The Relationship between Secondary School Teachers' Curriculum Fidelity and National High Stake Tests

In this study, it was aimed to examine the relationship between secondary school teachers' curriculum fidelity and their views on central exams. The study was designed with relational survey model. The population of the study consists of Turkish language, mathematics, science, English language and social studies teachers working in secondary schools affiliated to Diyarbakır Provincial Directorate of National Education during the 2021-2022 academic year. The sample of the study consists of 517 secondary school teachers randomly selected from these field of studies. "Curriculum Fidelity Scale", "Scale of Views on Central Examination" and "Open-ended Questionnaire Form" were used as data collection tools. The data of the study were collected online between 28.06.2021-14.03.2022. As a result of the study, it was determined that there was no significant relationship between secondary school teachers' curriculum fidelity and their views towards central exams. However, no significant relationship was found between the curriculum fidelity of secondary school teachers working in Supporting and Training Courses and their negative views towards central exams. On the other hand, a positive and significant relationship was found between the curriculum fidelity of secondary school teachers working in the Supporting and Training Courses and their views towards the central exams.

Keywords: Curriculum, Curriculum fidelity, high-stakes tests, secondary school teachers

Introduction

The experiences in the teaching and learning process are too important to be left to do random activities. Therefore, following a program is necessary for the realization of educational goals and experiences. Curriculum refers to all teaching activities, such as academic material and courses taught in a school or any educational institution, to educate individuals in line with the goals and needs of the age (Bas & Sentürk, 2019; Zaman & Khawaja, 2022). Curricula stands at the center of education systems and function as maps that can help determine the objectives, contents, the way and criteria for the realization of the educational goals in the educational process (Çetinkaya & Tabak, 2019). While well-organized curricula enable students to acquire lifelong learning and thinking skills and daily life skills, they guide educational activities, teachers, students and parents by consciously using the opportunities (Bay et al., 2017). Curricula are evaluated and revised at regular intervals in parallel with the changes in current life. However, no matter how much the curricula are well improved and developed; curricula require to be implemented completely with the value and support of all stakeholders (LaChausse et al., 2014; Özcelik, 2014). This makes it necessary for the curricula to be implemented in line with its original design, which brings the concept of fidelity to the agenda.

1   Fidelity refers to the intended implementation of a plan (Gresham, 1989), and
2 fidelity studies have their origins in E. M. Rogers' Diffusion of Innovations Theory
3 (Dusenbury et al., 2003). The first studies of fidelity were initiated in the 1970s-
4 80s to determine the effectiveness of the curricula developed to prevent substance
5 use in the health sector, and from there it spread to the education and service
6 sectors (Vartuli & Rohs, 2009). On the other hand, curriculum fidelity in the field
7 of education is defined as the faithful implementation of the curriculum to its
8 original design by the teachers/ stakeholders who implement it (Bumen, Cakar &
9 Yildiz, 2014; Aslan & Erden, 2020). Curriculum fidelity, in other words, refers to
10 how much of the designed curriculum has been implemented qualitatively and
11 quantitatively (Haataja et al., 2014).
12   Curriculum fidelity is at the center of curriculum studies for determining the
13 impact of the curricula on education and learning outcomes (McNeill et al., 2018),
14 for the development of the curriculum or for identifying the setbacks or problems
15 that arise regarding curricula in practice (Bumen et al., 2014). It also emerges as an
16 intermediate variable that should be considered in evaluating teacher performance
17 and providing support for professional development (Pence et al., 2008). However,
18 the relevant literature revealed that teachers have to make curricular adaptations in
19 the teaching and learning process and unable demonstrate complete fidelity to
20 original design of curricula in Turkey, where the curricula are designed centrally
21 and implemented throughout the country (Bas & Sentürk, 2019; Moon & Park,
22 2016; Stains & Vickrey, 2017; Tas, 2022). The literature also emphasizes that
23 several variables, such as regional, institutional and external factors, curriculum
24 revisions, teacher qualification and training, and student needs affect curriculum
25 fidelity (Burakgazi, 2019; Dusenbury et al., 2003; Kimpston, 1985; Superfine,
26 Marshall & Kelso, 2015). ; Ringwalt et al., 2003; Tas, 2022). Another highlighted
27 variable is the national high-stake tests, which are conducted to select and place
28 students at upper institutions after certain school stages in Turkey (Bay et al.,
29 2017; Bümen et al., 2014).
30   National high-stake tests have been used for centuries to eliminate bias in
31 different nations, to help access to public service, to identify and select people to
32 become an official member of a community and to measure whether students have
33 acquired certain skills (Madaus et al., 2010). Today, high-stake tests are based on
34 the understanding of program interventions as a requirement of evidence-based
35 practices and the quantitative measurement of the instructional results (Misset &
36 Foster, 2015). Based on the principle of "standards and accountability" in learning,
37 high-stake tests can be preferred worldwide to determine the quality of the
38 teaching process, student success, the effectiveness of the curriculum, or to select
39 students (Kahraman, 2014; Sloane & Kelly, 2003). In this context, national high-
40 stake tests are also frequently used in our country to determine student success and
41 to place students in a higher institution in line with academic success (Ertem,
42 2021). Although the applied national high-stake tests seem to be the most
43 unprejudiced method for student selection and placement, they may especially
44 affect the teaching and learning process in the long run (Dong, 2020). For
45 example, Brimijoin (2005) stated that the use of high-stake tests as an assessment
46 approach by the state for student selection, placing or graduation from a certain

school level, may prevent teachers from the followed pedagogy and lead them to implement practices that ignores the learners needs. Büyüköztürk (2016) emphasizes that high-stake tests are the determinants of teaching, learning, assessment and measurement practices in classrooms in Turkey, therefore, both the teaching process and assessment and measurement practices in schools are organized to assure the success in national high-stake tests. Demir and Keleş (2021), on the other hand, state that national high-stakes tests lead teachers to use more traditional teaching methods and multiple-choice test-solving techniques. As it is known, curricula comprise four main elements: objectives, content, learning-teaching and measurement and assessment process (Hunkins, & Ornstein, 1988). There is a dynamic relationship between these four elements of the curriculum, and practices and interventions in any element can affect others (Reyhanlıoğlu & Tiryaki, 2021). Based on these, the national high-stake tests conducted in the evaluation part of the curricula may affect the implementation of the other three elements. As a matter of fact, the relevant literature pointed out that teachers generally go beyond the teaching suggested by the curriculum and carry out their practices to assure academic success on national high-stake tests (Dawson, 2012; Demir &Keleş, 2021; Supovitz, 2009). Therefore, the national high-stake test conducted in Turkey impairs teachers' curriculum fidelity (Bay et al. ., 2017; Bumen et al., 2014). Based on these results, the relationship between teachers' curriculum fidelity and their views towards national high-stake tests was to be worth investigating in this study. This study aims to examine the relationship between secondary school teachers' curriculum fidelity and their views on national high-stake tests. For this purpose, the following research questions were searched: What is the level of secondary school teachers' views on curriculum fidelity and national high-stake tests?

