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Determinants of Perceived Fairness in Classroom Assessments: A Scoping Review and Proposed Tripartite Model

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ABSTRACT

This study addresses this gap through a descriptive scoping literature review that identifies key determinants of perceived fairness in CA. A search was conducted across five major psychology and education databases—EBSCOhost, PsycINFO, Scopus, Web of Science, and ERIC—covering literature published between 1965 and 2024. Using targeted keywords and defined inclusion criteria, 74 peer-reviewed empirical studies were identified. Content analysis revealed three main categories shaping fairness perceptions: subjective, psychological, and social factors. Based on these findings, the study proposes a tripartite model of perceived CA fairness offering a framework to guide future research and support educators and policymakers in improving fairness in evaluation practices.

Keywords: Classroom Assessments, Classroom Assessment Fairness, Determinants, Fairness, Students' Perception

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INTRODUCTION

Fairness in classroom assessment (CA) is a fundamental principle and a core component of assessment literacy. The American Educational Research Association (2014) defines fair assessment in classroom settings as being “responsive to individual characteristics and testing contexts so that test scores yield valid interpretations for intended uses” (p. 50). Despite its central importance, there remains limited comprehensive research examining the individual and contextual factors that shape students’ perceptions of assessment fairness.

Research on perceptions of fairness in CA has generally followed two main approaches: *conceptual* and *functional*. The *conceptual* approach focuses on how fairness is defined, either from the perspective of students or instructors. For example, Tierney (2014) explored instructors’ understandings of fairness through interviews using an inductive approach, finding that instructors often experience difficulty articulating what constitutes fairness, particularly in positive classroom environments where fairness is assumed to be implicit. However, this line of research has tended to overlook the perspectives of students, who are the primary recipients of assessment practices (Greenberg et al., 1991). Addressing this limitation, Rasooli et al. (2018) conducted a comprehensive review to develop a conceptual model that integrates both student and instructor perspectives, thereby offering a more holistic account of fairness in classroom assessment.

In contrast, the *functional* approach examines how students respond to perceived fairness or unfairness in assessment. Empirical studies consistently demonstrate that perceptions of unfairness are associated with negative academic and behavioral outcomes. For instance, perceived unfairness can reduce students’ motivation and effort and may lead to adverse reactions such as aggression toward instructors (Chory-Assad & Paulsel, 2004). Additional research links perceived unfairness to antisocial communication (Horan et al., 2013), withdrawal from courses (Horan et al., 2010), academic dishonesty (Murdock et al., 2007), truancy (Ishak & Fin, 2013), and disengagement from learning (Čiuladienė & Račelytė, 2016).

Conversely, when students perceive classroom assessment as fair, positive outcomes are more likely to emerge. These include higher academic achievement (Holmgren & Bolkan, 2013), increased engagement (Berti et al., 2010), stronger motivation (Chory-Assad, 2002), and enhanced self-esteem and self-efficacy (Goodrum et al., 2001). Collectively, these findings underscore the significant role that fairness perceptions play in shaping both academic performance and student behavior.

More recently, a third perspective has emerged, emphasizing the subjective nature of fairness perceptions (Barclay et al., 2017). This perspective represents a shift in three key ways. First, it moves beyond examining reactions to fair or unfair experiences toward identifying the underlying factors that shape these perceptions.

Second, it recognizes that fairness is not purely objective but is influenced by individual characteristics and contextual conditions. Third, it encourages the integration of diverse theoretical frameworks to develop a more comprehensive understanding of fairness in CA, rather than maintaining fragmented approaches. This shift highlights the need for systematic investigation of the determinants influencing students' perceptions of fairness, particularly across different cultural and educational contexts (Falavarjani & Yeh, 2024, 2026; Falavarjani, 2025).

In the present review, classroom assessment refers to instructor-designed and -administered practices used to evaluate student learning within a course, rather than large-scale standardized testing. Consistent with prior literature (Brookhart, 2003; Shepard, 2006; Tierney, 2014), CA includes both formative and summative assessments embedded in routine teaching and learning activities. These practices encompass a wide range of formats, such as written examinations (e.g., multiple-choice, short-answer, and essay), quizzes, take-home and online assessments, written assignments, oral examinations, presentations, group projects, peer- and self-assessment, participation-based evaluation, and portfolio assessments. Increasingly, classroom assessment also involves technology-mediated formats, including learning management system (LMS)-based tests, automated quizzes, online discussions, and hybrid assessments in blended or fully online environments (Alt et al., 2022; Wallace & Ng, 2022). Importantly, this review does not focus on the psychometric properties of specific assessment methods; rather, it examines students' perceptions of fairness across assessment processes and outcomes, including grading practices, feedback, instructor behaviors, and contextual influences.

Given this background, an important question arises: What factors shape students' perceptions of fairness in classroom assessment? Furthermore, are these perceptions determined solely by individual student characteristics, or are they also influenced by broader contextual factors?

Purpose of the Study

To the best of our knowledge, no scoping review has been conducted to comprehensively identify the key determinants of students' perceptions of CA fairness. Understanding these determinants is essential for promoting fair assessment practices and fostering student trust in the evaluation process. This study, hence, aims to address this gap by conducting a scoping review of the literature to identify and analyze the critical determinants of perceived CA fairness. Our approach involves: (1) compiling a structured, tabulated summary of empirically identified determinants, (2) outlining their key characteristics, and (3) synthesizing their implications. By doing so, we seek to develop a comprehensive model that explains the factors shaping students' fairness perceptions in CA, ultimately contributing to more equitable and effective assessment practices.

RESEARCH METHOD

Literature Search Procedure

This study employed a scoping and descriptive literature review to identify key determinants of perceived fairness in classroom assessments (CA). The goal was to analyze a representative selection of published articles, detect meaningful patterns, and highlight gaps in the existing literature concerning theoretical propositions, methodologies, and findings (see King & He, 2005; Petersen et al., 2015, for review).

Following the established framework for scoping literature reviews, we conducted a comprehensive search across five major electronic databases—EBSCOhost, PsycINFO, Scopus, Web of Science, and ERIC—covering publications from 1965 to 2024. The starting date was selected to align with the introduction of justice theory (Adams, 1965), which laid the foundation for fairness research in various domains, including education.

To ensure a thorough and targeted search, we used a range of relevant keywords, focusing on fairness in educational settings. These included terms related to classroom assessment fairness, such as “classroom assessment (un)fairness,” “grading (educational),” and “standardized test.” Additionally, we explored broader justice-related concepts by searching for “(un)fairness/justice in classroom assessment,” “classroom (un)fairness/justice,” “school (un)fairness/(in)justice,” and “teacher/student fairness/justice.” Finally, to identify research specifically addressing underlying causes, we incorporated terms like “determinant” and “predictors.”

Only empirical studies that explicitly examined the determinants of students’ perceptions of fairness in CA were included in the review. Table 1 represents the inclusion and exclusion criteria for an empirical study to be included in this review.

Table 1

Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
1. Writing type: Written in English	1. Not written in English
2. Publication Type: Articles must be published in peer-reviewed journals.	2. Non-Empirical Studies: Articles that do not present empirical data.
3. Focus: Studies must explicitly examine the determinants of students' perceptions of CA fairness.	3. Non-Peer-Reviewed Publications: Studies published in non-peer-reviewed journals or other non-academic sources.
4. Data Presentation: Articles must present data on determinants influencing perceived fairness among students.	4. Irrelevant Focus: Studies that do not directly address CA fairness.

5. Research Design: Both qualitative and quantitative research designs are included.

6. Keywords: Studies must include relevant keywords such as “classroom assessment (un)fairness,” “grading (educational),” “standardized test,” “(un)fairness/justice in classroom assessment,” “classroom (un)fairness/justice,” “school (un)fairness/(in)justice,” “teacher fairness/justice,” “determinant,” and “predictors.”

5. Lack of Data on Determinants: Articles that do not provide data on the determinants influencing students' perceptions of fairness.

6. Outside Time Frame: Publications outside the 1965-to-2024-time frame.

Note. Time Frame: Publications from 1965 to 2024.

All articles identified through the screening process were first stored in DT-Search, a software tool that automatically locates and compiles relevant research papers and code repositories. Key data points and code snippets were then extracted for comparison. Finally, we integrated data from multiple sources to identify patterns and potential duplications.

Data Collection and Analysis Process

To systematically gather data on the determinants of students' perceptions of CA fairness, we conducted a multi-step screening process (see Figure 1). First, we carefully examined each study's research setting, objectives, sample characteristics, findings, and methodological approach. This information was then systematically organized in Table 1 to facilitate a structured analysis.

