Effects of *Positive Action* on Academic Outcomes: Results from two cluster-randomized trials.

Brian R. Flay, Frank Snyder, Niloo Bavarian, Alan Acock, Sam Vuchinich
Oregon State University

David DuBois, Naida Silverthorn, Joseph Day
University of Illinois at Chicago

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Why Social-Emotional and Character Development?

- Students need certain **skills** to successfully meet the many developmental challenges they face in school and later in life.
- They also need **protective environments** to support and reinforce their ongoing learning and development.
- Unfortunately, too many youth either:
  - lack the **comprehensive skills** they need for successful learning in school and success later in life,
  - or they come from **toxic homes** and **risky peer environments** that limit their positive development.
- For example, youth with parents/teachers who lack warmth, do not monitor their behavior, and apply inconsistent discipline:
  - are more likely to engage in drug use, violence, early and unsafe sex, and other delinquent behaviors.
The Positive Action Program

- *The Positive Action* program engages all school staff,
  - All school staff
  - As well as classroom teachers, parents and community members,
  - In providing a supportive *environment* for positive youth development.

- Teachers are trained
  - How to effectively provide positive support and reinforcement for positive behaviors,
  - Rather than focusing on negative behaviors;

- Students are taught which behaviors are positive –
  - It is not always easy for students (or even adults) to know which behaviors are positive and which are negative in today’s (often scandalous) media, economic and political environments.
  - And while it is useful to tell students to do them, it is not enough!
  - They have to be taught!
Thoughts lead to actions

Actions lead to feelings about yourself

Feelings about yourself lead to more thoughts

Positive Action teachers that

You feel good about yourself when you do positive actions.

C.f., Cognitive Behavior Therapy and Positive Psychology

You feel bad about yourself when you do negative actions.

C.f. Depression

And there is always a positive way of doing things
In the classroom curriculum and in all other materials, the *Positive Action* content is taught school-wide through six units:

- **Unit 1:** Self-Concept: What It Is, How It’s Formed, and Why It’s Important (Philosophy & Circle)
- **Unit 2:** Physical and Intellectual Positive Actions for a Healthy Body and Mind (includes motivation to learn)
- **Unit 3:** Social/Emotional Positive Actions for Managing Yourself Responsible
- **Unit 4:** Social/Emotional Positive Actions for Getting Along with Others by Treating Them the Way You Like to Be Treated (Social-Emotional Skills & Character)
- **Unit 5:** Social/Emotional Positive Actions for Being Honest with Yourself and Others (Mental Health)
- **Unit 6:** Social/Emotional Positive Actions for Improving Yourself Continually (Setting & Achieving Goals)
Effects of PA found in early matched-control quasi-experimental studies

- A matched-control study of elementary schools in 2 large districts (Flay, Allred & Ordway, 2001) found:
  - Major reductions in problem behaviors and improvements in achievement
- The matched-control study was replicated by Flay & Allred (2003) in a southeastern school district with the addition of pretest data and follow-up through MS and HS.
  - Found similar effects at the elementary level
  - Relative to middle schools with a low % of PA graduates (<60%), middle schools with a high % of PA graduates (80-100%) reported:
    - Major reductions in problem behaviors and improvements in achievement
    - With some of these effects being larger in high-mobility schools
    - **Strong dose-response relationship for all outcomes**, with stronger effects occurring in middle schools with greater numbers of PA graduates
  - Relative to high schools with a low % of PA graduates (0-15%), high schools with a high % of elementary PA graduates (27-50%):
    - Major decreases in problem behaviors and improvements in achievement
    - All effects equally strong for high-mobility & minority schools
    - **Strong dose-response relationship for all outcomes**
Randomized Trials of PA: Design

- Hawaii study funded by NIDA, Chicago study by IES
- Schools randomly assigned from matched pairs
  - 10 pairs in Hawaii (3 islands, heterogeneous, low performing)
  - 7 pairs in Chicago (fairly homogeneous, low-income, high-risk)
  - Matched on school-level demographic variables, achievement scores, disciplinary actions
- Data collected from students and their teachers and parents, and school leadership (principal and PA Coordinator)
  - Hawaii 4 yrs of PA (2002-03 through 2005-06)
  - Chicago 3 yrs (2003-04 through 2005-06) (funded to follow for 3 more years)
- Outcomes Measured
  - Student character and behavior
  - Student achievement test scores
  - Also school records data on attendance and disciplinary referrals
No differences are close to being statistically significant
Baseline Equivalence on Ethnic Distribution

No differences are close to being statistically significant. Sample is fairly representative of all HI schools.
Comparability of Matched Sets of Schools
Chicago Study (No significant differences)
Chicago Schools were Higher Risk than Hawai’i Schools

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Hawai'i</th>
<th>Chicago</th>
</tr>
</thead>
<tbody>
<tr>
<td>% free/reduced lunch</td>
<td>59%</td>
<td>90%</td>
</tr>
<tr>
<td>% hi-risk minority</td>
<td>45%</td>
<td>85%</td>
</tr>
<tr>
<td>Annual mobility</td>
<td>12%</td>
<td>28%</td>
</tr>
<tr>
<td>Meet or exceed achievement standards</td>
<td>50%</td>
<td>34%</td>
</tr>
</tbody>
</table>
Effects of PA on Student Absenteeism
Hawaii Randomized Trial (4 yrs of PA)
(Multiple baseline - 1997-2001)

