

**Exploring the Effects of Perceived Justice and Motivation on Student Satisfaction
Regarding Entrance Exams for Higher Education: The Case of Vietnam in 2020**

By

BAO, Nguyen Van

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

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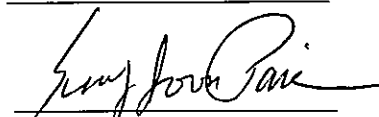
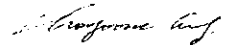
For the Degree of

MASTER OF DEVELOPMENT POLICY

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ABSTRACT

EXPLORING THE EFFECTS OF PERCEIVED JUSTICE AND MOTIVATION ON STUDENT SATISFACTION REGARDING ENTRANCE EXAMS FOR HIGHER EDUCATION: THE CASE OF VIETNAM IN 2020

By

Nguyen Van Bao

For many Vietnamese students, the national high school graduation examination is one of the most important exams in their lives, transitioning from upper-secondary education to tertiary education. While the importance of the exam is significant in the country where a degree is inevitable for a stable job in the future, policies on the national examination have significantly changed since 2015. By using the concept of justice and motivation, the current study aimed to explore the effects of justice dimensions and motivation on student satisfaction in the context of education, specifically focusing on the national examination for higher education. In this regard, this study proposed a conceptual model and conducted an online survey to test relevant hypotheses. The empirical findings of the study found that procedural, distributive justice, and intrinsic motivation affected the level of student satisfaction. More broadly, these results would be useful for policymakers to make more informed choices and also suggest further programs and projects of the Vietnamese government, aiming to develop the system of university admissions in the future.

Keywords: *justice perceptions, motivation, student satisfaction, higher education, national high school examination.*

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**Dedicated to my family,
my friends, and my cat**

Acknowledgments

My strong interest in development studies has roots in my own personal experience as a resident of an economically disadvantaged village where most of my cousins only finished lower secondary schools and went straight into employment. I have had a dream of contributing to the development of the education system; therefore, I decided to deeply study on education policies.

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Bao Nguyen (MDP-2020, Vietnam)

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LIST OF ABBREVIATIONS

ACT	American College Testing
ANOVA	Analysis of Variance
EFA	Exploratory Factor Analysis
HEIs	Higher Education Institutions
KMO	Kaiser-Meyer-Olkin
MOET	Ministry of Education and Training
MOH	Ministry of Health
SAT	Scholastic Assessment Test
SPSS	Statistical Packages for Social Science

1. Introduction

The concept of organizational justice has received much attention from scholars and professionals of various fields (e.g., Greenberg & Colquitt, 2013; Clay-Warner et al., 2005; Blodgett et al., 1997). However, these researchers often do not examine the effects of justice dimensions on student satisfaction in the context of school and education, specifically focusing on higher education entrance exams. As stated by Kazemi (2016), justice studies in the academic context become increasingly essential for both research purposes and practical reasons.

With numerous government reforms, entrance exams for higher education remain a matter of perennial debate in the Vietnamese society. Students are often passive in preparing for these exams because relevant policies are re-stated and updated by the Ministry of Education and Training (MOET) of Vietnam every year. For two decades prior to 2015, for instance, all high school students were required to take the high school graduation exam after completing their 12 years of schooling, and then, if eligible, they would take the university entrance exam to further study at higher education institutions (HEIs). However, the main purposes of these two exams are completely different. The high school graduation exam aimed to assess important domains in the high school curriculum while the university entrance exam aims to select potential students for the higher education system (Tran, 2014). As revealed in 2014 statistics, high school students passed the graduation exam at a very high rate of 99.02% (MOET, 2014). However, it was also found that the number of students admitted to higher institutions was limited. Since 2015, the MOET has made several major changes by merging the two distinct exams into a single national high school graduation examination (hereinafter referred to as *the national examination*), and the results of this exam are considered for two main purposes - high school graduation and university admissions (Pham, 2015). However, the

MOET changes its national exam policy every year. For example, in 2015, students were allowed to register four majors within a university while the options expanded in 2016, allowing students to select two universities as their first choices. In 2017, candidates had unlimited options of major and university before taking the exam. Also, in the year 2020, the MOET has adjusted the organization of the exam and exam structures while still keeping the exam as a make-or-break opportunity. In fact, student-centered approaches have always been emphasized in substantive and structural education reforms, but such continuous changes evidently raise an important question: *After these reforms, to what extent does the national examination affect student satisfaction?* Although retaking the exam is possible, if they continue to fail, there is no alternative path to colleges or universities, except those from wealthier families who tend to study abroad. According to the MOET (2020a), more than 643,122 out of 900,152 students are registered to take the 2020 national examination to get results for university admissions.

This paper pinpoints several factors concerning the question. First, the questions in the exam are mostly multiple-choice, except Vietnamese literature is notoriously difficult and demanding. However, the scoring method has changed dramatically. Multiple-choice questions are scored by computer software while evaluation of essay questions is based on local examiners instead of university lecturers. In other words, provincial teachers directly give a score to their student's tests, but the results are used for submission to all universities nationwide. As a result, there are substantial differences in scores between localities with regards to essay questions, in which students from rural areas, on average, get higher scores than those from major cities such as Hanoi or Ho Chi Minh city (MOET, 2020b).

Second, instead of being organized by universities and colleges, provincial authorities have to take full responsibility for the national examination, from organizing and marking the

students' exam papers in their own locality, to publicizing the exam results without the presence of independent monitoring agencies. Although it is convenient for test-takers when the national examination is held at their high school, cheating has recently become an urgent issue in Vietnam. Cheating remains prominent in the field of education and takes place every year from a small number of students. However, hundreds of students who took part in the national examination in 2018 had their scores increased illegally (MOET, 2018), causing public outrage for a long time. The national examination scandal was only found out after some mountainous provinces had abnormally high percentages of students with higher scores in the exam.

Third, much attention is given to the performance of students, teachers, and schools in this exam each year as students seek to qualify for both high school graduation and university admissions. According to the World Bank (2020), the enrollment rate in higher education shows significant development as it has increased from 9.47 % in 2000 to 22.82 % in 2010, and 28.55% in 2016; however, this rate is quite low when compared with other neighboring Asian countries, such as Malaysia, Thailand or the Philippines. With such a high registration rate, the selection process gets challenging for those students considering attending universities. Students, therefore, study extremely hard to achieve high scores in the national examination and for the subsequent competition with other candidates. Because high school ranking and provincial ranking are assessed in accordance with the results of the national examination, local governments and schools are also forced to allocate more time to senior high school students, putting more workload on both teachers and students. In another perspective, this would mean that students are under a high level of pressure and are known for having to spend relatively large amounts of time both at school and self-studying. A 2019 survey by the Ministry of Health revealed that 15% of Vietnam's 95 million people suffer from mental illness, caused by stress,

and the number was especially significant among the young. Academic pressure is one of the main contributory factors, coming not only from friends and family but the wider society.

