation among accelerated learners. Gulcin (2021) argued that, when implemented appropriately, academic acceleration increases students' intrinsic motivation by providing challenging learning that prevents boredom and builds self-confidence.

Furthermore, accelerating gifted students often fosters a sense of being valued and recognized. Schuur et al. (2020) conducted a systematic review of the socio-emotional characteristics and adjustment outcomes of accelerated university students, gathering evidence from various international studies to demonstrate that acceleration contributes to positive self-perceptions.

1.2 The Importance of Inclusion

Inclusion seeks to foster acceptance of all students, regardless of differences, particularly those who may be at risk of marginalization or exclusion owing to remarkable ability or poor academic performance. Concerns over segregated

special education classrooms prompted the development of inclusive education techniques. The inclusion process considers each student's individual qualities, interests, abilities, and educational needs (Neves et al., 2023). It also aims to address students' educational needs within a framework that guarantees they are not isolated from their peers; inclusive leadership necessitates adaptable thinking to meet these demands (Capper & Frattura, 2009). However, relatively little has been discussed regarding whether age-based grouping promotes the acceptance of gifted students. Gifted students are acutely aware of their differences from typically developing peers (Yuen, 2026) and frequently experience internal conflict between their academic ambitions and their need for social belonging (Hoogeveen, 2008; Schuur et al., 2020; Bin Yousef, 2021). These documented tensions emphasize the necessity of examining whether the simple act of grouping students by age–rather than by ability–contributes to or alleviates the social challenges gifted students face.

"This evidence underscores their need to develop their potential in a learning environment that is both academically and socially engaging. Some studies have demonstrated the effectiveness of acceleration in developing cognitive and academic skills for gifted students (Almhawes, 2024), while others have shown its effectiveness in developing positive social and emotional skills for gifted students (Ghanayem, 2023). Although many researchers have recommended educational acceleration as an optimal practice for meeting the needs of gifted students (Schuur et al., 2020; Gulcin, 2021), the presence of accelerated students among older peers raises some concerns among educators who embrace an age-based inclusion perspective.

Therefore, adding age diversity to the range of learner characteristics in inclusive learning environments is an important topic to explore. Focusing on differences can contribute to the social exclusion of gifted students (Gulcin, 2021), as it may lead to negative perceptions and stereotypes that isolate them from their peers. Research on students' beliefs about gifted students remains scarce, despite the importance of these beliefs as a fundamental component of the school's social environment.

1.3 Theoretical Framework

Achieving alignment between gifted students' abilities and the educational content provided to them constitutes the primary goal of their acceleration. Many researchers have sought to explain the logical basis for academic acceleration, and the most coherent rationale aligns with what Vygotsky (1978) proposed when he introduced sociocultural perspectives on learning and development. From Vygotsky's perspective, effective learning occurs when individuals engage in tasks, they can perform with minimal assistance but cannot yet perform independently. Vygotsky (1978) defined the Zone of Proximal Development (ZPD) as the gap between what learners can achieve independently and what they can achieve with guidance from an adult or support from more capable peers.

Vygotsky's perspective emphasizes the importance of social interactions within the new learning environment, such as interactions between teachers and gifted students and between gifted students and older, more capable peers (Dare &

Nowicki, 2018). Our current research supports Vygotsky's perspective, which, as previously noted, emphasizes the value of social interactions in new learning environments by highlighting the importance of examining secondary school students' beliefs about academic acceleration within inclusive classrooms. It is worth noting that our focus in the current study is on examining beliefs rather than perceptions because beliefs, as Ajzen demonstrated in his theory of planned behavior (1985), influence behaviors. In this study, we investigated students' ideas about academic acceleration, drawing on the theory of planned behavior, which states that students' beliefs about acceleration (transitioning to higher grades) predict how they will act toward accelerated classmates.

1.4 Group Concept Mapping (GCM) to Explore Students' Beliefs

Group Concept Mapping (GCM) is well suited to exploratory research because it identifies topics of interest through a collaborative concept-mapping process. It also serves as both a research method and a planning and evaluation tool (Dare & Nowicki, 2018). Nowicki et al. (2014) considers it particularly appropriate for situations where theory is underdeveloped or where there is a lack of research precedent, such as in the context of exploring students' beliefs about academic acceleration within an inclusive education environment. The GCM approach employs a participatory, multi-phase methodology that rigorously analyses qualitative data through statistical analyses.

Kane & Trochim (2007) developed the GCM methodology according to a multi-stage protocol. During the first phase of collaborative concept mapping, participants generate data in response to a focal question to ensure the final representation includes ideas relevant to the concept under study. In the second step, researchers prepare the generated data for the participatory phase, during which participants must organize it. This involves compiling a list of statements after removing duplicates or irrelevant items. In addition to analyzing complex concepts, this technique helps reduce the data generated in the first step into an analysable set of 100 items or fewer (Tackett et al., 2025). In the third stage, participants organize the data by sorting and evaluating the list of collected statements. The sorting process requires each participant to arrange the statements into groups in a way that makes the most sense to them and to label each group they form. Meanwhile, the rating phase requires participants to evaluate the statements based on their importance or feasibility.

In the fourth phase, after participants have organized the data, researchers employ multidimensional scaling analysis to determine how participants sorted the statements. Multidimensional scaling relies on assigning x-y coordinates to each statement, which are plotted as data points on a bivariate plot. On the map, the frequency with which participants group statements together determines the distances between data points (Tackett et al., 2025). Finally, HCA is used to group related ideas into clusters. Researchers then label each cluster using the names suggested by participants (Johnson, 1967). This analytical approach follows the established protocol for "GCM" as described by Kane & Trochim (2007), who adapted HCA to the specific context of concept mapping in order to identify thematic clusters within the data generated by participants.

2. Contribution of the Present Study

This study makes several original contributions to the field of gifted education and inclusive schooling. First, the study addresses an important research gap by exploring the views of students in inclusive classrooms about learning alongside an academically accelerated peer, rather than focusing on teachers' perspectives. Second, it contributes to the limited research on gifted education in Saudi Arabia by providing context-specific evidence that can inform policy and practice locally and internationally. Third, it makes a methodological contribution through the use of GCM, a participatory approach. This allows participants to generate, organize, and evaluate their ideas, revealing the conceptual structures students use to understand acceleration.

Finally, it contributes a conceptual framework through the five clusters identified in the analysis, offering researchers a structured way to investigate student perspectives and practitioners a roadmap for addressing the academic, social, and emotional dimensions of acceleration. In summary, this study is original because it combines an underexplored perspective (students' beliefs), an under-researched context (Saudi Arabia), an innovative methodology (GCM), and practical implications, providing a framework that can be applied in other educational settings.

3. Methodology

This study employed the methodology–a mixed-methods approach combining qualitative data generation with quantitative statistical analysis to produce visual representations of participants' shared understanding of a specific concept or phenomenon. GCM is particularly well-suited for exploratory research where theory is underdeveloped or where there is a lack of prior research (Dare & Nowicki, 2018; Nowicki et al., 2014). It was selected for this study because it enables researchers to systematically capture and organize students' beliefs regarding academic acceleration–a topic that has not received sufficient empirical attention within the Saudi context.

3.1 Participants

The researchers employed dimensional and hierarchical clustering analysis to construct a collaborative concept map illustrating the prioritization decisions made by the participating students during acceleration. The number of participants was 55 students (27 girls & 28 boys), 18 in grade 8, 20 in grade 9, and 17 in grade 10. Their ages ranged between 13 and 15 (M=13.98) are justified by developmental considerations. Evidence suggests that students' beliefs are more stable and reflective during mid-adolescence, while prior to this stage, students' beliefs are more volatile and lack long-term reliability (Dare & Nowicki, 2018).

During this developmental stage, students have sufficient cognitive and social maturity to evaluate the academic benefits, social challenges, and emotional effects of academic acceleration. The study sample included four schools: two middle schools and two high schools, purposely selected from schools that follow the inclusion policy in Al-Ahsa Governorate, Saudi Arabia. Informed consent was obtained from all participants and their parents to participate in the interviews,

and approval was obtained from the research ethics committee to conduct the study. Although it was emphasized that students' names and identities would remain confidential, all students agreed to participate in the study.