Average Days Absent

- CONTROL Means
- PA Means
- STATE Standard

Year (* indicates significant differences between conditions)

Hawaii School-level Outcomes: Snyder et al., J. of Research on Educational Effectiveness, 2010
Effect of PA on SAT (Stanford 9) Reading Scores
Hawaii Randomized Trial 2000-2006 (4 yrs of PA)
(No testing in 2001 due to a teacher strike)

% Scoring Average or Better

CONTROL Means
PA Means
STATE

Year (* indicate where conditions significantly different)
Effect of PA on SAT (Stanford 9) Math Scores
Hawaii Randomized Trial 2000-2006 (4 yrs of PA)
(No testing in 2001 due to a teacher strike)

- CONTROL Means
- PA Means
- STATE Means

% scoring average or above

Year (* indicates significant differences between conditions)
Chicago: Effects on School-Level reports of misconducts and suspensions (through year 3)

In ANCOVA models predicting year 4 differences from year 1 levels and condition, differences at year 4 are marginally significant for misconducts ($p = .054$) and significant for suspensions ($p = .037$) using one-tailed tests.
Absenteeism 2004-2010 by Condition Year x Condition p=.018 (17% RI)
Chicago: Program Effects on Standardized Test Scores (through year 3)

CPS Standardized Achievement (% meeting or exceeding expectations on ISAT) by Condition:

ES (PA) group shows 9% improvement [(60-55)/55] for reading, 4% for math, 6.5% for composite. Difference is statistically significant for reading.
Reading: Value Added Scores 2009-2010 (all students and study cohort)

Value Added Score = Standardized (for the District) score on amount of improvement (or loss) during the school year

For all grades, Effect Size ~ 0.66 (ns). For grade 7-8 transition (our cohort), Effect Size ~ 1.6 (p=0.026).
Mean Math Scores 2004-2010 by Condition (Cond X Time p’s<.05)

Overall ES = .62

African-Americans ES = 1.14

African-American Males = 1.36
Why did we find effects when MPR did not?

1) Different measures were included in the local data collection (MPR did not look at achievement)
2) Our analytical models were based on the statistical distribution/properties of outcomes (MPR used one standardized approach for all outcomes, regardless of distribution)
3) Our study was extended to grade 8 (vs grade 5)
   We see effects emerging over time, with twice as many significant effects at grade 8 than grade 5 (the delayed effects may be due to the high-risk nature of the schools/communities)
PA changes the “normal” effects of demographic predictors

Multi-group analysis, school-level data for 29 control schools and 55 PA schools.
First path parameter (Standardized) is for Controls, second is for PA schools.
Average % or means shown for all variables. %age of variance explained ($R^2$) shown for outcomes.

Archival data from 84 Florida schools from the 1990’s

Violence: Incidents per 100 students (3).
$R^2 .35/.13$

Out of School Suspensions (1.7).
$R^2 .73/.51$

% Absent >20 days (3.5).
$R^2 .64/.61$

Achievement
$R^2 .92/.81$

% African-American (25.2) .59/.36
% Mobility (43.7) .54/.44
% Free/Reduced Lunch (59.6) .34/.25
% White (51.7) -.53/-14

Model Fit:
$X^2=48.03$ @ 40 df $p=.18$
RMSEA .069

Constrained model fit
$X^2=69.4$ @ 51 df $p=.09$, RMSEA=.09

$X^2$ diff=21.37 @ 11df, $p=.03$

Grade 5 NRT (Total) (319)
Florida Comprehensive Aptitude (Total) (330)

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IV. Conclusions & Implications

- Broad-based Positive Youth Development can obtain multiple program effects after 3 - 6 years of programming.
- School-level reports of misconducts, suspensions and achievement strengthen the robustness of the findings.
- Time trends suggest increasing effects over time.
- Replication of Hawai‘i results in higher-risk, inner-city, high-poverty schools in Chicago suggests strong generalizability.
- Smaller effects, or longer time to produce effects, in Chicago – is likely related to higher-risk environments.
- School-wide social and character development education can be effective at:
  - decreasing multiple unhealthy behaviors
  - increasing multiple positive behaviors
  - Improving school attendance and achievement
Summary Comment:

- When teachers are trained in and students learn *Positive Action*,
  - Students behave better in the classroom, as well as everywhere else,
  - They are motivated to learn,
  - The relationships between school staff, parents and students improve,
  - Teachers have more time on task - teaching, and
  - Students have more time on task - learning.
- The end result is that
  - Youth have the **skills** they need to learn in school and be successful in life;
  - and they live in **nurturing** school, family and community **environments** that support these new skills and behaviors.
Future Research is Always Needed!

- Investigate whether changes in “positive development” mediate program effects on behavior and achievement
- Investigate potential differential impacts of programs based on student gender, ethnicity, child risk level, etc.
- Investigate whether schools with different levels in the quality of implementation yield different “impacts”
- Examine impact of PYD as students progress into middle and high schools
  - Critical transitional periods within emotional, behavioral, and academic domains
- Compare the effectiveness of different PYD programs
References

For information about the Positive Action program: http://www.positiveaction.net/

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  - UIC: David DuBois, Peter Ji, Michael Berbaum
  - OSU: Alan Acock, Sam Vuchinich, Ben Li, Isaac Washburn

- Correspondence concerning this presentation should be addressed to Brian R. Flay, D.Phil., Department of Public Health, Oregon State University, brian.flay@oregonstate.edu.

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