Considering that the national examination is exceptionally important for admission to higher education, cheating and educational inequalities can lead to serious consequences for students. Therefore, it becomes crucial to explore the effect of perceived justices on student satisfaction and their motivation in this exam. According to Castillo and Fernández (2017), the dimensions of justice in the context of education could be viewed as the same as in the workplaces. Consequently, by using the concept of organizational justice the study aims to examine the effect of justice perceptions in the academic context, including three dimensions: distributive (e.g., Greenberg & Colquitt, 2013; Homans, 1982; Deutsch, 1975; Adam, 1965), procedural (e.g., Greenberg & Colquitt, 2013; Leventhal, 1980; Thibaut & Walker, 1975), and interactional (e.g., Colquitt, 2001; Greenberg, 1993; Bies & Moag, 1986). As examinations may serve a motivational function (Kellaghan & Greaney, 2019), this study also uses the concept of motivation (e.g., Kazemi, 2016; Aluçdibi & Ekici, 2012; Davis, 2006) to analyze the effect of motivation, including intrinsic motivation and extrinsic motivation on student satisfaction. Accordingly, this study proposes the following research questions:

i) How do student perceptions of distributive justice affect student satisfaction regarding the national examination?

ii) How do student perceptions of procedural justice affect student satisfaction regarding the national examination?

iii) How do student perceptions of interactional justice affect student satisfaction regarding the national examination?

iv) How does intrinsic motivation affect student satisfaction regarding the national examination?

v) How does extrinsic motivation affect student satisfaction regarding the national examination?

It is expected that empirical results given in the study will result in a highly practical significance for policymakers to improve entrance exams for higher education. Besides, teachers and school leaders may gain greater insight into the perception of students as well as understand their roles and importance before the exam. The current study aims to bridge a research gap in the study of justice perceptions in the academic contexts and thus serves as a motivation for future research to be conducted in this area. The findings of this study also suggest a new direction for other studies on the national examination as well as further programs and projects of the government, aiming to develop the system of Vietnam's university admissions in the future.

2. Literature Review

2.1. Entrance Exams for Higher Education

Examinations play an increasingly important role in many parts of the world, including Asia (e.g., Dundar et al., 2014; Hill, 2013), Africa (e.g., Bashir et al., 2018; Greaney & Kellaghan, 2004), and Europe (e.g., Bethell, 2010; West, et al., 1999), because of their functions in assessing the competence of students, certifying students' achievement levels based on agreed-upon standards, and selecting students for higher levels of education, from primary to secondary and from secondary to tertiary education (Kellaghan & Greaney, 2019). Accordingly, in recent years, universities and colleges have seen an increase in access to higher education. Nonetheless, the number of applicants is still much greater than the number of students to be admitted to universities and colleges. Therefore, entrance exams for higher education are a crucial means to decide who are qualified for admissions, to select potential candidates for their undergraduate programs (Deil-Amen & Tevis, 2010), to certify the

completion of upper-secondary school (Guimarães de Castro, 2012), and to contribute significantly to quality assurance in higher education as many undergraduate programs are quite demanding particularly in laws or health programs (Hoang & Quyen, 2016). In this context, examinations are seen as an important tool to allocate social and higher educational opportunities in an unbiased and objective way (Kellaghan & Greaney, 2019).

In the case of the United States, admission standards for higher education programs are integrated and comprehensive (Zhu, 2014). Academic achievement in high school is significantly important, but other aspects, such as extracurricular activities (Li & Chang, 2008), are also crucial for high school students during the application process. Accordingly, American universities require all their applicants to take one or more standardized tests, such as American College Testing (ACT) or the Scholastic Assessment Test (SAT), before submitting other supporting documents, which include a statement of purpose, letters of recommendation, and high school transcripts. These tests are designed to measure the level of students' potential development in the future instead of only assessing what students have learned in school. Concerning the administrative systems, it is traditionally managed and administered by private non-profit organizations instead of the U.S. Department of Education. On the one hand, universities can select their potential students in accordance with their own criteria; on the other hand, high school students can choose to submit their application to multiple schools and then may be received more than one offer. This is because university autonomy has facilitated HEIs to make admission decisions without considering the government's involvement. Students have more than one opportunity to take the SAT or ACT each year until they achieve expected scores, and they are not restricted in their applications to different universities nationwide. The development of new advanced technology, especially the internet, has made it easier to submit applications to different universities and colleges (Isaacs, 2001).

In contrast, test-oriented education has a history of thousands of years in Asian countries; however, it is criticized for putting too much burden on students who ought to spend sufficient time studying for national exams (Allen, 2016). In these countries, public examinations are expected to increase government control, eliminate entrance exams conducted by several universities, and eradicate corrupt practices (Bolotov et al., 2013). In China, for example, taking the GaoKao exam (National College Entrance Examination), which is held once a year, is considered as the only way for many Chinese students to get admitted to public higher education institutions. Nonetheless, they are only allowed to take the exam after completing all high school courses, as required by the Chinese Ministry of Education. The Gaokao exam, therefore, results in giving greater weight to assessing student's academic outcomes through rote learning instead of developing students' abilities and skills (Zhu, 2014). Subsequently, the ultimate purpose of Chinese high schools is to prepare students for the GaoKao exam (Davey et al., 2007). Besides the number of places available in each university is often lower than the number of test-takers. Therefore, based on the score of the Gaokao exam, universities in China select their future students from high to low scores (Zhu, 2014). When a student gets selected by one university, they cannot accept other offers from other universities in the same year. This differs from the admission process in the United States, where one applicant is allowed to accept numerous offers from different universities. Overall, due to its difficulties in admissions, parents, students, and the whole country have always paid considerable attention to the GaoKao exam (Liu, 2012).

2.2. Vietnam's National High School Graduation Examination

Similar to other Asian countries, Vietnam attaches great importance to test-oriented education. For generations of Vietnamese students, the national examination has been one of the most important exams in their lives, which is organized only once a year by the MOET. Therefore, the preparation for it begins at an early stage when students enter high school. Immediately from getting into high school, students are forced to make a choice between groups of classes, which focus on specific academic areas. Block A students, for example, may focus on chemistry, mathematics, and physics whereas Block C students may focus more on the humanities, such as Vietnamese literature, history, and geography. In this sense, the national examination does not only affect most students' learning, but it can also impact their future and careers.

According to the regulations of the MOET since 2015, the national examination consists of five subject groups: mathematics, Vietnamese literature, foreign language (mainly English), natural sciences (biology, physics, chemistry), and social sciences (civic education, history, geography). By the end of the academic year, all grade 12 students are required to participate in the national examination and take at least six tests, including three mandatory tests: mathematics, Vietnamese literature, foreign language, and three combined tests regarding natural sciences or social sciences. In other words, students who plan to take natural sciences tests do not need to take tests on history, geography, and civic education and vice versa. After results are available, these students will use the results combined with Grade 12 transcripts for high school graduation before applying to universities (MOET, 2019). For universities and colleges, they agree on two cut-off points for exam scores, depending on the enrollment quotas; one is the minimum score for being submitted to the university whereas the higher standard is for being accepted into an undergraduate program. The single two-digit score then remains as the sole factor determining students' admittance to their desired colleges, with no scope for the

assessment of all-round development. Successful candidates will be selected based on their scores achieved in the exam from high to low until enrollment quotas are met. Despite the educational development, because of the high stakes within the country, students study extremely hard to achieve high scores in the national examination and for the subsequent competition with other candidates. However, while the importance of the exam is significant in the country where a degree is inevitable for a stable job in the future, a limited number of studies have focused on the national examination and relevant policies in Vietnam (Nguyen, 2020).