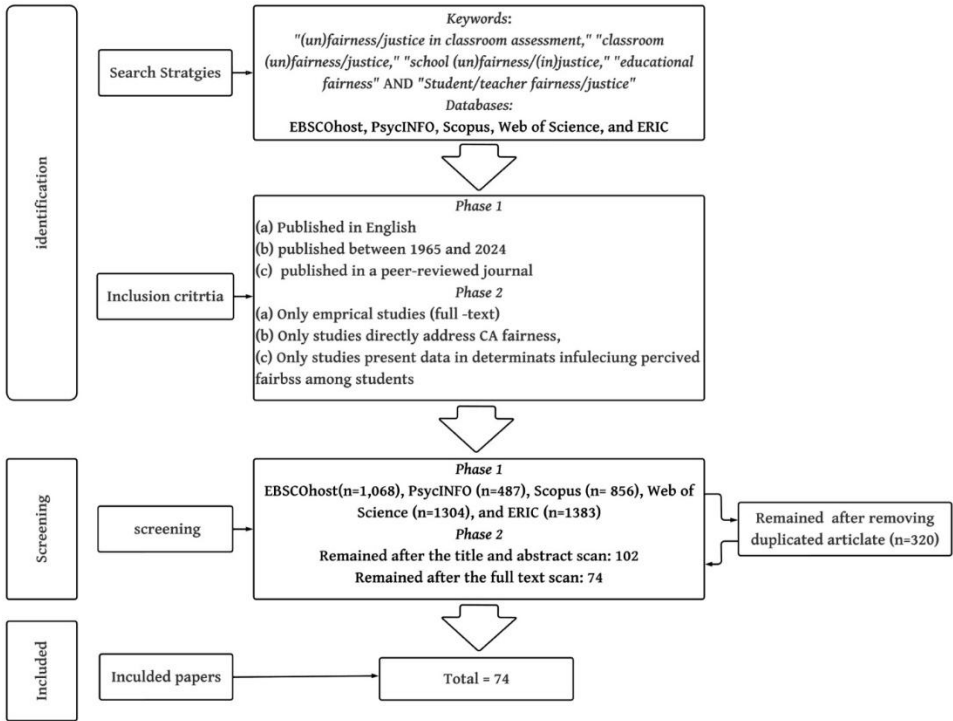
Next, we employed content analysis to identify connections among the determinants extracted from the studies. This process involved: (a) Grouping similar determinants into clusters based on conceptual similarities; (b) Assigning overarching themes to these clusters to create a meaningful categorization; (c) Analyzing relationships between different determinants to explore how they collectively shape fairness perceptions.

Content analysis was particularly well-suited for this study, as it enables researchers to identify, quantify, and interpret recurring themes in qualitative research (Lindgren et al., 2020). This method has been widely endorsed in literature reviews for its ability to uncover underlying patterns within complex datasets (King & He, 2005; Petersen et al., 2015). By integrating these analytical approaches, this study offers a comprehensive synthesis of existing research, providing valuable insights into the factors influencing students' perceptions of fairness in CA. The findings serve as a foundation for developing a conceptual model that organizes and explains these determinants systematically.

In addition to two independent reviewers screening the titles and abstracts of all identified studies, four professors from the College of Education and the

Department of Psychology and Health Studies at the University of Saskatchewan also reviewed the studies. Agreement among reviewers was established using an iterative consensus-based review process. Initial discrepancies identified during title/abstract and full-text screening were discussed collectively and resolved through joint deliberation, followed by review and confirmation by the senior faculty members. Although reviewers' decisions were compared to assess agreement, a numerical Cohen's kappa coefficient was not calculated or retained once full consensus on study inclusion was reached. This consensus-based approach is consistent with established practices in scoping and descriptive reviews, where expert adjudication is used to ensure accuracy and transparency in study selection.

Figure 1
The PRISM-Flow diagram of the article searches and selection process



RESULTS

Our initial search yielded over 100 relevant studies based on different keyword combinations across the selected databases. However, a significant

number of studies were excluded during the screening process because they did not specifically examine the determinants of perceived CA fairness among students (see Table 1). After applying our inclusion criteria, 74 studies were identified and analyzed for this review.

Table 2 summarizes the key determinants of perceived CA fairness and provides a structured overview of the factors investigated in the selected studies. Geographically, most of the research has been conducted in the United States, followed by the United Kingdom, indicating a concentration of studies within Western educational contexts. Methodologically, the quantitative approach was the most commonly used, with most studies relying on questionnaire-based surveys to measure both determinants and students’ perceptions of fairness. This trend indicates a preference for structured data collection methods that facilitate statistical analysis of fairness perceptions.

Table 2
Description of the Characteristics of 74 Empirical Studies Investigating the Determinants of Perceived CA Fairness Among Students.

Author	Context	Objective	Sample	Results	Research Design
Abbaszadeh et al. (2012)*	UK & Iran	Cross-cultural perceptions of accounting ethics	320 students	Significant	Quantitative (survey)
Aldrich et al. (2018)*	US	Effects of age, gender, and course format on assessment effectiveness perceptions	121 undergraduates	Significant	Quantitative (survey)
Alt et al. (2022)*	Israel	Online learning and perceived teacher justice	396 undergraduates	Significant	Quantitative (survey)
Aquario (2021)*	—	Systematic review of fairness in learning assessment	26 studies	NA	Qualitative review
Argon & Kepekcioglu (2016)*	Turkey	Instructor credibility and classroom justice	439 students	Significant	Quantitative (survey)

Barfield (2003)*	US	Grade expectancy and fairness perceptions	230 undergraduates	Significant	Quantitative (survey)
Bazvand & Rasooli, 2022	Iran	Experiences of fairness in summative assessment	18 postgraduates	NA	Qualitative (interview)
Burgess et al. (2023)	US	Bias-based bullying and school fairness	600 students	Significant	Quantitative (survey)
Bursuck et al. (1999)*	US	Achievement level and grading fairness	275 students	Significant	Quantitative (survey)
Butucescu & Iliescu (2020)*	Romania	Personality and intention to appeal perceived unfairness	144 participants	Significant	Quantitative (survey)
Butucescu & Iliescu (2022)*	Romania	Positive and negative affect and perceived fairness in education.	607 students	Significant	Quantitative (Survey)
Caglar (2013)*	Turkey	School characteristics and fairness perceptions	960 undergraduates	Significant	Quantitative (survey)
Chan et al. (1998)*	US	Self-serving bias and fairness perceptions	494 students	Significant	Quantitative (survey)
Cherry et al. (2003)*	US	Impact of grade expectations on fairness perceptions	68 undergraduates	Significant	Quantitative (scenario-based)
Cho et al. (2021)*	US	Motivation and adaptive beliefs about assessment	321 undergraduates	Significant	Quantitative (survey)
Chory (2007)*	US	Instructor credibility and perceptions of	155 undergraduates	Significant	Quantitative (survey)

		classroom justice			
Chory-Assad & Paulsel (2004)*	US	Relationships between instructors' use of antisocial behavior alteration techniques (BATs) and interactional justice	188 undergradu ates	Significant	Quantitative (survey)
Clarke et al. (2005)*	Australia	Examine demographic profile differences (nationality, student status, and gender) in perceptions of fairness across assessment types	593 undergradu ates	Non- significant	Quantitative (survey)
Claus et al. (2012)*	US	Associations between instructor communicatio n behaviors and classroom justice	209 undergradu ates	Significant	Quantitative (survey)
Crosthwaite et al. (2015)*	Korea	Learning styles and fairness of participation grading	196 students	Significant	Quantitative (survey)
Dalbert & Stoeber (Study 2, 2005)*	Germany	Just-world beliefs and school fairness	1,830 students	Significant	Quantitative (survey)
Donat et al. (2012)*	Germany & India	Belief in a just world and teacher justice	458 students	Significant	Quantitative (survey)
Donat et al. (2014)*	Germany & India	Belief in a just world and teacher justice	585 school students	Significant	Quantitative (survey)

Davison et al. (2014)	US	Performance level and variability in peer evaluations	181 undergraduates	Significant	Quantitative (survey)
Duffield & Spencer (2002)*	UK	Multiple assessment opportunities and fairness	312 students	Significant	Quantitative (survey)
Duplaga & Astani (2010)	US	Perceived fairness of course policies	254 undergraduates	Significant	Quantitative (survey)
Erkan & Walker (2016)*	Canada	Fairness perceptions of Muslim students	189 students	Significant	Quantitative (survey)
Furnham & Chamorro-Premuzic (2010)*	UK	Effects of individual differences on perceived fairness of selection methods	322 undergraduates	Significant	Quantitative (survey)
Flores et al., (2015)*	Portugal	Perceptions of effectiveness, fairness, and feedback	378 undergraduates	Significant	Quantitative (survey)
Gorard (2012)*	Five countries	International differences in school fairness	13,000 students	Significant	Quantitative (survey)
Gallagher (2019)*	UAE	Student voice and perceived fair treatment	10 students	Significant	Qualitative
Gordon & Fay (2010)*	US	Teaching and grading practices and fairness perceptions	600 college students	Significant	Quantitative (survey)
Gao et al. (2022)	China	Factors associated with ethical classroom assessment practices	1,996 undergraduates	Not reported	Mixed methods
Henry (2018)*	Australia	First-year students'	43 students	Significant	Qualitative

