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Effects of Total SAT® Test Time on Performance and Fatigue

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Introduction

The SAT® has changed in several ways over the eight decades that it has been administered to college-bound high school students, including changes in both content and format (for a review, see Lawrence, Rigol, Van Essen, and Jackson, 2002). The original test administered in 1926 contained both verbal and mathematics content and was highly speeded, with a total time limit of 97 minutes. Subsequent modifications and additions to the SAT have resulted in testing times ranging from 120 to 180 minutes. Prior to the most recent revision in 2005, the SAT involved 180 minutes (3 hours) of testing across a total session of about 3½ hours (to accommodate instructions, short breaks, and administration time). In 2005, the most recent significant change in both content and format has been the introduction of an essay section and some modifications in the other sections (e.g., the elimination of verbal analogy items). The addition of the essay section has resulted in an SAT test that involves 225 minutes (3 hours, 45 minutes) of total test time spread over a period of about 4½ hours (that includes instructions, short breaks, and administration time). Examinees arrive at the place of testing before 8 a.m. to check in, and do not complete the SAT session until approximately 12:30 p.m.

The high-stakes nature of the test, coupled with the increased total testing time, has resulted in speculation from a variety of sources, especially in the popular press (e.g., FairTest, 2006; FOXNews.com, 2006; Hildebrand, 2007; Lewin, 2005; MacDonald, 2005) that (a) performance on the SAT is negatively affected by the additional testing time; (b) examinee fatigue increases as a function of the increased total testing time; and, by implication, (c) that examinee fatigue is an influential factor in performance on the SAT.

The current study was designed to examine performance effects and fatigue effects associated with different total SAT testing times. In addition, we examined personality, motivation, and other determinants of individual differences in examinee fatigue before, during, and after testing.

Study Design

To assess how examinees performed on the SAT under different total-test-time conditions, and also to determine their experiences of fatigue during testing, we used a within-subjects study design (that is, each examinee participated in three different test-length sessions). This design allowed us to evaluate the performance of the same examinees under the different test conditions and avoided any differences between distinct samples of examinees that might occur if we had different sets of examinees for each test session.

The current study involved a questionnaire of interests, personality traits, and other attitudes that was administered up to two weeks prior to the first test session. Three different (parallel) versions of the SAT were randomly assigned to the examinees. All three tests started with a standard essay component, which lasted 25 minutes. The "Short" testing session then involved an additional set of SAT test components that added up to 150 minutes of testing, the "Standard" testing session involved an additional 200 minutes of testing, and the "Long" testing session involved an additional 250 minutes of testing. Total testing times, including instructions, breaks, and administration time, were 3½ hours, 4½ hours,

and 5½ hours, for the Short, Standard, and Long sessions, respectively. That is, in addition to a standard version of the SAT, we also administered a version of the SAT that was one hour shorter in total testing time and a version of the SAT that was one hour longer in total testing time.

On three consecutive Saturday or Sunday mornings, the participants arrived at the classroom at 8 a.m. for the SAT testing session. The three sessions were counterbalanced, meaning that one-third of the participants had the Short session first, another third had the Standard session first, and the final third had the Long session first. We assessed subjective fatigue with a brief questionnaire at the start of each testing session, and again after 2½ hours and 3½ hours of testing in all conditions, at 4½ hours (in the Standard and Long conditions), and at 5½ hours in the Long condition only.

The 239 examinees in this study were first-year undergraduate students from universities in the Atlanta metropolitan area. As incentives to perform well, students were paid $150 each for their participation, given a $25 cash bonus if their average scores across the three testing sessions met or exceeded the SAT scores obtained when they were in high school and applying for college admission, and the five students who obtained the highest increase in scores were given an additional $100 bonus.