The schools in this study serve roughly 800 students in grades 8-10, with 15% receiving special education services (Saudi Ministry of Education, 2026). The school educates students with special needs, including gifted students, in inclusive classrooms, where regulations permit. Formal administrative procedures may contribute to the acceleration of gifted students. The researchers reported that no students had undergone academic acceleration, and the interviewers were unaware of any instances.

All participants participated in the first phase, which included data collecting, while 50 of the 55 students completed the screening and evaluation tasks in the second and third phases. To ensure the sample was representative of the target population and suitable for the study's objectives, selection criteria were established through three main phases: initial eligibility screening, assessment of academic performance, and multi-source behavioral verification.

First, all potential participants were screened to ensure they met the study criteria. Participants had to be 13 to 15 years old, enrolled in Grades 8 to 10, have sufficient language proficiency to complete the study independently (as confirmed by their teachers), and have written parental consent to participate. Second, to measure academic performance, we used a stratified approach based on students' cumulative grade point averages (GPAs) from the second semester of 2025. Participants were selected whose GPAs fell between 3.0 and 4.0 on a 4.0 scale.

Students with a GPA less than 3.0 or who failed any core subject (e.g., mathematics, science, or Arabic) during the previous semester were excluded to control for the confounding effects of severely low academic achievement on the psychological variables under study. Third, participant selection was verified using multiple sources. In addition to academic performance, teachers provided information on factors such as academic resilience, excellence, and the likelihood of experiencing learning difficulties.

3.2 Measures

The data generation phase involved extracting data from interview transcripts, centring on the core question: "What do students in inclusive classrooms believe about academic acceleration for gifted, accelerated students?"

This question was guided by two complementary theoretical frameworks. First, Ajzen's (1985) Theory of Planned Behavior posits that beliefs are the fundamental precursors to attitudes, intentions, and ultimately, behaviors. Secondly, Vygotsky's (1978) sociocultural theory–specifically the concept of the ZPD–offers a complementary lens for understanding the significance of peer beliefs. Vygotsky emphasized that learning occurs through social interaction and collaboration with more capable peers. In the context of academic acceleration, the receiving classroom becomes a social learning environment where older peers may act as

"more knowledgeable others" or, conversely, may feel threatened by the presence of the accelerated student. Understanding students' beliefs regarding this dynamic is crucial, as their perceptions of the accelerated student's role within the learning community can either facilitate or hinder the productive peer interactions that support learning for all students.

At the beginning of the interviews, the concept of educational acceleration–which might be vague and abstract to most students–was simplified and initially framed as follows: "If an accelerated learner moves to a class with older students." The next stage involved organizing the data. Students grouped similar ideas, gave each group a label, and rated the importance of each idea when considering the placement of an accelerated student in a class with older students. Statements were rated using a 5-point Likert scale: 1 = Not at all important; 2 = Not important; 3 = Neutral; 4 = Important; 5 = Very important.

3.3 Data Generation and Coding

3.3.1 Recruitment and Consent Process

We began the recruitment process by evaluating a list of over 33 middle and high schools published on the Al-Ahsa Governorate Education Department website; four schools were selected. We contacted the principals of the selected schools and provided them with information about the study. The principals, in turn, evaluated the study's objectives and decided to have their schools participate. Information letters and parental consent forms were distributed in the participating classrooms. Students took the information home, and only those who returned signed consent forms were included in the study.

3.3.2 Data Collection Procedures

Following the recruitment and consent phase, data were collected through a multi-stage process aligned with the GCM methodology. Data collection spanned four weeks and comprised three main stages:

Stage One: Individual Interviews (Idea Generation)

Semi-structured individual interviews were conducted with each participating student (N = 55) in a quiet, private location within the school (such as a resource room or guidance office) to ensure confidentiality and minimize distractions. Each interview lasted approximately 20 to 30 minutes and was audio-recorded with the participant's consent. Interactions began with questions about the students' favorite subjects and activities to establish rapport, after which the discussion shifted to the central question: *"What are the views of students in inclusive classrooms regarding academic acceleration (academic acceleration) for gifted students?"* A series of open-ended questions was then posed to explore their opinions and ideas concerning academic acceleration. To encourage elaboration, the interviewer used follow-up questions such as" Can *you tell me more about that?"* and" Do *you have any other thoughts?"*

Stage Two: Data Organization (Sorting and Evaluation)

Following the interviews, the audio recordings were transcribed verbatim, and the transcripts were reviewed to extract statements carrying students' beliefs about academic acceleration, guided by the study's research question. As a result,

150 raw statements were extracted. After removing duplicates (for example, the statement "They will be harassed by older students" was retained, while "Things won't be easy for them with older students" and "They will be oppressed by older students" were deleted due to thematic repetition), the list was refined to 72 unique statements, which aligns with the maximum recommended limit of 100 statements for data organization (Kane & Trochim, 2007).

The same 55 students then participated in a data organization session. They were organized into small groups of five participants, and each session took place in the school's resource room at a time agreed upon with teachers to minimize disruption to the school day. Each student worked independently at their own table. Students were provided with a set of 72 printed cards, each containing a single statement, and were asked to sort the cards into groups based on what made sense to them.

They were informed that there were no right or wrong answers and that they could rename their groups at any time. Students used sticky notes and pencils to label each group they formed. Additionally, students were given printed lists of the 72 statements, 5-point Likert scale (1 = not at all important; 5 = very important) based on its significance when deciding whether to move an accelerated student to a class with older students. The sorting and rating tasks took approximately 60–90 minutes to complete.

Stage Three: Data Analysis

Data from the sorting and rating tasks were analyzed using the web-based Concept System Global Max software. Multidimensional Scaling (MDS) was applied to the sorting data to generate a data-point map, while HCA was used to identify key conceptual clusters. Cluster labels were derived from the name's participants assigned to their groups during the sorting process. This analysis identified five key conceptual clusters representing students' beliefs regarding academic acceleration.

3.3.3 Inter-Rater Reliability

To ensure the trustworthiness of the coding process, two coders independently processed and coded the data. After a thorough discussion of response categories and reconciling discrepancies, randomly selected data were categorized by a third coder who was extensively briefed on the study topic. Cohen's Kappa was used to measure inter-rater reliability and indicated that the reliability of the analysis reached 88%, exceeding the recommended minimum of 0.70 (Cohen, 1960). Inter-rater reliability for cluster interpretation was also reported (Cluster 1=0.81; Cluster 2=0.79; Cluster 3=0.84; Cluster 4=0.86; Cluster 5=0.84).

3.4 Data Organization

To organize the data, the students were tasked with sorting and evaluating the statements that were placed in the final list after removing duplicates, which numbered 72 statements. The researchers supervised groups of five students. Participants completed the sorting and rating activities in the school resource room. They used printed cards to sort the ideas and printed lists to rate their

importance. Each student worked independently, and the sessions were scheduled with teachers to minimise disruption to the school day.

During the data organization sessions, the interviewers gave each student a set of 72 cards and asked them to sort them into categories that made sense to them. Using sticky notes and pencils, the students took notes during the classification process, classifying each group based on how they comprehended the major idea or subject. The students were told they could rename their groups at any time and that there were no right or wrong answers. After the students sorted the statements into groups, the interviewers asked them to assign an evaluation to each statement by circling their chosen evaluation on the printed lists. The evaluation was conducted using a 5-point Likert scale as noted above. This scale was chosen as it is optimal for ease of use (Preston & Colman, 2000). Figure 1. displays how the data were organized.