		expectations of CA fairness			
Houston & Bettencourt (1999)*	US	Instructor behaviors perceived as fair or unfair	149 students	Significant	Quantitative (survey)
Horan et al. (2010)*	US	Promise-keeping and CA fairness	138 undergraduates	Significant	Qualitative
Jiang et al. (2019)*	China	Victim sensitivity, teacher justice, and altruism	1,856 adolescents	Significant	Quantitative (survey)
Kamble & Dalber (2012)*	India	Association between personal and general belief in a just world (BJW) and students' subjective justice experiences with parents and teachers	278 Indian Grade 10 students	Significant	Quantitative (survey)
Kerssen-Griep & Witt (2012)	UK	Facework and interactional fairness	269 students	Significant	Experimental
Lizzio et al. (2007)*	Australia	Environmental factors influencing fairness perceptions	342 undergraduates	Significant	Quantitative (survey)
Mauldin (2009)*	US	Assessment choice and perceived learning and fairness	322 undergraduates	Significant	Quantitative (survey)
Myhill & Jones (2006)*	UK	Gender differences in instructor treatment	144 school students	Significant	Qualitative (interviews)
Molinari et al. (2013)*	Italy	Teacher behavior, classroom	614 students	Significant	Quantitative (survey)

		justice, and outcomes			
Murillo & Hidalgo (2017)*	Spain	Conceptions of fair assessment	32 high school students	NA	Phenomenographic study
Oppenheimer (1989)	Canada	Peer participation in grading and fairness perceptions	99 students	Significant	Experimental
Pepper & Pathak (2008)*	US	Grading practices and procedural fairness	385 undergraduates	Significant	Quantitative (scenario-based)
Peter et al. (2013)*	Germany	Belief in a just world and perceived teacher justice	827 secondary students	Significant	Quantitative (survey)
Peter & Dalbert (2010)*	Germany	Just-world beliefs and classroom justice	401 students	Significant	Quantitative (survey)
Paulsel et al. (2005)	US	Associations between instructor power and classroom justice	154 undergraduates	Significant	Quantitative (survey)
Panadero et al. (2013)*	Spain	Effects of rubrics and friendship on peer-assessment fairness	293 undergraduates	Non-significant for rubrics; significant negative effect of friendship	Quasi-experimental design
Rasooli & Mousavi (2021)*	50 Nations	Student- and school-level predictors of perceived teacher unfairness	170,703 students	Significant	Quantitative (archived data)
Reeve & Lam (2007)*	US	Investigation of the association between self-serving	136 Undergraduates	Significant	Quantitative (survey)

		bias, intelligence, and perceptions of test fairness			
Rodabaugh (1994)*	US	Faculty misbehavior and fairness perceptions	300 university students	Significant	Quantitative (survey)
Rodriguez (2012)*	US	Demographic factors and justice perceptions	1,150 students	Significant	Quantitative (survey)
Sabbagh et al. (2006)	—	Determinants of students' fairness perceptions	—	NA	Descriptive
Sabbagh & Ben- Menachem (2021)*	Israel	Perceived injustice as a mediator of ethnic and racial differences in trust and identification.	700 Israeli university students	Significant	Quantitative (survey)
Sambell et al. (1997)*	UK	Influence of friendship on perceived fairness across classroom assessments	30 undergradu ates	Significant negative association	Qualitative (interviews)
Schmidt et al. (2003)	US	Effects of grade outcomes, student voice, and justification on perceptions of instructor fairness	451 university students	Significant	Quantitative (survey)
Scott et al., (2014)*	Canada	Fairness and equity in student assessment practices	3312 stock- holders	Significant	Mixed methods

Seevers et al. (2014)	US	Feedback transparency and fairness perceptions	192 undergraduates	Significant	Quantitative (survey)
Sommer & Arendasy (2016)	Austria	Test anxiety and measurement fairness	1,768 students	Significant	Quantitative (survey)
Smith & Gorard (2006)*	Five countries	Students' views on equity in schools	5,432 students	Significant	Quantitative (survey)
Strauß & Bondü (2023)*	Germany	Justice sensitivity and distributive behavior	1,320 students	Significant	Quantitative (survey)
Sun (2022)*	_____	Teacher immediacy, credibility, and fairness	4 studies	NA	Review
Tata (2005)*	US & China	Cultural differences in grading fairness	346 undergraduates	Significant	Quantitative (survey)
Tierney (2016)*	Canada	Conceptualization of classroom assessment fairness	6 Teachers	NA	Qualitative (interview)
(& Mucherah (2017)	Brazil	Just-world beliefs and school fairness	475 adolescents	Significant	Quantitative (survey)
Thorkildsen (1993)*	US	Ability level and perceptions of fair learning practices	113 students	Significant	Qualitative
Tomul et al. (2012)*	Turkey	Effects of teacher SES-related discrimination and justice behaviors on perceived fairness.	1092 undergraduates	Significant	Quantitative (survey)

Wallace & Qin (2021)*	Macao	Respectful communication and test fairness	192 students	Significant	Quantitative (survey)
Wallace & Ng (2022)*	US	Approaches to classroom assessment fairness	276 students; 14 teachers	Significant	Quantitative (survey)
Xu et al. (2016)*	UK	Fairness of MCQs for students with learning disabilities	900 medical students	Non-significant	Quantitative (survey)
Yan (2021)	China	Teacher caring, immediacy, and fairness perceptions	1,178 students	Significant	Quantitative (survey)
Yip & Cheung (2005)*	Hong Kong	Understanding problems in Teacher Assessment Scheme (TAS) implementation	300 teachers	NA	Mixed methods

Note. An asterisk (*) indicates studies included in the analysis. *NA* denotes “not applicable.”

Thematic Analysis

Following the tabulated compilation of determinants influencing students’ perceptions of CA fairness, we conducted a content analysis to identify connections among these factors. Guided by Miles and Huberman’s (1994) qualitative data analysis framework, we applied three coding stages: open, axial, and selective coding (see Appendix 1).

Open coding identified recurring themes across 74 selected articles, categorizing determinants into subjective, psychological, and social factors. Axial coding refined these categories by grouping subthemes such as cognitive biases, instructor behaviors, and peer influence. Selective coding synthesized these patterns into a cohesive framework, forming our proposed tripartite model of fairness perceptions. This structured process enabled a rigorous synthesis of the literature, establishing clear conceptual linkages. We identified three overarching themes: subjective, psychological, and social determinants. Subjective determinants include individual experiences, cognitive biases, and personal

expectations of fairness. Psychological determinants involve motivation, self-efficacy, and emotional responses to assessments. Social determinants capture external influences, such as peer comparisons, instructor behavior, and institutional policies. Demographic variables were also integrated to account for their role in shaping fairness perceptions.

These themes interact in complex ways. For example, students with low self-efficacy may perceive an exam as unfair if they feel unprepared, even when grading criteria are transparent. Instructor-student relationships are also key—students who feel valued by their instructors are more likely to perceive assessments as fair. Broader cultural and institutional factors, such as grading norms and assessment policies, further shape fairness perceptions. These interconnected influences underscore the multidimensional nature of CA fairness and highlight the importance of transparent, inclusive assessment practices.

Demographic Profiles

An analysis of the 74 identified studies highlights the critical role of demographic variables in shaping students' perceptions of CA fairness. Table 3 presents 12 studies that specifically examine how demographic factors influence fairness perceptions. Through content analysis, we identified four key demographic variables: age, gender (of both students and instructors), race, and socioeconomic status (SES). Each plays an important role in shaping how students perceive fairness in assessments.

Among these variables, gender differences in fairness perceptions have been widely studied. Some research suggests that female students are more likely to view assessments as fair when grading transparency is high, while male students may place greater emphasis on the fairness outcomes (Donat et al., 2014). Instructor gender has also been explored, with findings indicating that students' perceptions of assessment fairness can vary based on the instructors' gender and teaching style.

Racial and socioeconomic disparities further complicate fairness perceptions. Studies have shown that students from marginalized racial backgrounds may experience assessments differently due to cultural biases embedded in test design or instructor expectations. Similarly, students from lower SES backgrounds may encounter additional challenges, such as limited access to preparatory resources, which can shape their perceptions of assessment fairness. Despite the recognized importance of these factors, our review found that only one study (Donat et al., 2014) explicitly controlled for the main effects of these demographic variables in its analysis. This points to a critical gap in the literature and highlights the need for more research that systematically accounts for demographic influences on fairness perceptions.

Table 3*Empirical Studies Investigating the Relationship Between Demographic Variables and Students' Perceptions of CA Fairness*

Gender	Age	SES	Racial and Ethnic Backgrounds
Aldrich et al. (2018)*	Aldrich et al. (2018)* Barfield (2003)*	Clarke et al. (2005)*	Butuceanu & Ilescu (2022)*
Butuceanu & Ilescu (2022)*	Butuceanu & Ilescu (2022)*	Furnham & Chamorro-Premuzic (2010)*	Gao et al. (2022) Mauldin (2009)*
Clarke et al. (2005)*	Clarke et al. (2005)* Furnham & Chamorro-Premuzic (2010)*	Premuzic (2010)* Mauldin (2009)*	Menachem (2021)* Sabbagh & Ben-Menachem (2021)*
Furnham & Chamorro-Premuzic (2010)*	Chamorro-Premuzic (2010)* Mauldin (2009)* Tata (2005)*	Tomul et al. (2012)*	Menachem (2021)* Tata (2005)*
Mauldin (2009)*			
Myhill & Jones (2006)*			
Xu et al. (2016)			

Note. Detailed information about the articles included in this table is presented in Table 2. An asterisk (*) denotes the studies that are included in the article content. Some manuscripts addressed multiple CA fairness determinants and are included more than once.