Results

The test scores from the SAT sessions were computed by College Board staff, and archive data were obtained from the high school administrations of the SAT for these participants. These are referred to here as "SAT equivalence scores." Overall, performance on the SAT tests in our study compared well to the scores that the examinees obtained in high school under high-stakes testing conditions. Roughly half of the participants (48 percent) obtained average scores across the three sessions that met or exceeded the scores they obtained in high school. Also, the order of testing (e.g., Short first, Standard first, or Long first) resulted in no significant differences between test scores.

Performance Effects

Overall Performance. After SAT equivalence scores (a composite based on verbal + mathematics sections) were computed, the average scores in each of the three testing-time administrations were compared. In the Short condition, the mean SAT equivalence score was 1209 (*sd* = 173). For the Standard condition, the mean SAT equivalence score was 1222 (*sd* = 174). For the Long condition, the mean SAT equivalence score was 1237 (*sd* = 177). Although the differences between these conditions were relatively small, the differences between the conditions were statistically significant ($F\ (2,\ 364) = 6.27, p < 0.01$). However, rather than average scores *decreasing* from Short to Standard to Long testing conditions, the scores actually *increased* as the testing sessions increased in overall length. This result directly allows for a refutation of the proposition that longer testing times would lead to lower average SAT performance. From the Short test session to the Standard test session, there was a mean increase of 13 points, and from the Standard test condition to the Long test session, there was an additional mean increase of 15 points. That is, scores on an SAT test session that lasted 5½ hours were, on average, 28 points higher than scores on an SAT test session that lasted only 3½ hours.

Last 50 Minutes of Each Session. In order to examine whether performance-related fatigue effects were present at the end of any of the sessions, we administered an equivalent set of multiple-choice tests in the final hour of each test-length session (the set included one 20-minute verbal section, one 20-minute mathematics section, and one 10-minute writing section). Raw scores (number correct minus a fraction for number wrong) were recorded for each of these segments, and averaged across the three sections. For the final 50 minutes of each session, scores were remarkably similar across test-length conditions (Short $M = 34.06$, $sd = 8.85$; Standard $M = 34.48$, $sd = 9.10$; Long $M = 34.34$, $sd = 9.35$). An analysis of variance (ANOVA) performed on these scores indicated no significant differences across the conditions ($F\ (2, 366) = 0.55$, *ns*; MSE = 5473). Thus, when examining the last 50 minutes of each of the sessions, there were no significant differences in SAT test performance across the Short, Standard, or Long test sessions.

Summary. Shorter SAT test sessions did not lead to higher mean performance than longer SAT test sessions. In fact, performance on an SAT test battery that was one hour longer than the current 4½ hour session, on average, was 15 points higher than performance in the Standard test-length condition, even though the test was otherwise identical in content and test section time limits—the test battery that was one hour longer just involved more test sections. The differences between test scores in these sessions was a result of overall SAT performance differences across the sessions, and was not reflected in performance only during the last 50 minutes of the sessions.

Subjective Fatigue Effects

In addition to the assessment of performance effects associated with test sessions of different total duration, we collected subjective fatigue measures before, during, and after each test session. Subjective fatigue was assessed by self-report. Examinees were asked to indicate their agreement with standard questions of subjective fatigue—for example, questions pertaining to reports of how "worn out," "exhausted," and "drained of energy" the examinees felt at the time the assessment was made. An average response of 2 on the subjective fatigue scale corresponded to "A little"; an average response of 3 corresponded to "Moderately"; and an average response of 4 corresponded to "Quite a Bit." Figure 1 shows the mean subjective fatigue ratings for each of the conditions at pretest (just before the start of SAT testing), and at 2½, 3½, 4½, and 5½ hours into the session. (The last point for each condition represents how much subjective fatigue was reported by the examinees immediately after the last SAT test section.) In each test-length session, initial reported subjective fatigue hovered somewhere between "A little" and "Moderately." With increasing time-on-task in taking the SAT, subjective fatigue increased. By the 5½-hour point in the Long test session, mean subjective fatigue was between "Moderately" and "Quite a Bit." Moreover, at the end of the testing sessions (posttest), examinees reported greater cognitive fatigue in the Standard condition than they did in the Short condition, and even greater average cognitive fatigue in the Long test condition than the Standard condition. The differences between posttest subjective fatigue were significant (F (2, 360) = 14.99, $p < 0.01$).