2. Is there a significant difference between secondary school teachers' views on curriculum fidelity and national high-stake tests in terms of following variables:

a) Education status,
b) Field of study,
c) School types,
d) Teaching in Support and Training Courses (STC)?

3. What is the relationship between secondary school teachers' views on curriculum fidelity and national high-stake tests?

Method

Research design, population and sample of the study, data collection instruments, data collection procedure and data analysis procedures of the research is presented in this section.

1 **Research Model**

2

3   This study was based on correlational survey method as it aimed to search the
4 relationship between secondary school teachers' views on curriculum fidelity and
5 national high-stake tests.

6

7 **Population and Sample**

8

9   The population of the study comprised 6866 Turkish Language, Mathematics,
10 Science, English Language and Social Studies teachers working in secondary
11 schools in Province of Diyarbakır in the 2021-2022 academic year. The sample of
12 the study comprised 517 secondary school teachers randomly selected from the
13 population in line with the study field. For a population of 6866, the sample size
14 was found as much as 364 with 95% confidence level and 5% margin of error
15 calculations   (https://www.research-advisors.com/tools/SampleSize.htm   ).   The
16 sample of this study may represent the population. The descriptive characteristic of
17 the sample was presented in Table 1.

18

19 *Table 1*. The Descriptive Characteristics of the Sample

Characteristics	*Categories*	*N*	*%*
Gender	Female	226	43.7
	Male	291	56.3
Educational Level	Bachelor's	425	82.2
	Postgraduate	92	17.8
Field of Study	Turkish Language	124	24.0
	Mathematics	125	24.2
	Science	93	18.0
	English Language	85	16.4
	Social Science	90	17.4
School Types	Private	39	7.5
	State	478	92.5
Teaching in STC	Yes	450	87.0
	No	67	13.0
Total		**517**	**100**

20
21
22 **Data Collection Tools**

23

24   "Curriculum Fidelity Scale", "General View about High-Stakes Testing
25 Scale" and "Open Ended Questionnaire Form" were used as data collection tools.

26

27 **Curriculum Fidelity Scale (CFS)**

28

29   CFS was developed by Yasaroglu and Manav (2015) as a single dimensional
30 5-point Likert type scale. CFS comprised 16 positive and 4 negative, totally 20
31 items. Cronbach's Alpha reliability coefficient value of the scale was calculated as

.896 (Yasaroglu and Manav, 2015). In this study, Cronbach's Alpha reliability coefficient was found as .785.

General View about High-Stakes Testing Scale

General View about High-Stakes Testing Scale was developed by Genç (2005) and was adopted in Turkish Language and Culture by Buldur and Acar (2018). The scale was 5 point Likert type, comprised 12 items and two dimensions. The first dimension is positive views about high-stake tests consisting five items and the second one is about negative views about high-stake tests consisting 7 items. Cronbach's Alpha reliability coefficient value of the scale was calculated as .79 for the dimensions of positive views about high-stake tests and .75 for dimension of the negative views about high-stake tests in the adaptation study (Buldur & Acar, 2018). In this study, Cronbach's Alpha reliability coefficient value of the dimensions was calculated as .892 and .708 respectively.

Open-Ended Questionnaire Form

The questionnaire, comprised two open-ended questions, was developed by the researchers for this study. First, the researchers prepared two open-ended questions to reveal the secondary school teachers' opinions on the relationship between the curriculum fidelity and national high-stake tests. Afterwards, the questions were sent to three experts in curriculum and instruction and revised in line with expert opinions. The final form of the open-ended questions were:

1. How do national high-stake test contribute to the curriculum implementation process?
2. How do national high-stake test detriment to the curriculum implementation process?

Data Collection Process

The data collection process started after the ethical approvals of Social and Human Sciences Ethics' Committee and Diyarbakır Provincial Directorate of National Education to implement the research instruments. Research items in the data collection tools were processed into "Google Forms" and a link was obtained. The scale items and demographic variables were kept obligatory while the open-ended questionnaire was offered as optional. The online data collection process lasted from 28th June 2021 to 14th March 2022.

Ethical Committee Approval (2. Level Title Style)

Ethical committee approval is obtained from Dicle Universtiy Social and Human Sciences Ethics' Committee on 18.05.2021 No: 71445

1   **Data Analysis**
2
3   The quantitative and qualitative data within the scope of this study were
4   analyzed separately. Quantitative data were analyzed with Jamovi package
5   program. The statistics regarding demographic variables were presented with
6   percentages and frequencies. The mean and standard deviation values were
7   calculated to determine the secondary school teachers' views regarding curriculum
8   fidelity and national high stake tests. The means scores of teachers' views were
9   interpreted based on the following score ranges and levels presented on Table 2.
10
11   *Table 2.* Score Ranges and Levels Used to Interpret Mean Values

Score ranges	Levels
1.00 – 1.80	I strongly disagree
1.81 – 2.60	I disagree
2.61 – 3.40	I partly agree
3.41 – 4.20	I agree
4.21 – 5.00	I strongly agree