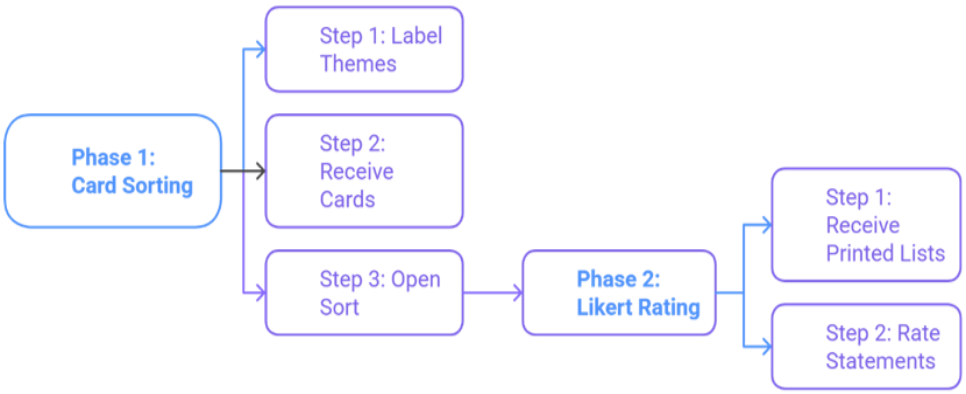

Figure 1: Data Organization

3.5 Educational Applications

Our data were gathered at a single moment (cross-sectional) to underscore potential implications for educational practice. Academic acceleration has been demonstrated as an effective strategy to assist gifted students (Al-Harbi & Al-Ghamdi, 2022; Almhawes, 2024). Since it demands less effort and comparatively lower costs than other supportive approaches like enrichment (Alfaiz et al., 2022), our findings can be seen as endorsing the notion that equipping students with pertinent knowledge about acceleration may help them embrace this approach and enhance their enthusiasm and favorable attitudes toward it.

Additionally, our findings might suggest that students could take the initiative to learn about academic acceleration throughout this process. Providing research-based information on academic acceleration is important. Understanding students' views about academic acceleration and younger accelerated peers can help schools develop strategies to prepare students, improve acceptance, support successful integration, and reduce problems such as bullying and social isolation.

3.6 Study Procedures

We began the recruitment process by evaluating a list of more than 33 middle and high schools published on the Education Directorate's website in Al-Ahsa

Governorate; four schools were picked. We contacted the principals of the selected schools and provided them with information about the study. The principals, in turn, assessed the study objectives and decided to have their schools participate. Information letters and parental agreement forms were distributed in the participating classrooms. The students took the information home, and only those who returned signed consent forms were included in the study.

4. Results

The researchers used the web-based Concept System Global Max software to analyze the study data using multidimensional analysis and HCA.

4.1 Multidimensional Analysis to Produce a Data-point Map

Multidimensional scaling encompasses the construction of a data-point representation that delineates the interrelations among statements as discrete points within a bivariate plot, where each point signifies a distinct statement. To develop this representation, the ordered data for each participant must be input into a binary matrix, with each matrix comprising a row and column that correspond to each statement. The cells within the matrix are filled with either (1) or (0) to signify that the statements were sorted in conjunction. These individual binary matrixes were subsequently amalgamated to create a collective similarity matrix, which is analyzed through the application of multidimensional scaling.

In this analysis, we employ Kruskal's stress statistic to evaluate the efficacy with which the model corresponds to the manner in which participants organized the data (Petrucci & Quinlan, 2007). Kruskal's stress values range from 0 to 1, with lower values indicating a more favorable fit. In the context of utilizing multidimensional scaling for GCM, Kruskal's stress values below 0.365 are considered acceptable (Kane & Trochim, 2007). For the dataset under consideration, the stress value associated with the point map was recorded at 0.2081, thus remaining within the prescribed acceptable range.

4.2 HCA Identifies Key Concepts

The researchers used agglomerative HCA after completing the construction of the data-point map, aiming to analyze clusters representing the "key concepts" or main themes among the sorted data. Agglomerative HCA treats each data-point as its own cluster, examining the distances between data points to determine data groupings; the distances between data points represent how often participants sorted statements together during the sorting process. HCA uses algorithms to identify these thematic groupings to produce a set of possible cluster models.

In this study, based on HCA, models ranging from four to ten clusters were generated. To determine the most appropriate cluster model for the data, both quantitative and qualitative indicators were used. The bond (or bridging) values were examined quantitatively, aiming to identify clusters that were consistently sorted together in the previous stage. These bond values ranged from 0 to 1 across the data-point map. Values closer to (0) indicate statements that were frequently sorted together, while values closer to (1) indicate statements that were often sorted with other statements in different clusters (Kane & Trochim, 2007).

Qualitatively, the statements within each cluster were examined to assess internal conceptual coherence. Our analysis indicated that the five-cluster model was the most suitable for the data. Figure 2 illustrates the five-cluster concept map.

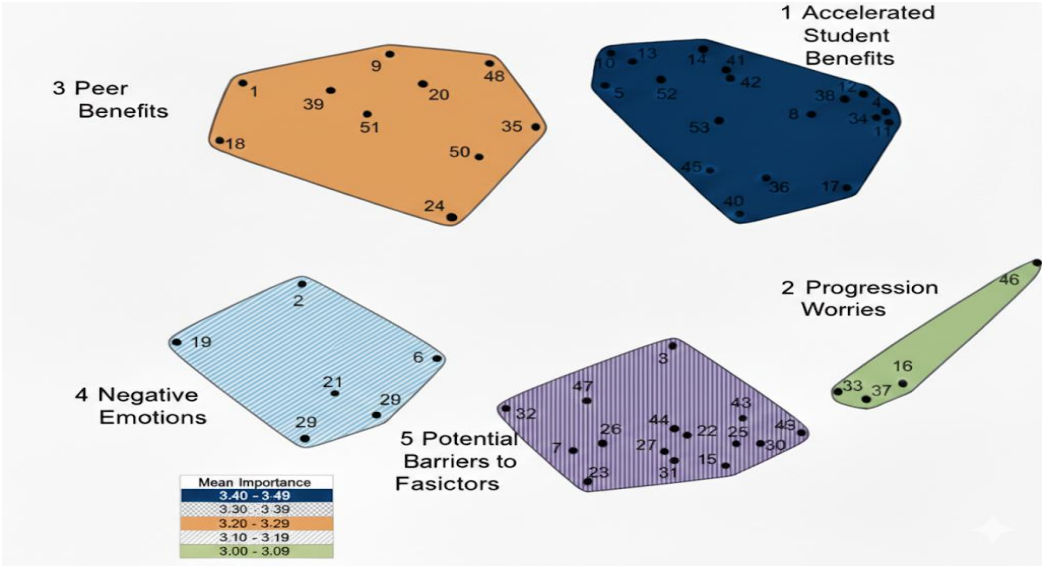

Figure 2: A group concept map depicts five major concepts in students' beliefs concerning academic acceleration for gifted students

Finally, each concept on the map was named based on the cluster names generated by participants through the sorting process. The choices we made were guided using algorithms within the Concept Systems Global software, which calculate a list of the top 10 best-fitting labels for each cluster from the names generated by participants. From these lists of best-matching labels, cluster names were then assigned using participants' original labels, with minor edits made for consistency. Very important [3.40-3.49]; Important [3.20-3.29]; Average [3.20-3.29]; Not important [3.10-3.19]; Not important at all [below 3.00]. Figure 3 displays a summary of importance levels across clusters. Figure 3 shows importance levels across clusters.