2.3. Justice Perceptions and Student Satisfaction in the Context of Education

Although justice perception has received relatively little attention in the academic context, some research studies have attempted to explore the effects of justice concerns on a whole range of different phenomena, including student satisfaction levels (Castillo & Fernández, 2017; Waqas et al., 2014), student motivation and learning (Kazemi, 2016; Molinari et al., 2013; Chory-Assad, 2002), teachers' evaluation and grades allocation (Burger, 2017; Resh, 2009), instructor competence (Chory, 2007), student resistance (Paulsel & Chory-Assad, 2005), class climate (Berti et al., 2010; Peter & Dalbert, 2010), and classroom policies (Duplaga & Astani, 2010).

Specifically, Castillo and Fernández (2017) examined the justice dimensions influencing student satisfaction in higher education institutes through a quantitative methodological approach and identified that distributive justice and interactional justice have a great impact on student satisfaction while there is found no effects on the satisfaction level among these students in aspects of procedural justice. Besides, Waqas et al. (2014) identified the effects of perceived justice on student satisfaction in university contexts and confirmed that all three justice dimensions have a positive impact on student satisfaction regarding service

recovery. The study of Chory-Assad (2002) which examined the relationship between student motivation and their awareness of distributive and procedural justice about courses confirmed that the academic outcomes of students are depended on justice perceptions in the classroom. It was supported by the study of Molinari et al. (2013) when they acknowledged that students' perception is important as to the extent of fairness they feel when being treated by their instructors as well as school outcomes, including academic achievement and learning motivation. Moreover, these researchers also highlighted the differences regarding the awareness of students between different types of schools. In this regard, Kazemi (2016) emphasized the important role of teachers in terms of student motivation and achievement when conducting a study on the relationships between students' perceptions, academic motivation, and teacher justice.

When it comes to the fairness of the evaluation process, Burger (2017) explored how school environment influenced students' perceptions of the fairness and affirmed that the grading process and grading procedures are significantly affected by different assessment methods, such as essays or examinations. While teachers tend to focus on performance, students are more concerned with their efforts, and therefore, this difference may become one source of sense of unfairness between students (Resh, 2009). Besides, Duplaga and Astani (2010) found that no policies are fairest among all students, but only fairest by most students. Meanwhile, Chory (2007) examined the awareness of university students about their instructors and classroom justice including all dimensions of organizational justice. As a consequence, a positive relationship was revealed between student perceptions of instructor credibility and classroom justice. Afterwards Berti et al. (2010) further investigated the issue of being treated in the classroom because such an issue has a significant impact on students' activities in schools. A study of Paulsel and Chory-Assad (2005) recognized that using interactional justice may

reduce student resistance while confirmed that the perception of students about instructor interactional justice negatively anticipated student resistance strategies.

2.4. Motivation in the Context of Education

Regarding motivation factors, an increasing number of studies have confirmed that motivation should be considered as one of the most important factors in ensuring the continuous achievement of students. A study of Çirak (2016) found that studying in a college or university is a crucial step to prepare for future careers although it creates stress, pressure, and anxiety for students. The reason is that these individuals think that they may not achieve the expected score in the exam. Besides, some students are under a lot of pressure at home due to the high expectations of their parents. Munshi et al. (2012) conducted a study on the awareness of students and teachers about the university entrance exam and found that despite some positive attitude towards this exam, most students' feelings are negative mainly because of the subjectivity in evaluation. Putwain et al. (2010) and Li et al. (2012) also discovered that students felt more pressure and anxiety when preparing for exams, and this can influence their academic outcomes. According to Oketch-Oboth and Okunya (2018), negative emotions result in poor academic performance at school. Some research findings indicated that stress may be caused by highly demanding courses that students have to study at school (Bayram & Bigel, 2008; Britz & Pappas, 2012). Additionally, Prabu (2015) investigated the impact of stress on higher secondary school students and found a difference between student groups, including male and female students, urban and rural students, public school and private school students. In their studies, Chang and Chang (2012) made a big step forward as they indicated a significant positive correlation between learning motivation and learning satisfaction of students.

To sum up, this paper presented various studies focusing on justice perceptions and motivation factors in the academic context, especially those of students. However, these

research studies do not address a clear relationship between justice concerns, motivation, and student satisfaction in the context of education as opposed to those that exist in workplaces. In this regard, this paper attempts to carry out a study to assess the justice perception of students and their motivation regarding the national examination and to contribute to the limited field of research.

3. Theoretical Foundation

3.1. Justice Theory

The theoretical foundation of this study is mainly based on the theories of organizational justice. Greenberg (1987) explains organizational justice as the perception of individuals about fairness towards an organization with regards to how fair people perceive the distribution from decisions in comparison to others (distributive), how fair people perceive the formal decision-making processes (procedural), and how fair people perceive the interpersonal treatment received (interactional). To better understand organizational justice, the following three sections discuss each of the dimensions.

3.1.1. Distributive Justice

The first dimension of organizational justice is traditionally built on the “equity” theory when Adams (1965) began to establish the definition of equity and indicated that individuals, in the workplace context, would make a comparison between their inputs and outcomes and relevant others’ inputs and outcomes. However, using the theory of equity was not the only one standard that may be followed, therefore, Deutsch (1975) expanded further support for empirical research in this field by introducing the “equality” theory which is related to resource allocation. Deutsch (1975) also claimed that the main goal of an exchange is to promote the solidarity and harmony of a group instead of the advancement of individual productivity. With respect to the distribution of outcomes, Homans (1982) significantly expanded the scope of

distributive justice when adding the “need” theory based on the requirement of individuals regardless of the inputs. Following the traditions of Adam (1965), Deutsch (1975), and Homans (1982), who developed distributive justice from one norm (equity) to three (equity, equality, and need), Greenberg and Colquitt (2013) emphasized two key aspects of distributive justice. Accordingly, the importance of perceiving distributive justice as equitable, on one hand, and on the other, selecting a benefit-sharing strategy should be focused. Such a strategy would result from the following features: (i) distributed benefits will be based on the contributions of each individual or (ii) distributed benefits will be granted to all in the same manner.