Summary. Subjective fatigue increased in each test condition with additional time-on-task. Posttest subjective fatigue was highest at the end of the Long test-length session, followed by the Standard test-length session and then the Short test-length session.

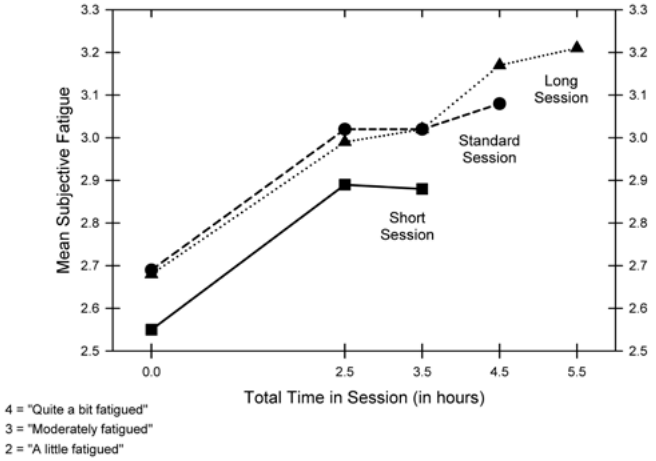

Figure 1. Mean subjective fatigue during test sessions for the Short, Standard, and Long test-length sessions.

Relations Between Subjective Fatigue and SAT Performance

Taking account of the performance effects and subjective fatigue effects together presents an interesting contrast. On the one hand, SAT performance showed increases in test performance as the sessions increased from 3½ to 4½ to 5½ hours, but on the other hand, the measures of subjective fatigue showed that examinees experienced greater fatigue in the longer test sessions than in the shorter test sessions. That is, even though the examinees, on average, experienced greater levels of fatigue in the longer test sessions, they actually performed better on the longer test sessions than they did when they completed the SAT in shorter test sessions.

One possibility to be considered is that those individuals who experienced fatigue during testing actually performed worse than those individuals who didn't experience fatigue during testing. Correlations between subjective fatigue measures and SAT performance within each session were computed to evaluate this possibility. Composite measures of subjective fatigue (i.e., averages of pretest, interim, and posttest fatigue measures) had a modest negative correlation with SAT test performance in each session ($r = -0.15$, $p < 0.05$ in the Short testing condition; $r = -0.15$, $p < 0.05$ in the Standard testing condition; and $r = -0.22$, $p < 0.01$ in the Long testing condition). However, at posttest, when average subjective fatigue was the highest, the correlations with SAT test performance were even smaller and not statistically significant ($r = -0.14$, -0.09, and -0.12 for the Short, Standard, and Long conditions, respectively). In fact, the composite subjective fatigue measures did not appreciably correlate much higher with SAT test performance than the pretest subjective fatigue measures ($r = -0.12$, -0.11, and -0.14, respectively)—only the pretest subjective fatigue measure in the Long test condition was significantly related to overall SAT performance. In general, the examinees' experience of subjective fatigue was only marginally related to SAT performance across all three test-length conditions.

Summary. Correlations between subjective fatigue and objective SAT test performance were small and generally of low predictive value. In addition, posttest subjective fatigue measures did not correlate much higher with SAT performance than pretest subjective fatigue, indicating that individuals who experienced test-induced feelings of fatigue were unlikely to perform more poorly than individuals who did not experience test-induced subjective fatigue.