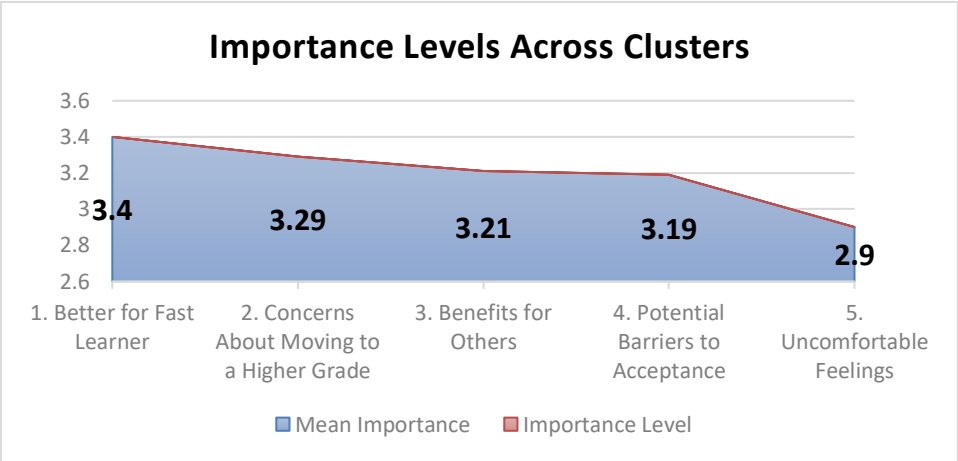

Figure 3: Summary of Importance Levels across Clusters

The researchers described the clusters, listed in descending order of importance rating, from most to least important as following:

4.2.1 Cluster 1: Ideal for Fast Learners

The cluster, "Ideal for Fast Learners," contained the largest number of statements on the map, totaling 18 items. Participating students rated it as the most important concept in the decision to accelerate a student, with a mean of 3.4 and a standard deviation of 0.542. The label mirrored the statements in this group, which encapsulated the aspects of acceleration that participants deemed beneficial for the student undergoing the process.

The statements in this cluster were arranged in descending order according to their mean values. The statement "It is not fair to keep someone at a level that they have surpassed" ranked first with a mean of 4.04, followed by "If they get promoted, they will have the opportunity to master new skills," also with a mean of 4.04. These two statements were the only ones across the entire list of statements to achieve a mean importance value exceeding 4.

In contrast, the statement "Happy not to stay in school any longer" had the lowest mean importance rating (1.78), and the second lowest was "It's a beneficial idea to promote a particularly smart student" with a mean importance rating of 2.69. Although this group contained the largest number of statements, four out of the 18 statements were identified as new or surprising based on the written comments provided participants. Table 1 displays statements of Cluster 1: Ideal for Fast Learners

Table 1: Cluster 1: Ideal for Fast Learners (Mean=3.40, SD=0.542)

No.	Statement	Mean	SD
1	It is not fair to keep someone at a level that they have surpassed	4.04	0.892
2	If they get promoted, they will have the opportunity to master new skills	4.04	0.876
3	They will not get bored and will face a challenge	3.89	0.945
4	Skipping a grade might provide them a feeling that their competence and abilities are appreciated	3.77	0.982
5	They will have more freedom to learn at their own pace	3.65	1.012
6	They will be engaging in work that suits their abilities	3.58	0.978
7	It will motivate them to learn more	3.47	1.045
8	They will be proud of themselves	3.41	1.102
9	They will feel happy to finish school levels in less time	3.35	1.134
10	They will be happy to move to a class with older students	3.28	1.156
11	It will be good for them to be challenged	3.23	1.089
12	They will feel special and valued	3.18	1.123
13	They will have opportunities to develop new friendships	3.05	1.201
14	They will feel more grown up	2.92	1.245
15	It's a beneficial idea to promote a particularly smart student	2.69	1.312
16	Happy not to stay in school any longer	1.78	1.089

Note. *Statements are arranged in descending order by mean importance rating. This cluster reflects students' beliefs that acceleration is fundamentally a matter of fairness and access to challenging learning opportunities.*

4.2.2 Cluster 2: Worries About Progression

Cluster 2, "Worries About Progression," contained only four statements, making it the smallest cluster on the map. Importance ratings for this cluster ranged from 3.17 to 3.46, with a mean of 3.29 and a standard deviation of 0.122. The statements in this group revealed students' beliefs about the negative emotions that fast learners might experience if they transitioned to a class with older students. These statements reflected a range of feelings that students believed accelerated students might experience, such as feeling "sad because they will no longer be able to see their friends," "worried because they are with older peers," and experiencing mixed emotions, like feeling "accomplished and scared at the same time."

Qualitative data gleaned from participant interviews provided rich contextual support for quantitative assessments, shedding light on the emotional landscape participants attributed to their accelerated peers. They consistently expressed concerns about social disruption and the loss of stable peer relationships when discussing the potential emotional costs of acceleration. In this context, one tenth-grade student expressed concern about the loss of friendships, stating:

> "*If he moves to a higher grade, he'll leave his friends behind, and now he has to start from scratch with older students who already have friends. I think he might regret it, even if he's smart.*" (Participant 12, Male, Grade 10).

Many students echoed this sentiment in the interviews. An eighth-grade participant described the social isolation that accompanies acceleration:

> "*The older students won't treat her like a real classmate. They'll see her as a child, not one of them. It will be a very lonely experience for her.*" (Participant 6, Female, Grade 8).

The participants expressed their concern regarding the emotional distress that an accelerated student might experience as a result of being in an unfamiliar environment. One of the participants in the 10th grade described the internal conflict she imagined about the accelerated student:

> "*Perhaps she will feel proud for being smart enough to skip a grade, but she might feel that she does not belong to the place she moved to, and that is a painful feeling for her at such a young age.*" (Participant 21, female, 8th grade)

The experience of simultaneity between pride and fear recurs in the majority of the interviews. In this context, one of the participants in the ninth grade empathetically described the potential emotional state of the accelerated student, saying:

> "*I think he would be confused about his feelings; a part of him is happy because he is special and smart, and another part would be worried about making mistakes, not fitting in, and afraid that students might mock him.*" (Participant 17, male, 10th grade).

Table 2 displays statements of cluster 2: worries about progression.

Table 2: Cluster 2: Worries About Progression (Mean=3.29, SD=0.122)

No.	Statement	Mean	SD
1	They might have trouble fitting in with new classmates	3.46	1.234
2	They will worry about being with older peers	3.32	1.187
3	They will feel accomplished and scared at the same time	3.21	1.256
4	They will feel sad because they will no longer be able to see their friends	3.17	1.289

Note. Statements are arranged in descending order by mean importance rating. This cluster captures students' concerns about the emotional and social costs of acceleration, particularly social disruption and loss of established peer relationships.

4.2.3 Cluster 3: Benefits for Others

The 10 statements in the "Benefits for Others" cluster reflected students' beliefs about the potential advantages for older classmates of having an accelerated student in their class. The importance ratings for the statements ranged from 2.33 to 3.88, with a mean of 3.21 and a standard deviation of 0.464. When the statements were arranged in descending order according to their means, the highest-rated statement in the group was "Other students learn useful things from them" (M=3.88, SD=0.992).

Other beliefs expressed by students regarding potential benefits for classmates included: "They can form relationships and talk with them." "They can offer you help," and "They can become friends with them and learn rapidly from them." Other statements in this group also reflected students' beliefs regarding "benefits for teachers." This belief was embodied in statements such as "If fast learners skip a grade, it opens up opportunities for teachers to provide more time to slower learners" and a statement like "There might be less pressure on the teacher because students won't run out of things to do."

These findings should be viewed in light of the academic and social conditions of the classroom to which accelerated students are transferred. In the educational context under study, grade acceleration does not necessarily mean that the class to which the accelerated student moves is academically homogeneous or specifically designed to meet their advanced needs. Rather, the higher-grade class represents the next age-based level in the curriculum, consisting of older students whose academic abilities span a wide range–from struggling learners to high achievers. The curriculum in that class is designed to suit the average student at that grade level and is not intended for gifted students. As a result, the accelerated student joins a class with older students where the content, pace of instruction, and level of challenge are more advanced. However, this does not necessarily mean that the older students have stronger cognitive or academic abilities.

On the other hand, the presence of some high-achieving students in the receiving class indicates that their level aligns with grade-level expectations. As a result, the accelerated student finds that the content provided to them matches their abilities, but this does not mean they are placed in a class where their peers share their advanced cognitive profile or match their learning speed. In other words, this

placement is essentially a grade skip rather than placement in a specialized or ability-matched environment. This distinction shapes the nature of the 'benefits' perceived by participants, as they are most likely referring to the accelerated student serving as a resource or model for their older peers, who may not be equally academically advanced. Table 3 displays statements of cluster 3: Benefits for Others.