12
13   Normality assumptions of data were tested to determine the type of statistics
14   to be used. First, Kurtosis and Skewness coefficients were examined to test the
15   normality assumption. The Kurtosis and Skewness coefficients were found 6.52
16   and -1.77 for the curriculum fidelity, 0.472 and -0.700 for negative views
17   dimension of national high stake, and -0.435 and -.268 for the positive views
18   dimension. Based on these findings, the data set showed normality for both
19   positive and negative views dimensions of national high-stake, but those for the
20   curriculum fidelity did not assure the assumption of normality. However, as a
21   basis of many analysis methods, the Central Limit Theorem (CLT) claims that the
22   means of randomly selected samples from any distribution must have a normal
23   distribution. CLT also recommends ignoring data distribution when we have a
24   sample comprising hundreds of observations (Altman & Bland, 1995: 298). This
25   assures that the mean of sample taken from a population will inevitably be a
26   normally distributed if it has a sample over a certain volume (usually 30 or more)
27   regardless of the distribution of the random variable in the population (Korum,
28   1985: 135). Although Parametric tests require samples that have a normal
29   distribution, large sample sizes (30 or more variables) do not cause any major
30   problems with the violation of this assumption (Pallant, 2017:227). If the group
31   size is greater than 40 when comparing the means for each group, CLT suggests
32   the use of parametric tests even if the data does show a normal distribution (Elliott
33   & Woodward, 2007: 26). Based on these assumptions, the sample size of the study
34   would not pose a threat to the assumption of normality and allow for the use of
35   parametric tests for curriculum fidelity scores. Then, Levene's test was used to test
36   the homogeneity independent variables, and the results for each independent
37   variable considered in the study were presented in Table 3.
38
39

1 *Table 3.* Results of Levene Tests

Dependent variable / Independent variable	Curriculum Fidelity		Positive views		Negative views	
	F	**p**	**F**	**p**	**F**	**p**
Education Status	.0575	.810	.0852	.770	.0012	.972
Field of Study	.638	.635	.624	.646	2.744	.028*
School Types	1.156	.283	11.194	.001*	.144	.705
Teaching in STC	.1603	.689	.027	.869	.0665	.797

2 *p<.05
3

4   Independent Samples t-test and ANOVA tests were used to test whether
5 secondary school teachers' views on curriculum fidelity and national high-stake
6 tests differ in line with the independent variables discussed in the study. When
7 Independent Samples t-Test is used and homogeneity assumption is assured,
8 Student's t-Test results are reported, if not Welch's t-Test results are reported.
9 When One-Way ANOVA test is used and the homogeneity assumption is assured,
10 the Fisher's Test results are reported. If not, the Welch's Test results are reported.
11 Pearson Correlation coefficient was used to determine the relationship between
12 secondary school teachers' curriculum fidelity and their views on national high-
13 stake. Then, the sample were separated into two variables in line with teachers'
14 taking part in STC or not, and the Pearson Correlation coefficient was calculated
15 again to determine the relationship. Büyüköztürk (2011:32) stated that a
16 correlation coefficient between .70-1.00 can be interpreted as a high correlation,
17 between .30-.70 as a medium and between .00-.30 as a low level correlation. The
18 comparisons were based on the .05 level of significancy. The effect size (Cohen's
19 d) was calculated to determine the size of the significant difference. Cohen's effect
20 size (Cohen d) results from 0.20 to 0.49 showed a small effect, if it is from 0.50 to
21 0.79 means a medium effect, and if it is equal to or over 0.80 indicated a large
22 effect (Tan, 2016: 278).
23   In the study, the qualitative data obtained via open-ended questionnaire form
24 were analyzed with descriptive statistics. The secondary school teachers'
25 responses to the open-ended questions were divided into categories and their
26 frequencies were calculated.
27
28

29 Results

30

31   The findings of the study are presented according to the problems of the
32 research. The mean and standard deviation values of secondary school teachers'
33 curriculum fidelity and their negative and positive views on national high-stake
34 tests are presented in Table 4.
35

1 *Table 4.* Mean and Standard Deviation Values of Secondary School Teachers'
2 Curriculum Fidelity, Negative and Positive Views on National High-Stake Tests

Variable	N	$\overline{X}$	ss
Curriculum Fidelity	517	4.54	.468
Negative Opinion	517	3.80	.795
Positive Opinion	517	3.33	.969

3

4   When Table 4 is examined, it is seen that secondary school teachers'
5 curriculum fidelity(4.54) is at the level of strongly agree, their negative views on
6 national high-stake tests (3.80) is at the level of agree, and their positive views on
7 national high-stake tests (3.33) is at the level of partially agree. Table 5 presents
8 the findings on whether there is a significant difference between secondary school
9 teachers' curriculum fidelity, their negative and positive views on national high-
10 stake tests according to their education level.

11

12 *Table 5.* Independent Samples t-Test Results Regarding Secondary School
13 Teachers' Curriculum Fidelity, Negative and Positive Views on National High-
14 Stake Tests regarding Educational Background

Dependent variable	Education status	N	$\overline{X}$	ss	Df	t	p	Effect size
Curriculum Fidelity	Bachelor's	425	4.55	.474	515	.508	.612	———
	Postgraduate	92	4.52	.442				
Negative Opinion	Bachelor's	425	3.81	.796	515	.649	.516	———
	Postgraduate	92	3.75	.794				
Positive Opinion	Bachelor's	425	3.32	.963	515	.387	.699	———
	Postgraduate	92	3.37	1.00				

15 * p < .05

16

17   When Table 5 is examined, it is seen that there is no significant difference
18 between secondary school teachers' curriculum fidelity and their negative and
19 positive views on national high-stake tests according to their educational level.
20 Although no significant differences were found according to education level, it is
21 seen that the negative views of teachers with bachelor's degree on curriculum
22 fidelity and national high-stakes tests are higher. On the other hand, it was
23 determined that teachers with postgraduate education had higher positive views
24 towards national high-stake tests. The findings regarding whether there is a
25 significant difference between secondary school teachers' fidelity to the
26 curriculum, negative and positive views towards national high-stake tests
27 according to their branches are presented in Table 6, Table 7 and Table 8,
28 respectively.