Determinants of Subjective Fatigue

If subjective fatigue was relatively unrelated to SAT performance across the three test-length conditions, it may be that there are determinants of subjective fatigue that fall outside of the SAT testing situation, per se. For example, there may be enduring aspects of individuals that lead them to report greater or lesser fatigue in general. There also may be individual differences in key personality, interest, and motivational traits that account for a significant amount of the variance in reported subjective fatigue. There are a few indicators that this may be the case. First, we examined the relationship between subjective fatigue in each of the three test-length conditions. Overall subjective fatigue in the Short testing condition correlated $r = 0.69$ with subjective fatigue in the Standard condition, and $r = 0.61$ with the Long testing condition. Subjective fatigue in the Standard condition correlated $r = 0.70$ with subjective fatigue in the Long testing condition. That is, from 36 percent to 49 percent of the variance in overall subjective fatigue measures was common across the different testing sessions, suggesting that the length of the actual SAT test was a less important determinant of subjective fatigue than just the act of taking the test. More important, posttest subjective fatigue (when mean levels of fatigue were the highest) showed similar correlations across the three test-length conditions. Posttest subjective fatigue in the Short testing condition correlated $r = 0.72$ with posttest subjective fatigue in the Standard condition, and $r = 0.62$ with posttest subjective fatigue in the Long testing condition. Posttest subjective fatigue in the Standard condition correlated $r = 0.69$ with posttest subjective fatigue in the Long condition. In other words, 52 percent of the variance in posttest subjective fatigue in the Standard condition (4½-hour test session) could be accounted for by how fatigued the examinees felt at the end of the Short condition (3½-hour test session) given on a different date.

In order to examine the determinants of subjective fatigue at posttest, we examined the relationships among a group of personality, interest, and motivational variables and pretest subjective fatigue in accounting for variance in posttest subjective fatigue. From the questionnaire responses administered up to two weeks before the first SAT test session, we assessed six composite "trait complexes" (that is, groups of traits that tend to share substantial common variance). As indicated in previous studies (e.g., Ackerman, Bowen, Beier, and Kanfer, 2001), these trait complexes have been shown to either support or impede learning and performance in a variety of different academic domains. These trait complexes are as follows:

1. **Need for Achievement/Mastery.** Individuals who rate themselves higher on this trait complex tend to report higher levels of conscientiousness, an orientation toward achievement in academic surroundings, a higher level of organization skills, and an orientation toward mastering tasks.
2. **Desire to Learn/Typical Intellectual Engagement.** Individuals who rate themselves higher on this trait complex indicate a positive orientation toward learning, openness to experience, a desire to engage in intellectual activities, and interests in both artistic and scientific fields.
3. **Neuroticism/Anxiety.** Individuals who rate themselves higher on this trait complex indicate that they are more prone to worry and feeling anxious, both overall and in testing and other evaluation apprehension situations.
4. **Extroversion.** Individuals who rate themselves higher on this trait complex are more outwardly focused, enjoy being around other people, and have an interest in seeking fun activities, especially with others.
5. **Orientation Toward Extrinsic Goals.** Individuals who rate themselves higher on this trait complex tend to be focused on tangible rewards for good performance, such as praise or financial rewards.
6. **Competitiveness/Other-Oriented Goals.** Individuals who rate themselves higher on this trait complex tend to focus on performing better than others, and are more interested in how they perform relative to their peers.

Correlations between these trait complex scores on the one hand, and pretest/posttest subjective fatigue on the other hand are shown in Table 1 for each of the three test-length conditions. Individual differences in the Extroversion, Orientation Toward Extrinsic Goals, and Competitiveness/Other-Oriented Goals were generally unrelated to individual differences in subjective fatigue across the three test-length conditions. In contrast, individual differences in Need for Achievement/Mastery and Desire to Learn/Typical Intellectual Engagement were negatively correlated with subjective fatigue across the conditions. That is, individuals who reported higher levels of these traits were less likely to report subjective fatigue before *or* after the SAT tests, regardless of test length. However, individuals who reported higher levels of Neuroticism/Anxiety tended to report higher levels of subjective fatigue before *and* after the SAT testing, and across the Short, Standard, and Long test-length conditions. When we take account of the common variance among the trait complexes (by means of