The American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014) emphasize that demographic biases in assessment contexts represent construct-irrelevant factors—elements unrelated to actual student ability that can either inflate or deflate test scores. These biases pose a significant threat to fairness, potentially distorting students' academic outcomes and reinforcing systemic inequities. Recognizing and addressing these disparities is essential for ensuring fair assessment practices that accurately reflect students' abilities, regardless of their demographic background.

Gender of Instructors and Students

Gender plays a complex role in academic expectations and achievements, shaping both students' experiences and their perceptions of CA fairness (Millan et al., 2012, p. 152). Our findings highlight several empirical studies that have explored gender differences in students' perceived fairness, either directly or indirectly.

For example, Mauldin (2009) examined how male and female students perceive fairness in different assessment formats—constructed-response, multiple-choice, and mixed-format. While no significant gender differences in fairness

perceptions were found, format preferences varied by gender and influenced perceived fairness. Similarly, studies on multiple-choice assessments (Clarke et al., 2005; Xu et al., 2016) showed largely similar fairness perceptions across genders, but the assessment preferences differed. Male students were more likely to view mixed-format assessments as unfair, citing potential grading inconsistencies, while female students reported higher fairness perceptions, particularly when essay or short-answer questions were included (Aldrich et al., 2018). This supports earlier findings that female students tend to prefer written responses, while male students often favor oral knowledge expression (Birenbaum & Feldman, 1998).

Instructor gender also influences fairness perceptions. Myhill and Jones (2006) found that students perceived female instructors as more impartial and equitable across genders. This was especially true in high-school settings, where Nichols and Good (2022) reported that students viewed female instructors as less likely prone to gender biases. These perceptions appear linked to instructor approachability, communication style, and perceived impartiality, explaining why female instructors are often viewed as more equitable in CA contexts (Hunt et al., 2023).

Age

Age also plays a key role in how students conceptualize fairness in CA. Justice perceptions evolve with cognitive development, shifting from equality-based fairness in early childhood to equity- and need-based fairness in late adolescence and adulthood. Nikiforidou and Pange (2015) observed that children as young as four often equate fairness with strict equality (i.e., everyone receiving the same treatment or rewards). This belief tends to persist until around age 17, after which students begin considering equity and individual needs into their fairness judgments (Berti et al., 2010; Evans et al., 1994; Thorkildsen, 1989a; Welch, 2000).

However, domain-specific fairness perceptions emerge during adolescence. Thorkildsen (1989a, 1989b) found that students under 17 years viewed peer tutoring as fair in learning contexts, but perceived peer help after exams as unfair—indicating a shift toward merit-based fairness principles in testing situations. This indicates the development of context-dependent fairness norms (Arnold, 2022; Thorkildsen, 1994).

Aldrich et al. (2018) compared traditional-aged university students (under 24) and non-traditional-aged students (over 24) and found that older students viewed written assignments as fairer, valuing the opportunity to demonstrate critical thinking and argumentation skills. Younger students were less inclined to prefer written assignments, though both groups agreed multiple-choice exams were the most effective and objective assessment tool (Simkin & Kuechler, 2005). Likewise, Barfield (2003) found older students were more sensitive to fairness in group work, particularly when effort was uneven. These findings highlight how age-related

cognitive and experiential differences shape students' fairness perceptions in CA contexts.

Socioeconomic Status (SES)

Our findings indicate that SES significantly influences students' perceptions of fairness in CA, particularly in how they interpret instructor behaviors. Tomul et al. (2012) found that 72% of students from lower SES backgrounds perceived instructor bias based on economic status, believing they were treated differently due to their financial circumstances. These perceptions extended to both distributive fairness (grading and academic rewards) and relational fairness (instructor-student interactions).

Students from lower SES backgrounds may view grading policies as unfair if they believe wealthier peers benefit from private tutoring, test preparation resources, or better-resourced schools. Instructor expectations can also contribute to implicit biases—students from higher SES backgrounds may be perceived as more capable, while lower SES students face harsher judgements. This issue is particularly evident in standardized testing, where wealthier students often have access to test-prep courses and personalized coaching, leading to disparities in perceived and actual fairness.

Racial and Ethnic Backgrounds

Racial and ethnic identities also shape fairness perceptions in CA. Sabbagh and Ben-Menachem (2021) examined fairness perceptions among Ethiopian Jews, non-Ethiopian Jews, and Arab students in higher education settings. Non-Ethiopian Jews (the dominant group) expressed more trust in the academic system but still noted instances of unfairness. Arab students, despite stronger identification with their institutions, also encountered barriers to fair assessment. They also found that Ethiopian Jewish students felt the least identified with their universities, exhibited lower trust levels, and reported higher perceived unfairness, suggesting that systemic biases influenced their assessment experiences.

Cross-cultural studies further highlight these dynamics. Tata (2005) compared Chinese and American students and found culturally specific fairness concerns. American students were more likely to perceive unfairness when denied the opportunity to contest grades, reflecting a cultural emphasis on individual agency. In contrast, Chinese students reported higher unfairness when experiencing disrespectful instructor interactions, emphasizing the importance of relational fairness in Confucian-based educational traditions.

These findings reinforce the need for culturally responsive assessment practices, as fairness perceptions are deeply shaped by societal norms, historical inequalities, and institutional biases. Without addressing these disparities, CA systems risk perpetuating inequities that disproportionately affect marginalized student populations.

The Tripartite Model of Determinants of Students' Perception of CA Fairness

Building on the content analysis, we examined how key variables interact to shape students' perceptions of fairness in Classroom Assessment (CA). These variables naturally grouped into three distinct yet interrelated categories (see Appendix 1), leading to the development of the Tripartite Model of Determinants of CA Fairness. This model organizes these influences into three overarching themes: subjective, psychological, and social determinants (see Figure 2).

Each of these themes represents a different dimension of fairness perception: (a) *Subjective determinants* capture students' individual experiences, biases, and expectations. For example, a student accustomed to high grades may view a lower score as unfair, even with transparent grading criteria. (b) *Psychological determinants* involve emotions, motivation, and cognitive responses to assessments. A student with high test anxiety might find an assessment unfair if it offers limited ways to demonstrate understanding. (c) *Social determinants* encompass external factors such as teacher behavior, peer influence, and institutional policies. If students observe that certain classmates receive preferential treatment in grading or feedback, they may perceive the assessment process as biased, even if grading rubrics are clearly outlined.

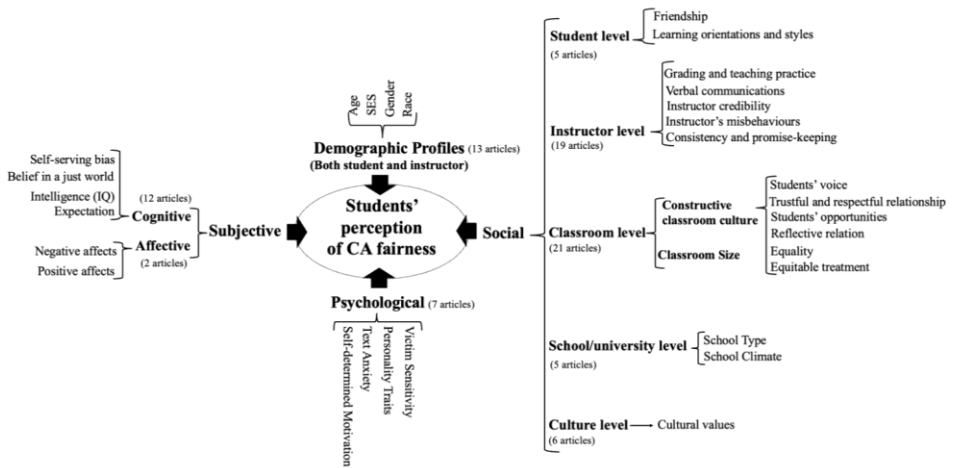
The Tripartite Model provides a comprehensive framework for understanding why students perceive assessments as fair or unfair. It synthesizes key findings from the literature and highlights the multidimensional nature of fairness perceptions in CA contexts. It serves as a foundation for educators, policymakers, and researchers to develop more equitable assessment practices that consider both individual student experiences and broader systemic influences.

Subjective Determinants

Subjective determinants refer to individual cognitive and emotional factors that shape how students perceive fairness in classroom assessments (CA). These do not reflect the objective fairness of assessments, but rather how fairness is interpreted through personal experiences, biases, and mental frameworks (Brockner et al., 2015; Guo et al., 2011; Rupp, 2011; Whiteside & Barclay, 2015).

Figure 2

The Depiction of the Tripartite Model of Determinants of Students' Perception of CA Fairness



Note. Apart from the demographic profile, the total number of articles exceeds 74 due to the inclusion of some articles in multiple categories.