29

1 *Table 6.* ANOVA (Fisher's) Results of Secondary School Teachers' Curriculum
2 Fidelity regarding Teachers' Field of Study

Dependent variable	Field of Study	N	$\overline{X}$	ss	F	p	Tukey	Effect size
Curriculum Fidelity	Turkish Language	124	4.62	.430	1.3728	.242	-	-
	Maths	125	4.52	.427				
	Science	93	4.55	.427				
	English Language	85	4.47	.546				
	Social Studies	90	4.51	.526				

3 *p < .05
4

5   When Table 6 is examined, it is seen that there is no significant difference
6 between secondary school teachers' curriculum fidelity regarding teachers' field of
7 study variable. Although no significant difference was found, it is seen that
8 Turkish language teachers have the highest average and English language teachers
9 have the lowest average in terms of curriculum fidelity.
10

11 *Table 7.* ANOVA (Fisher's) Results of Secondary School Teachers' Negative
12 Views on National High-Stake Tests regarding Teachers' Field of Study Variable

Dependent variable	Field of Study	N	$\overline{X}$	ss	F	p	Tukey	Effect size
Negative Opinion	Turkish Language	124	3.79	.851	.0785	.989	-	-
	Maths	125	3.80	.850				
	Science	93	3.76	.801				
	English Language	85	3.81	.742				
	Social Studies	90	3.82	.689				

13 *p < .05
14

15   When Table 7 is examined, it is seen that there is no significant difference
16 between the negative opinions of secondary school teachers about national high-
17 stake tests regarding teachers' study field. Although no significant difference was
18 found, it is seen that social sciences teachers have the highest average and science
19 teachers have the lowest average in terms of negative views towards central
20 exams.
21
22

9

1 *Table 8.* ANOVA (Welch's) Results Regarding Secondary School Teachers'
2 Positive Views on National High-Stake Tests regarding Teachers' Field of Study
3 Variable

Dependent variable	Field of Study	N	$\overline{X}$	ss	F	p	Tukey	Effect size
Positive Opinion	Turkish	124	3.25	1.092	1.6137	.171	-	-
	Maths	125	3.33	.991				
	Science	93	3.30	.940				
	English	85	3.26	.793				
	Social Studies	90	3.55	.924				

4 *p < .05
5

6   When Table 8 is examined, it is seen that there is no significant difference
7 between the positive views of secondary school teachers on national high-stake
8 tests regarding teachers' study field. Although no significant difference was found,
9 it is seen that social studies teachers have the highest average and Turkish
10 language teachers have the lowest average in terms of positive views towards
11 national high-stake tests. The findings on whether there is a significant difference
12 between secondary school teachers' curriculum fidelity, negative and positive
13 views on national high-stake tests regarding the teachers' school type are
14 presented in Table 9.
15

16 *Table 9.* Independent Samples t-Test (Student's t-Test for Curriculum Fidelity and
17 Positive Views and Welch's t-Test for Negative Views) Results Regarding
18 Secondary School Teachers' Fidelity, Negative and Positive Views on National
19 High-Stake Tests regarding the Teachers' School Type

Dependent variable	School type	N	$\overline{X}$	ss	Df	t	p	Effect size
Curriculum Fidelity	Private	39	4.69	.398	515	2.0615	.040*	.343
	State	478	4.53	.471				
Negative Views	Private	39	3.79	1.128	40.9	.0233	.982	
	State	478	3.80	.763				
Positive Views	Private	39	3.67	1.016	515	2.3088	.021*	.384
	State	478	3.30	.961				

20 *p < .05
21

22   When Table 9 is examined, a significant difference was found between
23 secondary school teachers' curriculum fidelity and their positive views on national
24 high-stake tests regarding teachers' school type. These significant differences were
25 found in favor of teachers working in private schools. When the effect size value
26 was analyzed, the significant differences were at a small level. On the other hand,
27 no significant difference was found between secondary school teachers' negative

1 views on national high-stake tests regarding teachers' school type. Although no
2 significant difference was found between the negative views of secondary school
3 teachers on national high-stake tests regarding teachers' school type, it is seen that
4 the views of teachers working in public schools towards national high-stake tests
5 are higher. Table 10 presents the findings on whether there is a significant
6 difference between secondary school teachers' curriculum fidelity and their
7 negative and positive views on national high-stake tests regarding teachers' taking
8 part in Supporting and Training Courses (STC)

9

10 *Table 10.* Independent Samples t-Test (Student's t) Results of Teachers'
11 Curriculum Fidelity, Negative and Positive Views on National High-Stake Tests
12 Regarding the Variable of Taking Part in Secondary School Supporting and
13 Training Courses (STC)

Dependent variable	Taking part in STC	N	$\overline{X}$	ss	Df	t	p	Effect size
Curriculum Fidelity	Yes	450	4.56	.453	515	1.981	.048*	.259
	No	67	4.44	.550				
Negative Views	Yes	450	3.81	.796	515	.514	.608	————
	No	67	3.75	.793				
Positive Views	Yes	450	3.31	.975	515	1.115	.265	————
	No	67	3.45	.924				

14 *p < .05

15

16   When Table 10 is examined, a significant difference was found between the
17 secondary school teachers' curriculum fidelity according to the variable of taking
18 part in the STCs. This difference was found in favor of the teachers who took part
19 in the STCs. When the effect size value is analyzed, it is seen that the significant
20 difference is at a small level. On the other hand, no significant difference was
21 found between negative and positive views on national high-stake tests. Although
22 no significant difference was found between the positive and negative views of
23 secondary school teachers on national high-stake tests, it is seen that the mean
24 scores of the teachers who took part in STCs were higher in terms of negative
25 views and the mean scores of the teachers who did not take part in STCs were
26 higher in terms of positive views. Findings on the relationship between secondary
27 school teachers' curriculum fidelity and their views on national high-stake tests
28 were presented in the table below.