Table 1. Correlations Between Trait Complexes and Subjective Reports of Fatigue Before and After Testing

	Short		*Standard*		*Long*	
	Pretest	***Posttest***	***Pretest***	***Posttest***	***Pretest***	***Posttest***
Trait Complexes						
I. Need for Achievement/Mastery	–0.146*	–0.122	–0.291**	–0.203**	–0.275**	–0.193**
II. Desire to Learn/TIE	–0.236**	–0.203**	–0.308**	–0.159*	–0.216**	–0.119
III. Neuroticism/Anxiety	0.306**	0.345**	0.311**	0.378**	0.216**	0.306**
IV. Extroversion	0.064	0.036	0.053	–0.016	0.201**	–0.007
V. Extrinsic Goal Orientation	–0.063	–0.044	–0.127	–0.028	–0.096	–0.010
VI. Competitiveness	0.157*	0.159*	0.119	0.183**	0.025	0.049

*$p < 0.05$;
**$p < 0.01$

multiple regression/correlation techniques), about one quarter of the variance in pretest subjective fatigue in each condition is accounted for by stable personality/interest trait complex scores (R^2 = 0.22, 0.29, and 0.30 for the Short, Standard, and Long test-length conditions, respectively), and a similar amount of variance accounted for in posttest subjective fatigue (R^2 = 0.25, 0.24, and 0.22 for the Short, Standard, and Long test-length conditions, respectively). Finally, if we include the measures of pretest subjective fatigue in each condition as a predictor of posttest subjective fatigue, we account for an even larger portion of the variance in posttest subjective fatigue in each condition (R^2 = 0.55, 0.53, and 0.36 for the Short, Standard, and Long test-length conditions, respectively). That is, roughly one quarter of the variance in posttest subjective fatigue is accounted for by stable individual traits assessed one-to-two weeks before testing, and about an additional quarter of the variance in posttest subjective fatigue is accounted for by how fatigued the examinees felt before they completed any part of the SAT test on that day.

We also asked the examinees how much sleep they had on the night before the examinations, but we failed to find any significant correlations between how much sleep the examinees had and either SAT test performance or subjective fatigue.

Finally, we asked the examinees at the end of each test session whether they increased their effort during the session, kept their effort at a constant level, decreased their effort, or first increased and then decreased their effort. Although no significant SAT performance differences were found between the individuals who reported increasing, constant, or decreasing effort on the SAT during the tests, there were differences in reported subjective fatigue, at both pretest and posttest. Across the three test-length conditions, examinees that reported that they kept their effort at a constant level tended to report the lowest levels of subjective fatigue, both before and after the test session. In contrast, examinees that reported either increasing or decreasing effort tended to report higher levels of subjective fatigue, with examinees reporting decreasing effort having the highest levels of posttest subjective fatigue.

Summary. A large degree of communality was found among the subjective fatigue measures administered before, during, and after each of the three test-length sessions. The degree of fatigue reported before the start of the SAT session was highly predictive of the degree of fatigue reported at the end of the SAT session, regardless of whether the session was 3½ hours, 4½ hours, or 5½ hours in total duration. In addition, the degree of fatigue reported at the end of the 3½-hour testing session was highly predictive of the degree of fatigue reported at the end of the Standard 4½-hour testing session. In addition, personality, interest, and motivational trait measures assessed one-to-two weeks prior to the SAT test sessions accounted for individual differences in subjective fatigue before, during, and after SAT testing. Together, the trait complex measures and pretest subjective fatigue accounted for approximately half of the total individual differences variance in reported subjective fatigue at the end of the SAT test session in the Short and Standard conditions, and about one-third of the individual differences variance at the end of the Long test-length condition. Examinees who reported higher levels of subjective fatigue were also more likely to report that they had decreased effort during the test session, although overall SAT performance was not associated with these reports of decreasing effort.