3.1.2. Procedural Justice

The concept of justice was expanded when Thibaut and Walker (1975) introduced a new aspect of organizational justice, labeled “procedural justice,” which puts an emphasis on the process that is used to determine certain outcomes. In the subsequent theory of procedural justice, Thibaut and Walker (1978) made two distinct types of control: (i) *decision control* which determines the outcome of a dispute, and (ii) *process control* which determines the development, selection, and presentation of evidence. Besides, Leventhal (1980) further pointed out that procedural justice could be enhanced by six rules, including (i) accuracy of information, (ii) consistency in applying procedures, (iii) representativeness, (iv) avoiding bias in decision making process, (v) ethicality of procedures, and (vi) ability to correct mistakes. Much later, Greenberg and Colquitt (2013) indicated that procedural justice should be seen as fair under specific conditions; in other words, when employees feel being treated the same as other colleagues in daily tasks while these employees believe that the information provided by an organization is true, and when employees feel being heard by others.

3.1.3. Interactional Justice

Apart from the two above-mentioned dimensions, interactional justice was developed and expanded by Bies and Moag (1986). According to Bies and Moag (1986), interactional justice, the third dimension of organizational justice, is fostered when relevant organizations communicate through procedural details in a respectful and proper manner. In that sense, as stated by Bies and Moag (1986), interactional justice is comprised of four components, including (i) *truthfulness* which is related to the openness and honesty of managers when discussing procedures and outcomes, (ii) *justification* which focuses on how managers provide an explanation of outcomes, (iii) *respect* which mentions how managers treat their employees, and (iv) *propriety* which is related to improper questions or comments of managers. Although these interactional rules are derived in the recruitment context, it can be relevant to any decision-making settings (Greenberg & Colquitt, 2013). Additionally, interactional justice is further classified into two distinct justice types: (i) interpersonal justice which focuses on being treated with respect and propriety, and (ii) informational justice which is related to the adequacy and justification for outcomes (Colquitt, 2001; Greenberg, 1990).

3.2. Motivation Theory

Martin (2004) specifies that motivation is the energy of students which aims to foster learning and studying and achieve full potential in the context of education. In this study, three key factors are covered in the concept of motivation, including intrinsic motivation, extrinsic motivation, and amotivation. Legault (2016) argues that intrinsic motivation is related to engagement in behavior that is inherently satisfying or enjoyable, and it is caused by the innate psychological needs of competence and self-determination (Deci & Ryan, 1985). Other scholars also analyzed the three types of intrinsic motivation. The first type is “intrinsic motivation to know.” Exploration, curiosity, learning goals, and intrinsic intellectuality fall

within this type while the second type is intrinsic motivation toward accomplishments (e.g., Gottfried, 1985; Harter, 1981). This can be understood as participation in activities for pleasure or satisfaction when one tries to achieve or create something at work (e.g., Vallerand et al., 1992). The last type is intrinsic motivation to stimulation and this type of intrinsic motivation becomes operative when people engage in activities to experience stimulating sensations stemmed from others' activities (e.g., Vallerand et al., 1992).

Contrary to intrinsic motivation, extrinsic motivation concerns behaviors motivated to perform activities to earn a reward or avoid punishment (Legault, 2016). Also, Karadağ (2017) added that if individuals' behaviors are not depended on themselves, then this is extrinsic motivation. Deci and Ryan (1985) proposed three types of extrinsic motivation, from lower to higher levels of self-determination, including external regulation, introjection, and identification.

Apart from intrinsic and extrinsic motivation, Reeve (2014) explains that there exists no motivation if individuals become unable to connect actions with outcomes of these actions. In this case, these individuals would not have either intrinsic or extrinsic motivation; therefore, people experience amotivation. Tahiroğlu and Aktepe (2015) added that for those who believe that their actions will not provide any benefits, people fall into the state of amotivation.

3.3. Satisfaction Theory

In the context of marketing studies, customer satisfaction has been the center of all marketing activities (Machleit & Mantel, 2001). Satisfaction can be approached from two different aspects: outcome-oriented approach and progress-oriented approach (Yi, 1990). The first aspect is related to a cognitive status of sacrifices when customers experience compensation issues (Howard & Sheth, 1969). Churchill and Surprenant (1982) further added

that satisfaction comes from the outcome of purchase and use of buyers as they compare the rewards and costs of a certain purchase with expected consequences.

The second aspect is expounded as a rendered assessment that the consumption experience is at least better than supposed (Hunt, 1977). Meanwhile, Engel and Blackwell (1982) argued that satisfaction is based on actual experience corresponding to previous expectations. Therefore, if one realizes that their actual experience turns out to be worse than prior expectations, they will feel dissatisfied. Conversely, if one realizes that their actual experience is equivalent to or better than people's expectations, these individuals are most likely to feel satisfaction (Engel & Blackwell, 1982). Additionally, Sureshchandar et al. (2002) and Hu et al. (2009) believed that customer satisfaction can be a multi-dimensional construct whereas Cronin and Taylor (1992) pointed out a one-dimensional construct of customer satisfaction.

In the academic context, student satisfaction can be referred to customer satisfaction. Day and Wensley (1988) argue that the level of satisfaction is evidence to evaluate the effectiveness of an organization; in this study, how effective an educational system is. Letcher and Neves (2010) summarized that student satisfaction is the perspectives of students about their educational experiences. The greater level of satisfaction experienced by students has led to a positive impact on their knowledge and skills (Malik et al., 2010).

4. Hypothesis Development

4.1. Effects of Distributive Justice on Student Satisfaction

The first hypothesis focuses on the relationship between distributive justice and student satisfaction concerning the national examination. Distributive justice is applied when individuals evaluate the fairness about their outcomes (Lapidus & Pinkerton, 1995) and its concepts are divided into three dimensions: equity, equality, and need (Adam, 1965; Deutsch,

1975; Homans, 1982). As a comparative tool in workplaces, distributive justice is used to predict levels of employees' satisfaction (Clay-Warner et al., 2005). This also means that these employees will reach an equal status when compared with other colleagues; meanwhile, they will feel slighted if their contributions are not recognized (Castillo & Fernández, 2017). In the context of education research, distributive justice can also be interpreted as equitable access to resources and accountability functions through the rule of equality (Chevalier, 2019). When students receive their results or scores, they may think they deserve more or less based on their efforts and expectations, compare themselves to others, or make judgments of distributive justice (Leventhal, 1976). Additionally, a number of scholars have confirmed that distributive justice has significant effects on student satisfaction (e.g., Castillo & Fernández, 2017; Kazemi, 2016; Waqas et al., 2014). In the context of the exam, students are pleased when they believe that their scores they obtained are proportionate to their efforts and correctly reflect their academic performance. Thus, this study hypothesizes that student satisfaction regarding the national examination would be related to distributive justice.

H1: Distributive justice affects student satisfaction regarding the national examination.