29
30

1 *Table 11*. Findings Related to the Relationship between Secondary School
2 Teachers' Curriculum Fidelity and Their Views on National High-Stake Tests

		Negative views	Positive views
Curriculum Fidelity (For all teachers)	**r**	-.033	.085
	p	.455	.053
Curriculum Fidelity (Taking part in STCs)	**r**	-.080	.100
	p	.088	.033*
Curriculum Fidelity (Not taking part in STCs)	**r**	.220	.030
	p	.073	.807

3 *p < .05
4
5   Table 11 shows that there is no significant relationship between secondary
6 school teachers' curriculum fidelity and their views towards national high-stake
7 tests. On the other hand, no significant relationship was found between curriculum
8 fidelity of secondary school teachers' taking part in STCs and their negative views
9 on national high-stake tests. However there is a significant relationship between
10 secondary school teachers' who take part in STCs curriculum fidelity and views
11 on national high-stake tests. However, the correlation coefficient indicates a low
12 relationship between these two variables. In addition, no significant relationship
13 was found between the curriculum fidelity of secondary school teachers who did
14 not take part in STCs and their views on national high-stake tests.
15
16 **What are the positive effects of national high-stake tests on curriculum**
17 **fidelity of secondary school teachers?**
18
19   It was determined that 218 teachers gave valid answers to the question about
20 the positive effects of national high-stake tests on teachers' curriculum
21 implementation process and 31 of the teachers who answered the question stated
22 that national high-stake tests did not have a positive effect. The rest of the
23 responses were grouped under three themes: teacher, student and curriculum.
24
25

1 **Figure 1.** *Positive Effects of National High-Stake Tests on Teachers' Curriculum*
2 *Fidelity*

Student (N=111)	Teacher (N=46)	Curriculum (N=30)
➢ Readiness (N=52) ➢ Planned work (N=18) ➢ Feedback (N=11) ➢ Reinforcement (N=9) ➢ Test technique (N=9) ➢ Equality of opportunity (N=5) ➢ Success (N=5)	➢ Feedback (N=18) Teacher performance (N= 3) Student performance (N= 15) ➢ Organised Work and Coordination (N=15) ➢ Method-Technique Selection (N=4) ➢ Professional Development (N= 6)	➢ Curriculum fidelity (N=17) ➢ Coordination with curriculum implementation (N=4) ➢ Feedback on achievements (N=4) ➢ Guiding (N=1) ➢ Equal opportunities (N=1) ➢ Ensures school's function (N= 1)

3
4
5   As stated in Figure 1. secondary school teachers thought that National high-
6 stake tests contribute to curriculum fidelity of teachers for three reasons: teacher,
7 student and curriculum components. The first of these reasons is the component of
8 students, and secondary school teachers think that national high-stake tests
9 enhance students' readiness, success, planned study habits, reinforcement and
10 feedback, and equality of opportunity, which in turn contribute curriculum fidelity
11 of teachers. According to secondary school teachers, the second reason is the
12 component of teacher. The teachers stated that national high-stake tests contribute
13 to teachers' curriculum fidelity on the grounds that they give feedback to teachers
14 in terms of both their own and student performance, encourage teachers to
15 cooperate and work regularly, guide them in choosing methods and techniques,
16 and require their professional development. Finally, the secondary school teachers
17 pointed the curriculum components as a last reason, and stated that national high-
18 stake tests urged teachers to have cooperation and coordination in curricular
19 implementations, providing feedback for the realization of goals, providing
20 guidance, equal opportunities and increasing the function of the school as the
21 implementer of the curriculum. This in the end, led to the curriculum fidelity of
22 teachers in schools. Based on all these views, national high-stake tests may have a
23 positive effect on curriculum fidelity of secondary school teachers on the basis of
24 students, teachers and curriculum components.

25
26 **What are the negative effects of national high-stake tests on curriculum**
27 **fidelity of secondary school teachers?**

28
29   It was determined that 196 teachers gave valid answers to the question about
30 the negative effects of central exams on the process of teachers' implementation of

1   the curriculum, and 10 of the teachers who answered the question stated that there
2   was no negative effect. The rest of the responses were grouped under four themes:
3   education, student, teacher and curriculum.
4
5   *Figure 2*. Negative Effects of National High-Stake Tests on Teachers' Curriculum
6   Fidelity
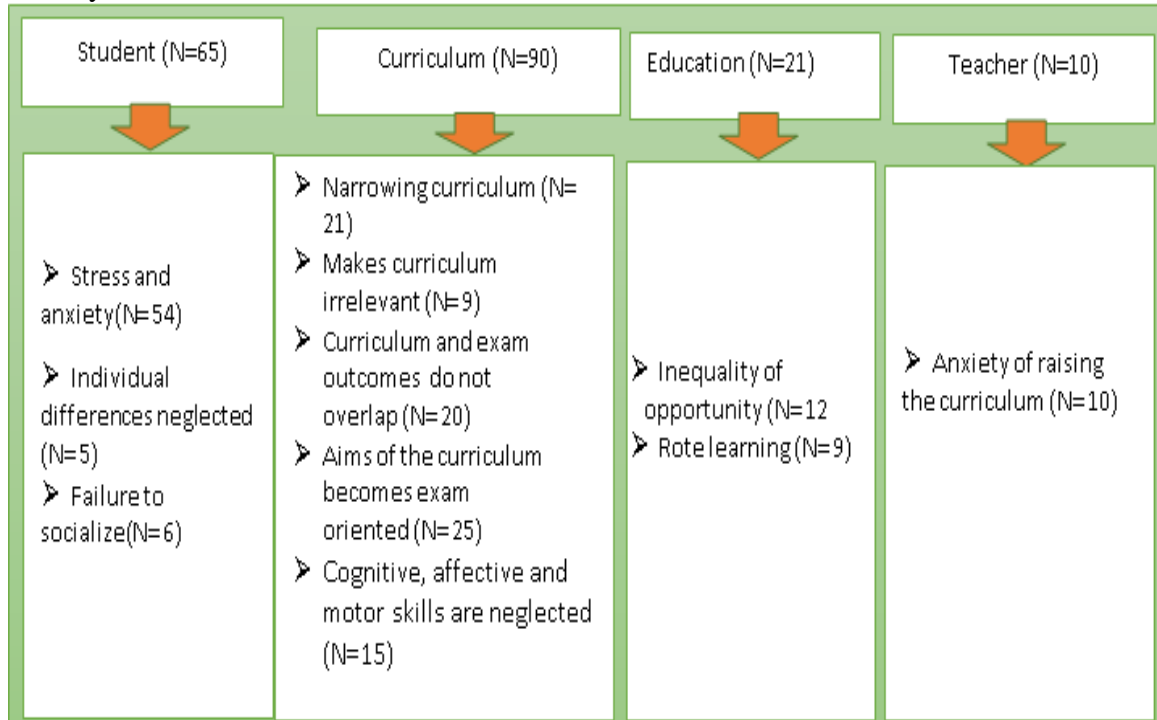
7
8
9   As shown in Figure 2, secondary school teachers think that National High-
10 Stakes Tests have negative effects on curriculum fidelity under four themes:
11 student, curriculum, education and teacher components. Under the student theme,
12 it was stated that high-stakes tests cause stress and anxiety in students, individual
13 differences of learners are ignored and socialisation of students is negatively
14 affected. Under the theme of curriculum, it was stated that standard tests narrow
15 the curriculum, make the curriculum irrelevant, curriculum and test outcomes do
16 not match, curriculum outcomes have become exam-oriented, and cognitive-
17 affective and motor skills are neglected. Regarding the characteristic of education,
18 the participants stated that high-stakes tests create inequality of opportunity in
19 education and increases rote learning. Under the theme of teacher, it is stated that
20 central exams create anxiety on teachers to finish the curriculum on time and this
21 is a negative situation for teachers. Based on all these views, it can be said that
22 national high stake tests have negative effects on the curriculum fidelity in terms
23 of students, curriculum, teachers and education components.
24
25
26