Table 3: Cluster 3: Benefits for Others (Mean=3.21, SD=0.464)

No.	Statement	Mean	SD
1	Other students learn useful things from them	3.88	0.992
2	They can offer you help	3.58	1.045
3	If fast learners skip a grade, it opens up opportunities for teachers to provide more time to slower learners	3.53	1.102
4	They can become friends with them and learn rapidly from them	3.45	1.089
5	I think it's great to be in the same class with them	3.41	1.123
6	I would like to be friends with them and learn from them	3.35	1.156
7	They can help struggling students	3.28	1.134
8	There might be less pressure on the teacher because students won't run out of things to do	3.12	1.201
9	They can form relationships and talk with them	2.98	1.245
10	They can teach the class new things	2.33	1.312

Note. Statements are arranged in descending order by mean importance rating. This cluster reflects students' beliefs that acceleration benefits not only the gifted student but also older peers and teachers, with accelerated students viewed as valuable resources who can assist classmates academically and reduce teacher burden.

4.2.4 Cluster 4: Potential Barriers to Acceptance

Cluster 4, "Potential Barriers to Acceptance," was rated as the fourth most important cluster, with a mean of 3.19 and a standard deviation of 0.586. The contents of this cluster, consisting of 15 statements, reflected the potential acceptance challenges that participating student believed accelerated students might face. The statement "Older students might bully them" ranked first in terms of importance rating, with a mean of 3.70 and a standard deviation of 1.176. The statement "They might not be accepted" ranked second in importance, with a mean of 3.71 and a standard deviation of 1.166. In contrast, the statement "They will likely be shorter than the rest of the class" ranked last in the cluster in terms of importance rating according to participating students' beliefs, with a mean importance rating of 1.38 and a standard deviation of 0.644. Table 4 statements of cluster 4: possible obstacles to admission.

Table 4: Cluster 4: Potential Barriers to Acceptance (Mean=3.19, SD=0.586)

No.	Statement	Mean	SD
1	Older students might bully them	3.70	1.176
2	They might not be accepted	3.71	1.166
3	They could be left out of activities	3.45	1.201
4	They might be teased or made fun of	3.38	1.189
5	Older students might be jealous of them	3.31	1.234
6	They might feel isolated from the rest of the class	3.28	1.256
7	They might not be taken seriously by older students	3.22	1.289

No.	Statement	Mean	SD
8	They might struggle to make friends in the new class	3.18	1.312
9	They will be seen as "teacher's pet" or favorites	3.12	1.298
10	They might feel like they don't belong	3.05	1.345
11	They will have to work harder to prove themselves	2.98	1.367
12	They will be treated differently by teachers	2.85	1.398
13	They will be expected to perform perfectly	2.72	1.423
14	They might be misunderstood by their new classmates	2.55	1.456
15	They will likely be shorter than the rest of the class	1.38	0.644

Note. Statements are arranged in descending order by mean importance rating. This cluster reveals significant concerns about social risks including bullying, non-acceptance, and exclusion. Physical differences such as height are rated as considerably less important, suggesting that social acceptance concerns are primarily relational and status based.

4.2.5 Cluster 5: Unpleasant Emotions

Cluster 5, "Unpleasant Emotions," which included six statements, ranked last among the five clusters on the map. The mean importance rating for all statements in this cluster was 2.9, with a standard deviation of 0.358. The statement "I would feel like I'm not learning fast enough" ranked first in terms of importance rating, with a mean of 3.63 and a standard deviation of 1.245. In contrast, the statement "Moving a student to a higher grade might be unexpected" had a mean importance rating of 2.71 and a standard deviation of 0.332.

The cluster also included various phrases relating to both students and their teachers, such as the phrase concerning teachers, "The teacher has more time to dedicate to them due to their young age." Another phrase focused on the difficulties accelerated students might encounter with certain aspects of schoolwork compared to other subjects: "Some subjects may be difficult for them." Table 5 displays statements of cluster 5: unpleasant emotions.

Table 5: Cluster 5: Unpleasant Emotions (Mean=2.90, SD=0.358)

No.	Statement	Mean	SD
1	I would feel like I'm not learning fast enough	3.63	1.245
2	Moving a student to a higher grade might be unexpected	2.71	0.332
3	The teacher has more time to dedicate to them due to their young age	2.68	1.298
4	Some subjects may be difficult for them	2.68	1.312
5	It might make me feel less smart	2.59	1.367
6	They might feel overwhelmed by the workload	2.55	1.389

Note. Statements are arranged in descending order by mean importance rating. This cluster captures the emotional discomfort experienced by older students in receiving classrooms, particularly feelings of inadequacy when comparing themselves to a younger accelerated peer. The highest-rated statement reflects a significant emotional vulnerability among older students whose academic self-concept may be threatened.

The researchers described the clusters, listed in descending order of importance rating, Number of Statements, Mean Importance Rating and standard deviations as presented in table 6:

Table 6: Summary of Clusters Representing Students' Beliefs About Academic Acceleration

Cluster	Cluster Label	Number of Statements	Mean Importance Rating	Std	Representative Statements (Highest Rated)
1	Ideal for Fast Learners	18	3.40	0.542	"*It is not fair to keep someone at a level that they have surpassed*" (M=4.04). "*If they get promoted, they will have the opportunity to master new skills*" (M=4.04). "*Skipping a grade might provide them a feeling that their competence and abilities are appreciated*" (M=3.77)
2	Worries About Progression	4	3.29	0.122	"*They might have trouble fitting in with new classmates*" (M=3.46) "*They will worry about being with older peers*" (M=3.32). "*They will feel sad because they will no longer be able to see their friends*" (M=3.17)
3	Benefits for Others	10	3.21	0.464	"*Other students learn useful things from them*" (M=3.88) "*They can offer you help*" (M=3.58). "*If fast learners skip a grade, it opens up opportunities for teachers to provide more time to slower learners*" (M=3.53)
4	Potential Barriers to Acceptance	15	3.19	0.586	"*Older students might bully them*" (M=3.70). "*They might not be accepted*" (M=3.71). "*They could be left out of activities*" (M=3.45)
5	Unpleasant Emotions	6	2.90	0.358	"*I would feel like I'm not learning fast enough*" (M=3.63). "*Moving a student to a higher grade might be unexpected*" (M=2.71). "*Some subjects may be difficult for them*" (M=2.68)

As shown in Table 6:

Cluster 1: Ideal for Fast Learners: This cluster reflects students' beliefs that acceleration is fundamentally a matter of fairness and access to challenging learning opportunities. Students view gifted peers as deserving of progression at a pace matching their abilities. The high importance ratings for statements about fairness (M=4.04) and mastery of new skills (M=4.04) indicate that students conceptualize acceleration as an equitable response to individual differences. This aligns with Vygotsky's (1978) ZPD, suggesting that acceleration enables gifted students to learn within their optimal developmental range, and with Ajzen's (1985) Theory of Planned Behavior, indicating that positive beliefs about fairness may predict accepting behaviors toward accelerated peers.

Cluster 2: Worries About Progression: This cluster captures students' concerns about the emotional and social costs of acceleration. Students believe that accelerated students may experience mixed emotions–pride in their achievement alongside anxiety about belonging and fitting in with older classmates. The concerns about leaving friends behind (M=3.17) and fitting in with new classmates (M=3.46) reflect an awareness that acceleration involves significant social disruption. These findings underscore the importance of addressing the socio-emotional dimensions of acceleration, as students perceive that the psychological costs of academic acceleration may outweigh academic benefits if social integration is not adequately supported.

Cluster 3: Benefits for Others: Students in this cluster recognize that acceleration benefits not only the gifted student but also older peers and teachers. Accelerated students are viewed as valuable resources who can assist classmates academically (M=3.88) and reduce teacher burden by allowing more attention to struggling learners (M=3.53). This reflects beliefs about the social and pedagogical value of academic diversity within inclusive classrooms. The presence of an accelerated student is perceived as enhancing the learning environment for all, suggesting that students hold positive attitudes toward inclusion when they perceive mutual benefits. This aligns with Ajzen's theory of planned behavior, as positive beliefs about benefits may predict supportive behaviors toward accelerated peers.