4.2. Effects of Procedural Justice on Student Satisfaction

Apart from considering the outcome received, researchers have also focused on the individuals' perceptions of fairness in the decision-making process. Accordingly, the concept of procedural justice is divided into process control and decision control (Thibaut & Walker, 1978) and is often required to meet six criteria as established by Leventhal (1980). Therefore, through the second hypothesis, this paper attempts to answer the question about the effects of procedural justice on student satisfaction concerning the national examination. A substantial number of studies have discovered a meaningful relationship between procedural justice and customer satisfaction (e.g., Fan et al., 2010; Writz & Mattila, 2004). As to the examination,

this study focuses on two aspects. The first is related to test evaluation activities, and the second includes other existing procedures within the examination. The main purpose of high school students and test-takers is to get the highest score possible, so if these students achieve their expected scores, the effects of an inequality perception will decrease and vice versa. When students evaluate the fairness of how a decision-making process is constructed, they then proceed to make judgments of procedural justice (Chory-Assad, 2002). By considering the significance of procedural justice in the exam, this study hypothesizes that the higher expectation of perceived procedural justice will significantly affect student satisfaction regarding the national examination:

H2: Procedural justice affects student satisfaction regarding the national examination.

4.3. Effects of Interactional Justice on Student Satisfaction

Many research studies have primarily centered on distributive and procedural justice, but individuals tend to judge fairness, using the third basis of justice: interactional justice as it concerns the fairness of the interpersonal treatment that one receives procedures (e.g., Bies & Shapiro, 1987). In other words, it is related to administrators who make employees accept official practices with the fairness of their behaviors during implementation. An increasing number of studies have revealed that the best predictor of employee satisfaction is procedural justice (e.g., Najafi et al., 2011; Clay-Warner et al., 2005). However, there was a positive association between interactional justice and job satisfaction in numerous research (e.g., Usmani & Jamal, 2013; Roch & Zlatoper, 2001). Since employee's satisfaction mostly depends on the treatment that they receive, the subjective nature of both constructs justifies these results. In a similar vein, it is related to school environment as the interaction between instructors and students influences the learning environment as well as the behavior and motivation of students (Wubbels & Brekelmans, 2005). In this aspect, if a student expects proper treatment by their

teachers when preparing for the national examination, interactional justice can be applied to understand the level of satisfaction. That is, when students are motivated in school, they try to find connection points with their teachers (Frymier & Houser, 2000). This suggests that depending on the instructors' treatment towards students, students can have either a sense of respect or isolation (Lizzio et al., 2007). Furthermore, several scholars confirmed a meaningful correlation between student satisfaction and their awareness about distributive justice (e.g., Castillo & Fernández, 2017; Kazemi, 2016; Waqas et al., 2014). Therefore, this study hypothesizes that the higher expectation of perceived interactional justice significantly affects student satisfaction regarding the national examination:

H3: Interactional justice affects student satisfaction regarding the national examination.

4.4. Effects of Intrinsic Motivation on Student Satisfaction

Examinations tend to generate strong motivation when performance leads to important outcomes. (Kellaghan & Greaney, 2019). As they include the selection for tertiary education institutions, motivation has been regarded as one of the key elements of student learning (e.g., Gilman & Anderman, 2006). In this sense, intrinsic motivation is emphasized as a natural wellspring of learning and achievement. On one hand, intrinsic motivation or the origin of actions exists within individuals, on the other hand, intrinsic motivation can exist in the relationship between individuals and activities (Ryan & Stiller, 1991). In the context of education, intrinsic motivation is directly related to student's learning, such as academic achievement (e.g., Areepattamannil et al., 2011), creativity (e.g., Eisenberger & Shanock, 2003), psychological well-being (e.g., Burton et al., 2006), and less extrinsic motivation (e.g., Gottfried et al., 2005), and it is essential to measure how intrinsic motivation influences student satisfaction. In this study, intrinsic motivation is an inner drive that propels students to get high scores in the exam, rather than external factors, because studying and taking the exam

themselves are enjoyable. Therefore, this study hypothesizes that intrinsic motivation affects student satisfaction regarding the national examination:

H4: Intrinsic motivation affects student satisfaction regarding the national examination.

4.5. Effects of Extrinsic Motivation on Student Satisfaction

In spite of the fact that intrinsic motivation plays an important role, popular activities amongst people are not intrinsically motivated (Ryan & Deci, 2000). Social relationships play a pivotal role in fulfilling students' needs for belonging, affiliation, and identity (e.g., Juvonen & Wentzel, 1996; Wentzel, 1999), and by contrast with intrinsically motivated behaviors, they are often performed for and managed by rewards, such as a gold star, promotion, or certification (Kellaghan et al., 1996). Additionally, students who find the relationship with their teacher important and supportive not only show higher motivation and commitment to school and better cooperation and performance, they also consider schoolwork as a crucial part of their lives (Heather, 2006).

A number of research studies have been conducted to investigate the effects of extrinsic motivation on students, such as academic achievement (e.g., Becker et al., 2010; Reeve et al., 2008), greater anxiety (e.g., Wolters et al., 1996), less positive emotions (e.g., Senecal et al., 1995), etc. In this study, students are assumed to be extrinsically motivated by their teachers, families, friends, and other external factors. Therefore, this study hypothesizes that extrinsic motivation affects student satisfaction regarding the national examination:

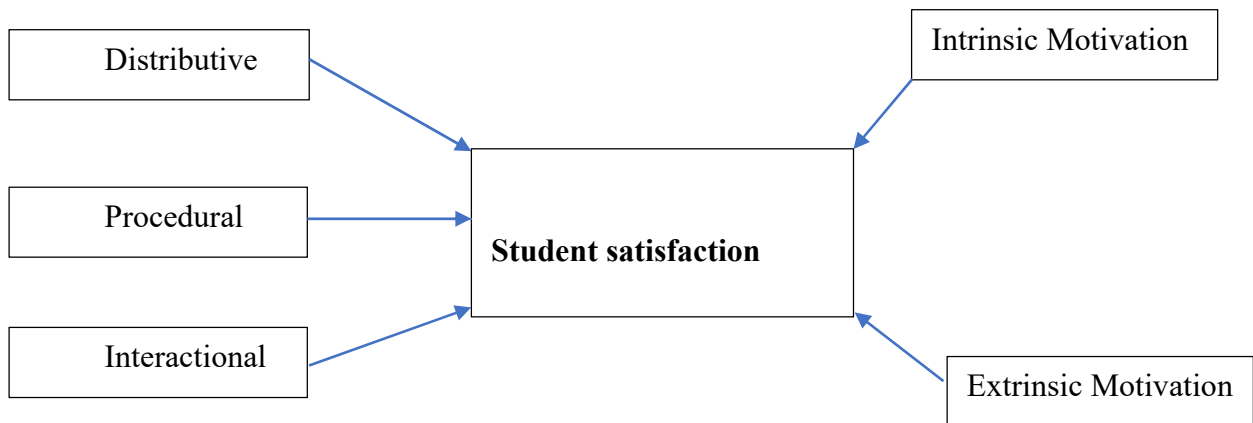
H5: Extrinsic motivation affects student satisfaction regarding the national examination.