1   **Conclusion, Discussion and Recommendations**
2
3   In this study, which examined the relationship between secondary school
4   teachers' curriculum fidelity and their views on national high-stake tests, it was
5   concluded that secondary school teachers' curriculum fidelity was at the level of
6   strongly agree. This result is in line with the results of the studies examining
7   teachers' curriculum fidelity in the literature. Aslan and Erden (2020) in the study
8   examining secondary school teachers' curriculum fidelity concluded that the
9   teachers' curriculum fidelity level was high. Studies examining primary and
10   secondary school teachers' curriculum fidelity (Burul, 2018; Kabaş & Yıldız,
11   2020; Karakuyu & Oğuz, 2021; Süer & Kinay, 2022) reported that primary and
12   secondary school teachers have a high level of curriculum fidelity. Besides, other
13   studies have found that high school teachers generally adhere to the curriculum at
14   a high level (Aşçı & Yıldırım, 2020; Zöğ, 2022). Overall, the level of fidelity to
15   the curriculum showed a high level of fidelity for teachers working at
16   kindergarten, primary, secondary and high schools (Boncuk, 2021; Sakallıoğlu &
17   Özüdoğru, 2022; Yılmaz & Kahramanoğlu, 2021). Overall, majority of studies
18   indicate that teachers have a high level of curriculum fidelity, then it can be
19   considered that teachers generally adhere to the curriculum to a significant degree.
20   High level of curriculum fidelity means that the curriculum is implemented as
21   intended by the curriculum designers. (Vartuli & Rohs, 2009). While there may be
22   variations in curriculum fidelity levels among teachers, it is important for them to
23   strive towards adhering to the curriculum as closely as possible in order to provide
24   students with the best possible education and opportunities for future success.
25   Otherwise, students' experiences of the curriculum and ultimately their learning
26   opportunities will be affected. (Superfine et al., 2015). In this respect, McNeill et
27   al. (2018) state that it is important to include justifications for the objectives of the
28   curriculum, especially in education programs. According to Bümen et al. (2014),
29   there are several factors that can influence teachers' fidelity to the curriculum.
30   These factors include teacher characteristics, teacher training, regional and socio-
31   economic characteristics, a centralized education system, and diagnostic tests for
32   the future. This suggests that if teachers are seen as solely obligated to implement
33   a prepared curriculum without any room for adaptation, it can lead to a teacher
34   profile that is unable to adapt the curriculum based on the unique conditions of
35   their students and classroom. This may ultimately result in the implementation of a
36   curriculum that is different from the designed one. According to Döş et al. (2017),
37   there are multiple factors that can affect teachers' fidelity to the curriculum. These
38   factors include school-environment, education system, teacher, curriculum,
39   subject, method-application, student, resource-material and social factors.
40   Dikbayır and Bümen (2016) state that student, curriculum, teacher and institutional
41   characteristics and the centralised education system are determinative in teachers'
42   curriculum fidelity. Hill & Erickson (2019) argues that medium or high level of
43   fidelity is sufficient to achieve the desired results in the curriculum. Examining
44   and determining the curriculum fidelity is important in explaining why curriculum
45   initiatives are successful or not. If the desired results in teaching cannot be
46   achieved despite teachers' high level of curriculum fidelity, the curriculum may

15

1 need to be redesigned. (Dusenbury et al., 2003). According to Cutbush et al.
2 (2017), although educators may define curriculum fidelity as strictly following the
3 developed program without making any additions or subtractions, they do make
4 some adaptations to the program. It is suggested that curriculum developers should
5 support practitioners by explaining the curriculum theory in terms that
6 practitioners can understand, clearly articulating expectations for adaptations or
7 changes to the curriculum, and noting lessons learned from previous
8 implementation. In general, it is important for teachers to have a high level of
9 curriculum fidelity in order to effectively implement the intended curriculum and
10 achieve desired learning outcomes. However, it is also important to recognize that
11 teaching and learning take place within a complex and dynamic context that can
12 influence how the curriculum is implemented.

