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**EXPANDED EXPLORATIONS INTO THE
PSYCHOLOGY OF ENTREPRENEURSHIP:
FINDINGS FROM THE 2001-2002 STUDY OF NFTE
IN TWO BOSTON PUBLIC HIGH SCHOOLS**

[EXECUTIVE SUMMARY](#)

Project IF: Inventing the Future

Harvard Graduate School of Education

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Findings from the 2001-02 Study of NFTE
Project IF/Harvard Graduate School of Education

Executive Summary

The 2001-2002 Harvard report focuses on key findings from the first phase of the NFTE study. The findings provide the first substantial clues regarding NFTE's larger impact on the students it serves. For these initial findings to be considered definitive, they will need to be replicated through continued studies of larger samples of NFTE students. Nonetheless, even when taking all appropriate cautions, the key findings that emerged from the analysis suggest exciting possibilities.

Following its pilot study in 2000-2001, the Harvard research team commenced the first wave of the NFTE New England study, collecting data from two Boston public high schools – Brighton High and East Boston High – during the 2001-2002 academic year. Within both schools, NFTE is taught to students through a program called “School to Career,” a collaboration of the Boston Public Schools and the Boston business community to integrate the academic content of what students learn in schools with careers and jobs they could pursue after graduation. Therefore, every student in the Boston public school system is required to take a School to Career “Pathway” class. NFTE students were in the “Business” or “Entrepreneurship” pathway. Comparison students came from pathways involving health and education themes. The research team collected data from 312 students – 158 NFTE and 154 Comparison students.

We present two types of findings in this report: findings related to change over time, and findings related to composite data gathered over the 2001-02 academic year. The “change over time” data is derived from scores on the surveys administered by our research team at pre and posttest. The composite data was collected via school records generated at the end of the school year, and includes student grades, attendance, and tardiness.

College Interests. The strongest theme to emerge from this phase of the study revolved around the issue of “going to college.” This theme was picked up through the Across Time Orientation Measure (ATOM), which is used to assess students' present interests and future hopes and worries. At the beginning of the school year

(pretest), NFTE students expressed less interest in college, and fewer hopes and worries related to potentially attending college, relative to the Comparison group. This finding is not surprising. The NFTE students in the study were part of a “business pathway” within Boston’s School to Career system, while the Comparison sample came from a pathway focused on careers in health and education. While the health and education pathways are not explicitly oriented toward high-end medical and education careers, such as becoming a doctor or professor, the pretest findings suggest that students in this pathway are generally more college oriented than those in the business pathway. At the end of the school year (posttest), the picture was very different. The NFTE sample not only caught up to the Comparison group in terms of college-related interests and future hopes and worries, but they clearly surpassed their counterparts. Differences in the change from pretest to posttest were statistically significant, with NFTE students’ scores on College Interests doubling over the course of the year, while the Comparison group scores remained the same.

Occupational Aspirations. Related to the college interests finding, NFTE students surpassed the Comparison group in terms of *Occupational Aspirations*. This variable was also detected via use of the ATOM, and represents the level of education required to achieve the professional goals to which the students aspire. Again, NFTE students scored lower than the Comparison group at pretest but surpassed their peers at posttest. The change in the NFTE score from pretest to posttest showed a strong statistical trend, which would prove to be statistically significant if this finding can be replicated with a larger sample of students. This Occupational Aspirations finding is particularly interesting in light of differences between the two groups that might be inferred from the students’ placement in their respective pathways. Again, we would expect students in the health and education pathways to hold a higher level of professional aspiration, on average, than their peers in the business pathway, simply by virtue of the training required for jobs within these broad professional arenas.