4.6. Research Framework

The hypotheses of this study are developed through the observations of the previous studies on justice perceptions, motivation, and satisfaction. Based on the theoretical framework,

the study analyzes the relationship between three dimensions of justice and student satisfaction. Some previous studies discussed the impact of justice perceptions on student satisfaction in the academic contexts (Castillo & Fernández, 2017; Waqas et al., 2014). However, this study supposes the effects of those factors, i.e. gender, type of school, or areas, that extremely vary from students.

Figure 1. Conceptual model of the study



5. Methodology

This study aimed to explore the effect of justice and motivation on student satisfaction. To test the proposed hypotheses, a questionnaire was developed to collect the level of satisfaction, motivation, and justice perceptions of students who have just taken the 2020 national examination for higher education. The questionnaire adopted a five-point Likert scale, and responses were based on “strongly disagree - 1” to “strongly agree – 5.” Besides these, students were asked demographic questions, such as age, gender, types of school, and living areas to identify their characteristics.

In particular, this study conducted an online survey in order to collect data and information from students in Vietnam. The data collection was conducted exclusively through

an online survey. Additionally, information from newspapers, research articles, and websites related to the national examination and its relevant policies were also collected.

To assess the relationship between variables, Statistical Packages for Social Science (SPSS 26) software was used. The hypotheses in the study were tested at the 0.05 level of significance. Prior to the analysis, each questionnaire was carefully edited and coded. In this study, a quantitative method of factor analyses and regression analyses was applied to measure student satisfaction in the exam affected by following factors: justice perceptions and motivation factors. Furthermore, additional findings can be found with the result of t-test and analysis of variance (ANOVA).

6. Data Analysis

6.1. Descriptive Statistical Analysis

6.1.1. Demographics

A total of 262 students responded to the survey. Among them, 24.8 % were male, and 75.2 % were female. Regarding the age distribution of these participants, 95.4 % were 18 years old, 3.8 % were 19 years old, and 0.8 % were 20 years old. Of the sample, 6.9 % of the students were studying in private schools while 93.1 % were studying in public schools. In terms of living area, the proportion of students from urban areas was higher, with 60.3 % while 39.7 % of the students came from rural areas. In terms of reasons why these students decided to choose their universities and colleges, 73.7 % of the students made up their own mind, 8.4 % were impressed by university reputation, 8.0 % were advised by their family and friends while 6.9 % were influenced by communication information by universities and colleges.

Table 1: Table of Survey Demographic Variables

Variable	Percentage	
Gender	Male	24.8 %
	Female	75.2 %
Age	18	95.4 %
	19	3.8 %
	20	0.8 %
Type of school	Public school	93.1 %
	Private school	6.9 %
Living area	Rural area	39.7 %
	Urban area	60.3 %
Reasons for choosing universities and colleges	University reputation	8.4 %
	High school teachers	2.3 %
	Self determination	73.7 %
	Relatives	8.0 %
	Communication Information provided by university	6.9 %
	Others	0.8 %

6.1.2. Descriptive Statistics

To facilitate the presentation of the variables, the components of distributive justice, procedural justice, and interactive equity were encoded as DJ (4 observed variables), PJ (7 observed variables), and IJ (5 observed variables).

Table 2: Items of Distributive Justice

Factors	Scale Items
DJ1	The results of my exam are directly proportional to my efforts.
DJ2	The results of my exam correctly reflect my academic performance.
DJ3	Evaluation of essay questions subject to examiners' perspectives rather than on objective measures.
DJ4	Using computer software for the grading of multiple-choice tests would ensure the accuracy of these tests.

Table 3: Descriptive Statistics Regarding Distributive Justice

	N	Min	Max	Mean	Std. Deviation
DJ1	262	2.00	5.00	3.8092	.91488
DJ2	262	1.00	5.00	3.8397	.96543
DJ3	262	2.00	5.00	3.4962	.77186
DJ4	262	2.00	5.00	3.6298	.91620

Table 4: Items of Procedural Justice

Factors	Scale Items
PJ1	Exam time given for each subject is appropriate.
PJ2	The difficulty of the exam questions is appropriate.
PJ3	Test results should be well cross-checked by other provinces and cities.
PJ4	During the exam, exam supervisors control the exam processes well.
PJ5	An independent agency is needed to better manage the exam in addition to provincial authorities.
PJ6	Questions included in the exam are an accurate reflection of the materials that have been studied in class.
PJ7	The exam reduces inconvenient processes compared to the previous exam.

Table 5: Descriptive Statistics Regarding Procedural Justice

	N	Min	Max	Mean	Std. Deviation
PJ1	262	2.00	5.00	3.7863	.83053
PJ2	262	2.00	5.00	3.6832	.82282
PJ3	262	2.00	5.00	3.7443	.83015
PJ4	262	2.00	5.00	3.8015	.86587
PJ5	262	2.00	5.00	3.6298	.77085
PJ6	262	2.00	5.00	3.7405	.76402
PJ7	262	1.00	5.00	3.8702	.88752

Table 6: Items of Interactional Justice

Factors	Scale Items
IJ1	Teachers explain the procedures clearly and easily to everyone.
IJ2	The content of the exam is announced by teachers properly.
IJ3	Teachers inform students about how to take the exam for better results.
IJ4	It is possible to ask teachers for clarification and additional information about the exam.
IJ5	Teachers have refrained from using inappropriate comments or observations.

Table 7: Descriptive Statistics Regarding Interactional Justice

	N	Min	Max	Mean	Std. Deviation
IJ1	262	2.00	5.00	3.6031	.91123
IJ2	262	2.00	5.00	3.5802	.86617
IJ3	262	2.00	5.00	3.4809	.87407
IJ4	262	1.00	5.00	3.7405	.88917
IJ5	262	2.00	5.00	3.6489	.89634

Similarly, the components of intrinsic motivation, extrinsic motivation, and student satisfaction were also encoded as IM (4 observed variables), EM (3 observed variables), and SAT (4 observed variables).

Table 8: Items of Intrinsic Motivation

Factors	Scale Items
IM1	I feel proud of myself since I get results that meet my expectation.
IM2	I enjoy learning about various subjects.
IM3	I enjoy the experience of collaborative learning with my classmates.
IM4	I feel excited when finding out different ways to solve problems.

Table 9: Descriptive Statistics Regarding Intrinsic Motivation

	N	Min	Max	Mean	Std. Deviation
IM1	262	1.00	5.00	4.0076	1.00570
IM2	262	1.00	5.00	3.7595	1.02058
IM3	262	1.00	5.00	3.9046	1.08033
IM4	262	1.00	5.00	3.8359	1.12434

Table 10: Items of Extrinsic Motivation

Factors	Scale Items
EM1	I try my best in the exam because my family and teachers expect me to get better results.
EM2	I try to get good results in the exam because it determines my future career.
EM3	I am motivated by promotional activities provided by my university.