13 It was concluded that there is no significant difference in teachers' curriculum
14 fidelity according to gender, education level, or field of study variable, this means
15 that these factors do not seem to have a significant impact on teachers'
16 implementation of the curriculum. When the research in the related literature
17 examined (Aşçı & Yıldırım, 2020; Aslan & Erden, 2020; Baş & Şentürk, 2019;
18 Burul, 2018; Karakuyu & Oğuz, 2021; Sakallıoğlu & Özüdoğru, 2022), they
19 reported that teachers' curriculum fidelity did not differ significantly according to
20 gender variable. However, Süer and Kinay (2022) state that female teachers'
21 curriculum fidelity is higher than male teachers. In terms of education level
22 variables (Aslan & Erden, 2020; Baş & Şentürk, 2019; Karakuyu & Oğuz, 2021;
23 Sakallıoğlu & Özüdoğru, 2022), the studies argue that curriculum fidelity did not
24 create a significant difference. Boncuk (2021) reported that teachers with
25 postgraduate education have higher curriculum fidelity. Bümen et al. (2014) state
26 that teacher training is an important part of the successful implementation of the
27 new curriculum. This can include training on the content and structure of the
28 curriculum, as well as on effective teaching strategies and assessment methods that
29 align with the new curriculum, which can be achieved via qualified pre-service
30 education. In order to train expert teachers who can adapt the curriculum
31 according to environmental conditions, teachers' professional knowledge and skills
32 as well as their professional self-efficacy beliefs should be strengthened so that
33 they can adapt the curriculum more effectively. In this respect, teacher education
34 should include experiences that teach how much and how to implement the
35 curriculum as well as how to adapt the curriculum according to environmental
36 conditions.

37 This study has concluded that there is no significant difference in secondary
38 school teachers' curriculum fidelity according to their field of study variable, this
39 means that teachers from different fields of study are equally likely to implement
40 the curriculum as intended. This finding suggests that teachers' academic
41 background or field of study may not be a major factor in shaping their
42 implementation of the curriculum. Parallel to this finding in the literature Zöğ,
43 (2022) in a study conducted with high school teachers reported that the field of
44 teaching did not make a significant difference in teachers' curriculum fidelity. Aşçı
45 and Yıldırım (2020) states that there is no significant difference in the secondary
46 school teachers curriculum fidelity in terms of field of study variable. Sakallıoğlu

and Özüdoğru (2022) as a result of the research conducted with teachers working at different school stages stated that teachers' curriculum fidelity differs significantly according to the teachers' field of study variable. Accordingly, pre-school and primary teachers have higher curriculum fidelity level than the teachers of other study fields. Similarly, Aslan and Erden (2020) reported that there are significant differences in teachers' curriculum fidelity in terms of teachers' field of study variable. Accordingly, science teachers' curriculum fidelity is higher than primary mathematics, religious culture and ethics, and technology design/ information technologies teachers. Fine arts/sports teachers' curriculum fidelity is higher than primary mathematics and technology design/information technologies teachers. When the findings of this study and the literature findings are evaluated together, it is important to continue research that differentiates between teachers from different field of studies in order to gain a more comprehensive understanding of this factor on curriculum fidelity.

When the teachers' curriculum fidelity in terms of the school type variable was examined, no significant difference was found between teachers working in private and public secondary schools. This means that teachers working in both private and public secondary schools are equally likely to implement the curriculum as intended. Aşçı and Yıldırım (2020) also reported that there is no significant difference in the fidelity of teachers working in secondary schools towards curriculum according to the type of school they work in. Öztürk-Akar (2005) found differences in the implementation of the high school biology curriculum according to school type in their study. Bümen et al. (2014) pointed out that student achievement in Turkey differs according to geographical region and socio-economic structure, and this situation contains important data on student success or failure, which affects the curriculum fidelity. In this regard, it is reported that there is a need for detailed guidelines for the adaptation of the curriculum in advantageous or disadvantaged groups arising from regional and socio-economic differences.

When the teachers' opinions about the national high-stake tests were examined, it was concluded that the negative opinions of the secondary school teachers participating in the study about the national high-stake tests were at the level of agree, while their positive opinions were at the level of partially agree. At this point, it can be said that teachers' negative opinions about national high-stake tests are higher than their positive opinions. A significant difference was found between secondary school teachers' curriculum fidelity and their positive views on national high-stake tests according to school type. These significant differences were found to be in favor of teachers working in private schools. Ünsal and Çetin (2019) reports that private school teachers adhere to the curriculum; however, in competitive private schools that want their students to be more successful, additional resources are required, thus private school teachers are concerned about students' academic successand test results. They also state that teachers use mock exams as a measurement tool in private schools and the use of mock exams as a measurement tool in private schools could be seen as an indication of the importance placed on preparing students for national high-stakes tests. According to the findings obtained from the open-ended questionnaire, the positive effects of

national high-stake tests on curriculum fidelity were grouped under the themes of student, teacher and curriculum. In terms of students; readiness, planned work, feedback, reinforcement, test technique, equal opportunity and success come to the fore. Gündoğdu et al. (2010) and Karakaya et al. (2020) suggest that national high-stakes tests can have a positive impact on student achievement. These tests can provide a clear goal for students to work towards, and may motivate them to study more effectively and consistently. Additionally, the tests can provide valuable feedback for students, teachers, and schools. However, it is important to note that the benefits of national high-stakes tests are a matter of debate, and there are also arguments against their use. Critics argue that these tests can place too much emphasis on test-taking strategies and they enable students to work in a planned way (Acar & Buldur, 2021; Gündoğdu et al., 2010; Hündür & Diken, 2018; Şad & Şahiner, 2016). From the teacher's point of view, feedback on teacher and student performance, coordination and regular work, method and technique selection and professional development have been pointed out as the positive effects. The role of national high-stake tests in providing feedback on teachers' performance has also been reported by different research (Acar & Buldur, 2021; Buyruk, 2014; A. Çetin & Ünsal, 2019; Taşkın & Aksoy, 2018). It is also known that high-stake tests provide teachers with planned and organised work and coordination. It is also known that teachers' planned and regular work and coordination are ensured through centralized examinations. (İnceoğlu, 2015; Kırkağaç & Bayrak, 2019). Another remarkable finding related to the theme of teachers' curriculum fidelity of national high-stake tests is related to the professional development of teachers. Various studies reported that national high-stake tests contribute to teachers' professional development as an incentive for teachers to renew themselves in terms of curriculum adherence (Acar & Buldur, 2021; A. Çetin & Ünsal, 2019; Çetin, 2019; Hündür & Diken, 2018; Kırkağaç & Bayrak, 2019; Kızkapan & Nacaroğlu, 2019). As for the curriculum components, ensuring curriculum fidelity, coordination in the implementation of the curriculum, feedback on achievements, giving direction to the curriculum, equality of opportunity and making the school functional are some of the positive effects of national high-stake tests on curriculum fidelity. Kızkapan and Nacaroğlu (2019) state that teachers think that LGS (High School Entrance Exam) exams are reflective of the science curriculum, compatible with the curriculum, consistent with the learning outcomes, reflect the curriculum and ensure that the curriculum is implemented simultaneously all over the country. Similarly, it is stated that coordination in curricula can be ensured through national high-stake tests. Including questions from the content of programs in the national high-stake tests can strengthen the relationship between students, teachers, and the school, as it encourages students to take the curriculum more seriously and motivates them to learn the required content (Hündür & Diken, 2018; Kızkapan & Nacaroğlu, 2019).