Limitations

Any study of SAT testing that includes fewer than 1,000 examinees, and a situation that is *not* "high-stakes testing" (in the sense that the examinee's future admission or rejection to university study does not depend on his/her test

performance) runs the risk of not being broadly generalizable to the real-world environment. Therefore, this study is limited by the use of first-year college students as examinees and only monetary rewards for good performance. As a result, we assume that these participants experienced less stress or anxiety over their performance on the SAT than they did when they completed the test as high school students. Nonetheless, roughly half of the participants performed at a level that equaled or exceeded their SAT scores taken under high-stakes conditions the year before. Finally, the sample of participants in this study performed above average on the SAT (mean verbal + mathematics = 1225, from the archival records), in comparison to national norms, even though they showed a full range of talent (total scores from 800 to 1600). From the national norms in 2006 (College Board, 2006), the mean SAT (verbal + mathematics) total score for college-bound seniors was 1021, which is substantially below the mean of the current college students who participated in the study.

Discussion

In 2005, the SAT increased in test time from 180 minutes (3 hours) to 225 minutes (3 hours, 45 minutes), with corresponding total session times increasing from approximately 3½ to 4½ hours. As noted in the introduction, as a result of this change in the testing time, it has been proposed that (a) performance on the SAT is negatively affected by the additional total testing time; (b) examinee fatigue increases as a function of the increased total testing time and; by implication, (c) examinee fatigue is an influential factor in performance on the SAT. We treat each of these propositions in the context of the current study below.

The first proposition was rejected. That is, the mean SAT score did not decline with increasing testing time, but in fact it increased, such that an SAT battery given over a 5½-hour testing session (that is, one hour longer than the Standard test session), resulted in a mean gain of 15 points.

For the second proposition, we found confirmatory evidence. Not only did subjective fatigue increase as a function of additional time-on-task in SAT testing, but the longer the total test-session duration, the higher the reported mean level of subjective fatigue. Even in the Short testing session (175 minutes of testing over 3½ hours), examinees reported a higher level of subjective fatigue after testing than they reported prior to testing.

For the third proposition, we examined the correlations between subjective fatigue before, during, and after the SAT test sessions. When subjective fatigue was assessed immediately after the test session, individual differences in subjective fatigue were not significantly related to SAT test performance in any of the three test-length conditions. Only when we aggregated subjective fatigue measures (across pretest, interim, and posttest assessments) were we able to account for a significant but modest amount of variance in SAT performance, namely 2 percent of the variance in SAT scores in the Short and Standard test-length conditions, and 5 percent of the variance in SAT scores in the Long test-length condition. That is, in order to account for a significant amount of variance in SAT performance, we needed to include assessments of how fatigued the examinees were even before they started the tests.

By examining the relations among trait measures and subjective fatigue measures across the three different test-length conditions, it was possible to shed some light on the experience of subjective fatigue in the context of SAT testing. First, examinees who reported higher levels of neuroticism and anxiety were also more likely to endorse items related to cognitive fatigue before, during, and immediately after testing, regardless of whether the SAT was administered in a Short, Standard, or Long test-length condition. In contrast, examinees who reported higher levels of need for achievement, a mastery orientation, a higher desire to learn, and a desire to engage in intellectual activities tended to report lower levels of cognitive fatigue across the three test-length conditions. Finally, examinees who reported high levels of cognitive fatigue during the Standard and Long test-length conditions were also those same individuals who reported higher levels of cognitive fatigue immediately after the Short test-length session and higher levels of cognitive fatigue immediately *before* the start of the Short test-length session. That is, reports of cognitive fatigue appeared to be mostly accounted for by stable traits and by the testing situation, regardless of test length.

Why Does Subjective Fatigue Increase with Increasing Time-on-Task on the SAT?