Cluster 4: Potential Barriers to Acceptance: This cluster reveals significant concerns about social risks associated with acceleration, including bullying (M=3.70), non-acceptance (M=3.71), and exclusion from activities (M=3.45). Physical differences, such as height (M=1.38), were rated as considerably less important, suggesting that social acceptance concerns are primarily relational and status-based rather than superficial. These findings are consistent with social comparison theory (Festinger, 1954), which posits that older peers may react defensively to perceived status threats posed by a younger, academically superior student. Bullying and exclusion may be understood as defensive reactions to feelings of inadequacy or perceived unfairness, rather than simple malice.

Cluster 5: Unpleasant Emotions: This cluster captures the emotional discomfort experienced by older students in receiving classrooms, particularly feelings of inadequacy when comparing themselves to a younger accelerated peer. The highest-rated statement–"I would feel like I'm not learning fast enough" (M=3.63)–reflects a significant emotional vulnerability among older students whose academic self-concept may be threatened by the presence of a younger, high-achieving peer. This finding highlights the emotional complexity of inclusive classrooms, where cognitive recognition of benefits (Cluster 3) coexists with feelings of personal inadequacy. The ambivalence evident in this cluster suggests that while students acknowledge the advantages of acceleration, they also experience emotional strain that may affect their willingness to accept accelerated peers.

Collectively, these five clusters reveal that students hold multifaceted, and sometimes contradictory, beliefs about academic acceleration. They recognize the fairness and academic benefits of acceleration (Cluster 1) and acknowledge advantages for others in the learning environment (Cluster 3), yet simultaneously express concerns about social and emotional challenges for both accelerated students (Clusters 2 and 4) and themselves (Cluster 5). This complexity underscores the need for holistic acceleration policies that address not only academic readiness but also the social and emotional dynamics of inclusive classrooms. The findings support Vygotsky's sociocultural theory, Ajzen's theory of planned behavior, and Festinger's social comparison theory. They also provide practical guidance for educators and policymakers on implementing academic acceleration in ways that promote equity, acceptance, and student well-being.

5. Discussion

The concept of "equity in learning" embodies one of the most important themes addressed in the literature on academic acceleration. It serves as a fundamental principle for closing educational disparities and ensuring that every student has access to the resources and support necessary to achieve their maximum potential. Morsi (2023) indicated that equity allows gifted students to progress at a pace commensurate with their abilities, thus presenting them with a cognitive challenge. Phrases within this concept, such as "more freedom to learn," "engaging in work that suits them," and "motivating them to learn more," reflect the idea that acceleration interventions enable gifted students to learn within their proximal developmental zones (Aboud, 2026).

This approach, in turn, positively influences measures of academic achievement after acceleration (Steenbergen-Hu et al., 2016). The concept of 'Ideal for Those Who Pick Up Knowledge Quickly' was 'Skipping a grade might provide them with benefits,' which was reflected in other statements that expressed students' beliefs about the benefits of acceleration for their self-perception. Among these statements was, "Skipping a grade might provide them with a feeling that their competence and abilities are appreciated." "They will feel happy to finish school levels in less time," and "If they skip a grade, they will feel proud of themselves." Substantial evidence supports the positive impact of acceleration on the well-being of accelerated students (Miravete, 2022) on the one hand and on their self-perceptions (Aboud, 2021) on the other.

The benefits of acceleration, as perceived by the participating students—as revealed by the study's results—were not limited to the accelerated students alone; rather, the advantages of their acceleration extended to those who share their learning environment. Students' beliefs and ideas converged within the concept of "Benefits for Others." In this cluster, statements such as, "I think it's great to be in the same class with them," and "I would like to be friends with them and learn from them, "They can help you' reflected advantages for older students from having an accelerated student in their class and learning from them. This proposition corresponds with Ajzen's (1985) Theory of Planned Behavior, as elaborated in the theoretical framework, which posits that students' beliefs influence their behavior towards accelerated learners.

The concept of "benefits for others" in this study included beliefs that encompassed "social acceptance," in this study included beliefs that encompassed 'social acceptance,' as expressed by participating students. These beliefs appeared in statements such as, "I think it's great to be in the same class with them," and "I would like to be friends with them and learn from them, "I think it's great to be in the same class with them' and 'I would like to be friends with them and learn from them,' reflecting how student acceleration positively influenced participants' behaviors. Conversely, the concept of "benefits to others" in this group extends to teachers. Among these benefits is that teachers will have more time for other learners, thus alleviating the stress caused by boredom among these faster learners: "The teacher will have enough time to attend to the slower learners."

A study by Ghanem (2023) on acceleration documents these potential benefits. The study results revealed the impact of feelings and emotions on students' beliefs about acceleration. The concept map identified two aspects reflecting these feelings: "concerns about advancing to a higher grade" and "uncomfortable feelings." Participating students prioritized the feelings of the accelerated student, considering them more important than "uncomfortable feelings" in the acceleration decision, with the latter being rated as a less important concept. These feelings included the concept of "concerns about advancing to a higher grade," reflecting beliefs about accelerated students potentially feeling anxious about their inadequacy, sad about leaving their friends and school, or experiencing learning gaps. It is undeniable that these feelings are important considerations in the acceleration decision, no less significant than cognitive aspects (Alarfaj & Al-Omair, 2020).

The existence of two groups focusing on participants' and teachers' beliefs about the potential benefits of accelerated students did not preclude the presence of beliefs expressed by students in our study regarding the potential barriers to student acceleration. Despite inclusion policies in the schools selected for the study, research shows that students in inclusive classrooms, particularly those with learning disabilities, are acutely aware of their differences from their classmates in terms of learning speed and pace (Nowicki et al., 2014). In fact, gifted students may find themselves forced to choose between "their need for peer acceptance and their pursuit of high academic achievement" (Miedijensky, 2025).

5.1 Psychological and Emotional Impact on Older Peers in Receiving Classrooms

The data study required a deeper examination of the psychological and emotional consequences that the presence of a younger accelerated student might have on older students in the receiving class. Although the literature has extensively documented the social and emotional outcomes for the accelerated students themselves (Schuur et al., 2020; Ghanayem, 2023), less attention has been paid to how the presence of a younger, academically superior peer affects the self-perceptions, academic self-concept, and emotional well-being of older students who remain in the class.

The findings provide insight into this issue through the "Uncomfortable Feelings" cluster. The highest-rated statement, "I would feel like I'm not learning fast

enough" (M = 3.63, SD = 1.245), suggests that older students may feel academically inadequate when a younger peer performs better than they do. This phenomenon—whereby chronologically older students, when confronted with a younger peer deemed capable of handling the same curriculum, may interpret the situation as an implicit judgment of their abilities or learning pace—is consistent with social comparison theory (Festinger, 1954). This theory posits that individuals evaluate their abilities by comparing themselves to others, and those upward comparisons can lead to diminished self-esteem and a weakened academic self-concept. Furthermore, the phrase "I will feel like I am not learning fast enough" suggests that the presence of an accelerated student may inadvertently create a competitive classroom environment, leading older students to feel they are being evaluated against the performance of a younger, more gifted peer.

Unlike the accelerated student, older students continue their normal educational path, while the accelerated student is intentionally placed in a higher grade to match their advanced abilities. In a higher grade to match their advanced abilities, older students continue their normal educational path. The introduction of a younger, high-achieving peer can disrupt their existing self-perceptions of academic achievement and create feelings of inadequacy, particularly among students performing at average or below-average levels. It is essential to acknowledge that the curriculum in the higher grade is designed for students of that chronological age, who exhibit a wide range of abilities, from struggling learners to high achievers. The accelerated student is specifically identified as possessing exceptional abilities that surpass those of their peers and placing them in a higher grade does not imply that the receiving students are equally advanced.