Table 11: Descriptive Statistics Regarding Extrinsic Motivation

	N	Min	Max	Mean	Std. Deviation
EM1	262	1.00	5.00	2.8282	1.10601
EM2	262	1.00	5.00	2.9504	1.09046
EM3	262	1.00	5.00	3.0191	1.03373

Table 12: Items of Satisfaction

Factors	Scale Items
SAT1	Overall, I am satisfied with the information that I received about the national examination.
SAT2	Overall, I am satisfied with the evaluation system applied in the national examination.
SAT3	Overall, I feel comfortable when taking the exam.
SAT4	I am satisfied with the organization of the exam by the MOET.

Table 13: Descriptive Statistics Regarding Student Satisfaction

	N	Min	Max	Mean	Std. Deviation
SAT1	262	1.00	5.00	3.9427	.95521
SAT2	262	1.00	5.00	3.9313	1.04086
SAT3	262	1.00	5.00	3.8206	1.05875
SAT4	262	1.00	5.00	3.8817	.95759

6.2. Results of Measurement Scale Reliability Tests

6.2.1. Cronbach's Alpha Reliability Analysis

Before conducting exploratory factor analysis (EFA), Cronbach's alpha was applied for each item to test the reliability for the multi-item scale and to provide information about the relationships between individual items in the scale. Regarding justice perceptions, Cronbach's alpha values were 0.823 for distributive justice, 0.835 for procedural justice, and 0.883 for interactional justice. For intrinsic motivation, extrinsic motivation, and student satisfaction, Cronbach's alpha values were 0.890, 0.877, and 0.882 respectively. In other words, all items in the study had relatively high internal consistency. Besides, all corrected item-total correlations were lower than their Cronbach's alpha values.

6.2.2. Exploratory Factor Analysis

After completing the scale test using Cronbach's alpha coefficient, EFA was applied to check the validity of major constructs by using principal components analyses and varimax rotation method for independent variables. With Eigen values greater than 1.00, the results of EFA successfully represented the major constructs while KMO coefficient was 0.855, which was eligible for EFA. In other words, each variable in this study was highly supported by the factor analysis.

Table 14: Results of Factor Analysis for Independent Variables

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.855
Bartlett's Test of Sphericity	Approx. Chi-Square	2936.502
	df	253
	Sig.	.000

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
PJ1	.637				
PJ2	.752				
PJ3	.739				
PJ4	.686				
PJ5	.671				
PJ6	.727				
PJ7	.713				
IJ1		.791			
IJ2		.847			
IJ3		.843			
IJ4		.765			
IJ5		.843			
IM1			.802		
IM2			.771		
IM3			.826		
IM4			.833		
DJ1				.720	
DJ2				.776	
DJ3				.784	
DJ4				.779	
EM1					.835
EM2					.852
EM3					.874

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Similarly, the results of EFA successfully represented the major constructs for dependent variable while KMO coefficient was 0.874, which was eligible for EFA.

Table 15: Results of Factor Analysis for Dependent Variable

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.874
Bartlett's Test of Sphericity	Approx. Chi-Square	633.578
	df	10
	Sig.	.000

Component Matrix^a

	Component 1
SAT1	.835
SAT2	.860
SAT3	.840
SAT4	.856

Extraction Method: Principal Component Analysis.

6.3. Hypothesis Testing

Regression analysis was conducted to test the hypotheses of this study. Table 21 shows the results of the multiple regression analysis of H1, H2, H3, H4, and H5. The results reveal that the models are significant at the level of 0.000 with $F=80.735$ ($r\text{-square} = .612$). Based on the findings, H1, H2, and H4 were significantly accepted while H3 and H5 were rejected.

Table 16: Effects of Justice and Motivation on Satisfaction

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.782 ^a	.612	.604	.54282	2.125

a. Predictors: (Constant), EM, IJ, PJ, DJ, IM

b. Dependent Variable: SAT

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	118.943	5	23.789	80.735	.000^b
	Residual	75.431	256	.295		
	Total	194.373	261			

Model		Coefficients ^a				Collinearity Statistics		
		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.620	.343		-1.809	.072		
	DJ	.548	.054	.460	10.119	.000	.733	1.364
	PJ	.174	.058	.120	2.986	.003	.934	1.071
	IJ	.007	.046	.007	.161	.872	.931	1.074
	IM	.420	.047	.447	8.961	.000	.610	1.639
	EM	.063	.040	.072	1.590	.113	.733	1.364

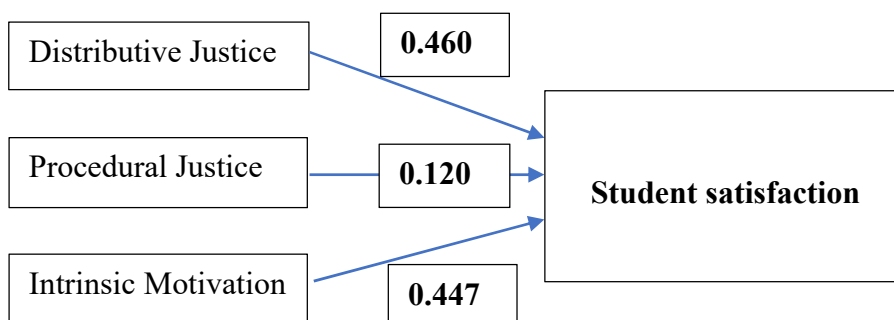
The results of the hypotheses testing on the effect of distributive justice, procedural justice, interactional justice, intrinsic motivation, and extrinsic motivation on student satisfaction can be summarized as follows:

Table 17: Summary of hypothesis testing results

Hypothesis	Result
H1: Distributive justice affects student satisfaction regarding the national examination.	Accepted
H2: Procedural justice affects student satisfaction regarding the national examination.	Accepted
H3: Interactional justice affects student satisfaction regarding the national examination.	Rejected
H4: Intrinsic motivation affects student satisfaction regarding the national examination.	Accepted
H5: Extrinsic motivation affects student satisfaction regarding the national examination.	Rejected

In summary, the proposed research model is revised as follows:

Figure 2. Proposed model of the study



7. Conclusions

7.1. Summary

By applying the concepts of justice and motivation, the primary objectives of the present study were to investigate (i) the effect of distributive justice, procedural justice, and interactional justice on student satisfaction and (ii) the effect of intrinsic motivation and extrinsic motivation on student satisfaction. First, the study discovered that procedural and distributive justice, but not interactional justice, had significant effects on student satisfaction, and the effects of distributive justice on student satisfaction were stronger than those of procedural justice. This can be understood because the single two-digit score remains as the sole factor determining students' admittance to their desired colleges, with no scope for the assessment of all-round development. These findings imply that students are more importantly perceived depending on their scores or results in the exam, or distributive justice. Second, intrinsic motivation, but not extrinsic motivation, had a considerable impact on the level of student satisfaction. Last but not least, the results of the t-test and ANOVA suggested that there was no variation among different groups on the basis of demographics regarding the effects of justice dimensions and motivation on student satisfaction.

7.2. Managerial and Policy Implication

As Kazemi (2016) stated, justice studies in the academic context have become increasingly essential for both research purposes and practical reasons. By understanding the correlation between justice perceptions, motivation, and student satisfaction, it can help different education agencies to find effective ways to improve the quality of entrance exams. Consequently, this study suggests the following recommendations.