In other words, even when assessments follow standardized procedures, students may still perceive them as unfair due to their cognitive abilities, expectations, or emotional responses. This aligns with the idea that fairness is often a “global, intuitive assessment” rather than a strictly rational evaluation (Organ, 1990, p. 63). It encompasses four key cognitive determinants: self-serving bias, cognitive ability (high vs. poor performers), expectations, and belief in a just world (BJW) and two positive and negative affective determinants. Overall, these factors influence how students process and evaluate assessment fairness, often shaping their responses to success and failure.

Table 4*Empirical Studies on Subjective Factors Influencing Students' Perceptions of CA Fairness*

Cognitive	Affective
Bazvand & Rasooli (2022)*	Alt et al. (2022)*
Bursuck et al. (1999)*	Butucescu & Iliescu (2022)*
Chan et al. (1998)*	
Cherry et al. (2003)*	
Davison et al. (2014)	
Dalbert & Stoeber (2005)	
Kamble & Dalber (2012)*	
Donat et al. (2014)*	
Henry (2018)*	
Peter & Dalbert (2010)*	
Peter et al. (2013)*	
Reeve & Lam (2007)*	
Thorkildsen (1993)*	

Note. Detailed information about the articles included in this table is presented in Table 2. An asterisk (*) denotes the studies that are included in the article content.

Cognitive determinants*The Role of Self-Serving Bias*

Table 4 presents studies that examined the cognitive determinants of CA fairness. The self-serving bias describes how individuals tend to attribute positive outcomes to their abilities and negative outcomes to external factors (Mezulis et al., 2004). This psychological mechanism plays a critical role in students' perceptions of assessment fairness. For example, when students perform well on an exam, they often credit their intelligence or effort, reinforcing the belief that the assessment was fair. Conversely, students who receive lower grades may blame external factors—such as exam difficulty, grading practices, or time constraints—leading to perceptions of unfairness in CA contexts (Chan et al., 1998; Reeve & Lam, 2007).

This bias helps explain why students across various studies consistently report high levels of perceived unfairness in CA (Bazvand & Rasooli, 2022; Čiuladienė & Račelytė, 2016). Because assessments challenge students' self-concept, unexpected negative feedback can lead to perceived injustice—even when grading is objective (Morris et al., 2021).

Cognitive Ability: Fairness among High Vs. Low Performers

Cognitive ability strongly influences how students interpret assessment fairness. Research shows that lower-performing students are more likely to view assessments as unfair, while high performers tend to see them as fair (Bursuck et al., 1999; Reeve & Lam, 2007; Thorkildsen, 1993).

Struggling students may use unfairness perceptions as a defense mechanism to protect self-esteem, attributing poor performance to assessment flaws rather than ability. In contrast, high-achieving students see strong results as valid indicators of their knowledge and are more likely to trust the fairness of assessments (Reeve & Lam, 2007). For instance, Reeve and Lam (2007) found that students with higher general intelligence (g factor) were more likely to perceive cognitive ability tests as fair. Thorkildsen (1993) similarly reported that students with higher IQs viewed classroom assessments as fairer, while those with lower IQs were more skeptical. These findings suggest that fairness perceptions are shaped not just by the assessment process itself, but by how students interpret their academic performance within that system.

Expectations: The Role of Anticipated Grades

Students' expectations about their grades also influence how fair they perceive an assessment to be. Outcome expectations, or students' beliefs about the grades they will receive, have been shown to affect motivation, learning, and fairness perceptions (Jinks & Morgan, 1999). Murstein (1965) found that over 80% of students inaccurately predicted their final grades, with many expecting higher scores than they actually received. This discrepancy often leads to perceived unfairness, particularly among students whose grades are lower than expected. Even when assessments follow transparent grading criteria, students who believe they deserved higher marks are more likely to view the process as biased.

Cherry et al. (2003) further confirmed this effect by demonstrating that students who anticipated either much higher or much lower grades were more likely to perceive assessments as unfair compared to those whose expectations aligned with their actual scores. This aligns with Equity Theory (Adams, 1965), which suggests that fairness perceptions are shaped by the balance between effort and reward. If students feel they have put in significant effort but did not receive a proportionate grade, they may perceive the assessment as unjust. Similarly, Henry (2018) applied Expectation-Confirmation Theory to show that students' online grade expectations influenced how they perceived overall fairness. The more an assessment aligned with their initial expectations, the fairer they perceived it to be. These findings suggest that students' perceptions of CA fairness are not just shaped by the assessment process itself, but also by their subjective anticipation of success or failure.

Belief in a Just World (BJW): The Role of Personal and General Beliefs

Students bring their belief systems into academic settings, and one particularly relevant belief is the Just World Belief (JWB). This belief suggests that people get what they deserve, meaning that hard work leads to success and fairness is inherent in life's systems.

Studies show that students with a strong BJW are more likely to view school and assessments as fair (Kamble & Dalbert, 2012; Peter & Dalbert, 2010). Holding either a general BJW (believing the world is fair) or a personal BJW (believing their experiences in life are fair) has been linked to higher levels of perceived fairness in CA contexts (Dalbert & Stoeber, 2005; Donat et al., 2012). For example, Dalbert and Maes (2002) found that students with a strong personal BJW were more likely to trust school authorities and view grading systems as just, even when their grades were lower than expected. Similarly, Peter et al. (2013) demonstrated that BJW remains a significant predictor of fairness perception, even when controlling for students' school tracks, grades, and gender. BJW also functions as a psychological buffer (Dalbert, 2002), helping students cope with potential injustices in academic settings. Those with strong personal BJW tend to experience lower stress levels in school, viewing their education as a fair and predictable system (Dalbert & Sallay, 2004). However, general BJW is more influential in shaping fairness perceptions on a larger scale, such as students' trust in educational institutions or belief in systemic grading fairness (Correia & Vala, 2004).

In general, the subjective nature of fairness perceptions in CA contexts is deeply intertwined with students' cognitive and affective states. Whether shaped by self-serving biases, academic performance, expectations, or underlying beliefs in justice, students interpret fairness through personal experiences and psychological mechanisms rather than objective grading criteria alone. Understanding these subjective determinants can help educators design more transparent and equitable assessment systems, ensuring that students not only receive fair assessments but also perceive them as such.

Affective Determinants: Negative and Positive

Table 4 presents studies examining the influence of affection on perceptions of CA fairness. Affect encompasses moods and emotions (Mayer, 1986). Moods are "low-intensity, diffuse, and relatively enduring affective states without a salient antecedent cause and little cognitive content," while emotions are "more intense, short-lived, and usually have a definite cause and clear cognitive content" (Forgas, 1992, p. 230). Affect influences perceived fairness, encompassing both short- and long-term feelings. Research (Diener & Emmons, 1984; Mao et al., 2018) treats positive and negative affect as distinct constructs. Studies (Alenizi & Alkhadher, 2022; Mao et al., 2018) highlight affect's essential role in shaping perceived justice. Empirical evidence (De Cremer & Van den Bos, 2007; Mao et al., 2018; Scher & Heise, 1993) suggests that individuals facing objectively unfair events may not

perceive injustice unless emotionally provoked. The affect-as-information theory (Schwarz & Clore, 2007) posits that affective states guide judgments and attitudes. Often, individuals are unaware of their emotional states or their impact on fairness perceptions, particularly in uncertain situations like exams (Van den Bos, 2003). Fairness assessments in such contexts (e.g., exams; Putwain et al., 2010) are highly subjective and influenced by affective states unrelated to justice evaluations. Barsky et al. (2011) similarly argued that incidental affect shapes perceived fairness. Students with a positive mindset tend to interpret classroom settings constructively, view exams as opportunities rather than threats, perceive instructors more favorably, and make more positive decisions (Ashton-James & Ashkanasy, 2005). Conversely, students with a negative mindset are more likely to see exams as threats, interpret events pessimistically, and view instructors and peers with skepticism (Butucescu & Iliescu, 2022). Butucescu and Iliescu (2022) found that incidental negative affect led to perceptions of unfairness in classroom assessments. Alt et al. (2022) further reported that students experiencing negative emotions—exacerbated by COVID-19 restrictions—were more likely to perceive their teachers’ behavior as unjust.

Psychological Determinants

Psychological determinants insinuate the determinants of students’ perception of CA fairness associated with mental, emotional, and personality-trait determinants. Our findings represent these determinants leading to different perceptions of fairness in CA contexts. We used the term psychological determinants since these determinants directly contribute to understanding the underlying psychological mechanisms of the construction of students’ perception of CA fairness. After analyzing the article's content, however, we found four psychological determinants of perceived fairness in CA contexts. Four categories were identified across seven studies: self-determined motivation (Cho et al. 2020; Rasooli & Mousavi, 2021; Rodriguez, 2012), personality traits (Butucescu & Iliescu, 2020), test anxiety (Rasooli & Mousavi, 2021; Sommer & Arendasy, 2016), and victim sensitivity (Jiang et al., 2019; Strauß & Bondü, 2023).