This disparity raises important questions of fairness and equity; while the accelerated student benefits from access to more challenging material, older students may experience negative psychological effects such as feelings of inadequacy or decreased academic self-efficacy. Within Group 5, the statement "some material may be difficult for them" reflects the older students' awareness that the accelerated student may face challenges despite their advanced abilities. However, this awareness may also lead to feelings of inadequacy. Older students may think that if a younger gifted student finds the work difficult, their abilities are even less adequate. Alternatively, if the accelerated student finds the material manageable, it may reinforce feelings of being "slower" among the other accelerated students.

cluster 4, 'Potential Barriers to Acceptance,' includes statements such as 'Older students might bully them' (M = 3.70) and 'They might not be accepted' (M = 3.71), which reveal participants' beliefs about the social risks faced by accelerated students. However, what remains unspoken in the data—yet is crucial to interpret—is the psychological mechanism behind such potential rejection. Bullying or non-acceptance of accelerated students may not simply reflect malice or cruelty on the part of older students; rather, it may be understood as a defensive reaction to feelings of inadequacy, jealousy, or perceived unfairness. When older students feel that their academic standing is threatened by a younger newcomer,

they may respond with exclusionary or aggressive behaviors as a means of re-establishing social hierarchy or protecting their self-esteem.

This interpretation aligns with research on social comparison and status threat, which suggests that individuals may react negatively to those who outperform them, particularly when the outperformer is perceived as violating expected age-based norms (Dare & Nowicki, 2018; Jung et al., 2011). The presence of an accelerated student creates emotional complexity for older classmates who recognize benefits (e.g., learning opportunities) while simultaneously feeling inadequate. This ambivalence is evident in the tension between statements acknowledging benefits ("Other students learn useful things from them") and those expressing personal discomfort ("I would feel like I'm not learning fast enough"). This duality demonstrates that the psychological impact on older students is multifaceted, involving both cognitive recognition of advantages and emotional responses of inadequacy.

It is also important to consider the potential long-term effects of these experiences. If older students consistently feel they are "not learning fast enough" compared to a younger peer, this perception can negatively impact their academic self-concept, motivation, and engagement over time. Previous research has shown that academic self-concept—an individual's perception of their academic abilities—is a strong predictor of academic achievement and persistence (Schuur et al., 2020). When students feel their academic self-concept is threatened, they may reduce their effort or develop negative coping strategies such as avoidance or withdrawal, in which their performance suffers because they believe they are "slower" or "less capable."

Several targeted interventions can be implemented with the aim of fostering genuine inclusion for academically accelerated students. These interventions are defined by seven practical actions that schools can undertake based on the study's findings. First, to address positive beliefs, schools should implement awareness programs that educate students about the rationales behind academic acceleration and share success stories of accelerated students to normalize the experience. Second, to address concerns and feelings of discomfort, schools should provide psychological counseling services and peer support groups, as well as hold preparatory sessions prior to the arrival of accelerated students. Third, to enhance the benefits for others, schools should establish structured peer tutoring programs, recognize the contributions of accelerated students, and encourage collaborative learning activities.

Fourth, to overcome barriers to acceptance, schools should implement evidence-based anti-bullying programs, conduct workshops on empathy and inclusion, and establish clear reporting and support mechanisms. Fifth, to correct misconceptions and fears, schools should provide research-based information about academic acceleration, organize school-wide awareness campaigns, and engage parents and families in the intervention process. Sixth, schools should invest in teacher professional development by training educators in classroom preparation strategies, differentiated instruction, and bullying prevention. Finally, schools should establish monitoring and evaluation mechanisms to

systematically assess changes in students' beliefs, gather feedback from all stakeholders, and conduct periodic reviews to ensure that interventions remain responsive to evolving needs.

6. Conclusion

The findings of this study reveal that students in inclusive classrooms hold multifaceted beliefs about academic acceleration for gifted peers. Through GCM, five key conceptual clusters emerged: (1) the suitability of acceleration for fast learners, (2) concerns about progress, (3) benefits to others, (4) potential barriers to acceptance, and (5) unpleasant feelings. Students rated fairness and access to better learning opportunities as the most critical factors in acceleration decisions, while also expressing awareness of the social and emotional challenges that may arise for both accelerated students and their older peers. These findings carry several important implications for educational practice and policy in Saudi Arabia.

First, at the school level, educators should implement structured awareness programs that emphasize fairness and learning opportunities—the values students deemed most important—to normalize acceleration and build acceptance. Schools should also establish peer support systems and counseling services to address students' concerns about social isolation and emotional discomfort. Second, teacher professional development is essential. Training should equip educators to facilitate inclusive classroom environments, address misconceptions about giftedness, and support the social-emotional needs of both accelerated students and their peers. Third, the Ministry of Education should revise its acceleration policies to include social-emotional support, require teacher training in gifted education, monitor students' adjustment and social acceptance, and promote awareness of academic acceleration among students, parents, and educators.

In conclusion, this study underscores that successful academic acceleration requires more than academic readiness; it demands careful attention to the social and emotional dynamics within inclusive classrooms. By implementing targeted, evidence-based interventions at the school, teacher, and policy levels, Saudi Arabia can strengthen its commitment to inclusive education. We can also expect that gifted students will receive the challenge and supports they need to thrive. Students' beliefs—as captured in this study—offer a valuable foundation for building more equitable, accepting, and effective acceleration practices.

7. Limitations

The participants in this study generated a wide range of ideas about acceleration and were able to organize these ideas into key concepts. However, the modest sample size precludes generalizing the findings. Additionally, the study sample, which targeted students in grades 8–10, prevents understanding the beliefs of students in other grade levels regarding this topic. It is worth noting that participants' beliefs were elicited while they were enrolled in schools adhering to inclusion policies; thus, the study overlooks the beliefs that students in regular schools might hold about the inclusion of accelerated students. Furthermore, the

current study focused specifically on students' beliefs about factors to consider in academic acceleration, excluding other intervention strategies for gifted students. Future research could examine students' beliefs about other gifted education strategies.

8. Conflict of Interest

The authors declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors. The QuillBot Premium program was used to improve grammar, writing and the quality of the language. The paper remains an accurate representation of the authors' work and intellectual contributions.

9. Informed Consent Statement

Informed consent was obtained from all subjects involved in the study. All participants in the study sample signed written consent during their responses in the questionnaire without obligations, with the assurance that they could withdraw at any time without liability. The scope of the consent was participation, data use, and consent to publish.

Data Availability Statement

Data available on request due to restrictions on privacy: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy.

Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of King Faisal University on 29 March 2023, (KFU-REC-2023-MAR-ETHICS741) for studies involving humans.

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Author Contributions

Conceptualization & methodology, Y.A. and M.A.; validation, R.A.; investigation Y.A., data curation, Y.A. visualization, R.A. writing original draft, Y.A. and M.H.; preparation formal analysis, R.A.; resources, M.A. and M.H.; writing review, R.A. and M.A.; project administration, Y.A.; publication, M.H.; Funding, M.H. All authors have read and agreed to the published version of the manuscript.

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Abbreviations

The following abbreviations are used in this manuscript:

GCM Group Concept Mapping

10. References

Aboud, Y. (2021). Evaluation of teachers, supervisors and accelerated students concerning academic acceleration in Saudi Arabia. *Psychology and Education Journal*, *58*(2), 8105–8119. https://www.psychologyandeducation.net/pae/index.php/pae/article/view/3426

Aboud, Y. (2023). Evaluating the status of gifted education in the Gulf Cooperation Council countries. *Cogent Education*, *10*(1), https://doi.org/10.1080/2331186X.2023.2206080

Aboud, Y. (2025). Gifted education in Saudi universities: Policies, practices, and cultural influences. *International Journal of Learning, Teaching and Educational Research*, *24*(12). 589-617. https://ijlter.org/index.php/ijlter/article/view/14983

Aboud, Y. (2026). Beyond the classroom: Technology-enabled acceleration models for gifted learners in the digital era. *Multimodal Technologies and Interaction*, *10*(2), 17. https://doi.org/10.3390/mti10020017

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11–39). Springer-Verlag. https://doi.org/10.1007/978-3-642-69746-3_2

Alarfaj, A., & Al-Omair, R. (2020). The whole grade acceleration policy in the Kingdom of Saudi Arabia and the State of Massachusetts, USA: An analytical comparative study. *International Education Studies*, *13*(8), 55–67. https://doi.org/10.5539/ies.v13n8p55

Alfaiz, F., Alfaid, A., & Aljughaiman, A. (2022). Current status of gifted education in Saudi Arabia. *Cogent Education*, *9*(1), Article 2064585. https://doi.org/10.1080/2331186X.2022.2064585

Al-Ghamdi, D., & Al-Anzi, S. (2018). The role of academic acceleration in developing the intellectual motivation of gifted students from the perspective of teachers in Riyadh. *International Journal of Science and Rehabilitation of People with Special Needs*, *11*, 233-312.