First, it is recommended for policymakers to ensure the accuracy of students' scores in the exam. Although using advanced technologies for the grading of multiple-choice tests has correctly reflected their academic performance, the evaluation of essay questions is still depended on examiners' perspective. To address this issue, it is essential to establish specialized and professional institutions for evaluation and quality assurance instead of letting local high school teachers examine the exam. It is believed that Vietnamese education can learn international experience from developed countries, such as the U.S, to help students not only develop solid and integrated knowledge but also improve attitudes and social skills. If implemented, it can send a clear message to students and teachers that a narrow focus on rote learning with a lack of participation in social activities may not be enough to ensure to be admitted to HEIs, which is significantly important for their future career. Additionally, instead of emphasizing entrance exams for higher education, improving the quality of higher education system, especially the outputs of universities, is thus an urgent task to make a progress in this situation. The current higher education fails to provide incentives for encouraging high-skilled labor force that responds to the labor market demand for more highly educated and more experienced workers which related to economic development consequently. For example, according to the World Bank (2019), Vietnamese employers have difficulties in finding employees with required skills. Also, it indicates that about 50% of employees are lacking the minimum capability for conducting autonomous works required in modern society. Besides, Vietnam's unemployment rate, which is the highest among the high-growth emerging economies (Elder, 2018) shows the low quality of higher education in Vietnam.

Second, the national examination aims to maintain the quality of education nationwide and to set up the national standard for high school students. For this reason, the exam could not be eliminated, however, MOET should ensure that the national examination should be

organized in an objective and fair way. Hence, it is recommended that an independent agency is established to better manage the exam in addition to provincial authorities. In the future, the government should diversify higher education entrance exams and reduce the government's centralized authority. It can create more space and opportunities for universities to assess and select potential students based on their core and learning programs, but also through an assessment of their personal characteristics and social activities. This could further ensure that HEIs are a vital source for knowledge discovery and technological innovation; an important force for advanced ideas and excellent culture; and a training base for all kinds of high-quality talent. In other words, universities and colleges should devise the most appropriate admission plan to closely collaborate with high schools and to ensure admission and training quality. The next step for the Government of Vietnam and school leaders is to provide better schooling and opportunities that foster cognitive capacities and behavioral skills for more young people.

Third, education itself should center on human values in order to enhance the self-motivation and living skills of students rather than achieving only academic knowledge. One of the important issues is the clarity and transparency in the content and implementation of the exam toward more encouragement and incentives for higher education. Besides, a sense of responsibility among key stakeholders, including teachers and educators, will be an important contribution to the implementation of educational activities.

Last but not least, a breakthrough in education, will support greater socio-economic development and improve Vietnam's position in the international market. The well-defined strategies and acting power of all stakeholders are the keys to improve higher education quality as well as steps to an advanced society.

7.3. Future Research and Limitations of the Study

The current study is the first to explore the effect of perceived justice and motivation on student satisfaction in the national examination. For this and other reasons, this study contains several limitations.

First, it was limited by the small sample with only 262 respondents. Considering that the number of students taking the 2020 national examination for university admissions in Vietnam was 643,122 (MOET, 2020), the inferences derived from the analysis and interpretation could be hardly generalized. Also, the number of students among universities responding to the survey was different. It would be more accurate if a certain number of respondents from particular universities participated in the online survey. Therefore, future studies could collect the same number of survey responses from each university so that the sample can evenly and precisely reflect the population.

Second, this study utilized a quantitative research method to identify the effects of perceived justice and motivation on student satisfaction. Thus, it was only able to know how justice and motivation affect the level of student satisfaction by testing a research-constructed hypothesis, yet it does not provide a complete description of participants' experiences. In this regard, it is recommended to employ both quantitative and qualitative methods for future studies to make it possible to acquire both comprehensive and in-depth results.

Ultimately, limitations on human and financial resources while conducting this research were an obstructing factor that prevented from expanding the scope of research. For future exploration of the topic, a comparative analysis of the satisfaction level of students from different education systems will be very meaningful to evaluate the effectiveness of high-stakes exams.

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Annex: Questionnaire

Hi everyone!

My name is Bao Nguyen, a Master’s student in Development Policy – Korea Development Institute School of Public Policy and Management.

I would like to invite you to take part in my research project. The purpose of this research is to assess the effect of perceived justice and motivation on student satisfaction regarding the national high school graduation examination in Vietnam. Students who took the 2020 national examination for higher education are welcomed to answer the below questions. I am committed to keeping your documents secure and will only utilize them for the purpose of scientific research. If you have any questions, please send an email to me: baonguyen@kdis.ac.kr.

Thank you for your participation!

(Including 5 levels: from the level (1) is “strongly disagree” (2) “disagree” (3) “Neither agree nor disagree” (4) “agree to the point (5) is “strongly agree”)

Please provide your perceptions about the following statements regarding the national examination.	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Distributive Justice					
The results of my exam are directly proportional to my efforts.					

The results of my exam correctly reflect my academic performance.					
Evaluation of essay questions subject to examiners' perspectives rather than on objective measures.					
Using computer software for the grading of multiple-choice tests would ensure the accuracy of these tests.					
Procedural Justice					
Exam time given for each subject is appropriate.					
The difficulty of the exam questions is appropriate.					
Test results should be well cross-checked by other provinces and cities.					
During the exam, exam supervisors control the exam processes well.					
An independent agency is needed to better manage the exam in addition to provincial authorities.					
Questions included in the exam are an accurate reflection of the materials that have been studied in class.					
The exam reduces inconvenient processes compared to the previous exam.					
Interactional Justice					
Teachers explain the procedures clearly and easily to everyone.					

The content of the exam is announced by teachers properly.					
Teachers inform students about how to take the exam for better results.					
It is possible to ask teachers for clarification and additional information about the exam.					
Teachers have refrained from using inappropriate comments or observations.					
Intrinsic Motivation					
I feel proud of myself since I get results that meet my expectation.					
I enjoy learning about various subjects.					
I enjoy the experience of collaborative learning with my classmates.					
I feel excited when finding out different ways to solve problems.					
Extrinsic Motivation					
I try my best in the exam because my family and teachers expect me to get better results.					
I try to get good results in the exam because it determines my future career.					
I am motivated by promotional activities provided by my university.					
Satisfaction					

Overall, I am satisfied with the information that I received about the national examination.					
Overall, I am satisfied with the evaluation system applied in the national examination.					
Overall, I feel comfortable when taking the exam.					
I am satisfied with the organization of the exam by the MOET.					

Supporting questions

1. Could you please tell me what your gender is?

Male Female

2. How old are you?

18

19

20

Other

3. Which type of high school are you studying?

Public school

Private school

4. Which region in your country do you live now?

A rural area

An urban area

5. You decide to enroll in the University because of:

Self-determination

- () Relatives (family and friends)
- () High school Teachers
- () Communication Information provided by university
- () University reputation
- () Other _____

Thank you for your answers!