The results of open-ended questionnaire suggested that the negative effects of national high-stake tests on curriculum fidelity were perceived to be related to such factors as students, education, curriculum, and teachers. In terms of students, it was concluded that national high-stake tests cause stress and anxiety on students, individual differences are not taken into account, high-level cognitive skills,

1 affective and kinesthetic skills are lacking, and socialization is negatively affected.
2 Özdaş (2019) report that national high-stake tests negatively affect students'
3 psychology, decrease their motivation and their interest in the course and
4 determinate student socialization. This finding is consistent with the findings of
5 other studies in the literature (Acar & Buldur, 2021; Kahraman, 2014; Kalsen &
6 Yiğit Öztekin, 2021; Önder, 2016; Öner & Bahadırtaş, 2022). The findings of the
7 study also coincide with the studies above. The negative effect of national high-
8 stake tests on the development of students' higher-order cognitive skills has been
9 reported by various research (Gökdeniz & Demirci, 2020; Kaya & Göktürk, 2019;
10 Ömür & Bavlı, 2020; Polat & Bilen, 2022). The finding of this study in that sense
11 overlapping with the previous studies' findings. At this point, the ability of
12 national high-stake tests to measure high-level cognitive skills should be carefully
13 considered. In addition, Önder, (2016) and Özdaş (2019) emphasize that students
14 cannot socialize due to national high-stake tests and the development of their
15 social skills is negatively affected. Another negative effect of national high-stake
16 tests in terms of curriculum fidelity was grouped under the theme of education.
17 According to this, national high-stake tests create inequality of opportunity in
18 education and accustom students to rote learning. The finding that national high-
19 stake tests cause inequality of opportunity in education is supported with the
20 various study results (Hündür & Diken, 2018; Kalsen & Yiğit Öztekin, 2021). In
21 addition, the result that national high-stake tests urge students to rote learning is
22 pointed out by other research results (Acar & Buldur, 2021. The theme of the
23 curriculum in the study suggests that the national high-stake tests have negative
24 effects on the curriculum fidelity of teachers. The study found that the activities in
25 the curriculum could not be carried out due to the national high-stake tests. The
26 methods were narrowed, the objectives in the curriculum and the exam were
27 incompatible, and the objectives in the curriculum became exam-oriented, which
28 narrowed down the curriculum and made it less meaningful. These findings
29 overlap with previous studies that have shown how national high-stake tests can
30 limit the curriculum and negatively impact teaching practices. The findings of the
31 current study regarding the incompatibility between the national high-stake tests
32 and the curriculum and the teaching becoming exam-oriented are in line with the
33 findings of previous studies in the literature (Acar & Buldur, 2021; A. Çetin &
34 Ünsal, 2019; Erden, 2020; Hündür & Diken, 2018; Kablan & Bozkuş, 2021; Ömür
35 & Bavlı, 2020; Öner & Bahadırtaş, 2022; Ormancı et al., 2018; Sezer, 2018).

36   This study also suggests that there was a relationship between teachers'
37 attitudes towards national high-stake tests and their curriculum fidelity.
38 Specifically, the study found that there was a significant relationship between the
39 curriculum fidelity of secondary school teachers working in Supporting and
40 Training Courses and their positive views towards national high-stake tests.
41 Although the relationship was found to be weak, it suggests that teachers who
42 have positive attitudes towards high-stakes tests might be more committed to
43 implementing the curriculum as intended. In line with this finding, the related
44 studies have shown that teachers generally have positive views about the national
45 high-stake tests in Turkey and believe that these tests can increase students'
46 interest, motivation, and success in academic courses (Bakırcı & Kırıcı, 2018;

1 Buldur & Acar, 2019; Eroğlu &Özbek, 2017; Karakaya et al., 2019). From this
2 point of view, a common perspective among teachers in Turkey regarding the
3 purpose of national high-stake tests may be that teachers believe that student
4 achievement is an important outcome of the curriculum, and they see national
5 high-stake tests as a way to measure this achievement. Westbury (2000) argues
6 that the main indicator of providing effective teaching is student achievement and
7 teachers should implement curricula for this purpose. In our country, the output of
8 centrally prepared programs is measured through national high-stake tests and
9 teachers are expected to increase student achievement by implementing the
10 curriculum as it was designed (Bumen, 2019). Considering that the content of the
11 LGS (High School Entrance Exam) exam are likely to value and implement the
12 secondary education program qualitatively and quantitatively more as it is
13 designed to assess students' success and abilities in the transition from secondary
14 school to higher education. (Azili & Tutkun, 2021). Therefore, it is important for
15 teachers to ensure that students have a strong foundation in the secondary
16 education program to perform well in the LGS (High School Entrance Exam)
17 exam, which may have led teachers taking part in Supporting and Training
18 Courses to both express positive views towards the national high stake tests and to
19 show more fidelity to curriculum.
20   In line with the results obtained from the research, this study, which deals
21 with the relationship between teachers' curriculum fidelity and their views on
22 national high-stake tests and the variables affecting this relationship, provides
23 important data to the literature on quantitative approach. However, this study also
24 has some limitations. First of all, since the data of this study is based on teachers'
25 statements, it can be considered to reflect a subjective point of view. In addition,
26 since this study contains quantitative data, it can be suggested that studies on
27 similar subjects should be continued with classroom observations, document
28 analysis, interviews and experimental models. As, this study was conducted in the
29 context of Turkey, it may be necessary to conduct comparative studies between
30 countries in terms of generalizability.

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