There is a long history of fatigue research in psychology and related fields. One key finding from this literature is that subjective cognitive fatigue differs in one major way from muscle fatigue. Muscle fatigue (Mosso, 1906) occurs when the individual must make repetitions of the same movements over an

extended period of time, or when the individual engages in significant physical effort over time. For subjective cognitive fatigue, there are many situations when an individual engages in what appears, at least on the surface, to be the same kinds of activities (e.g., reading), but result in different outcomes. When the individual is reading for pleasure and the book is intrinsically interesting, the reader may persist long into the night to finish the book, without feeling any significant level of fatigue. When the book is assigned by a teacher, for example, and it isn't intrinsically interesting to the student, it may only take an hour or less for the reader to feel tired, exhausted, and report strain in the eyes, neck, or shoulder (e.g., Dodge, 1913, 1917). Generally, the literature has shown that reports of fatigue are most often associated with tasks that have the following characteristics: (a) high demands on intellectual functioning, (b) high demands on attention to detail, (c) low tolerance for errors, (d) lack of knowledge of results/feedback, (e) high levels of time pressure (speeded tests), (f) high performance costs of distractions, (g) high-stakes testing, and (h) tasks that are not intrinsically interesting or enjoyable. Ultimately, reports of subjective fatigue during the SAT should be expected, simply because of the presence of these particular factors.

Why Did Average SAT Performance Increase with Additional Total Test-Session Time?

Although there is a relatively clear explanation for why subjective fatigue increases as time-on-task increased in the SAT test sessions, the reasons for the increase in total scores on the SAT as the sessions increased in overall length are a bit of a puzzle. One possibility explored in the literature (although mostly in the motor-learning domain), is the notion of a warm-up decrement. That is, it may take some time (perhaps an hour or more) for the examinees to get warmed up and adjusted to the pace of the examination. Longer total periods of testing may diminish the impact of such a warm-up decrement. A similar possibility is that it takes some time-on-task for the examinees to adopt a task set that involves putting forth maximal cognitive effort. If this is the case, making sure that all potential examinees practice on whole tests or even longer-than-standard tests, rather than only parts of the test in isolation, may be helpful for overall performance.

It is probably useful to note that we would not expect that average performance would increase further if the total test time exceeded 5½ hours in one sitting, simply for the pragmatic reason that after that amount of time, the examinees become so hungry that a break for a meal is imperative, or examinee hunger becomes a significant distraction.

Conclusions and Implications

Within times ranging from one hour shorter than the current SAT test time to one hour longer than the current SAT test time, increasing test time actually resulted in significant but relatively modest increases in average test scores (13 points from Short to Standard test-length sessions, and an additional 15 points from Standard to Long test-length sessions). In contrast, ratings of subjective fatigue increased during testing and were significantly higher during and after testing as test-session times increased. Correlations between subjective fatigue late in the test sessions were not significantly correlated with SAT test performance. Only when reports of fatigue *prior* to the start of testing are included in the prediction equation, were we able to account for a significant (albeit 5 percent or less) amount of variance in SAT test performance, across all three test-length sessions. Moreover, individual differences in subjective fatigue before, during, and after the SAT test shared substantial common variance with stable individual differences in personality, interest, and related traits.

In the final analysis, increasing SAT testing time up to sessions of 5½ hours resulted in reports of greater cognitive fatigue on the part of the examinees, but mean SAT test scores were not adversely affected by the longer test sessions. Examinees who experienced higher levels of subjective fatigue than other examinees in the longer test sessions also tended to experience higher subjective fatigue in the shorter test sessions. Although most examinees did not view the SAT testing situation as inherently enjoyable, it may be important that they understand that feelings of increasing cognitive fatigue are typical, and are not, in and of themselves, indicators of decreased performance. Whether providing this information to examinees prior to their completion of the SAT will be helpful, especially for those who are more susceptible to feeling anxious or nervous prior to testing, is an open question, but it seems likely that having an expectation of feelings of fatigue may in fact diminish some anxiety prior to and immediately after the test session.

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