Combining College Interests and Occupational Aspirations. When we look at the findings on college interests and occupational aspirations together, we have the convergence of a clear theme: The NFTE group became more attuned to college and the career opportunities that go along with it over the course of the school year in

which they participated in the NFTE program. By year's end, the NFTE students showed more college-related interest, hopes, and worries than their peers in the Comparison group, and became equally oriented toward careers requiring some level college preparation or professional training. Together, these findings suggest that NFTE may be inspiring participants to become interested in pursuing careers that require professional training. This finding provides an important first step in answering the question of whether NFTE may inadvertently direct students away from college and toward more immediate entrepreneurial pursuits. Although further data will be required to answer the question more definitively, these results suggest that NFTE encourages students to pursue further education en route to the careers – entrepreneurial or otherwise – that they desire.

Change in Independent Reading. The Hemingway Measure of Adolescent Connectedness (Hemingway) allowed us to assess connectedness in the educational areas of school engagement, teacher and peer relationships, and independent reading. The Hemingway also provides a means for comparing connectedness in these areas with the students' experiences of connection in such social arenas as friendships, family relationships, and community or neighborhood support. Our expectation was that NFTE would foster connectedness in the school-related areas, relative to the other areas, and thus in our analysis of the Hemingway we focused on the school-related subscales.

Interestingly, when examining the 13 domains of connectedness that the Hemingway assesses, NFTE participation was most strongly associated with improved scores in independent reading. That is, relative to the Comparison group, the NFTE students changed more over the course of the school year in how much time they spent reading on their own, and in their general connection to or enjoyment of reading. Consistent with our college interest findings reported above, NFTE students began the school year with a lower level of expressed interest in independent reading relative to the Comparison group, but by the end of the year this picture was reversed. While the difference between year-end scores within NFTE and the Comparison group is quite small, comparing the change in scores from pretest to posttest reveals a more substantial and statistically significant finding, with NFTE students increasing in

independent reading by approximately the same amount that the Comparison group declined.

A potential “Latino Effect.” Finally, a strong pattern emerged from the study that showed clearer results for Latino students than either African American or White students. It’s too early to tell whether this is pure coincidence versus something about the curriculum and approach that is particularly compelling to this sample of students. Relative to the White and African American students in the NFTE sample, Latino students improved more not only on the independent reading subscale of the Hemingway, but also on a larger *school connectedness* subscale. Furthermore, the Latino students in NFTE improved more in these areas than the Latino students in the Comparison group who actually declined more than their White and African American peers. This pattern is supported by an examination of school grades, absenteeism and tardiness collected at yearend (we do not have this data for the students from the prior year). While absenteeism rates were similar across racial groups, grades and tardiness showed different patterns for Latino students. Latino students in the NFTE group had better grades and were tardy less than those in the Comparison group, a finding that is reversed for the African American and White students.

Given the convergence of these positive findings for the Latino students, it is worth asking whether NFTE is reaching these students in a particularly compelling way. A plausible explanation is that many of the Latino students were either first or second-generation immigrants (we do not have exact numbers to verify the degree of immigrant participation in the study). It is well supported that immigrants are drawn to entrepreneurial opportunities in the United States. Might NFTE represent a unique opportunity for Latino immigrants as well as other immigrant populations? This potential finding will be explored further in subsequent phases of the study.

The findings presented here are spelled out in more technical detail in the full report. Clearly, this first phase of the Harvard study suggests that NFTE is having an important effect on college and occupational interests, and points to particular areas that need to be examined more closely with Latino and perhaps immigrant participants. The next phases of the study include a longitudinal follow up of the

students from Phase 1 (presented here) and new analyses of another cohort of students from Phase 2, a similarly sized Boston-based study. Finally, the Harvard research team is assisting NFTE in the design of organization-wide data collection. Collecting selected data on larger groups of NFTE participants from around the country will help us better understand how the program is affecting students' entrepreneurial knowledge base as well as related educational and occupational outcomes.

Chart 1.

Boston Public Schools 2001-2002
N=312

Key Change Findings* - NFTE vs. Comparison

* change from pretest to posttest, represented in overall percentages