Al-Harbi, S., & Al-Ghamdi, N. (2022). Innovative pedagogies in Saudi Arabia: The role of teachers in accelerated learning. *Journal of Education Development*, *34*(2), 45–59.

Almhawes, A. (2024). *Academic acceleration in Saudi Arabia*. [Unpublished Doctoral Dissertation]. University of North Carolina at Charlotte. https://ninercommons.charlotte.edu/record/2787/files/Almhawes_uncc_0694D_13809.pdf

Al-Zunaidi, R. (2021). The effectiveness of the academic acceleration program in light of the STEC model: A case study. *Journal of the Islamic University for Educational and Psychological Studies*, *29*(1), 132-156. https://doi.org/10.33976/iugjeps.29.1/2021/6

Assouline, S., Colangelo, N., & VanTassel-Baska, J. (2023). *A nation empowered: Evidence trumps the excuses holding back America's brightest students* (3). University of Iowa.

Bin Yousef, J. (2021). Tasrie ailtihaq altulaab alsaeudiiyn bibaramij altaelim aleali: tahdid altadakhulat altaelimiat almuhtamalat litasrie eamaliat altatwir. [Accelerating Saudi students into higher education programs: Identifying potential educational interventions to expedite development]. *Scientific Journal of King Faisal University: Humanities and Management Sciences*, *22*(4), 95–107. [In Arabic]. https://sjkfuh.researchcommons.org/journal/vol22/iss4/2/

Capper, C., & Frattura, E. (2009). *Meeting the needs of students of all abilities: How leaders go beyond inclusion*. Corwin Press.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*(1), 37-46. https://doi.org/10.1177/001316446002000104

Colangelo, N., Assouline, S., & Gross, M. (2004). *A nation deceived: How schools hold back America's brightest students* (1). The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development, University of Iowa.

Dare, L., & Nowicki, E. (2018). Beliefs about educational acceleration: Students in inclusive classes conceptualize benefits, feelings, and barriers. *The Journal of Educational Research 112*(1), 86-97. https://doi.org/10.1080/00220671.2018.1440368

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117-140. https://doi.org/10.1177/001872675400700202

Ghanayem, M. (2023). Academic acceleration as an approach to gifted education in the age of artificial intelligence. *International Journal of Research in Educational Sciences*, *6*(2), 39-59.

Gulcin, Y. (2021). Why acceleration is a controversial debate among educators? *Education Quarterly Reviews*, *4*(3), 232–242. https://doi.org/10.31014/aior.1993.04.03.334

Hoogeveen, A. (2008). *Social emotional consequences of accelerating gifted students.* [Unpublished Doctoral Dissertation]. Radboud University Nijmegen. https://repository.ubn.ru.nl/bitstream/handle/2066/73315/73315_sociemcoo.pdf?sequence=1

Johnson, S. C. (1967). Hierarchical clustering schemes. *Psychometrika*, *32*(3), 241–254. https://doi.org/10.1007/BF02289588

Jung, J., Barnett, K., Gross, M., & McCormick, J. (2011). Levels of intellectual giftedness, culture, and the forced-choice dilemma. *Roeper Review*, *33*, 182-197. https://doi.org/10.1080/02783193.2011.580501

Kane, M., & Trochim, W. (2007). *Concept mapping for planning and evaluation*. SAGE.

Miedijensky, S. (2025). Insights into gifted development: The influence of childhood, learning environments, and family from gifted adults perspectives. *Education Sciences*, *15*(6), 677. https://doi.org/10.3390/educsci15060677

Miravete, S. (2022). Should talented students skip a grade? A literature review on grade skipping. *European Journal of Psychology of Education*, *37*(4), 947–973. https://doi.org/10.1007/s10212-022-00614-z

Missett, T., Brunner, M., Callahan, C., Moon, T., & Price Azano, A. (2014). Exploring teacher beliefs and use of acceleration, ability grouping, and formative assessment. *Journal for the Education of the Gifted*, *37*(3), 245-268. https://doi.org/10.1177/0162353214541326

Morsi, S. (2023). Academic acceleration as an approach to investing in education in the era of the cognitive revolution (A proposed educational vision). *Journal of the Faculty of Education, Benha University*, *34*(136), 1-82. [In Arabic]. https://doi.org/10.21608/jfeb.2023.328145

Neves, C., Almeida, A., & Ferreira, M. (2023). Headteachers and Inclusion: Setting the Tone for an Inclusive School. *Education Sciences*, *13*(2), 129. https://doi.org/10.3390/educsci13020129

Nowicki, E., Brown, J., & Stepien, M. (2014). Children's structured conceptualizations of their beliefs on the causes of learning difficulties. *Journal of Mixed Methods Research*, *8*(1), 69–82. https://doi.org/10.1177/1558689813490834

Petrucci, C., & Quinlan, K. (2007). Bridging the research-practice gap: Concept mapping as a mixed-methods strategy in practice-based research and evaluation. *Journal of Social Service Research*, *34*(2), 25–42. https://doi.org/10.1300/J079v34n02_03

Preston, C. P. & Colman, A. M. (2000). Optimal number of response categories in rating scales: reliability, validity, discriminating power, and respondent preferences. *Acta Psychologica*, *104*(1), 1-15. https://doi.org/10.1016/s0001-6918(99)00050-5

Rogers, B. (2015). *Classroom Behaviour: A Practical Guide to Effective Teaching, Behaviour Management and Colleague Support*. SAGE Publications Ltd. https://doi.org/10.4135/9781036235260

Saudi Ministry of Education. (2026). *The purpose and general goals of education*. Retrieved January 22, 2026. https://www.moe.gov.sa/en/Pages/default.aspx

Schuur, J., van Weerdenburg, M., Hoogeveen, L., & Kroesbergen, E. (2020). Social–emotional characteristics and adjustment of accelerated university students: A systematic review. *Gifted Child Quarterly*, *64*(2), 1–23. https://doi.org/10.1177/0016986220969392

Southern, W., & Jones, E. (2015). Types of acceleration: Dimensions and issues. In S. G. Assouline, N. Colangelo, J. VanTassel-Baska, & A. Lupkowski-Shoplik (Eds.), *A nation empowered: Evidence trumps the excuses holding back America's brightest students* (Vol. 2, pp. 9–18). University of Iowa.

Steenbergen-Hu, S., & Moon, S. (2011). The effects of acceleration on high-ability learners: A meta-analysis. *Gifted Child Quarterly*, *55*(1), 39–53. https://doi.org/10.1177/0016986210383155

Steenbergen-Hu, S., Makel, M., & Olszewski-Kubilius, P. (2016). What one hundred years of research says about the effects of ability grouping and acceleration on K–12 students' academic achievement. *Review of Educational Research*, *90*(6), 849–899. https://doi.org/10.3102/0034654316675417

Tackett, S., Steinert, Y., Mirabal, S., Reed, D., & Wright, S. (2025). Using group concept mapping to explore medical education's blind spots. *Teaching and Learning in Medicine, 37*(1), 75–85. https://doi.org/10.1080/10401334.2023.2274991

Van Tassel-Baska, J. (2005). *Acceleration: Strategies for teaching gifted learners*. Prufrock Press.

Vygotsky, L. (1978). Interaction between learning and development. In M. Gauvain & M. Cole (Eds.), *Mind and society* (2nd ed., pp. 79–91). W. H. Freeman.

Yuen, M., Leung, A., Chow, K., Wong, J., Wong, C., Chan, S., Feng, J., Zhang, J., & Datu, J. (2026). Acceleration practices for gifted learners in Hong Kong SAR China. In J. L. Roberts & T. Clark (Eds.), *International perspectives on acceleration in gifted education*. Routledge.