Self-Determined Motivation

According to Cho et al. (2020), students’ perspectives influence general beliefs about assessments (e.g., being fair or unfair). Further, Cho et al. (2021) examined the impact of students’ self-determined motivation on their adaptive beliefs about classroom assessment, which refers to how students perceive that assessments are consistent with learning objectives and provide beneficial, useful, and fair learning experiences. Students with high self-determined motivation in their class believe in the benefits of classroom assessments and adaptively respond to their classroom assessments. Thus, the higher students' self-determined

motivation is, the greater the chance of embracing adaptive beliefs about classroom assessments, and the higher they perceive fairness in CA contexts.

Personality Traits

Although the association between personality traits (Big Five model and Dark Triade) and perception of fairness/justice is well studied in organizational contexts (Aggarwal et al., 2022; Bernerth et al., 2006), this significant association received scant attention in the contexts of fairness in educational settings. However, we only found one study in this area. Butucescu and Iliescu (2020) examined the relationship between students' perceptions of fairness in the assessment processes and their intentions to appeal the exams while considering the moderating role of neuroticism and agreeableness. The results demonstrated that higher neuroticism amplified the relationship between perceived unfairness and intention to appeal to the assessment processes. Further, students with high agreeableness also tended to appeal to the assessment process more than students with low agreeableness.

Test Anxiety

According to meta-analytic studies (e.g., von der Embse et al., 2018; Manley et al., 2023), test anxiety negatively impacts academic achievements at all levels, from elementary to graduate schools. Similarly, longitudinal and experimental data proposed that there is a negative influence of anxiety on achievement (Daniels et al., 2009; Zeidner, 2007). In addition, the meta-analytic studies and longitudinal data demonstrated the positive relationships between approach-balanced goals (mastery goals) and academic achievement (Linnenbrink-Garcia et al., 2008). This relationship has been reported for several other psychological factors, including personality traits (Mammadov, 2022; Trapmann et al., 2007), burnout (Madigan & Curran, 2021), academic self-concept (Wu et al., 2021), and different learning styles (Karakoç et al., 2022). In the literature, several psychological factors are associated with and contribute to academic motivation.

For example, Bureau et al. (2022) conducted a meta-analytic study to find out the psychological variables that predict the strongest academic motivation for students. Their study outcome showed that the satisfaction of three psychological needs (relatedness, competence, and autonomy) was strongly associated with students' self-determined motivation. Considering that students' perceptions of CA fairness are closely associated with their academic attitudes and motivations, it highlights the critical role of psychological factors in learners' attitudes and academic motivation that proposes psychological antecedents of perceptions of CA fairness. Eshet et al. (2022) reported the association between test anxiety and academic dishonesty. Similarly, Rasooli and Mousavi (2021) reported that students with higher feedback experiences and test anxiety reported higher levels of CA unfairness.

Victim Sensitivity

Jiang et al. (2019), for the first time, uncovered how victim sensitivity, as mediated by teacher fair behavior, influenced students' altruistic behavior. Victim sensitivity considers an individual's tolerance of unfair treatment toward themselves (Schmitt et al., 2005). Teachers' fair behaviors mediated this prediction significantly, indicating that students with high victim sensitivity reported higher expectations for unfair treatment. In addition, Strauß and Bondü (2023) reported that students with deep concerns for justice for the self (victim JS) were more likely to distribute the outcome (e.g., grade) with the merit principle and a preference for need over equality and merit when forced to choose one principle among merit, need, and equality. However, students with deep concerns for justice for others (altruistic JS) distribute the outcomes based on sharing, equal principle, fewer distributions according to the merit principle, and a preference for equal distributions over merit and need when forced to choose among the three.

Social Determinants

Social determinants refer to environmental or contextual factors influencing students' perception of CA fairness. Originating from Bronfenbrenner's ecological systems theory (1979), we propose these determinants. These determinants begin with students, classrooms, and schools as immediate networks, influencing growth and learning, and extend to cultural influences (see Table 5).

Table 5

Empirical Studies on Social Factors Influencing Students' Perceptions of CA Fairness at Various Levels

Student Level	Instructor Level	Classroom Level	School Level	Culture Level
Alt et al. (2022)*	Argon & Kepekciogl (2016)*	Aldrich et al. (2018)*	Caglar (2013)*	Abbaszadeh et al. (2012)*
Crosthwaite et al. (2015)*	Chory (2007)*	Cowie (2005) *	Gorard (2012)*	Aquario (2021)*
Panadero et al. (2013)*	Chory-Assad & Paulsel (2004)*	Duffield & Spencer (2002)*	Molinari et al. (2013)*	Erkan & Walker (2016)*
Sambell et al. (1997)*	Claus et al. (2012)*	Duplaga & Astani (2010)	Rasooli & Mousavi (2021)*	Gorard (2012)*
	Gordon & Fay (2010)*	Flores et al., (2015) *	Thomas & Mucherah (2017)	Liu & Meng (2009)*
	Horan et al. (2010)*	Gallagher (2019)*		Tata (2005)*
	Houston & Bettencourt (1999)*	Horan et al. (2010)*		

Kerssen-Griep & Witt (2012)	Murillo & Hidalgo, (2017)*
Mauldin (2009)*	Oppenheimer (1989)
Molinari et al. (2013)*	Panadero et al. (2013)*
Myhill & Jones (2006)*	Rasooli & Mousavi (2021)*
Paulsel et al. (2005)	Sabbagh & Ben-Menachem (2021)*
Pepper & Pathak (2008)*	Schmidt et al. (2003)
Rodabaugh (1994)*	Scott et al., (2014)*
Sabbagh et al. (2006)	Seevers et al. (2014)
Sun (2022)*	Smith & Gorard (2006)*
Wallace & Ng (2022)*	Lizzio et al. (2007)*
Xu et al. (2016)*	Tierney (2016)*
Yan (2021)	Wallace & Qin (2021)*
	Yip & Cheung, (2005)*

Note. Detailed information about the articles included in this table is presented in Table 2. An asterisk (*) denotes the studies that are included in the article content.

These determinants can go beyond subjective and psychological variables and be examined at different levels of analysis. For example, Johnson et al. (2019) revealed the determinants of misbehaviors of students in schools go beyond the students' characters. They investigated that external determinants of misbehaviors of students include instructional factors (i.e., poor teaching, ineffective teaching, and poor classroom management), family impact (i.e., awful parenting and poor upbringing), sociability (i.e., more interested in peers, desire to impress classmates, and peer pressure), and non-academic responsibilities (i.e., heavy work schedule, competing priorities, and personal issues). Similarly, we found various variables associated with different categorizations of social determinants of students' perception of CA fairness. In fact, after the content analysis, the articles related to the social determinants were clustered into five levels, including student, instructor, classroom, school/university, and culture levels (see Tables 5).

Student Level

The social determinants at the student level refer to social-personal factors within classroom contexts that influence students' perceptions of fairness in classroom assessments. Learning styles and friendships were categorized under the student-level social determinants of CA fairness (see Table 5).

Learning Orientations and Styles

In the CA fairness literature, scholars suggest that learning opportunities should be diverse to accommodate different student approaches (e.g., Suskie, 2000). Tippin and colleagues (2012) examined two learning orientations of students (i.e., learning and grade orientations) in relation to professors' grading fairness. Prototypically, learning-oriented students are motivated by knowledge acquisition, whereas grade-oriented students tend to be motivated by acquiring high grades. They found that students viewed professors as less fair and competent when they failed to account for students' perceived effort. Furthermore, some students with different learning styles perceived the inclusion of in-class participation in assessments as ineffective and unfair (Crosthwaite et al., 2015).

Friendship

Friendship is often assumed to undermine fairness in classroom assessments, especially in the peer-assessment context (Sambell et al., 1997). However, Panadero et al. (2013) found that when rubrics are provided, fairness perceptions are more influenced by perceived validity and comfort with peer ratings than by the presence of friendships. Peer ratings had a minor effect, while perceived validity had a moderate effect.

Instructor level

Instructor-level factors refer to characteristics and behaviors that influence students' perception of fairness in CA. Table 5 represents the studies found in this domain. For example, drawing on data from 13,000 students from five countries, Gorard (2012) found that students often viewed instructors as sources of unfairness in classroom contexts. Similarly, Rodabaugh and Kravitz (1994) emphasized that instructors aiming to improve student satisfaction, motivation, and performance should prioritize fairness in their classroom practices and policies. However, the content analysis of the obtained studies leads to the six themes at this level, which include grading and teaching practice, verbal communications, instructor credibility, assessment choices, instructor misbehaviors, consistency, and promise-keeping.

Grading and Teaching Practices

Rodabaugh (2006) emphasized that college instructors' teaching practices play a critical role in shaping students' perceptions of fairness, particularly in classroom assessments. Key factors include offering diverse assessment types and maintaining consistent performance standards. Gordon and Fay (2010) found that teaching strategies (e.g., study guides, review sessions, practice tests) had a greater impact on fairness perceptions than grading practices (e.g., dropping the lowest score, curving grades, allowing extra work) on perceived fairness. Similarly, Pepper and Pathak (2008) found that transparent grading criteria, frequent feedback, and proactive instruction enhance fairness perceptions in contribution grading. Wallace and Ng (2022) reported that both students and teachers viewed criterion-referenced assessments as the fairest, while norm-referenced assessments were perceived as the least fair. Houston and Bettencourt (1999) further noted that instructor flexibility, communication about grades, and clear grading policies shape fairness perceptions.

Verbal Communication

Instructor communication plays a critical role in fairness perceptions. Claus et al. (2012) found that verbal aggressiveness negatively impacts students' perceptions of fairness across distributive, procedural, and interactional dimensions. Similarly, Wallace and Qin (2021) reported that respectful instructor communication during testing improved students' perceptions of fairness in grading and assessment procedures. Gorard (2012) found that students consistently value respectful treatment, even when they disagree with instructors.

Instructor Credibility

Chory (2007) found that perceptions of instructor credibility—competence, character, and caring—strongly influence fairness perceptions. Competence predicted interactional fairness, while caring influenced both procedural and interactional fairness. Instructor character was associated with all three fairness dimensions. Sun (2022) also concluded that teacher immediacy and credibility significantly shape fairness perceptions among EFL learners. Similarly, Argon and Kepekcioglu (2016) found a strong correlation between students' trust in instructors and perceptions of distributive justice in the classroom.

Assessment Choices

Mauldin (2009) examined whether offering students a choice of assessment format (constructed response, selective response, or mixed) influenced fairness perceptions. While the effects were modest, male students felt more fairly evaluated with fixed-format tests, whereas female students preferred having a choice.

Instructor Misbehavior

Instructor misconduct negatively impacts fairness perceptions. Rodabaugh (1994) found that behaviors such as favoritism, profanity, or embarrassing students reduced perceptions of interactional fairness. Procedural fairness was also undermined when instructors changed grading policies mid-term or used trick questions.

Consistency and Promise-Keeping

Students highly value consistency in classroom procedures. Robbins and Jeffords (2009) found that 60% of student responses emphasized the importance of procedural consistency. Horan et al. (2010) reported that enforcing previously established classroom policies significantly influenced fairness perceptions. Houston and Bettencourt (1999) similarly found that professors' reliability in enforcing grading and course policies shaped students' perceptions of fairness.

Classroom Level

At the classroom level, we found two main key determinants of perception of CA fairness: 1) classroom size and 2) classroom culture (see Table 5).

Classroom Size

A few studies have examined the influence of classroom size on students' perceptions of fairness in classroom assessments. While smaller classrooms often foster closer teacher-student relationships and a more supportive and understanding environment, findings are not always consistent. Rasooli and Mousavi (2021) reported a paradoxical trend: students in larger classrooms perceived greater fairness in assessments. This suggests that classroom size alone may not determine fairness perceptions. Instead, its impact likely depends on contextual factors such as school climate, teaching practices, and the overall culture of the institution (Falavarjani, 2025).

Classroom Culture

A constructive classroom culture fosters fairness in assessment. Defined as the shared beliefs, norms, and practices that shape academic life (JCSEE, 2003), such a culture influences peer interactions, student-teacher relationships, and engagement with learning. Research highlights its role in enhancing learning experiences (Russell & Airasian, 2012) and ensuring assessment fairness (JCSEE, 2003).

Constructive Classroom Culture and Ca Fairness

Several scholars have identified constructive classroom culture as a key component of CA fairness, shaped by both students and instructors. Elements such

as student voice (Flores et al., 2015; Murillo & Hidalgo, 2017), trust and respect in the learning process (Cowie, 2005; Shepard, 2006), opportunity provision (Tierney, 2014), reflective interaction, equality in classrooms, equal treatment, power dynamics and respectful relationships (Tierney, 2014), do not harm and avoid score pollution (Green et al., 2007; Scott et al., 2014), have shown to act as an essential role in shaping the CA fairness and a fair classroom context in general. It is important to note that this section focuses specifically on student-related aspects of constructive classroom culture in relationships with students, disregarding the instructors' relevant factors (e.g., no harm principle, avoid score pollution, power dynamics, etc.).

Students' Voice

Empirical studies have shown that listening to students' voices benefits them in three ways. First, it increases their opportunities to actively engage in the CA process (Flores et al., 2015; Murillo & Hidalgo, 2017). Second, it highlights the importance of acknowledging students' perceptions of fairness as a complex and essential aspect of assessment—one that is often overlooked or oversimplified from by staff (Sambell et al., 1997, p. 362); and finally, it provides them with the chance of discussion about feedback provided by instructors (Lizzio et al., 2007). Therefore, a constructive classroom context gives students a voice in different aspects, including classroom assessments (Aitken, 2011).

Trustful and Respectful Relationships

According to Tierney (2016), a key element of a constructive classroom culture is the educational contexts where students can trust the people surrounding them (i.e., their instructors and peers) and develop respectful relationships. Further, Tierney (2014) articulated that trust and respect are foundational for the public nature of CA. Studies on the students' perceived CA fairness showed that trust and respect in interaction are extensively appreciated (Gordon & Fay, 2010). In addition, Cowie (2014) proposed respectful relationships in the classroom as an ethical principle, specifically for formative assessments to minimize harm toward students.

Students' Opportunities

Several studies have identified the provision of opportunities as another key feature of a constructive classroom culture. In Tierney's (2013) study, students consistently emphasized the importance of having ample learning opportunities. Interestingly, they did not advocate for equal opportunities for all students, but rather for opportunities tailored to individual learning needs. That is, students believe that increasing grades for "at-risk" students was fair, as they were given fewer opportunities than others. According to Duffield and Spencer (2002),

providing multiple assessment opportunities strongly indicates students' perception of CA fairness.

Reflective Relation

According to Brookhart (2003), the CA outcomes “fold back into and become part of the classroom environment” (p. 7). This cyclical relationship between students and instructors is intended to challenge anti-discussion norms and assumptions in the classroom and to improve how learning is evaluated (Tierney, 2014). However, several empirical studies suggest that reciprocal discussions around assessment can have both benefits and potential drawbacks (e.g., Lovett & Gilmore, 2003; James & Pedder, 2006). On the more cautionary side, Campbell (2003) found that the fear surrounding open discussion can gradually create a culture of silence. In contrast, the benefit of classroom assessment conversations may not be expected without considering the social contexts that influence group discussion and the inclusion of everyone involved in assessments (Hollander, 2004; Wyatt-Smith et al., 2010). Promoting a constructive environment for fair classroom assessment is closely related to the assessment conversations between instructors and students in classrooms and interactions between students (Gallagher, 2019).

Equality in Classroom

Equal treatment is another important feature of a constructive classroom environment that contributes to students' perceptions of classroom assessment (CA). Several studies have identified equal treatment in the classrooms (e.g., giving the same amount of classroom assignments) as a strong determinant of CA fairness. This finding has been reported by several studies, including samples of instructors (Tierney, 2013; Yip & Cheung, 2005), students (Bursuck et al., 1999; Smith & Gorard, 2006) and CA guidelines (JCSEE 2003).

Equitable Treatment

Originating from the equity theory of justice (Adams, 1965), equity has always played a significant role in the perception of fairness or justice. In the CA literature, equitable treatment in the classroom contexts originated from three perspectives: recognizing the culturally diverse knowledge brought to the classrooms by learners with different cultural backgrounds (Cowie, 2014), integrating theories in teaching, learning, and assessing (Poehner, 2011), and establishing guidelines for special education (Guskey & Jung, 2009). These studies highlight the importance of fairness in assessment, often drawing on both equity and equality principles.

School Level

After examination of the literature, we found several articles that examined the school or university type and climate as predictors of students' perception of CA fairness (see Table 5).

School Type

Caglar (2013) found that factors such as school type, academic program, and grade level significantly impact the students' perceptions of fairness and levels of alienation. Specifically, students perceived greater fairness in schools that involved them in administrative decisions, organized events to increase student-faculty interaction, and employed objective measurement and evaluation procedures. Similarly, Molinari et al. (2013) indicated the impact of academic vs. vocational schools (attended mainly by students from low socio-economic backgrounds) in shaping different perceptions of fairness. Students in the academic school largely perceived fairness based on interpersonal relationships, whereas students in the vocational school prioritized their needs and efforts. Gorard (2012) further proposed that students' growing sense of fairness could be influenced by individual interaction with teachers and the nature of a school system.

School Climate

Research indicates that multiple dimensions of school climate, such as the quality of school climate, the sense of safety and support within the school, and the overall learning environment (Bottiani, et al., 2020; Rohatgi & Scherer, 2020), can significantly influence how students perceive fairness in their assessments (see Rasooli & Mousavi, 2021). For instance, a positive school climate where students feel supported and valued can lead to more favorable perceptions of fairness in assessments. In contrast, a negative school climate, characterized by poor relationships and a lack of support, can contribute to perceptions of unfairness.

Culture Level

Table 5 summarizes studies that have examined the influence of culture-level factors of CA fairness. Although rich in organizational justice literature, the influence of students' cultural values on the perception of CA fairness has received scant attention. For example, Aquario (2021) conducted a review paper and reported that the attention to both cultures and practices related to fairness in assessment and a focus on addressing diversity in the classroom has been ignored in a model of adjustments and reasonable accommodations toward an equitable and universal assessment. After conducting two review studies, Falavarjani and his colleagues (2024, 2025, 2026) indicates the lack of cross-cultural studies in altering what students perceive as (un)fair. As Sabbagh and Resh (2016) observed, "The justice educational research . . . is predominantly 'blind' in terms of culture."

(p. 10). However, our search reached out to a few studies investigating the influence of cultural values on students' perception of fairness in general.

Cultural Values

Building on empirical evidence demonstrating the impact of cultural values on the perception of fairness, Rowney and Taras (2008) conducted a review paper and showed that students' evaluation of the fairness of academic rewards, punishments, and procedures may differ substantially based on their cultural backgrounds. Tata (2005) explored students' perceptions of CA fairness based on two cultural values: Collectivism-individualism and power distance. Limited to an assessment outcome (i.e., grade), the results showed the significant cross-cultural difference between Chinese and American students' procedural and interpersonal dimensions of fairness in grading procedures. This study employed a measure of cultural value that represented cross-cultural differences in measured values between students from two cultures.

Similarly, Erkan and Walker (2016) reported the influence of different cultural-value practices on all dimensions of fairness perceptions between Muslim and Non-Muslim students in Canada, adopting different cultural values, namely religiosity. In contrast, other studies did not reveal cross-cultural differences in perceptions of a good quality teacher (Liu & Meng, 2009) or gender differences in fairness perception (Resh & Dalbert, 2007). For example, Liu and Meng (2009) reported no significant cross-cultural differences between students from China and the US in perceptions of a good quality teacher. This result may reveal that students from the US and China represented individualism vs. collectivism; however, they share a common perception of a good instructor. Similarly, Abbaszadeh et al. (2012) reported the significant cross-cultural differences between Iranian and United Kingdom students in the perception of ethical principles. Overall, while several studies indicate that students from different cultures understood the perceived fairness differently (see Tata, 2005), they share similarities in gender and the quality of good teachers (Resh & Dalbert, 2007).

DISCUSSIONS AND CONCLUSIONS

Building on research in organizational justice, this review presents a comprehensive synthesis of the determinants shaping students' perceptions of fairness in classroom assessment (CA). Drawing on 74 studies published between 1965 and 2023, it proposes a tripartite model comprising three categories of determinants: subjective (cognitive and affective), psychological (e.g., victim sensitivity, personality, anxiety, motivation), and social (ranging from individual to cultural levels).

This model provides a framework for understanding how fairness perceptions are constructed at the different levels (i.e., from individual to cultural levels).

Subjective determinants encompass students' cognitive evaluations and emotional responses, reflecting the inherently interpretive nature of fairness (Brockner et al., 2015; Guo et al., 2011). While these elements shape fairness judgments, they do not fully account for how such perceptions develop. Psychological and social determinants extend this understanding by incorporating broader individual differences and contextual influences that mediate assessment experiences.

The proposed framework has practical implications for multiple stakeholders. For researchers, it offers a basis for examining mediation and moderation mechanisms underlying fairness perceptions. For example, it may illuminate why a high-achieving student in a supportive classroom context may still perceive assessment as unfair due to factors such as test anxiety or personality characteristics. For students, the model provides a structured lens for reflecting on the factors influencing their own perceptions. For instructors, it highlights the complex interplay of individual and contextual variables that shape how fairness is experienced across diverse learners and educational environments.

Classroom assessment is a dynamic process shaped by interactions among instructors, students, curriculum, pedagogy, and learning culture (Cowie, 2014; Rasooli et al., 2018; Falavarjani, 2025). Future research should examine how the proposed model operates across cultural and national contexts and evaluate its potential to inform more equitable assessment practices. At the same time, the framework acknowledges the subjective nature of fairness and encourages educators to account for this complexity in their assessment design and implementation.

By organizing determinants within a unified structure, the tripartite model helps clarify inconsistencies in how fairness has been conceptualized in prior research. The model is intentionally adaptable and open to refinement as new evidence emerges. For instance, confirmatory factor analysis (CFA) could be employed to empirically test and distinguish its components. Additionally, given that moral reasoning develops over time (Kohlberg, 1973), future studies may explore developmental differences in fairness perceptions across age groups. Although this review provides a foundation for a broader understanding of CA fairness, further research is needed to examine additional determinants, including course level, disciplinary context, and instructor characteristics. Insights from organizational justice research may further enhance the applicability of the model to educational settings. As such, this framework represents an initial step toward a more comprehensive understanding of fairness in classroom assessment and invites continued empirical investigation.

An important assessment practice relevant to fairness is anonymous (blind) grading, whereby students' identities are concealed during the evaluation process. Many institutions advocate for anonymized grading as a means of reducing potential bias and enhancing perceptions of procedural and distributive fairness. From a student perspective, this practice may strengthen trust in assessment

outcomes by reinforcing the view that grades are based on performance rather than personal characteristics or instructor–student relationships. However, its feasibility varies across assessment formats. While anonymity can be implemented relatively easily in written or computer-based assessments, it is less practical in oral examinations, presentations, participation-based assessments, or formative feedback contexts in which interaction is integral to learning. Notably, relatively few studies in the reviewed literature explicitly examine anonymous grading as a determinant of perceived fairness, indicating an important direction for future research.

However, the findings of this review are particularly relevant to higher education, especially STEM education, where classroom assessments are often high stakes and emphasize performance accuracy and procedural rigor. Common STEM assessment formats—such as written examinations, problem-solving tasks, laboratory work, and cumulative testing—may heighten students’ sensitivity to fairness, especially when outcomes influence academic progression or career trajectories. In these contexts, subjective determinants such as expectations, self-serving biases, and beliefs about fairness may become more pronounced, as students often equate fairness with consistency, precision, and correctness.

Psychological determinants identified in the model—particularly test anxiety, motivation, and self-efficacy—are also highly salient in STEM settings, where time-constrained assessments and complex cognitive demands are frequent. Students experiencing high cognitive load or anxiety may perceive assessments as unfair, even when grading criteria are transparent. At the social level, instructor practices, classroom climate, and institutional policies play a critical role in shaping fairness perceptions, especially in large-enrollment courses where individualized feedback may be limited. Practices increasingly used in higher education, such as anonymous grading, automated assessment systems, and standardized rubrics, may enhance perceptions of procedural fairness; however, they may also reduce opportunities for relational interaction, which some students consider an important element of fair assessment.

Taken together, these considerations suggest that fairness in higher educational assessment extends beyond technical accuracy or objectivity. Rather, students’ perceptions of fairness emerge from the interaction of subjective experiences, psychological processes, and social-contextual factors. The tripartite model proposed in this review offers a useful framework for examining these dynamics and underscores the importance of designing assessment practices that are not only technically robust but also pedagogically and psychologically responsive to diverse learners.

Limitations and implications

While this review provides important insights into the determinants shaping students' perceptions of CA fairness, it has several limitations. The review was limited to peer-reviewed articles published in English, potentially excluding relevant research from non-English-speaking regions and perspectives rooted in different cultural or educational traditions. Additionally, by excluding dissertations and other grey literature, we may have overlooked valuable findings that have not yet appeared in peer-reviewed outlets. The review also focused primarily on Western academic contexts, which may limit the applicability of the findings to more diverse or global educational systems.

Despite these limitations, the findings have several important implications for research, policy, and practice. For researchers, the proposed tripartite model offers a useful framework for future empirical investigations, particularly studies that examine how subjective, psychological, and social determinants interact across cultural and developmental contexts. Policymakers and educational leaders might draw on this model to inform equity-focused assessment guidelines that are responsive to diverse student populations. For practitioners, especially educators, the findings underscore the importance of cultivating classroom environments that attend not only to the structural fairness of assessments but also to students' individual needs, emotions, and cultural backgrounds.

Moving forward, future research should seek to broaden the cultural scope of CA fairness studies, incorporate non-English and unpublished literature, and investigate how fairness perceptions evolve across different educational systems and student populations. Such efforts will be critical to developing more inclusive, equitable, and culturally responsive assessment practices.

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APPENDIX 1

The Theme Identified from Reviewing 74 Articles Related to the Perception of CA Fairness

Selective coding	Axial coding	Open coding	Formulated meaning
Subjective	Cognitive	Self-serving bias Belief in a just world Intelligence expectation	These factors do not necessarily reflect the objective fairness of the assessments but rather how fairness is interpreted through personal experiences, biases, and mental frameworks. In other words, even if an assessment adheres to standardized procedures, students may still perceive it as unfair due to their cognitive abilities and/or emotional responses.
	Affective	Positive Negative	
Psychological	Psychological predictors	Victim sensitivity Personality traits Text anxiety Self-determination	The determinants of students' perception of CA fairness are associated with psychological processes, including mental, emotional, and personality-trait determinants.
Social	Student level	Friendship Learning orientation and style	The environmental or contextual factors influencing students'

Instructor level	Grading and teaching practice Verbal communication Instructor credibility Instructor misbehaviors Consistency and promise keeping	perception of CA fairness
Classroom level	Constructive culture (students' voice, trustful and respectful relationships, Opportunity orientation, Reflective relations, Equality in the classroom, and Equity in the classroom) Classroom size	
School/university level	School type School climate	
Culture level	Cultural values	

Note. Miles and Huberman's (1994) qualitative data analysis framework: open, axial, and selective coding

Bio

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